The Politics of Circumvention

The Off-Grid Eco-Housing Movement of Earthships

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THESIS

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This thesis is dedicated to my father, Gregory Alan Sporer. Little did either of us realize that his lectures during weekend car rides on the importance of grades and education would not only be listened to, but result in his only son finishing school well into his 30s. This work is in your honor.

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LIST OF ABBREVIATIONS

AC	Alternating Current
ANT	Actor Network Theory
DC	Direct Current
DIY	Do It Yourself
DIW	Do It With
EB	Earthship Biotecture
HEP	Human Exceptionalism Paradigm
IEMP	Ideology, Economic, Military, Political
NEP	New Ecological Paradigm
SSSM	Standard Social Science Model
STS	Science and Technology Studies

SUMMARY

To be off-grid is to live in a shelter that is not connected to the utility infrastructures of electricity, water, and sewage. Additional forms of off-grid include growing rather than buying food, withdrawal from consumer culture, and political disengagement. The Earthship building is one of many particular designs and philosophies of the off-grid movement, which in turn is one of many circumvention-based movements. My thesis simply stated is that as humans constructed relationships that drew on particular features of nonhumans new social ontologies developed. While providing benefits these new assemblages also created relations of power that fostered dependence, conscription, and delineation of social worlds. In response to these new socio-material relations individuals and groups of people have *extricated* themselves from these "grids" and engaged in the *terraformation* of alternative sets of relationships. These two complementary processes constitute what I term the *politics of circumvention*. While never a fundamentalist project, the people featured within this work come to define their lives and relations in contradictory ways, circumventing some relations and maintaining others.

This dissertation investigates the Earthship Movement that is occurring in the US Southwest and throughout the world. It is a dissertation about the grids that people find themselves on (both materially and socially) and their escape from them. It is also a dissertation about sociology and how the discipline has lost its ontologically heterogeneous beginnings and with the aid of adjacent scholarship is finding its way back. My lofty intention has been to write a dissertation about the human condition under the proliferation of enclosures that generate dependence and the rare yet reoccurring episodes of their circumvention.

PART ONE

This dissertation is split into three parts. In this first part I provide key details of the research project. The first chapter is an introduction to my project. It includes reflections about the off-grid phenomenon, details of the case study, description of the Earthship housing systems, non-Earthship forms of off-grid, a summary of my thesis of the politics of circumvention, brief remarks concerning my scholarly style, and an outline of each chapter.

Chapter Two is responsible for conveying methodological information. In this chapter I focus both on nuts-and-bolts of the project as well as explain some of the more eccentric aspects of the dissertation. I begin with the observation sites, how access was gained, and a description of my fieldwork. I then move to a discussion of a new materialist imagination. Simply, I make the case for the inclusion of nonhumans as agentic in the social world and the necessity to account for them in the ethnographic process. To assist in this, I describe the growing intellectual trend of transdisciplinarity. Concluding this chapter is a return to some more standard pieces of the methodology, sampling and data analysis.

The goal of Part One is to put all my cards on the table, as it were. By providing the basic information of the case study, my thesis, intellectual style, and methods the reader will be able to contextualize the moves that the following parts and chapters take. While I acknowledge the uniqueness of this dissertation relative to standard contemporary sociological dissertations, I believe this to be more of a strength than a weakness and a testament to the academic freedom

encouraged by the discipline. This is not to say there are no justifiable disagreements to be had with this work. On the contrary, my hope is that this work provokes and challenges, as it also informs.

1. INTRODUCTION

They are movements whose objective is a different form of conduct, that is to say: wanting to be conducted differently, by other leaders (conducteurs) and other shepherds, towards other objectives and forms of salvation, and through other procedures and methods.

They are movements that also seek, possibly at any rate, to escape direction by others and to define the way for each to conduct himself.
Michel Foucault 2007:194-195

1.1.1 Introduction

While visiting with my family in central Indiana we had lunch at a diner off of interstate highway 70. On the way out, I look at the small business advertisements, such as Tim's Seal Coating and Asphalt Repair. However, it is the travel brochure that catches my eye. In the middle of the cover is the quote "We travel not to escape life, but for life not to escape us". For one thinking about off-grid for the better part of five years the cliché printed on faded paper stands out to me like a neon sign. After I am released from a stupefied state and my family is already in the parking lot, I quickly formulate "We go off-grid not to escape life, but for life not to escape us". Perhaps no less cliché, yet as I have found no less true either.

There is something powerful in the idea of escape. I imagine everyone at some time in their life has caught themselves in a daydream of leaving. For most the feeling subsides and they go back to their daily routines. Yet for others the call lingers and they exist in between forces of push and pull. They live in an orbit, neither falling downward nor swinging outward. Unable to understand the root of their malaise people find *petite* was to escape. And there are plenty of momentary escapes commodified and marketed in contemporary society, whether the solution is in modifying the chemical state of the brain through direct pharmacological intervention or through ritualized behaviors like shopping. An ephemeral relief is granted, yet does little to alter the original condition.

