Rearrangements – Four Urban Experiments Between Soil and Sky

by

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ABSTRACT

In this thesis, I situate my creative practice as an architect-artist in the fields of urban intervention, ontological design and experimental worldbuilding. My projects involve prototyping arrangements in urban space that contain ideas currently excluded from modern colonial urban design. These ideas, both specific and broad, include holding resources in common, the idea that public corridors could be places of life rather than only movement, the idea that individual citizens should be empowered to contest the conditions they live in, or the even bigger idea that the world is not an inanimate bank of resources (as Enlightenment thinking would have it) but in fact an interdependent, living collection of relationships.

How might the act of intervening in urban space suggest new arrangements? I argue that urban intervention as an artistic method exists between craft and design, taking *craft* as a means of operating directly in the material world and *design* as an act of translation between an intention and a form. Examining a variety of precedent practices, particularly the work of Flavio de Carvalho (Brazilian polymath, b.1899) and the Design Studio for Social Intervention (Boston-based design group, "ds4si"), I understand urban intervention as a method that has a double-power in both a material dimension and an abstract dimension. I then use the analytical framework developed by ds4si, "Ideas-Arrangements-Effects" to consider the relationship between physical prototypes and the social ideas present in my work.

The thesis chronicles four projects (1. Rhythmwalk, 2. Citizen Chair, 3. Free Rain/Free Rein, 4. Boston Lead Gardens) undertaken as a student in the Art, Culture and Technology program at MIT, revealing an evolving set of methodological approaches to creating urban interventions: from independent to collective, with permission and without permission, between curiosity and intention. The thesis concludes with a meditation on what it means to belong to the ground that supports us and an evaluation of the arc the four projects have taken.

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*All figures are created by the author unless otherwise noted.

Introduction - Rearranging in the Urban

How malleable is the world?

Who has the power to make things? Why does the world get formed the way it does? There are questions I ask myself often. A craftsperson touches the world directly, shaping, removing, and joining materials, embodying a direct link between mind, hand, tool, and matter.[1] However, scale also matters. When larger forces call for larger structures, such as buildings, roads, or other shared infrastructures, we are in the realm of design. Unlike craft, a design implies a mediated separation between material and concept. A design implies a plan, a scheme, or a drawing. In Portuguese (my co-native language along with English), design and drawing are the same word, "*desenho*". The difference between craft and design can seem subtle in colloquial speech, but I argue that the two are different from each other, representing two poles on a spectrum between direct and indirect action, and that this difference can be something productive for prototyping new arrangements. My argument is that design is a *representation* of a potential arrangement of materials, whereas craft is the live, direct rearranging of materials. This thesis will chronicle the way my evolving creative practice, as someone trained in both craft (woodworking) and architecture, has incorporated these two methods to intervene in existing arrangements in urban space.

I am trained as an architect, but in my case, it was my early interest in craft that led me to pursue architecture. It was the building of a wooden chair that led to my interest in the shapes of buildings and cities. By great fortune, however, my high school in downtown Manhattan, New York, had a wood shop. Once a senior (4th year student), I was finally allowed to enroll in the woodworking course, where I designed and built a wooden chair. Arriving at the University of Texas at Austin some months later to start my liberal arts college experience, having nowhere to practice my newfound hobby of furniture-making, I decided to transfer to the architecture school.

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[1] Sennett, *The Craftsman*; Crawford, *The World Beyond Your Head*.

My education, between architecture, craft, and liberal arts, was formative. It was between these realms of making and thinking that I began experimenting with the ways that craft and design could be combined toward asking political questions about the world that architecture alone could not.

As an architect-craftsperson, I explore the meeting point between a direct and an indirect way of placing something in the world. This crossing scales, transposing between craft and design, one a direct mode, the other, indirect, has led me to the method of urban intervention. For me, this has meant designing and building a prototype into the complexity of live urban space, where the object can immediately form relations and exist as a suggested design for an alternative urban logic. After some early attempts at this kind of work, I decided to pause professional architecture practice and join the Art, Culture, and Technology program to give attention to what seemed like the beginning of a creative practice beyond architecture. The chronological sequence of projects in this thesis represents a personal evolution in my approach to creating works that question existing urban arrangements by making direct contact with those arrangements. This method of intervening in the urban, across craft and design, is a form of ontological worldbuilding: entering that space that we take for granted, our city surrounds, revealing their constructed nature, and suggesting alternative arrangements in their place.[2]

Defining Design

'Design' is a term that can mean different things based on the context or the person using it.[3] (Many of the terms that I use for my arguments are such terms: art, craft, design, intervention, infrastructure, arrangements.) Design, colloquially said, might signify an object whose shape, function, or combination thereof was carefully considered. What is crucial is the idea that a design is something that is *executed*. Design is as much about the instructions, specifications, and graphic representations as it is the resultant object at hand. Architects make designs rather than make things.[4] They are 'translators' - to borrow the verb from the late architecture historian Robin Evans. Unlike a craftsperson, architects can only bring about their material intentions indirectly. They are tasked with receiving and interpreting the constraints and desires, and consequently translating those interpretations into comprehensive instructions for those who do operate directly with materials ("the trades"), to materialize the translated inputs.[5] This suspended

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[2] Escobar, *Designs for the Pluriverse*.
[3] Heskett, *Design*.
[4] Evans, *Translations from Drawing to Building*.
[5] Architects, *The Architect's Handbook of Professional Practice*.

in-between space, between the cultural input and the material output, is the space of design. Design is what makes these larger, more complex, and indirect translations possible and intelligible in the first place.

This zone of translation between direct and indirect modes was taken up by Robin Evans, in his 1986 essay, "Translations Between Drawing and Building" (1986). With clear dismay at the state of architectural education, Evans warns of the pitfalls of overvaluing the drawing as an end in itself. During a brief period of teaching at an art college, Evans observed the following:

> *"Bringing with me the conviction that architecture and the visual arts were closely allied, I was soon struck by what seemed at the time the peculiar disadvantage under which architects labour, never working directly with the object of their thought, always working at it through some intervening medium, almost always the drawing, while painters and sculptors, who might spend some time on preliminary sketches and maquettes, all ended up working on the thing itself which, naturally, absorbed most of their attention and effort."[6]*

Artists, like craftspeople, privilege direct experience. Evans considers this as he goes on to analyze then newer formats of artistic practice that operate at the architecture scale, with architectural qualities, while still bypassing the need for a design altogether:

> *"Of the works beyond the pale of architecture - earth art, performance, installations, constructions - which nevertheless deal with recognizably architectural themes, several are remarkable not just for the fact that they make little or no use of drawing, but for the impossibility of their development through this medium."[7]*

Evans concedes that some artworks can be architectural while bypassing the architectural requirements of plans and drawings. The 1960s art movements that went beyond the gallery, making site works or installation works, represented a more ambiguous realm between design and craft, depending on the degree to which the artist was involved in actually moving materials or creating sets of instructions for others to do so.

Intervention as method

Urban intervention is one of the method taken up by those existing in the borderlands between design and art. Designers who have a desire for a form of direct contact with the world that is in contradiction to their base discipline as one who draws or plans, or artists seeking to place their work beyond the studio, into

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[6] Evans, *Translations from Drawing to Building*.
[7] Evans.

the public space so as to form direct relations with the social – no matter the starting point, the two meet in this middle territory, between direct and indirect contact.

Urban intervention is then a method at the meeting point not only of art and design, but by taking seriously an engagement with a public audience, of activism as well. By taking its meaning from a relationship with public space, by claiming attention and occupying space, urban intervention carries a political immediateness that other spatial art forms do not.

I joined the Art, Culture, and Technology program with an awareness that there have been other practitioners who have passed through this place who have also operated in the border territory between art and design, as a way to place something in the world that might ask questions of it. According to Polish artist Krzyzstof Wodiczko (professor emeritus and former director of the Center for Advanced Visual Studies at MIT), a design can be said to be 'interrogative', "when it takes a risk, explores, articulates, and responds to the questionable conditions of life in today's world, and does so in a questioning manner." According to Wodiczko, "designers must work *in* the world rather than 'about' or 'upon' it." [8] Using vehicles, tools, and projections, Krzyzstof used to great affect this leverage factor between the scale of design effort and the scale of public audience.

Michael Rakowitz is another example – who during his time at MIT developed paraSITE, a work of urban intervention comprised of custom-built inflatable shelters for homeless people, which took their shape from the siphoning off air exhaust from street level exhaust vents of buildings around Cambridge [9]. Rather than a design *about* the homeless, Rakowitz entered *in*, building relationships that led to building actual shelters. Shelters that operate in the double-sense that Robin Evans dreamt of, where the work is both corporeal and abstract – both an immediate survival impulse and a lasting image of the precariousness which our world has forced on people. In Wodiczko's words, "the oldest and most common reference to this kind of design is the bandage. A bandage covers and treats a wound while at the same time exposing its presence, signifying both the experience of pain and the hope of recovery." [10]

Arrangements

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[8] Wodiczko, *Critical Vehicles*.
[9] Rakowitz, "ParaSITE."
[10] Wodiczko, *Critical Vehicles*.

If intervention is the mode of operation for those who wish to translate between direct and indirect approaches to placing something in the world, how does an intervention acquire meaning in its public deployment?

Let's return to the earlier proposition that design is that in-between space of translation – the drawing on the paper – capturing desires and constraints of a socio-cultural dimension, into formats that might be materialized. It is here, in this suspended place where design holds the potential to subvert the business-as-usual world.

In his book Designs for the Pluriverse (2018), Arturo Escobar gathers arguments for design as an ontological practice, enabling certain ways of being in the world. Coming to design studies from development studies, Escobar is admittedly a newcomer to design, yet finds in the design discourse political hope for opening pathways toward a pluriverse – a world that contains many worlds within it. It was through Escobar's writing that I first came across the work of the Boston-based group Design Studio for Social Intervention (or, ds4si).