Many on-grid individuals hold on to the idea that an escape from their uncomfortable (or comfortable) drudgery is on the horizon. They are told this escape will come later in life, after a successful career when their retirement plans will allow them to escape to some warmer climate where the days will be spent leisurely. What else is there to do besides work hard and save up? Truly radical options remain unknown and if presented seem far-fetched at best and insane and traitorous at worst. Yet at historical and biographical moments these options may begin to solicit more than dismissal and condemnation.

The current off-grid movement is such a moment. Tiny houses are adored and seriously researched, where books and documentaries on the minimalist lifestyle multiply, and where the maker and do-it-yourself culture tip over from a consumer practice into one of self-sufficiency one. Having exhausted the *petite* forms of escape and not believing nor finding it adequate that the rote present will lead to a different future, more and more people are socially and materially constructing ways to get around

obstacles in their lives. Over fifty people have shared with me their ways around. I hope to show they are part of a larger untold human story of the search outside, away from, and off. Where some observes may see escapism, I argue the phenomenon is circumvention.

After three summers working in the shadeless rural Southwest lifting, pounding, carrying, hammering, talking, digging, sifting, measuring, and sawing to build off-grid homes and after five years in Chicago moving between air conditioned and heated offices, cafes, and libraries hands hovering over keyboards, eyes following text left to right, and backpack filled with an ever-changing set of books and papers I realize that at the center of the off-grid movement (and historical iterations) is a truly radical project at what Aristotle termed the good life. This is in part attained through refusals or what Foucault described as counter-conduct.[1] Counter-conduct as the way to "escape the dilemma of being either for or against" (Foucault quoted in Death 2010:249).

Just how does someone seeking to live off-grid reach the good life and what is it? Here the separation between life and life granting is compressed by bringing production and consumption of necessities closer together. Today there are massive social and material infrastructures that are required for one to dwell in their on-grid home and labor in their (post)industrial job. For most these systems are ubiquitous in the background, blending in to such an extent that rarely is there a second thought about it. Only when things stop working or when one can no longer afford them do they elicit attention. This ubiquity is the site of struggle for the off-grid movement. To live the good life is to bring

[1] See Global Society Vol 30 issue 2 for series of articles specifically dedicated to operationalizing and refining Foucault's concept counter-conduct (Odysseos, Death and Malmvig 2016).

life closer. The conduct of conduct is to make the production of life part and parcel with the consumption of it. The person living off-grid accomplishes this to varying degrees through rearrangement of nonhuman things.

Here a simple metaphor goes a long way to understanding the off-grid movement. Consider any time when someone goes to use any number of stringy things—a water hose, shoelaces, Christmas lights, earphones, or other things with cords. Occasionally they are overwhelmed by a tangled mess. Their eyes survey the wad, looking for where to begin, searching for a pattern of some sort. Perhaps they are lucky and the entanglement is not too complex. Other times they realize that from the current state of affairs looking at it nothing can be discerned. They shake it and pull at things hanging out. Then they take another look. How does it hold together? Is there a way to proceed in a systematic way? Can they discern the path forward? They start by pulling something, following the effects it has. "There! I'll pull that and hold on to this," they think. Slowly the tangle becomes manageable. The incomprehensible mess starts to show itself. All that is left is to follow each strand, maneuvering up around and through the other parts. Sometimes they make a mistake and tighten when they wanted to loosen. They start over, trace their steps, and make some headway. It is not an easy process. And yet, it is cathartic. There is a small reward when they successfully disentangle things. It is as if they have also disentangled themselves.

On a heuristic level, going off-grid is the same. Of course, it is a much more complicated process. The tangle is the multidimensionality of modern life, the seemingly endless social and material relations of everyday life. It is overcoming the specialization of the modern division of labor; of becoming a gardener, a plumber, a carpenter, an

electrician, an inventor, and a number of other activities that have become institutionalized. It is taking a look at culture. Thinking where it makes sense to be tangled up. Figuring out what the difference between needs and wants are. Following where things come from, and where they go, where one is in that flow, and where they want to be. Slowly the mess gives way to an intricate, yet knowable pattern. The work ahead starts to look possible, yet enthusiasm is often met with another tangle, an ideological one. The to-be-disentangled one is dismissed as crazy and real or perceived contradictions are presented. Empathetic or patronizing the lesson is the same. It is impossible. These are the various entanglements of the social world that need equal attention. But just as the string resists one's efforts, with enough commitment the off-grid person starts making headway. Allies are found, information is shared, and desire becomes contagious. Each pull of the metaphorical string is followed with a reward. "I know how to do that now." "I get how that works." "I know what is next." And so it continues.

From the dumpster diver freegan, the tiny house household, and the minimalist to the prepper/survivalist and the eco-villager their efforts become accumulative realizations of a disentangled life. A process that is as old as civilization continues all around us. By mobilizing nonhumans and transforming the material flows necessary to preserve life, off-gridders concurrently transform themselves and their social relations. They conduct their good life by way of circumvention, but as they attest it is not an escape from life, quite the opposite.

Figure 1. Global Earthship model (Personal Photo July 2013 Taos).

1.2.1 The Story of the Earthship and Earthship Biotecture

The case that I use to explore the contemporary off-grid movement is the Earthship. Michael Reynolds the creator of the Earthship, claimed that the idea of an off-grid sustainable home came to him as he watched the nightly news in the late 1960s. There was a news story on the growing crisis of garbage (steel beer cans littering the highways and streets) and another story on the ecological issues from clear cutting of timber (lack of oxygen production and rising housing costs from scarcity of wood). He was trying to find a way to make homes cheaply from materials that were plentiful. For Reynolds the answer for both was clear: build homes out of trash. And so he began the 40-plus year process of designing and building Earthships.

Reynolds moved to Taos, New Mexico to race motorbikes with the hope that he would injure himself and avoid the draft to Vietnam (both would not happen). It is here, in the special place of the high-altitude mesa that continues to attract wealthy and destitute alike, that the story of Earthships begins. The first structures he built were not yet full-blown Earthships with all the off-grid assemblages. They began rather crudely using bottles, cans, and car tires as walls. Pictured below is the ruins of one of his first attempts at using trash as building materials.

Figure 2. Early Earthship prototype (Personal Photo August 2014).

Reynolds would continue to experiment with using trash in his designs. As his homes started to take form so did their popularity. Reynolds and his work were featured in Architectural Record (Reynolds 1971) and National Geographic Magazine (1983). The media coverage continues to this day, as is indicated by the pages and pages that make up his media résumé (http://earthship.com/media-resume). It was through this popularity that some of the first Earthship builders, dwellers and later Earthship Biotecture employees

would travel to Taos, make their home, and never leave. First were friends and family. Later strangers came, from unknown students to celebrities like Dennis Weaver. They all descended on the Land of Enchantment and become part of the Earthship off-grid movement.

Reynolds founded Earthship Biotecture LLC (EB) in 1988. It has operated as a construction and design service. With fewer than 50 employees (between 20 and 32 full-time and another 20 part-time), today the organization is involved in several activities that go beyond an architectural firm. This is why sociologist of intentional communities Chelsea Schelly (2017) referred to Earthship Biotectures as a "company, subculture, and social movement" (124)

First, EB functions as a traditional architecture and construction firm, where clients can buy ready-made plans or commission unique designs. Clients can then build their own home with the blueprints, or hire EB personnel to build it, or a third-party construction firm to build it. In general, most people are interested in building their own.

The majority of EB activities are the educational programs they put on in the Taos area and around the world. Every year six academy sessions and six internships are held. The 2017 academy sessions were 28 days long and the 2017 internships were 18 days. The academy teaches the concepts and the technical aspects of the design and process of building an Earthship, whereas the internship is more focused on getting experience in as many as possible of the construction techniques that are necessary for constructing an Earthship. Part of receiving a certificate for the academy is participating in a build from beginning to end. Additionally, there is a visitor center that is open seven days a week and sees an average of 100 visitors a day.

The third major activity is the organizing of several "humanitarian builds" around the world. Different organizations work with EB to organize building projects in their country with both volunteers from around the world and from the local population. Recent projects include a community center in Malawi, a music school on Easter Island, Haiti Eco Living Project, a partnership with the Earth Village Project and One Block for Batug in the Philippines, a private home for a family on a First Nations Reservation in Canada, and Earthship Island in Indonesia (Kenawa Island). As of the summer of 2017 there are plans for a project in Syria and in 2018 in Puerto Rico. In total Reynolds states that there are "800 Earthships in the US and 3,000 in the world" (Broustra and Adkins 2016).

Regarding the formal organization of EB, Reynolds told an interviewer "Whether this product, this name, this brand Earthships lives or dies isn't really that important" (Lichtman and Wells 2016). For Reynolds the important thing is the catching on of "encountering" natural phenomena to secure substance, rather than a more antagonistic relationship with the environment (I refer to these as conviviality or agonviviality, living with or living against). As an LLC, EB sits in the an uncomfortable position of being on-grid in a capitalist system, while attempting to provide the tools and knowledge for people to remove themselves. Although capable of cashing in on the growth of "sustainability" markets and generating profit for Reynolds's family and staff, there appears to be little of such happening. Regarding the capitalist imperatives stemming from being an LLC, my observation supports testimony of the EB staff, such as this: "I'm middle, probably lower middle class" (Personal interview 8/11/2014). No one, including Reynolds look like they were individually enriching themselves financially. Rather, the

income-generating activities of EB funded the humanitarian builds and the organization's educational activities. This may be an example of what McInerney (2014) called moral markets. Nevertheless, to assist in these non-capitalocentric activities, in 2015 a sister organization was started, the 501c3 nonprofit Biotecture Planet Earth. Some of the humanitarian builds mentioned were joint projects between EB and Biotecture Planet Earth. The formal organization of EB and their nonprofit are situated in unique locations within markets. My research targets on the individuals that move within and through organizations like EB. The formal organization itself was not of central focus to this research project.