Their book Ideas-Arrangements-Effects (2020) takes its title from the triangular framework they propose, which they summarize in the following way:

"Ideas are embedded in social arrangements, which in turn produce effects."[11]

While Arturo Escobar's book is expansive, dazzling almost, in the large volume of theory he marshals, between philosophy, anthropology, and radical Latin American thought, DS4SI's is impressive in its ability to simplify complex and interrelated concepts and present them in very clear language. Of the three interconnected elements, ideas, arrangements, and effects, arrangements seem to be the more overlooked category, "a rich and frequently overlooked terrain for creating change."[12] Arrangements can be hard or soft. The urban elements previously mentioned, such as buildings, cars, or curbs, would be hard arrangements. Soft arrangements include things like "routines, expectations, and long-held assumptions" [13] Ds4si make important note of this double quality that things can have, as both an object and a symbol at once.

I place the two books together (though they place themselves together already) because the two works take up the question about how actions in the world. Perhaps we are straying from the more clear-cut

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[11] The Design Studio for Social Intervention, *Ideas Arrangements Effects*.
[12] The Design Studio for Social Intervention. (p.32)
[13] The Design Studio for Social Intervention. (p.36)

definition of design as translation space that I mentioned earlier, however what remains is a sense that design has the potential for an active quality that offers pontential

Politics of Craft

It was anthropologist David Graber who first helped me contextualize the word 'anarchism' as a concept beyond the common misconception of something chaotic and destructive. Fragments of an Anarchist Anthropology (2004) did a lot to pull back the curtain on my privileged, teenage view of the world, and installed in me a firm belief in alternative possibilities to many things taken for granted by a Western, capitalist, patriarchal society. Graeber's use of anthropology as a repository of knowledge of how other societies arranged themselves was incontrovertible living proof of the multiple possible ways of living that could be engaged should we only manage to tear down walls of power and in their place build of communities of solidarity. These arrangements would "involve an endless variety of communities, associations, networks, projects, on every conceivable scale, overlapping and intersecting in any way we could imagine, and possibly many that we can't. Some would be quite local, others global. Perhaps all they would have in common is that none would involve anyone showing up with weapons and telling everyone else to shut up and do as they were told"[14]

I often connect this idea with woodworking. So does Chris Schwartz. His book The Anarchist's Toolchest is one that I carried with me, as I entered architecture school. Schwartz' book, and arguably his entire career, is about encouraging people to build things for themselves. His publishing house Lost Art Press prints books by disseminating straight forward vernacular woodworking techniques and the steps to perform them.

To be a craftsperson is to be responsible for making things and making things work. The philosopher Matthew Crawford takes the craftsperson as a personality under threat, writes about the craftsperson as someone who faces the empirical material realities of the world.

The shift in scale between a chair and a city, both human-made artefacts, contains the kernel of my research. How can we create the conditions for self-determination across scales?

Matthew Crawford sees craft as a way of being directly in touch with the real mechanical constraints of the world. For him, craft is not only the idea of doing something well for its own sake, but a practice of

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[14] Graeber, *Fragments of an Anarchist Anthropology*. (p.40)

attending to the world outside, "beyond [our] heads".[15] He argues that design too often occludes the opportunities for people to participate in daily life situations, increasingly structured by abstract entities such as corporations, quantitative metrics, and automated control systems. Stringing together examples from different scales and realms – from motorcycle maintenance to the choice of music at a community gym – Crawford makes a plea for the idea of craft as a political concept. Craft is the agency to participate in the world directly.

Experimental Worldbuilding

The thesis chronicles the stories of the four projects (1. The Rhythmwalk, 2. Citizen Chair, 3. Free Rain/Free Rein, 4. Boston Lead Gardens) undertaken as a student in the Art, Culture and Technology program at MIT, revealing an evolving set of methodological approaches to creating urban interventions, from independent to collective, with permission and without permission.

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[15] Crawford, *The World Beyond Your Head*.

Chapter 1: Spacetime Conveyor & the Rhythmwalk

What does a disturbance do? What can a breakdown teach us?

"Life in the seventeenth century was lived in public, either in the streets (outside of the small, one-room dwellings that housed all but the wealthy), or in the 'big' house that fulfilled a public function. This was the only place where friends, clients, relatives, servants, proteges, and workers (the same people who would have spent their early years in the one-room dwelling) could meet and talk. These visits were not merely professional or social: there was little distinction between the categories." (Judith Barry, Public Fantasy, 1991. pg. 24-25)

As a situation of 'nonobviousness,' a breakdown is not something negative but provides the space of possibility for action - for creating domains where new conversations and connections can take place. (Arturo Escobar, Designs for the Pluriverse, 2018, p. 115)

The idea to build a simple platform on wheels, by which to convey a drummer through the streets of Brooklyn, NY arrived sometime in 2017. But this idea would remain just that, an idea, existing in the form of a sketch taped onto a bedroom wall and later moved to a blank notebook page, hiding there until 2021, when, arriving at MIT's Art, Culture and Technology program, I began to take seriously my attraction toward projects on the streets and sidewalks.

This was my impulse, as someone who was coming directly out of two years working at a large-scale architecture office. Before taking the full-time position, I was a freelance designer, applying my architecture training towards different projects with artists and design agencies, working out of a communal studio space in Greenpoint, Brooklyn. But to become a registered architect in the US, one must work for two years, at a minimum, under a licensed architect. So, after the unexpected sale of the studio building, that is what I decided to do. I suspended my role as a drummer[16] and paused all furniture-making projects to join a firm and get my architecture license. These two years were a period of both general and acute uneasiness. Dismayed at both the way the office wore down the creative possibilities of its individual members and the way it contributed to a form of urban development that I disagreed with, I

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[16] Taxi Vision

felt renewed compulsion to distance myself from forms of design driven by real-estate investment and search instead for a practice of design that might keep city neighborhoods and residents in control of their spaces, or at the very least, suggest this urban vision as something possible, desirable, and exciting.

This alternative practice of design is something I was grasping towards as an undergraduate architecture student. As I was exposed to the (primarily western) history of modern architecture, I began to build up an understanding of what architecture even entailed. Between architecture history courses and design studios, the two quintessential conduits for an architecture education, I found myself drawn to the question of how architecture engages a public; how buildings or other architectural activities shape possibilities for public life to take place and take shape.

So how have previous projects in architecture history related to public life?

Buildings are static and spatially bound. The inherent difficulty of architectural proposals to spill beyond their site, their legal parcel, pushes anyone interested in the spatial elements of *publicness* to explore beyond these building boundaries. Sure, you can propose a building with legs that walks, which Archigram, the British radical architecture collective, did in the 1960s. All manner of speculative projects arose from a generation of radical architects of the "second-wave" post-war avant garde. Along with Archigram, there was Cedric Price with his Fun Palace, Constant Niewenhuys with 'New Babylon', Yona Friedman's 'Spatial City'. These projects, though different in their levels of specificity, all yearn for a close relationship between a dynamic public and their spatial environment, whose multiple arrangements and possibilities they are empowered to participate in directly.

These proposals were famously unbuilt. This desire for *publicness* that the above mentioned speculative projects harbored to an extreme, did make it into some of the built work of the ear, with varying degrees of compromise. Buildings, such as the MASP museum by Lina Bo Bardi in Sao Paulo (completed in 1968), can be deserving of adjectives, such as *generous* or *inviting,* to the degree that they might offer contact, either visual access or bodily pedestrian passage into or through them. This *publicness* in architecture, according to Tom Spector, exists in the degree to which architecture opens itself to continual reinterpretation by an engaged, participating public[17].

This relationship between the architectural field and the field of social possibility dominated my curiosities in architecture school, as did the limits of what a building could do. With guidance from certain key professors[18], my views of architecture were expanded to include, not only examples from the

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[17] Spector, "Publicness as an Architectural Value."
[18] Fernando Lara, Nichole Wiedemann, Igor Siddiqui, and Murray Legge (professors at the University of Texas at Austin, School of Architecture)

architectural avant gardes, but artist practices that extended beyond the art gallery, including the works of Gordon Matta Clark, Robert Smithson, Francis Alys, Lygia Clark, and Helio Oiticica in particular. These practices introduced a suite of methodologies that went beyond architectural drawing, yet still asked direct questions of what might happen in space. However, it was the figure of Flavio de Carvalho that closed my mental gap between architectural and artistic activity.

Flavio de Carvalho (born in 1899) was a Brazilian polymath trained in both engineering and fine arts in Newcastle-Upon-Tyre in England. Returning to Brazil he got a job as a structural engineer calculating the steel reinforcement for concrete beams. His eventual competition entry for a new government palace for Sao Paulo was so far out, a cubist rendering entirely ahead of the other entries still following the Beaux Arts style of the times, that he was immediately noticed by Mario de Andrade, of the avant garde grupo *antropofago*. Whether Flavio accepted membership into this group is not certain. What is certain is Flavio's hybridity, between office worker and artist, between painting, performance, banquets, theater, and structural engineering, he was a figure that defied categories and challenged norms. This is evident in one of his famous pieces, *experiencia no.2*, where Flavio designed a 'New Look' (his words) for the man of the tropics, who instead of wearing the British three-piece suit, could now wear something more appropriate to the Brazilian climate. For Flavio this was a flowing tunic with arm-pit air holes, a skirt, and fishnet stockings and sandals.

Figure 1. Flavio de Carvalho displays his New Look on the streets of Sao Paulo, Brazil (1956).

Image sourced from https://oglobo.globo.com/cultura/artes-visuais/flavio-de-carvalho-pioneiro-da-performance-que-escandalizou-os-anos-1950-relembrado-em-sao-paulo-berlim-23875162 under fair use.

My encounter with this work, during my architecture schooling, was transformative. There was weight to the fact that Flavio was an architect engaging in a work of public performance in the name of questioning a normative social custom, in this case the colonial dress code and its mismatch with the local climate.

In my final two semesters, I was able to experiment with these methods for a seminar on mapping, where I produced a work called the Nomad Machine. It was a seven by six by seven-foot-tall box, clad in extra thick cardboard that was mounted to an internal wooden frame on casters. The point of vehicle-object-map was to chart out the space around the university campus that belonged to cars, and to do so in a completely embodied way, whereby I would suit-up as this ambiguous car-sized subject and move about car-space. The project now exists in a four-minute film documenting the derive of this uncategorizable urban subject.

Figure 2. "Nomad Machine", Austin TX (2015). Image courtesy of the author.

There were several similarities between the Nomad Machine and *experiencia no.*2. Flavio's method for his experiment was that of the public procession. Flavio placed himself as the outsider figure: the self-appointed alien going against the grain, daring to exhibit a counteroffer to what was expected of the average citizen. Flavio's methodology included:

1. **public intervention / disturbance**
2. **processional movement**
3. **embodying the alien**

Public intervention / disturbance (1).