1.2.2 The Earthship Itself

The functioning of the Earthship itself will be described in detail in Chapter Eight. However, before moving forward I provide a brief description so the reader can become acquainted with the basic features of the Earthship. The Earthship is a structure that is not connected to municipal utility infrastructures. Rather than depending on the material and corresponding social assemblages of fuel, water, waste, food, and other commodities that physically flow into and out of contemporary housing, the Earthship is designed and constructed in a way to make use of naturally occurring phenomena to provide or make unnecessary the contemporary provisioning of these necessities.

How does the Earthship do this? First, the Earthship is constructed with car tires filled with locally sourced dirt. They are piled on top of one another creating a wall. The walls are arranged into a U-shape with the south facing side left open (in the southern hemisphere this is reversed). The tire walls are bermed with dirt on the outside. The open

section of the U is framed with lumber and covered with glass (or plastic). A cooling tube is inserted through the closed section of the U and vents in the roof are installed near the front, creating a convection cooling process when opened. The dense tire walls and glass-enclosed section make use of what is termed passive solar heating and cooling. Through this design the living space's temperature can be moderately controlled to reach comfortable levels without the need to pipe in any fuel. There is no furnace or air conditioner.

The roof is either flat with a downward slope or domed with gutters around the circumference. The roof provides a rain catchment system. Rain and melted snow is directed to a filter and cisterns along the backside of the building. The cisterns provide all the water for the house. The water is filtered and pressurized to be used for human consumption. Water used in showers and sinks is then filtered and directed to botanical cells that line the inside of the entirety of the south-facing glass wall. These cells are filled with food and non-food producing plants. The plants use this water and partly clean it. Water that has gone through the botanical cell is used as toilet water. Sewage is treated onsite in a variety of ways, but mostly a solar septic tank is used to speed up decomposition and an outdoor botanical cell is used to capture any excess effluent and in the process fertilize landscaping. Lastly, photovoltaic cells are attached to the front of the building to generate electricity. Electricity is stored in a bank of batteries and split between DC and AC circuits. In additional to these material assemblages is the human component. The material culture of the dweller is entangled with the capacities of these nonhuman components. Simplicities, attentiveness, and modification of daily life are

required. To date, these are the major assemblages that comprise the off-grid Earthship dwelling.

1.2.3 Other Ways Off-Grid

Earthships are not the only option for people seeking to live off-grid. There are magazines that cater to diverse groups of the off-grid population such as: Home Power, Recoil Offgrid Magazine, New Pioneer Magazine, Off Grid Living, GRIT, Countryside, Mother Earth News, Backwoods Home Magazine, DWELL. Additionally, all of them have their own regularly updated websites. Other websites-only entities include: Off Grid World, Off The Grid News, OffGrid Survival, American Preppers Network, HomesteadDreamer. With different cultural focuses come different technical approaches to off-grid homes. Some of the more popular construction materials and styles include: straw bale, cob, sod, log cabins, tiny homes, earth bags, vans, repurposed shipping containers, and more advanced uses of steel, concrete, 3D-printing, as well as traditional materials in "smart" designs.

From this brief list it is apparent that the contemporary off-grid movement is larger and more diverse than popularly thought. In 2006 *USA Today* reported that the number of off-grid people was around 130,000 which represented a 33% increase over ten years (Davidson 2006). Nick Rosen (2010), a UK journalist reporting on the off-grid movement wrote that "by 2007 there were approximately three hundred thousand off-the-grid households in the United States… [and] by 2010 there will be 520,000 homes and up to a million people living off-grid either legally or unofficially" (13). And Karen Litfin (2014) studies ecovillages, while not a perfect measure of off-grid households, she states

that there were 400 ecovillages in 1995 and if "traditional rural villages in the Third World" were included the number would reach 15,000 (10).

The difficulty of accurate measurements lies beyond the impression that off-grid people's goal is to remain hidden. Rosen and Canadian sociologist Phillip Vannini and videographer Jonathan Taggart (2015) found this not to be the case, as many off-grid people want to share their achievements. Rather, the difficulty arises from the sheer variety of manifestations of living without some physical connection to utilities. Rosen (2010) wrote that "No individual or place I visited is representative of the entire off-grid universe" (13). Vannini and Taggart (2014) embraced such variation. "A possible way out of this conundrum" they wrote, "would have been to create categories. A category for this type of off-grid home, that type of off-grid home, this type of off-grid town, and so forth. But categories are often unsatisfactory" (66). They concluded that "It actually seemed ironic, if not downright offensive, to place individuals who had dedicated their lives to 'living outside the box' back into tidy taxonomies" (Vannini and Taggart (2014:66).

Additionally, there is the question of which discipline holds the responsibility for studying off-grid housing and people. Is it civil engineering? Is it an anthropological? Maybe a political economy question of resource distribution? A governmental bureaucratic responsibility? Perhaps work for a sociologist of social movements? The empirical realities combined with only a handful of academic investigators, and the inherent transdisciplinarity nature of the work all result in the lack of clarity and reliable numbers.

Beyond these differences, there is at least another serious distinction to be acknowledged. Simply put, what do we say about people who live off-grid, yet do so against their will? That is, what about the people who that are excluded from basic utility infrastructures? There is an obvious problem in lumping all the people and buildings unconnected to utilities into the same group. Here I am beginning with a very broad definition of off-grid. The matter at hand is one both of voluntary extrication and forced exclusion and neglect.

The reality is that billions of humans today do not have reliable access to grid utilities. Just consider the popular book by Mike Davis (2006), *Planet of Slums*. Davis defines a slum as characterized by "overcrowding, poor or informal housing, inadequate access to safe water and sanitation, and insecurity of tenure" (23). This inadequate access could be understood as a form of off-grid living. As humans became a more urban than rural species as of 2008 what is missing is adequate infrastructure for marginalized populations of the world. In every aspect of dwelling there are large measures of deprivation. For instance, the Alexandra township in South Africa failed to implement the "Master Plan" of 1980 to address the "infrastructural needs of residents—for water, electricity, and roads" (Clarno 2017:57). Rather, the government chose to provide on-grid housing for the middle class. Are these Alexandrians off-grid?

There is a growing literature that explores these issues. Consider anthropologist Nikhik Anand (2017), who conducted an ethnography among the Muslim settlers in northern Mumbai, India. He found a steady growth of disconnection from water occurring in the Premnagar settlement. This was due both to the material agency of deteriorating pipes and to neglect by state authorities. Anand expanded discussions of

citizenship to include not just semiotics and representation, but also material affordances like water infrastructures—what he refers to as hydraulic citizenship. Social inclusion extends in very material ways, literally down to the plumbing. So, are the Premnagar settlers off-grid?

Connected to the issue of clean and steady water is the way humans deal with bodily excretions. Cities all over the planet send large amounts of sewage into bodies of water without treatment. A United Nations body "estimated 90 per cent of all wastewater in developing countries is discharged untreated directly into rivers, lakes or the oceans" (Corcoran et al. 2010). The World Health Organization claimed 3.4 million people die a year from water borne diseases, making them one of the leading causes of death worldwide. Going back to the example of India, Anand (2017) wrote that the Ganges is one of the most polluted rivers in the world and yet widely used for religious, domestic, and industrial purposes. If one's piss and shit do not take a detour to a waste treatment facility, are they off-grid?

Moving to another infrastructure, consider that from satellite images, most of the planet is still dark at night. Places like North Korea and much of the continents of South America, Africa, and Australia are covered in darkness. The Alliance for Rural Electrification stated almost 1.1 billion people live without electricity. Now called "energy poverty," lack of access to electricity exacerbates other social and health issues such as using wood for energy leading to toxic living spaces. Additionally, energy poverty is rarely an issue for just an individual home. Often "energy deserts" describe large areas in which local hospitals and other services lack reliable electricity, greatly

diminishing their capacity to provide public goods for the local population. Can a hospital be off-grid?

Even when the material infrastructure for water, sewage, and electricity are present, this doesn't always result in secure access due to their commodification. This is what Detroit residents have learned recently as massive water shut offs occurred, supposedly because of delinquent payments (Gottesdiener 2015). And there are the well-known early neoliberal privatization of services such as Bolivia's water (Olivera and Lewis 2004) and South Africa's electricity (Desai 2002), which resulted in higher costs and less reliability. If you are on-grid, but nothing flows through the pipes and wires are you on-grid or off?

These brief remarks do not begin to scratch the surface of the massive amounts of deprivation that humans live and die in every day. It is without reason or empathy to group all of these situations together under the one term off-grid. As mentioned above, the distinction is between voluntary extrication and forced exclusion: those who seek to leave the grid and those who are forced to get off or were never on the grid.

Superficially, one could say at that end of the day that both groups are technically off-grid. The problems with this is apparent from above, but this is not a unique situation to the off-grid movement and infrastructures. Consider social movement tactics like the boycott. Often, I learn about boycotts yet I am unable to participate in them because I either do not normally buy the product or I cannot afford it. Similarly, a labor strike is the withholding of labor power, but how can the unemployed strike? Or if one legitimately takes a sick day the same day a strike is called, are they participating in the strike?

Scholars on the simplicity lifestyle suffered from similar issues, as choosing to make less money and survive on fewer commodities is surely different from those whom are forced to endure poverty. Proponent of voluntary simplicity Duane Elgin distinguished the two.

> Poverty is involuntary and debilitating, whereas simplicity is voluntary and enabling. Poverty is mean and degrading to the human spirit… Involuntary poverty generates a sense of helplessness, passivity, and despair, whereas purposeful simplicity fosters a sense of personal empowerment, creative engagement, and opportunity (Elgin 2012:19).

The conceptual resolution of this issue of "rules of exclusion" lies in the agency of the human actor to choose to live off-grid, just as it does in simplicity, striking, and boycotts. It is the distinction between self and collective empowerment or self and collective disempowerment. Now, the feasibility and overall impact of making the choice (which is not evenly distributed across all populations) to go off-grid is something I will deal with repeatedly throughout this work, but for now there can be a distinction between a person "living in shit" in the "slum ecology" (Davis 2006) and a person implementing the teachings from *The Humanure Handbook* (Jenkins 1996).