To intervene is to "come between so as to prevent or alter the result or course of events". An intervention is, by definition, a forced rupture within an existing set of forces. An intervention is not inherently radical or challenging to the status quo. An intervention involves a change in the expected rhythms of a public situation so as to create the possibility for a new kind of attention from onlookers. It is like the bright dinging of silverware on glassware that cuts through the low droning dinner conversations, subduing them in exchange for the anticipation of the signaled transition. An intervention involves a swap at the sensory level, where expectations are breached. This is an important consideration in ontological design for

Arturo Escobar. He argues that design is ontological in the sense that the designs we place in the world in turn effects the world that shapes how we design. "Every tool or technology is ontological in the sense that, however humbly or minutely, it inaugurates a set of rituals, ways of doing, and modes of being."[19]

Processional movement (2).

Before the digital age and the digital spaces it has made possible, a physical procession in real space was the clearest way for the performer to meet the audience where the audience is. It is an ancient format. By the Oxford American Dictionary's definition, a procession is "a line of people or vehicles that move along slowly, especially as part of a ceremony; the act of moving in this way". Not to say that processions are all performances that seek an audience, but by being inherently in motion, inherently out in the world, they are always open to the public gaze. Victory parades, religious ceremonies, funerals – whether inward or outward looking, the procession has a public-character that delivers a message, regardless as to whether or not that message is designed.

Embodying the alien (3).

Being an alien or a stranger brings an element of difference that can act as a mirror for those who are not the alien to see themselves for what they are in a new way. An alien figure brings the opportunity for a contrast that might otherwise never come about. Flavio de Carvalho, Krzyzstof Wodickzo, Pope L are several of many artists who have used the tactic of embodying the alien to instigate critical self-reflection of the normal (non-strange) public.

Depending on what city one is considering, in the context of the United States, there often isn't all that much public space to be seen. Outside the larger cities, public space, especially *physical, outdoor* public spaces can be hard to come by, especially in smaller towns where the car gets you from your home to where you need to go and back again. Retail can be a convener of strangers, but there are guided patterns of behavior that limit possibilities for interaction and expression, in a supermarket, for example, as compared to an outdoor street market. This feels especially true when considering the outdoor street markets of larger American cities beyond the United States. In Rio de Janeiro, Brazil, sidewalks are alive with silent gazes of old men in plastic chairs, the hawking of names of beers, calls for scrap metal and the

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[19] Escobar, *Designs for the Pluriverse*. Pg.110

like. In New York City, above the sidewalk or in the subway, rhythmic expressions can surprise you at every turn. Having spent my childhood, adolescence and early adult life primarily in these two cities, they have had an important role in forming my own sense of what a public space can be at its best. In a comparative sense, the two cities, Rio and New York, outlined common parameters for a type of spatial freedom at the level of the citizen. The conditions are such that anyone moved to do so could set up a situation, through means available to them, extending beyond their private sphere and the normative expectations of a dominant culture. The sidewalk is the home to everything public and everything publicly possible.

The Spacetime Conveyor

To be a moving object is a form of self-protection. Moving, dislocating in space, is a technique for evasion. But evading what? The prey must keep moving lest they find some other mode of deceiving the predator. In the urban space of American cities, one is rarely allowed to simple *be.* This can be especially true if one's appearance cues the phobic prejudices of dominant white culture. Loitering laws in the United States were historically modeled off England's 'Poor Laws' which took "vagrancy" to be a criminal offense. The evolution and deployment of these laws against loitering are complex and multifaceted. The vagueness of these laws threatens to criminalize anything that isn't going from point A to point B. The predator-prey relationship remains in cities. When standing still is illegal, to be moving becomes basic survival. Even after waves of struggle for civil liberties, public space in the US is far from a space where anything goes.

Maybe it was the fact that I was here just after the height of the COVID19 pandemic, but walking around a place like Cambridge left me disheartened. Here was a city that was supposedly one of the most livable places in the country.[20] Following the method I do not 'disrupt', since I believe that word and the way it is used today does not signify an actual disruption of the kind I am interested in. A new mode of domination is not a disruption I care about when what I care about is disrupting domination. I wanted instead to cause a *disturbance*. A change in rhythm.

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[20] DiGiammerino, "Best Places to Live."

The Spacetime Conveyor is part furniture, part vehicle, part sound-maker. It was originally conceived as something that could become multiple things. More importantly, it was meant to *suggest* multiple things. The first version of the Spacetime Conveyor was in the form of two rectangular plywood boxes, about 2 ½ feet by 5 feet by 18" deep, hinged together along the long edge, making a foldable cabinet in stereo: Two wings that could be collapsed on each other to suggest storage, or the possibility of a void that could carry and deploy. A delineated pocket of moving space that could be highly tactical for I wasn't sure what. When the wings were unfolded, flush and flat, the Spacetime Conveyor was a platform, stage, or palette. The plywood boxes each had one axel with a 24" diameter wheel, and a long handle for pivoting and pulling. It was a moving closet, a table, a station, a speaker cabinet for an outdoor sound system, a crate, and a moving platform. It was a hybrid object, meant to satisfy a nomadic possibility for facilitating different activities in public space, challenging the form of urbanism that would have public space be merely a place for transitions between home, work, or shopping. The Spacetime Conveyor is a challenger to typical American urban spatial patterns by being an in-between object that occupies different types of public surfaces.
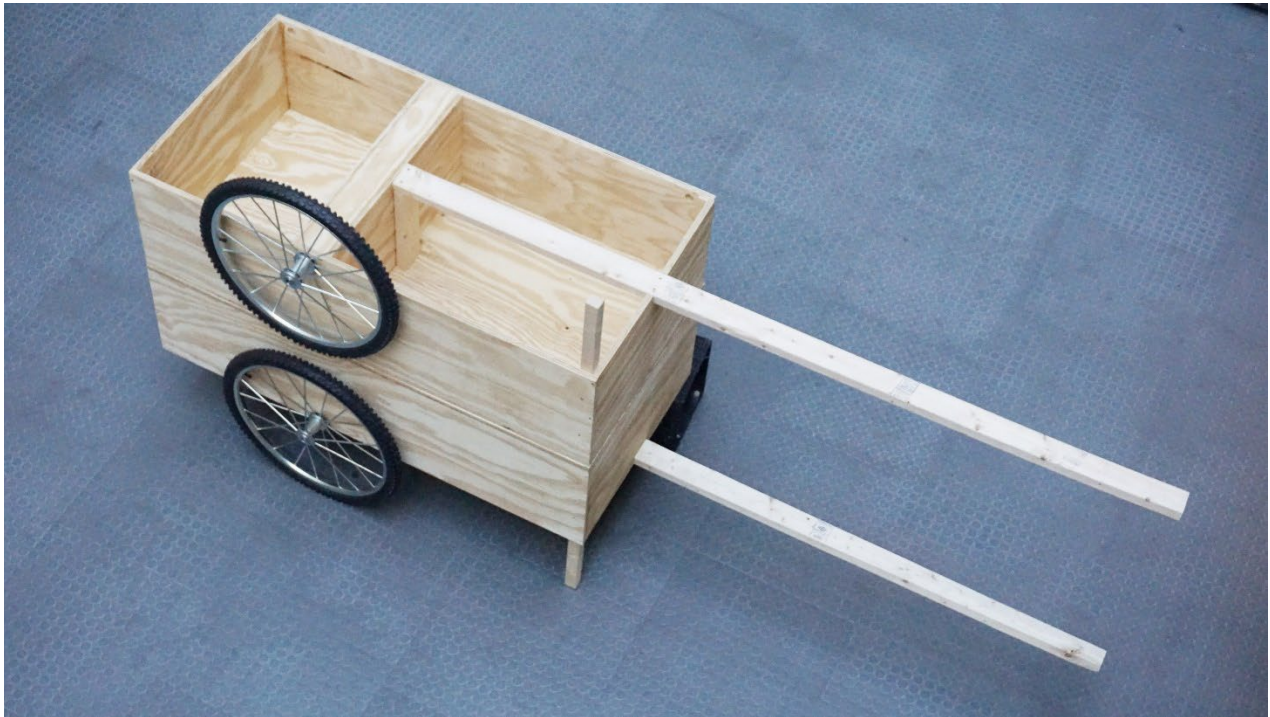

Figure 3. Spacetime Conveyor (2022). Image courtesy of the author.

Figure 4. Spacetime Conveyor (2022). Image courtesy of the author.

Why is it called "Space-Time Conveyor"? Spacecraft was taken. Plus, it's too easy. The double meaning of 'craft' appeals as both something directly made by someone, and as vessel for transport. In this case, the tool is less of a 'craft' or vessel as much as it is a tool that, like a plow, like mark-making or farming equipment, doesn't just ferry a rider around, but actively transforms the surface over which it rolls. It is less a car, more like a tractor. This linear, spatial progression overlaid with some form of rhythmic sound. The rhythm is conveyed, both as a passenger of the craft and as a signal to the world.

The Rhythmwalk

October 22nd, 2022. The day was finally here and the plan seemed ambitious. Posters had been circulated online and in person, posted around select buildings at MIT. The sun was bright that day, warming the pavement for one last summer weekend of the fall season. I jumped down the steps out to the front alley where I had parked the Spacetime Conveyor in vertical orientation, after applying some final tune-ups the night before. It was the day of the 'Rhythmwalk' – a public experiment where a series of drummers would take turns using the Spacetime Conveyor as a moving stage, occupying the roads of Somerville and Cambridge, playing rhythms with the city on a drumkit attached to the cart over the course of a two-hour circuit. The previous weekend I altered the handles of the Spacetime Conveyor so that the cart could be pulled by three people rather than just one.

Participants and friends arrived, five of them experienced drummers who would take part in the group circuit. After securing the drumset to the platform, I asked who wanted to start off as the drummer. The idea was for a drummer to play until they wanted to swap out or if another drummer tapped them to 'buy in' or 'call next', signaling their intent to play. No guests felt willing to go first so I climbed onto the platform and sat myself behind the drums. I started playing a beat and we set off from the driveway at 102 Prospect street, delicately poking ourselves out into the busy street, hoping to merge safely into the moving car traffic. As the orchestrator of the project, I tried to remain calm and confident. Friends began to self-organize, some running ahead to check for cars, people signaling and gesturing to ensure the group's safety in traffic. We merged onto Prospect street as I kept the beat going. What happened next was unfortunate. Boom pa ts ts ka boom boom pa ts ts boom boom [sudden stop]

Just as a flow was setting in, and the shock of starting was starting wear off, mid-rhythm, the platform cracked along the central spine where the two book-matched cabinets hinged together. No one was hurt but all were startled. We examined the damage and after cobbling the base back together,

unscrewing and repurposing some of the handle elements as emergency cross-bracing, we discovered a more fundamental miscalculation with the length of the wheel axles. With a cart that was no longer road-ready, we inched it over to an empty car lot that we were fortunate enough to breakdown nearby. Here it was the excitement of the group that lifted my spirit. I felt quite guilty, having put people at risk of injury, grateful that I was the one on the platform during the breakdown. But the group was enjoying the unusual situation regardless. Other drummers began taking the stage, which the platform now was, being static rather than mobile. The audience gathered and some members began taking the spare drumsticks we brought for the journey and began banging on this. On the handle of the Spacetime Conveyor, the sides, the spokes, and pieces of metal that we found to use as a stabilizer for the compromised platform. The afternoon went on, with different drummers taking turns on the set, supported by a group determined to make sound. Passersby seemed intrigued, some unamused, some questioning, none feeling convinced to join in the rhythm-making. Eventually a cop car pulls up.

"I assume you all are shooting a music video?" The cop asked.

"…yes, that's right," I replied.

"Yeah, I figured. Well, we got a noise complaint but actually, now that I'm out here, I don't think its too bad. But the real question is, do you have a permit for this?"

"No"

"You know this is private property. You gotta have a permit to be out here like this".

"Ok"

"So what are you gonna do about that?"

"Can you give us 10 minutes to finish up?"

"I'm gonna drive around the block and I'll back in 10 minutes"

"Thank you"

Intervention, Breakdown and Rhythmanalysis

A rhythm, in space and time, sets patterns of expectations. Interventions are any time there is a change in the rhythm. A breakdown is similarly a point of transition. In a song, a *breakdown*, is when the different

musical parts suddenly drop out, stop playing all together and begin to isolate each other, returning back one by one, gradually and deliberately, allowing different parts to receive spotlight and shine independently.

Chapter 2: Citizen Chair (The Ground-Life Study of Ulises Cane)

What makes something belong? What makes a stranger a citizen?

"I gotta live in this place?"

That was the question, rhetorically asked by a colleague of mine, from MIT's urban planning department, when we were talking about the recent changes to Kendall square, the Cambridge neighborhood in which MIT is sited. To me, this was a serious question. Why does the world get built the way it does? Who, if anyone, is deciding these things and how can that process become more transparent and participatory? To ask this question in earnest requires some level of not taking things for granted. One similarity between New York City and Cambridge, MA, other than the expensive rents, is the amount of construction sites around the city. Walking past an active construction site is often an educational experience, not to mention an aesthetically charged one. The translation from drawing to reality, as its full-scale in the urban theater of construction, where all in-between steps are on display. Spend a moment, like a camera, observing the individual tasks of the workers. High visibility highlighter hues on t-shirts, jackets, and helmets. One is mixing a mortar slurry while another pair prepares to bend the steel rebar. A cement truck cautiously backs up into the on-coming traffic, the eyes of its driver glued to the gesturing palm of another man standing in the street, whose eyes look away, scanning for cars and obstacles.

At the scale of the individual workers, the process of construction becomes visible and comprehensible. All manner of tasks and techniques are being carried out by bodies engaging directly with tools, equipment, and materials. Even the tallest, glossiest, most seamless of towers do not assemble themselves. Prefabricated components and hydraulic cranes might obscure the individual bodies a degree or two, but behind these technological assemblages, it's still people that build our cities. (For now, at least).

Newer constructions might not leave the same traces of their human makers like the ax marks on hand-hewn wooden timber structures. That has been true for some time now. But scary to me is when the design of a building ends up contributing to a generic and frozen urban life, where residents are not politically interested in inputting their own and those that would be interested in this level of engagement cannot afford to be in the neighborhood. Scary to me is how far we still are from an established "Right to

the City", where people have the right to participate in the design and production of the urban space they are part of[21].

What am I, as an individual person, allowed to place in the city? How to enter this fray? To actually test this question, one faces the issue of permission. Without a written Right to the City, in this city of strangers, things can be done with permission or without permission, and that decision should be weighed for its drawbacks, risks and potentials. It is also a context-based decision, where the governing body and its institutional structuring make all the difference in what is and isn't easy to get permission for. Luca, the architect, is aware of the permitting process, the necessary research steps required to confirm the 'Authority Having Jurisdiction' (or, AHJ) for each invisible layer in the web of ordinances that control a given parcel of urban space. This is a process at the beginning of any feasibility study for construction in an urban context. The securing of permission, (or building permit), is one of the essential tasks for an architect – who after designing a structure *up to code*, must make drawings both to prove the structure's code compliance and to guide contractors in its physical construction. Eventually leading to the coordinated choreography of construction laborers described earlier.

To alter a portion of the urban fabric with permission is expensive and slow. Even for people, it can be costly and slow to become officialized, licensed, or recognized by an institution.

I was curious about whether it was possible to permanently place something in the urban environment without permission that might still achieve a quality of belonging. A right to be there. Considering how many objects have earned the right to permanently exist out in our streets and sidewalks, (think of the traffic cones, the light posts, the signs, the fire hydrants, the medians, the shrubs) I figured it should be possible. Some of these objects are infrastructural, serving needs related to traffic, water, gas, or electric power, but some of these objects are less urgently connected to piping a resource or ensuring constant, collision-free movements of things. Benches, ledges, planters, trees - objects which might not shine under the rubric of a functionalist urban agenda, but which make up the very stuff of public space, were places to start. By turning to those materials and techniques of construction sites, could there be a way to make something belong in urban space regardless of permission? Something belonging without permission?

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[21] Lefebvre, *Writings on Cities*.

To give *myself* permission to explore this question, of what I as an individual could place or install in the city, I decided to operate under an alias by the name of Ulises Cane. This allowed for a distance, though mostly psychological, between me and this character. I know him, but somehow not entirely.

Ulises Cane is a stranger, an alien, and a wanderer. His origins unknown. I imagined his origins as something in between David Bowie's character in the Man Who Fell to Earth (1976) and Harry Dean Stanton's character in Paris, Texas (1984). Washing up on a beach. Waking up in a public park on the outskirts of a big city. Ulises is cheerful and musical like me, but ultimately curious about life on this planet. His assignment is to study the relationship between the Ground and the Life that it supports. Like Seinfeld's Kramer or Mr. Bean without the slapstick, Ulises Cane is impervious to a type of embarrassment that affects people with a more common degree of social awareness, people who identify with being part of a society and the normative behaviors that such a society might expect. This allows Ulises the freedom to try something that someone else might have considered strange, pointless or absurd. Like coyote, the trickster figure, Ulises Cane is condemned to be ever a wanderer, ever curious, happy but not satisfied[22]. With this character as someone I could act as, I set out, as Ulises Cane, to create a home for myself.

This was the first step in testing my research question of how one could build something in public space as an individual, without official permission. This first experimental action involved bringing construction materials, meaning 2" by 4" dimensional lumber and a 42" roll of orange safety netting to the strip of lawn that mediates the two directions of car traffic along Memorial drive – the road that banks the Quinobequin or Charles River on the Cambridge side. I filmed Ulises building a chair out of these materials in real time, out in the real public space.

The design of the chair was planned ahead. Its materials and construction were based on those of urban tree guards that can be found around New York city and Cambridge alike. These most often appear as a wood-framed box or cube of dimensional lumber, often cross-braced with a diagonal member on opposite sides, and then wrapped in a shroud of orange safety netting. These boxes used to perplex me, since they had clearly become common practice in the City of New York by around 2017 or so, becoming ubiquitous around construction areas but often left to remain beyond the completion of the nearby jobsite. The purpose of these tree guards is not always to protect the tree truck itself from direct damage from collisions with site equipment. Their main purpose is to block equipment, construction materials, or anything heavy from compacting the soil near the base of the tree. It was only recently that the role of

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[22] Hyde, *Trickster Makes This World*.

compaction has been appreciated as a significant factor in the precarity of urban trees[23]. Importantly, these tree guards were not a purchased product, but individually crafted structures. The idiosyncratic differences from site to site suggested by subtle changes in the exact netting material, wrapping style or assembly methods revealed a simple construction protocol that could be fulfilled in a variety of ways. Same but subtly different: a quality not always seen in new construction today, but that I see as important to an urbanism where participation is valued.

These tree guards, then, were the design artefacts that inspired the materials and structure for Ulises' chair. The netting in this case would drape diagonally, serving as the actual seat material. The citizen-chair. This is its name as a tool that can make a stranger belong to the ground they sit on. It grants its own permission to belong.

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[23] Jim, "Resolving Intractable Soil Constraints in Urban Forestry through Research–Practice Synergy."