1.3.1 The Politics of Circumvention

Up to this point I have been narrow in my discussion of the off-grid movement, but as the title of this dissertation suggests there is something larger I am after—the politics of circumvention. The politics of circumvention is a concept meant to provide greater understanding of the people, activities, and artifacts of the Earthship movement. However, to accomplish this I find it necessary to provide a conceptual framework that can also be used to explore the contemporary off-grid phenomenon at-large and similar

movements throughout human history. To build such breadth need not be at the expense of the ground-level analytical lens that ethnography offers. Roughly, I spend Part Two of this dissertation dealing with the former, following the arguments necessary to supply the tools for a robust approach to the politics of circumvention. Part Three applies these insights, drawing on the ethnographic methods of participant observations, interviews, and examination of Earthship literature.

To explain the politics of circumvention requires laying a basic foundation that may seem out of place in contemporary sociological studies, especially in the United States. It entails examining intellectual developments and presumptions, as well as making broader-than-middle range claims. The summary below of my thesis attempts to prepare the reader for both the substance and style of what follows.

The social world is possible through both matter and meaning mixing, entangling, imbricating, or meshing together. Humans are both *Homo faber* (see Frisch 1994) and *Homo loquens* (see Fry 1977). The former classification holds that humans control their fate through their creation and use of tools. The latter holds the belief that humans are a talking animal without parallel in the universe. Humans make things and make meaning; in all respects humans are world makers. But they are not gods. They are as Marx noted creators of history, but not circumstances of their choosing. The "tradition of all dead generations weighs like a nightmare on the brains of the living" (Marx 1958 [1852]:247). Sociologists recognize the social facts and "traditions" the structure human relations. But this is only part of the story. In the world-making process there is another set of actors, the nonhumans that supply materials and other requisites for tools. These nonhumans play an important role in conjuncturally giving rise to new social forms that

could not exist without them lending their properties. But these properties require something of the humans as well; there is a fine "tuning" between the two that is not reducible to one or the other. This is the foundation that I build my thesis on.

Accepting this, the question turns to the construction of worlds that would generate a desire to exit, as the Earthship builders and dwellers desire. I find it necessary to follow a line of thinking that takes one to the early days of humanity. To go off-grid required being on a grid, gridded into specific social and material spaces with constraints on movement. At what point did this delineated social and physical world begin, this grid that also can function as a cage?

There are sociologists and other academics (Maryanski and Turner 1992; Mann 1986; Scott 2009; Wright R. 2004) who have answered this question without meditating on *Homo faber/loquens*. They describe the progression of human civilization as a process of social caging, whereby when nonhumans mediate human relationships those relationships change in character. In the fields of anthropology, archeology, and even classical sociology (see Weber 1909) there are arguments that detail such transformations. Consider the demands made on early horticultural groups to decrease their mobility and organize social labor into more circumscribed forms. The domestication of plants was a recursive operation, an interactive rather than unilateral process. It could be said that plants also domesticated humans, or better yet, that we domesticated each other. Another example I draw on is the formation of state societies conjuncturally emerging with artificial irrigation—the series of dams and dykes that compose the first "public works". Social domination, hierarchy, and exploitation emerged from the confluence of material infrastructures and social relations.

One does not have to restrict one's gaze to prehistory to see this process. Post-colonial scholars have also noted the development of material infrastructure such as seaports, canals, and roads as essential to any colonial effort. With creation of these "assemblages" comes centralization and hierarchical social relations of varying kinds, from proto-council administrators and viceroyalty to single despots. It is through this process of "enrolling" nonhumans that made possible previous forms of power unknown for over 100,000 years of humanity (see Harman 2008).

Here enters the possibility and desire to circumvent. Anthropologists (Clastres 1977; Diamond 1974; Lee 1979; Scott 2009) and sociologists alike (Mann 1984) argued that voluntary extrication was a prevalent and successful way to prevent asymmetrical power relations in society from hardening into durable institutions of stratification. With the particular utilization of nonhumans over generations, however, this became more difficult. To extricate required that groups knew how to survive on the land without the assemblages they had become dependent on. Humans became "infantilized" as one off-gridder describe his on-grid counterparts. Despite this disadvantage there are many historical records of individuals and groups going "off-grid".

To circumvent is not just to migrate off or away from some of these assemblages. It is a dual process of creating, or terraforming, new assemblages to make the original exodus lasting. Here I find object-oriented ontologist Levi Bryant's (and Donna Haraway 2016) term terraforming essential. Bryant (2014) fittingly described terraformation as "the building of worlds" (273). Terrafomation highlights the *Homo faber* dimension of humanity, where nonhumans are assembled together in alternative ways from those found in the society that humans extracted themselves. The Earthship assemblage is precisely

this process of terraformation, of building a world. The goal of such terraformation is "to construct an alternative assemblage that allows people to sidestep the gravitational forces of the existing assemblage altogether" (Bryant 2007:278). Elsewhere Bryant (2011) wrote "The work of terraforming is always the building of new paths of interactivity and connectability, coupled with the formation of new elements or identities… It is the creation of alternatives".