SECTION VIEW
SCALE: 1/4" = 1'-0"

Labels in diagram: (2) 2" x 4" CROSS BRACES; TREE WRAP; SURFACE PROTECTION MATS; 6" DEPTH WOOD CHIP MULCH; LANDSCAPE FABRIC; EXISTING SUB-GRADE; 6'-0"; VARIES
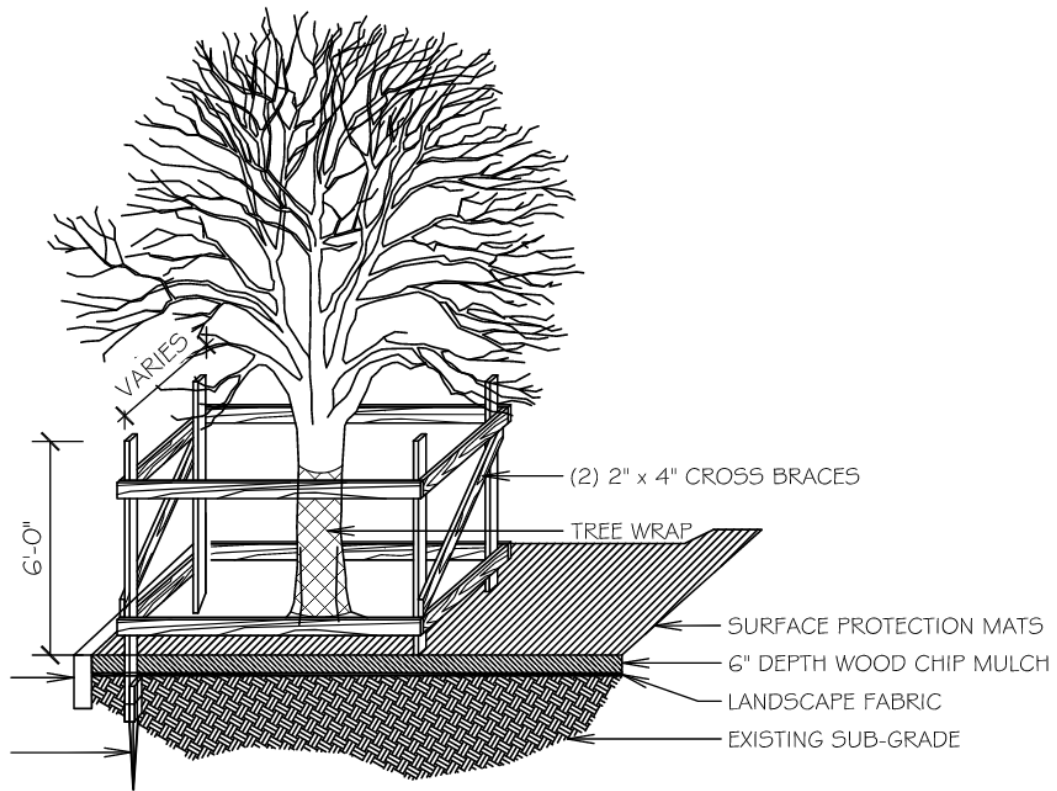
Figure 5. Diagram of Tree Guard with Critical Root Zone Protection. Excerpt from freely downloaded PDF from City of New York Parks & Recreation, 2013.

Image sourced from https://www.nycgovparks.org/trees/street-tree-planting/best-practices under fair use.

Figure 6. "Ulises Makes Camp", Film still. Image courtesy of the author.

The first video, titled "Ulises Makes Camp", documents the arrival of the character to the site. Following the construction in real time, overlaying and collapsing different time sequences and rhythms, the video shows the steps needed to produce a citizen-chair or a tree guard. They use identical construction methods. They each are intended for guarding the ground and its ability to support life, in one case the growth of a tree, in the other the sedentary rest of a human being.[24]

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[24] Ingold, *Making*.

Figure 7. "Ulises Makes Camp", Film still. Image courtesy of the author.

Following the construction of the citizen-chair, the next step was to test it in the public space as an entity of its own. The purpose of this test was to see how the chair could enter different urban spaces and cause a change in the urban scene. To do this I made a second video that followed Ulises Cane, transformed into chair-form, on a walk between the two Cambridge neighborhoods that MIT straddles: Kendall Square and Central Square. The walk from Kendall to Central can be seen as a gradient between two general feels: from a stark, sleek, Kendall to a more raucous, spontaneous Central. This change is exacerbated by the change from day to night. How could the chair serve as a map of these urban situations? What followed was a short film that documents the chair's "walk". The story arc follows something of the trope of a country bumpkin moving it to the big city and getting swept away by stimulations they were never prepared for back home. There is an accelerating crescendo toward the end, as night falls and the chair is left outside the bars of Central Square, by some benches, only to disappear the next day, absorbed by the city.

The chair is given life by its surroundings; an inanimate object animated. Furniture already has an inherent advantage against other inanimate objects for being seen as animated, having arms, legs, and backs, like familiar creatures. This walk, this map, this video is a way to see urban arrangements as dynamic situations where people and objects are all animate, all bouncing against each other, if not

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literally, certainly in the realm of perception.[25] The film is titled 'Ground-Life Study #01' as it is the first experiment by Ulises Cane on the relationship between the ground and the life it supports.

Figure 8. "Ground-Life Study #01". Film still. Image courtesy of the author.

[25] Beuys and Harlan, *What Is Art?*

Figure 9. "Ground-Life Study #01". Film still. Image courtesy of the author.

Figure 10. "Ground-Life Study #01". Film still. Image courtesy of the author.

Figure 11. "Ground-Life Study #01". Film still. Image courtesy of the author.

Figure 12. "Ground-Life Study #01". Film still. Image courtesy of the author.

Figure 13. "Ground-Life Study #01". Film still. Image courtesy of the author.

Figure 14. "Ground-Life Study #01". Film still. Image courtesy of the author.

Figure 15. "Ground-Life Study #01". Film still. Image courtesy of the author.

There are several ideas for following studies including testing a method of converting rubble into rich soil. If there is some ecologically balanced form of urbanism in our futures, then surely, it will require a reimagined relationship to the earth, the living soil that nourishes us and so many others.

Chapter 3: Free Rain / Free Rein

How does governance relate to sustenance?

How could public spaces be life supporting?

"Dragonflies came and hovered over the pool. They were all colors of blue--powdery sky blue, dark night blue, shimmering with almost black iridescent light, and mountain blue. There were stories about the dragonflies too. He turned. Everywhere he looked he saw a world made of stories, the long ago, time immemorial stories, as old Grandma called them. It was a world alive, always changing and moving; if you knew where to look, you could see it, sometimes almost imperceptible, like the motion of the stars across the sky." – *Leslie Marmon Silko, Ceremony (p.88)*

"It's amazing how over the centuries we've gotten accustomed to daily living with, let's say, the floors we walk on in our homes, floors we have not built, with doors and knobs and hinges we have not made, locks and keys we or our ancestors never helped fashion, with stoves, coffee cups, spoons, bread, rolls, fish, fruits and meat pre-pared for us, not to speak of flour for baking out daily bread." *- Frederick Kiesler, February 21, 1961, Inside the Endless House: Art, People and Architecture - A Journal (p.404)*

There is plenty of rain in Cambridge, Massachusetts. Around 43 inches per year, on average. The idea to collect the rain here, not just in the backyard, but as a municipal service, on city property, came from out of the blue. It came from the blue mailboxes bolted to the sidewalks and from the grey pouring sky.

I don't always love the rain, I admit. Consciously, spiritually, I welcome its wonderous presence in the planetary balancing act of hydration, cooling, and life-bringing. Some days, however, at the level of immediate emotion, I find it a nuisance. This is easy for me to say as someone whose conditions of existence do not depend on the rain or the harvest. The rain or the harvest that grows my foods happen *somewhere else*. This is true for many US citizens, and this mindset I describe could stand in for a general mindset in the US, relating the opacity of larger infrastructures. Philosopher Matthew Crawford describes how a general disconnection from the world of material things reduces our agency in how we are able to make political opinions about the ways our environments are arranged.[26] Other authors have also taken up the issue of how opaque systems. David Graeber and Arturo Escobar.

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[26] Crawford, *The World Beyond Your Head*.

Free Rain is a project that explores the space between the individual, do-it-yourself scale and the scale of a municipal infrastructure, in other words, between the citizen and the city. The original sketch for this project came to me on a rainy day, as a very simple, box-like container with a fluted top, with a spigot for dispensing, raised to waist height, and the words "Free Rain" written in large clear lettering. The words were reminiscent of the cardboard board boxes that people put out on the sidewalk at the end of the month, giving away their no longer desired objects for free. This first Free Rain design was the mashup of three existing forms – the community cardboard box of free stuff, the sidewalk bolted mailboxes, and the pouring rain.

Figure 16. Free Rain concept sketch. Image courtesy of the author.

In this sketch, a new arrangement was suggested: What if the city of Cambridge decided to implement a program of public rain-boxes, that would catch rain and offer it freely to any passerby? The first idea was meant to be a bit ridiculous. "Free"? This stuff just fell from the sky! And now you, whoever you are, are offering it back as charity, as if it could ever *not* be free? Who dares claim this as property in the first place? Suddenly, inside this simple, even silly idea was the entire debate on governance, ownership, the social contract, and the commons. *How ought we to share and distribute this essential earthly resource? What do we expect from a government? What say does the user of a public utility have over its design?*

Figure 17. Free Rain wall drawing. Image courtesy of the author.

Free Rein: a living metaphor for living between individual freedom and relational connections to others

> "*Free rein*, meaning 'unrestricted liberty of action or decision,' is often misinterpreted as *free reign*. The expression *free rein* originated from horseback riding and refers to the act of holding the reins that control the horse loosely so as to allow the horse to freely move along at its own pace and in its desired direction." Merriam-Webster website[27]

The expression literally connotes the horse, who, though domesticated, feels its reins loosen, a welcome release from the tugging pressure of an external agent of control. A horse experiencing free rein is somewhere in between the wild horse running free and the beast of burden, bound and living to serve. This is apt for describing one of the best-case conditions that we – city-dwellers – might find ourselves in: between relational attachments to others, yet still able to retain control over our own lives. Though we might want to be the wild horse running free, that reality is a dangerous libertarian dream, where cooperation is shunned in the name of individual freedom. Arturo Escobar unpacks the notion of the 'individual' isolated from the rest of the world as a western invention, not to be taken for granted and not necessarily present in non-western societies[28]. The anthropological record shows countless examples of

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[27] "'Free Rein' or 'Free Reign'?" (accessed on April 26, 2023)

[28] Escobar, *Designs for the Pluriverse*.

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direct democracies and anarchistic mutualisms where high levels of individual autonomy are not at odds with the strings bind us to one another and the world.[29] So can it be, that without severing our ties to one another, we still enjoy moments of control over our own movements and actions. This autonomy is not yet the case today, at least in the US cities that I know. Self-governance can happen when the world itself has more handles. For the thirsty horse, this was the case, where under *free rein* she could, under her own control, choose when to pause and lower her head to drink from a passing stream. It seems self-evident that anyone born on this earth has a right to live from it. The world was a place that used to hold all things. The world with us human beings in it becomes a design question. It has been for a long time. Indigenous conceptions of the earth as som

Free Rain is a dream project born from a combination of frustration and optimism. The frustration came from the difficulty of having a say over one's own conditions of life. Not having the agency to move freely, to use time freely, to work directly on things. This frustration doubled by the pouring rain outside, preventing me from going out. Forcing me to stay in if I want to preserve the dry condition of my clothes.

WASH is the acronym used by the World Health Organization, the United Nations agency specializing in international public health issues since 1948, for all things Water, Sanitation and Hygiene related. Ostensibly one of the more credible sources regarding a global view of drinking water, the WHO claims that we, human beings, are "not even close to being on track to meet the SDGs by 2030". The SDGs or Sustainable Development Goals, drafted in 2012 and adopted in 2015, include the goal 6.1, to by 2030, "achieve universal and equitable access to safe and affordable drinking water for all."

Free Rain / Free Rein

The rain falls indiscriminately on things. In cities, those of us lucky to be indoors, to have access to an indoors, can escape it. Also in cities, the ground is less likely to be porous. Miniature lakes and minor rivers immediately form in an urban rain event. The primary motivator for this project is not to reduce stormwater runoff, though this would be a side effect. To propose an "alternative source" of potable drinking water is important, (it is even something that is being called for at the national level in the US,

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[29] Graeber, *Fragments of an Anarchist Anthropology*.

with the incoming infrastructure legislation), but this is also not the primary motivator for the project. This project is proposed for Cambridge, Massachusetts. Not necessarily known as a drought-ridden place, Cambridge does fall in the area of Massachusetts currently experiencing a Level 1 (mild) drought. The point is not to fully resolve this issue either. The primary motivation for the project is the initial motivation. It is to propose an infrastructure that is inherently simple to understand. Readable, visible, understandable. This is meant to be an aid in closing the conceptual gap between things that we, as individuals, have control and understanding over and those larger systems that are out of our control or understanding. Catalyzing a group of individuals sharing both a conceptual understanding and a physical tool, the Free Rain network would hope to establish a communal dimension, often forgotten in cities.

Free Rain is a suggestion for a supplemental water infrastructure in the form of a decentralized network of self-contained rainwater catchment and filtration devices. Since rain falls everywhere, unpredictably, there is no sense in a central plant. Since thirsty living things are everywhere, why not have water everywhere? A decentralized water source calls for a decentralized infrastructure.

Figure 18. Free Rain concept rendering. Image courtesy of the author.

Version 01 of the Free Rain catcher was conceived as a stand-alone sidewalk object with a static and simple geometry, but since most of the time there is not a rain event actively occuring, there is no need for a splayed rain catcher. The subsequent designs take into account an open/closed state change and the potential for the rainwater catcher to be integrated with existing urban systems.
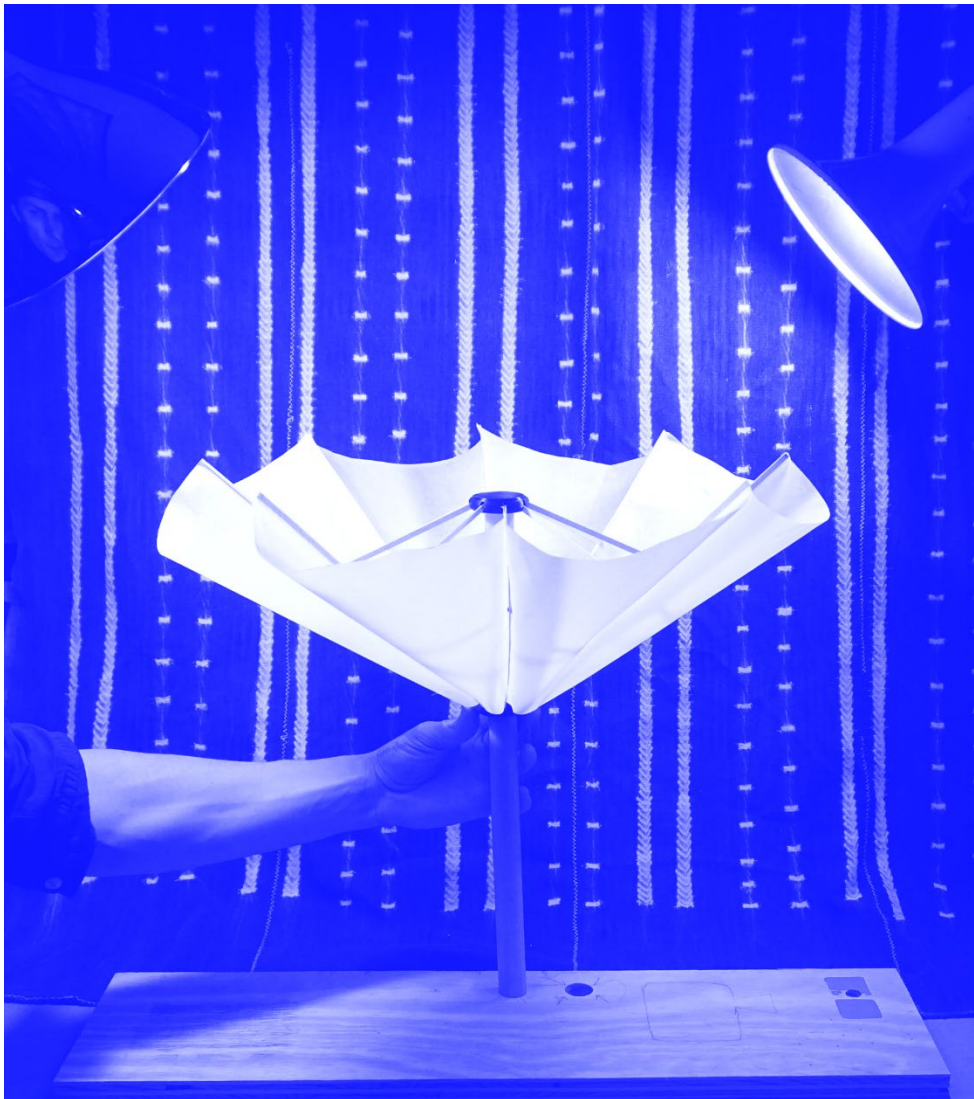

Figure 19. Free Rain paper canopy study model. Image courtesy of the author.

The impulse of the project, to make a sidewalk raincatcher, opened up to more specific design goals. What would it mean to create a simple gesture of collecting abundant and ubiquitous rainwater as way to make a conceptual link between the rainwater that we take measures to stay dry from with the domestic tap water we rely on?

Figure 20. Free Rain. Exhibition in ACT Student Gallery (2023). Image courtesy of the author.

Figure 21. Free Rain. Exhibition in ACT Student Gallery (2023). Image courtesy of the author.

Figure 22. Free Rain. Exhibition in ACT Student Gallery (2023). Image courtesy of the author.

Chapter 4: Boston Lead Gardens

How do we relate to the urban ground?

"I appeal to the paradox that the single most important cause of global warming--the urbanization of humanity--is also potentially the principal solution to the problem of human survival in the later twenty-first century. Left to the dismal politics of the present, of course, cities of poverty will almost certainly become the coffins of hope; all the more reason that we must start thinking like Noah. Since most of history's giant trees have already been cut down, a new Ark will have to be constructed out of the materials that a desperate humanity finds at hand in insurgent communities, pirate technologies, bootlegged media, revel science, and forgotten utopias." *Mike Davis, <u>Old Gods, New Enigmas</u>[30] (186)*

"We both looked at the grass. There's a sharp line where my ragged lawn ended and the darker, well-kept expanse of his began." F. Scott Fitzgerald, <u>The Great Gatsby</u>[31]

'*Sur les paves, la plage*' goes the famous Situationist slogan.[32] Beneath the pavers lies the beach. As if we could just tear away this impervious cement crust that supports everything we think of as city and uncover some more authentic, more pleasurable existence. The Situationist International, Paris-based international avant-garde collective, active during the 1950s and 60s, was influential for generations of artists and activists seeking alternative methods to liberate daily life from capitalist logic.[33] That the ground, or the paving, is the site of radical imagination is important, not to be taken as an empty metaphor.

The previous chapters have each touched on the notion of our public ground in cities and the ways that the ground is coded for specific uses. The projects show how the urban ground has two dimensions of reality: physical and fictional. There is a double nature of *ground* as something that on one hand is codified and commodified and on the other hand is firm and real.[34] My hypothesis is that the two are connected: the more lifeless and blank the physical ground is, the more likely it can be conceptualized as a blank, abstract parcel. The less likely it will be defended or even understood as something to be defended. It was through the lens of Ulises Cane (see chapter 2) that I began to take the surface of the urban ground itself as an object of study. What would be the next Ground-Life study after the citizen

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[30] Davis, *Old Gods, New Enigmas*.
[31] Fitzgerald, *The Great Gatsby*.
[32] Wark, *The Beach Beneath the Street*.
[33] Bishop, *Artificial Hells*.
[34] Harvey, *Rebel Cities*. (39)

chair? What use would it be to use the tree guard typology to protect against soil compaction if there isn't even much soil to begin with? Considering the issue of paving, I wondered about the potential processes to transform sidewalk into soil. What would it take, in real terms, to transform cementitious rubble into rich soil teeming with microbial life? I was curious if any sort of alchemy was possible, between crushed rubble and compost, as a way to produce organic soil without importing materials or microbes from offsite.
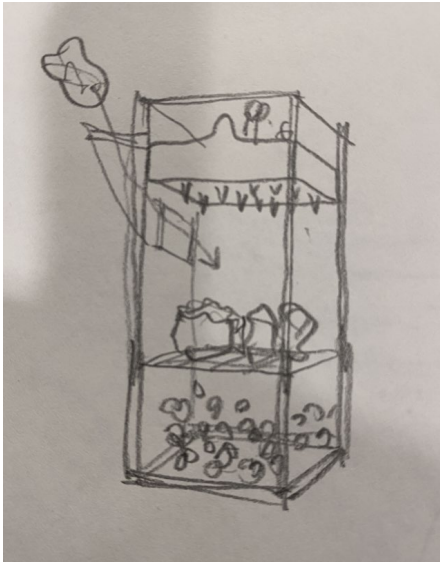

Figure 23 Sketch for a machine that digests rubble, 2022

During June 2022, I collected food scraps for three weeks, after which I transferred the pile onto the concrete terrace. Banana peels, lime peels, passion fruit husks, onion skins, garlic, coffee grounds, coffee grounds, coffee grounds (these were food scraps accumulated in Rio de Janeiro) were at different stages of decomposition by the end of the month. Crawling happily among the goop were several kinds of flies and crawling insects, forming three general tiers of sizes. I took photos and filmed the compost circle, admiring that magic quality of something spawning from nothing, an entire micro civilization bustling away spontaneously.