Through both capacities of *Homo faber* and *Homo loquens* cages and grids are created, entangling all manner of human and nonhuman and bringing new forms of sociality into existence. Where once there was smooth space and nomadic life, there are elaborated kinships, cities, walls, corvée labor, aqueducts, highways, armies, and nation-states. Today the grids that off-gridders seek to extricate themselves from are essentially of the same character as their prehistorical counterparts, while lightyears ahead in sophistication and complexity.

The same world building tools and language that worked to conjuncturally give rise to delineation, confinement, and conscription are used as to sidestep them, to terraform a new world—the creation of alternatives. How much these new worlds matter to the overall human story and to what extent they are created is an open question that this dissertation hopes to contribute to. In this regard, I argue instead of assuming that autarchy is the measure to apply to circumventors, a variegated and value-oriented (in)dependence as built and articulated by circumventors themselves should be the first measure.

1.4.1 Scholarly Style

This dissertation is "lengthier than in fashion" as Karen Barad (2007:37) wrote of our own magnum opus. While a third longer than the average 200-page sociology dissertation as calculated from the University of Minnesota library's electronic dissertation holdings 2007-2013,[2] I find the approach taken here is required to develop a robust and nuanced academic inquiry. As an outcome of my personal academic and stylistic tastes this project does several things at once. Portions of this dissertation engage in exposition of major social theorists, using their work to animate my own lines of thought. Undeniably this adds length and takes the reader away from the immediate question of "who are these off-grid people?" But it also challenges and provides a benefit to the apparatus of knowledge production. Here I agree with Donna Haraway (2016) when she argued

> It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties (12).

To study the Earthships and their dwellers in New Mexico I have decided to think thoughts about the data and to think about those thoughts that I think about.

Given that the case study of Earthships is about remaking subsistence and challenging aspects of modern life, it has also become necessary to branch out into other disciplines and subfields. This is accomplished through a transdisciplinary-inspired method and style of presentation. Throughout Part Two I move in-between various sociology subfields, philosophy, anthropology, and history to weave together the human and nonhuman story of caging and the dual process of circumvention as extrication and

[2] https://beckmw.wordpress.com/2013/04/15/how-long-is-the-average-dissertation/

terraformation. This provides the conceptual and historical undergirding to support the ethnography of Part Three.

After these academic excursions, in Part Three I focus my attention to the case of Earthship builders and dwellers and the Earthships themselves. Here I let the Earthshippers speak for themselves as they answer specific sociological questions. I discuss details germane to their current efforts to leave the grid, such as critiques of society and politics. I then move to their solutions: the building of an off-grid structure. I delve into the process by which an on-gridder becomes an off-gridder. By the end of Part Three the reader receives the payoff of the presentation of diverse arguments and background in Part Two. In the end, not only is there an ethnography of Earthshippers in the US Southwest and elsewhere, but there is what I term a broader-than-middle-range sociological project presented. Not without its faults, biases, and mistakes, nevertheless a path has been charted that I hope opens new approaches and understandings of the world. This is made all the more urgent as we are faced with the contemporary ecological crisis understood as the Anthropocene, Capitalocene, or Cthulucene.

1.5.1 Outline of Chapters

The dissertation is split into three parts. Each part has a short summary of the contents for that part. This aids in orienting the reader and keeps the goals of each chapter in the front of the mind. I provide a shorter outline of the complete dissertation below.

Part One discusses basic introductory material for the project. This includes the present introduction chapter with details on the case study and overall thesis. In Chapter Two I cover methodological considerations, from details of the ethnography such as

observation sites, gaining access, respondent sample to data analysis. I also take the opportunity to put forth the argument for a materialist imagination and a transdisciplinary approach.

Part Two is the most demanding of the three parts. It where I make the bulk of my claims. In Chapter Three, I argue for an Object-Friendly Sociology. As a response to the details of my case study, I find it necessary to gather resources from subfields and adjacent disciplines to argue for a sociology that includes extra-discursive features of human activity. In Chapter Four, after making the methodological (Chapter Two) and theoretical (Chapter Three) claim for the inclusion of nonhumans I lay out my concepts of circumvention and socio-material caging. This discussion osculates slightly from sociology to other disciplines and back, as I trace how humanity became on-grid in the first place. The last chapter in Part Two, Chapter Five is dedicated to exploring the diversity of and similarities between historical cases of circumvention. While I do not claim subject-matter expertise in these cases, I do argue that they share a circumvention-based political form and ultimately contextualize the contemporary off-grid movement of Earthships.

Part Three snaps back to the scorching, sunny, and smelly Earthship construction sites of the New Mexico mesa. Chapter Six explores what Earthshippers mean when they say “off-grid”. Here I try to overcome the idiosyncrasies common to off-gridders and provide some general observations about their critiques of grid society. Chapter Seven extends this into the political realm, as the eschewal of physical infrastructures is accompanied by the rejection of politics. I explore this complicated (dis)engagement in closer empirical detail. Chapter Eight is dedicated to the off-grid solution to on-grid

problems and politics, the Earthships building itself. Here I discuss the various components of the off-grid assemblage. Beyond recounting how the Earthship functions with its dwellers and surroundings, I provide additional commentary on material culture. Chapter Nine is dedicated to the process which the would-be Earthshipper goes through to realize their dreams of a life off-grid. Here the process of terraforming takes center stage. Mobilizing nonhumans by overcoming specialization requires a counterintuitive approach of connecting with people to disconnect. Once off-grid the life of a circumventor is detailed as it pertains to simplicity, responsibility, and autonomy.