Figure 24 Compost pile in Rio de Janeiro, 2022. Image courtesy of the author.

Returning to Cambridge with compost on my mind, it didn't take long for me to connect with my colleague Aubrie James on the topic of urban soils and ecologies. An ecologist herself, Aubrie joined the Art, Culture and Technology program at MIT to develop artworks that question some of the dominant ways that science has classified the world. (More info on Aubrie James, in her own words, can be found on the ACT website.) Between our common interests in compost and urban ecology, Aubrie and I began planning a soil-based intervention that would challenge the standard view of cities as human-only spaces. After researching the urban soils in the Boston area, it became apparent that the high levels of lead in the soil were a baseline issue. Originally, we were considering working with neighborhood community gardens to set up experiments to test the effectiveness. Speaking with Juliet Kepes Stone from the Herter Community Garden, Aubrie learned that the garden received fresh soil from the army corps of engineers. Rather than going to community gardens where soil was already quite healthy, we wondered about using private residential yards as test sites to see whether compost and certain plant species would have a bigger impact in transforming the soil. The other idea being that we could create a new community, across neighborhoods, united not just by geography but by being pioneers in a new form of urban gardening. We posted an open call for yard owners in the Boston area who were interested in participating in a community study around the lead-trapping potential of perennial flower species common to the area. The poster read:

Backyard Lead Gardens

A community-based experiment that asks: what are gardens for? &

Can we collaborate with compost and common garden plants to trap lead?

Someone put our digital flyer on Facebook and before we knew it, we had 60 interested participants, representing a wide range of neighborhoods well beyond Cambridge, spanning across the greater Boston area. Boston Lead Gardens pilot initiative had begun.

Motivated by this interest from the community, we formalized our experiment design and began applying for funds. Meanwhile we established a limit for ourselves of ten gardens that we would actively partner with and began arranging visits with those still interested in participating. During February and March we visited 50 residents across Medford, Malden, Wakefield, Chelsea, Cambridge, Somerville, Roslindale, Jamaica Plain, Dorchester, and Newton, MA. We began most visits by asking about the site, the yard and the way they used their garden, which often led to and eventually we would discuss the Lead Garden experiment we were proposing. These initial conversations were recorded, documenting a range of anecdotes, questions and opinions on what a garden should be. The design for our experiment would involve two garden beds, each one meter by one meter. One bed would receive a compost amendment and the other would remain a control bed, and in each bed we will plant 25 plants - five individuals from five species. We chose five perennials that were pollinator friendly, un-tasty to deer and rabbits, and that are native or naturalized to the Massachusetts area. We will take soil lead samples as we prepare the garden beds and at the end of the growing season we will harvest one individual of each species and send the plant to UMass Amherst to get a quantification of the lead in their root systems. Our hypothesis is that the compost amendment will support more root growth and allow the plant to hold more lead accordingly. As of this writing we are at the beginning of the growing season. We have selected the ten gardeners and are preparing a follow-along Lead Garden Kit for the ones we were not able to pick.

Figure 25. Boston Lead Gardens. Neighborhood map of the test sites. Image courtesy of the author.

The Boston Lead Gardens then exists in several dimensions. There is the physical garden we are preparing to plant in each yard, the community we are building (we met the people where they were and created a Boston Lead Gardens facebook group), and we are holding space for the stories of the project to take form, be it audio, visual or literary.

Compared with the Rhythmwalk and the citizen chair in particular, this project, the Boston Lead Gardens experiment, represents an expansion of my previous methodology. By collaborating with Aubrie, a scientist, and earning trust and permission from a community of gardeners to use their private spaces, this project engages more directly in a shareable form of worldbuilding. Each of the projects involve a prototype of some kind, but the Boston Lead Gardens initiative has stakeholders built into the project.

Figure 26. Boston Lead Gardens, epxerimental garden beds in Chelsea, MA. Image courtesy of the author.

Conclusion

Notes on 'Ownership'

> *To give birth, to nourish,*
> *to bear and not to own,*
> *to act and not lay claim,*
> *to lead and not to rule:*
> *this is mysterious power.*
>
> *- Lao Tzu, Tao Te Ching, chapter 10*
> *(Ursula K. Le Guin's translation)*

There are different ways to 'own' something. "No one can take that away from you", someone might say, referring to a possession so connected to the possessor it is one and the same. Something internal: an insight, an inherent quality, a talent, or a memory. But in common American English parlance, to possess and to own are different, even for internal qualities. To own one's qualities can mean to accept them, publicly so. Which is to say, it is to acknowledge and externalize a feeling of identification with an internal quality and to wear it proudly. Ownership of this sort involves a back-and-forth crossing from internal to external and external to internal. Can this be said of the concept of ownership more broadly? Is there a relationship between the owning of internal qualities and the owning of externalized objects in the world? Once externalized, materialized, graspable and shareable, these objects of ownership can become objects of dispute. Ownership would seem to mediate interactions between individuals. Ownership is a pervasive idea that extends our relationship to those things directly linked to us, our arms, legs, personalities, to those things out in the world that we might claim as our own, on whatever questionable authority, such as our books, pets, homes. With regard to the more external objects, the verb 'to claim' and the noun 'authority' become crucial. After all, a *claim* is a shout! From the French, *clamer*, to claim is essentially to shout out that something is yours. Calling dibs, or calling shotgun are popular US cultural examples from my youth. To call out "shotgun", and to call it out loudly, clearly, and most importantly, first, means you now have the right to the front passenger seat in the car. This authority is self-bestowed and usually respected by rest of the group (the group here being one of teenagers from the US in the 2000s of which you are a member). It is a game, only larger, and we abide by the rules.

To claim is to propose a fiction as a fact. It is to mark a desire. To make an ownership claim is to embark on the crossing mentioned earlier, in an attempt to bring something external to the inside and back

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again. "It is *my* cup, the one with the lip stick on it"; "this is *my* shoreline, the one with all the fish". Well, prove it, someone might say. In legal parlance, a claim is 'colorable' when it is plausible, meaning that it is "strong enough to have a reasonable chance of being valid if the legal basis is generally correct and the facts can be proven in court"[35] Just like the game of shotgun, a claim is only as good as it is believable by the larger group. The story (fiction) that we tell about ownership is critical to winning authority, proximity, even exclusivity to the object of ownership (fact). This is especially true with the ownership of land and claims over the control of a territory. Political science professors Scott F. Abramson and David B. Carter argue, in a 2016 paper, that claims on disputed territories between nations today is more often tied to the historical status of a given border, the historical narratives establishing precedence and rightful authority, rather than the economic or strategic value of the natural features of the territory that drive the dispute, as the more prominent view would hold.[36]

Land, unlike a book, a cup, a small, holdable object, is expansive. It's edgeless, supportive, spatial nature makes it a different sort of thing to own than a more graspable entity. By being born somewhere, by spending life as a body occupying space we are intrinsically tied to geography. Our paths through life might trace outlines of varying intensities regarding our sense of connection, belonging or ownership with certain spaces and lands, but the borders of that possession are less discrete than the more graspable, formed objects we might own. Over the last several centuries, as the pervasive idea of private land ownership has grown, a rift has grown between the use or occupation of land and the ownership of land. The growth of this idea has accelerated at different historical points, bringing us to today, where in US cities, property ownership, combined with real estate and finance, have delivered situations that seem altogether absurd once we extend our point of view outside the game of valid, colorable, state-backed claims. For example, what value is the ownership of an apartment left vacant when there are people sleeping on the streets?

What happens when not everyone understands this game or is unaware that the game they are unwittingly joining has material consequences? European "discovery" of America provides essential background to the story. Pre-Colombian empires, nations, and societies had to suddenly contest with new kinds of claims made valid by an alien logic and the destructive potential that backed it. At risk of oversimplification, the historian Edmundo O'Gorman, in his book *The Ivention of America* presents a unique allegorical model of the situation, scaling down "the four continents [to] four human individuals,

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[35] "Colorable Claim."
[36] Abramson and Carter, "The Historical Origins of Territorial Disputes."

whose bodies are made according to the same biological model…But besides their biological existence each has a personal life, a unique and different biographical or spiritual being"[37]. O'Gorman goes on:

> "Let us further imagine that, of these four men, three have always lived together, and that one of these three has the peculiarity of believing that the way in which he personally conceives the paramount ideals of human life has universal validity; his personal values are, to him, not subjective and relative, but objective and absolute. This man will naturally consider himself capable of determining the meaning or significance of the life of the two other men, of judging them by his own standards, thus setting himself up as the paradigm and the source of what constitutes true humanity.

> "Now, suddenly, a fourth man appears of whom nothing is known. He is recognized as an individual of the human species, since his biological structure is obviously human. This is not sufficient, however, to identify the newly-arrived individual as a person, for though his physical appearance is that of a man, his spiritual being is unknown. So it was when America appeared on the historical horizon of Europe." (O'Gorman, 1961, p.134)

Simple though this model is, it gets to the simple truth about the nature and consequences of disregarding the conditions of others. To impose a conceptual structure on someone else or on some alien agency, when that structure negates possible life patterns is fundamentally problematic. O'Gorman's is an older example and much scholarship has occurred since on the destructive effects of colonization at the cosmological, epistemological, and biological health of indigenous and enslaved peoples.

If European contact began a process of land-claiming, grabbing and extracting, the form of state-protected individualized ownership that today resembles real-estate was an idea that would grow centuries later. The rights of individuals to hold exclusive rights to a delineated patch of earth has only been around for the last 200 years. Even under imperial regimes up to the late 18th century, peasants would work the land and "ownership of each plot was shared, with a family or a clan, with a local potentate, or with the monarch." [38] In his book, *Owning the Earth* historian Andro Linklater tells the story of scientist-adventurer Sir Humphrey Gilbert, who upon arriving at Saint John's harbor, in present day Newfoundland, immediately set off with the task of surveying the coast. Grading plans and site details were promptly drawn up and parceled, and in a month's time the Mi'kmaq fishers were being charged

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[37] O'Gorman, *The Invention of America;* p134
[38] Linklater, *Owning the Earth*. p19

rent for "using a part of the wilderness […] they had always engaged in freely." The concept of charging rent for use of a patch of wilderness which was previously tended in common appears to have been a British export.

This form of ownership as the state-protected legal category whereby individuals can hold exclusive rights to a delineated patch of earth has only been around for the last 200 years. Even under imperial regimes up to the late 18th century, peasants would work the land and "ownership of each plot was shared, with a family or a clan, with a local potentate, or with the monarch." [39] In his book, *Owning the Earth* historian Andro Linklater tells the story of scientist-adventurer Sir Humphrey Gilbert, who upon arriving at Saint John's harbor, in present day Newfoundland, immediately set off with the task of surveying the coast. Grading plans and site details were promptly drawn up and parceled, and in a month's time the Mi'kmaq fishers were being charged rent for "using a part of the wilderness […] they had always engaged in freely." The concept of charging rent for use of a patch of wilderness which was previously tended in common appears to have been a British export.

But, as a verb, which is to say, an action, what is it to *own* something? As a native Portuguese speaker interested in a quick etymological comparison, I scan through the language and I only find *possuir* and *ter*, or in Spanish, *poseder y tener*. In English, to possess and to have. But no *own*. Why then do we have a whole other verb for the same action, the nature of which we still have to understand. When looking at the noun forms of these words we have, in English, *owner* and in Portuguese, *proprietario* or *dono*. The synonyms we have for the noun in English are *proprietor* and *possessor*. In common parlance, we are more often using the word *owner*. In having put all these words on the table, I suspect there is a connection between the *o* sound in *own* and *dono* that actually links the owner and the object of possession intimately. Without any means of proving this theory, I would venture to say that the *o* sound, similar across the two languages, involves an opening of the mouth that evokes the eating mouth. If you steal one of *my* French fries, if its in your mouth, you're chewing and swallow it, well, it's yours now. The intimacy between our food and ourselves is obvious, especially at the micro-level. Donna Haraway summarizes Lynn Margulis' theory of Endosymbiosis as when critters "eat each other, get indigestion and partially digest and partially assimilate one another, and thereby establish sympoetic arrangements"[40]. At the level of metaphor, the comparison still holds. She swallowed her opponent. He owned his opponent.

The object of ownership is an integral part of the owner, or *dono*. Sentimental objects certainly can feel emotionally connected. Tools held in the hand or worn on the body can come to feel as

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[39] Linklater. (19)

[40] Haraway, *Staying with the Trouble*.

extensions of ourselves. But what about land, the ground beneath our feet? Pre-modern ways of relating to the land would have direct contact with the living earth, with the senses open to its biota, mouths open to its edible offshoots. Today, under the paradigm of individual state-protected land-ownership, this connection between ownership and sustenance is in need of repair.

Lessons and trajectories

The four projects presented in this thesis represent my search for ways of placing something in the world that might suggest an alternative way of doing things, open up new ways of conceptualizing what could take place in an urban situation. The following charts outline the way the projects have developed along different axes.
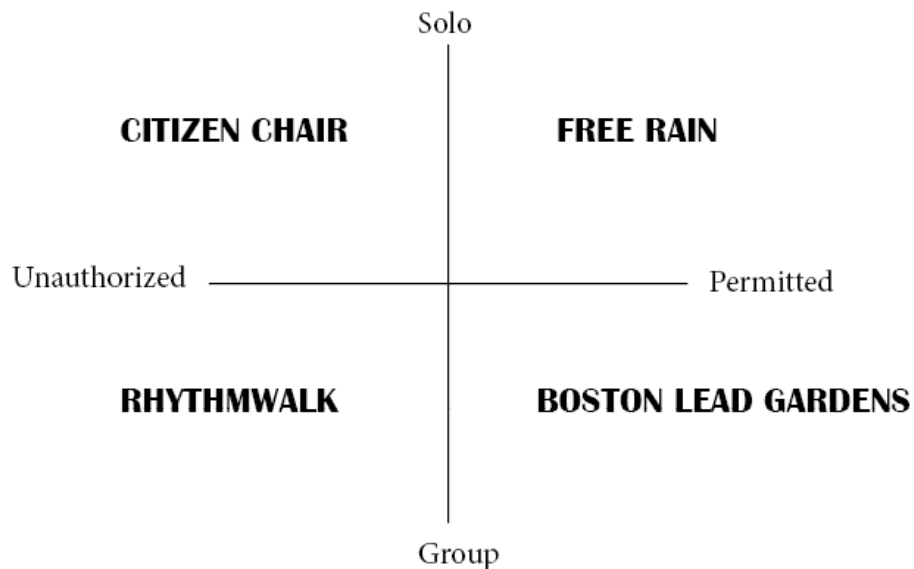

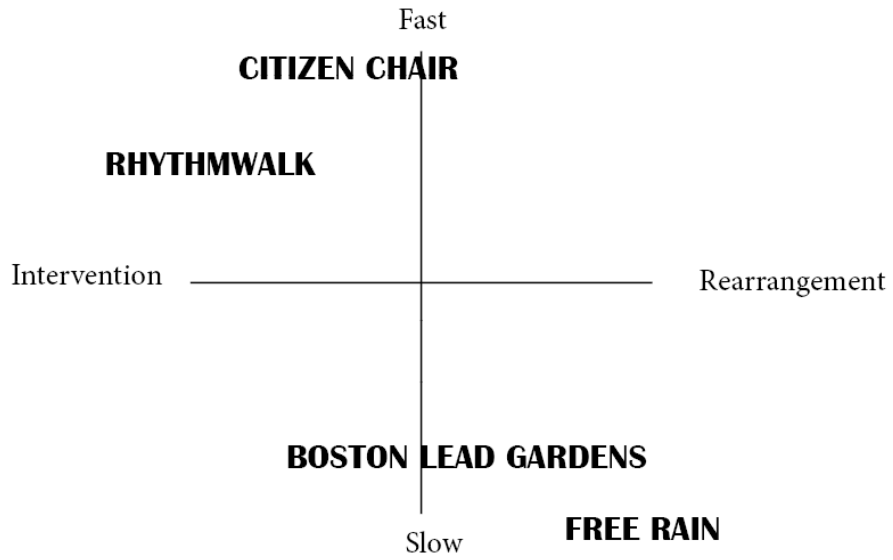*Figure 27. Project evaluation chart 1. Created by author.*

Fast

CITIZEN CHAIR

RHYTHMWALK

Intervention ———————————————————— Rearrangement

BOSTON LEAD GARDENS

Slow   **FREE RAIN**

Figure 28. Project evaluation chart 2. Created by author.

Craft

RHYTHMWALK

Art ——— **CITIZEN CHAIR** ——— Architecture

BOSTON LEAD GARDENS

FREE RAIN

Design
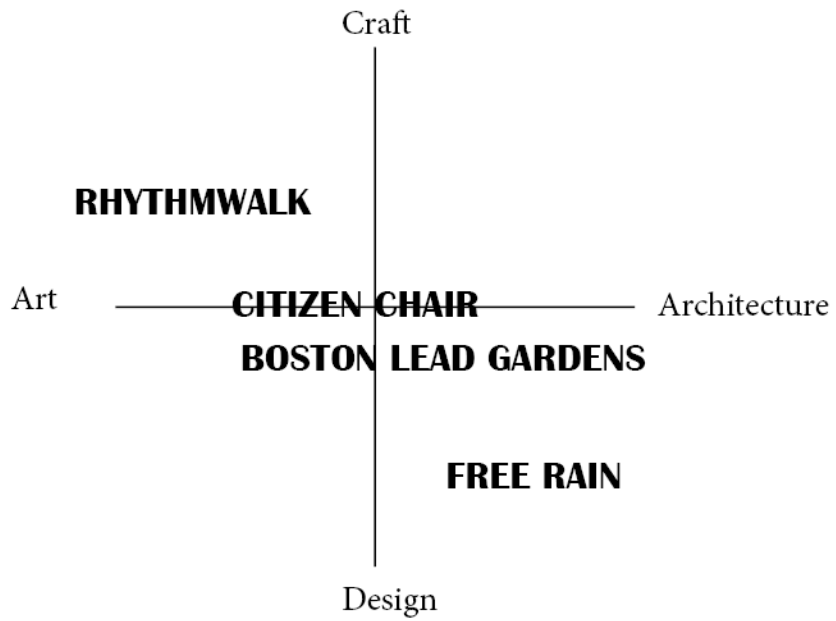
Figure 29. Project evaluation chart 3. Created by author.

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Intention-Led

BOSTON LEAD GARDENS

FREE RAIN

Intervention ——————————|—————————— Rearrangement

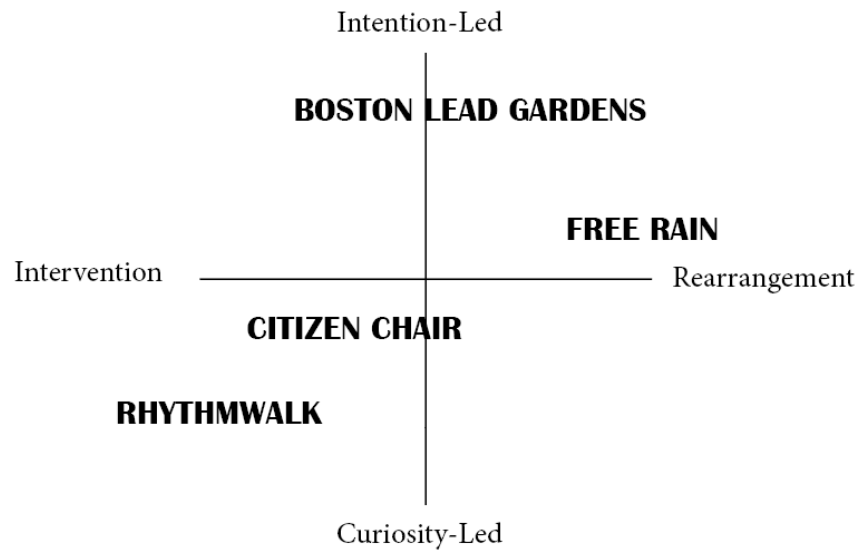**CITIZEN CHAIR**

RHYTHMWALK

Curiosity-Led

Figure 30. Project evaluation chart 4. Created by author.

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