Chapter Ten is my attempt at some concluding thoughts. I begin with the ethics of the Earthship and circumvention story, drawing principally on Donna Haraway to assist me in both the ontological dimension of my project as well as the ethical concerns. Chapter Ten is also an opportunity for me to discuss practical limitations of the project as well as lingering implications of my thesis.

Outside of the three-part structures is a brief appendix that discusses how sociology became singularly concerned with the social despite having a more diverse ontological origins. This functions as a prelude to Chapter Three.

2. METHODOLOGY: A NEW MATERIALIST IMAGINATION

"In what follows, then, I try to bear witness to the vital materialities that flow through and around us."
Jane Bennett 2010:x

2.1.1 Introduction

In this chapter, I present logistical and descriptive aspects of the project and the Earthship case study. Included are descriptions of observation sites, by what means I gained access, the fieldwork process, and an emerging method of participant observation is delineated. This is referred to as "new materialist imagination". This methodology is exemplified in several sociological studies of social movements that incorporate nonhumans in their analyses. For further clarity, this methodological approach is demonstrated through fieldwork. In order to articulate and execute a new materialist imagination a transdisciplinary approach is required, which I critically introduce. Lastly, I conclude with the more formal methods, including my sample of interview participants and the data analysis process.

2.2.1 Observation Sites

Earthship Biotecture (EB) and three Earthship communities (not communes) are located in the Taos, New Mexico area. The largest community is the Greater World. Internships and the

academy programs predominately take place here. The area is comprised of 633 acres with over half dedicated to commonly owned parkland, although few if any activities occur there. Space allows for 130 single-family homes with roughly half actually built and occupied. Also on site are the offices of EB, classrooms, and a visitor center.

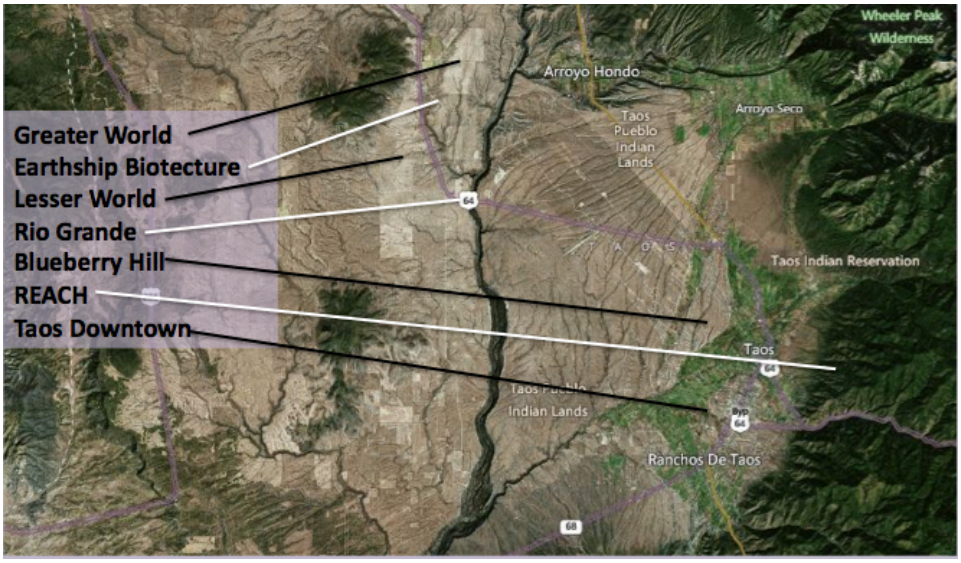

Figure 3. Map of Northern New Mexico with Earthship communities.

The second community is R.E.A.C.H. (Rural Earthship Alternative Community Habitat), built on the south-facing slope of the Sangre de Cristo Mountains at an altitude of 8,407 feet. The 55-acre community is classified as a non-profit unincorporated association. To access R.E.A.C.H a 4-wheel drive vehicle is necessary and in the winter months, you may be required to hike a quarter of a mile up the mountain. Purposely, Michael Reynolds designed and erected this community to test the Earthship principles as applied in extremely difficult weather and terrain.

The final community is an undeveloped area west of Taos called Blueberry Hill. It is populated sparsely with early Earthship prototypes and other buildings not associated with EB. While I visited Blueberry Hill I encountered few paved roads and it was not uncommon for me to be accosted by a pack of feral dogs while exiting the car. It gave the feeling of stereotyped off-grid life and the survivalist imaginaries that are common in popular culture.

Figure 4. Blueberry Hill area facing northeast (Personal Photo Aug 2014).

In addition to Taos, two other "sites" were investigated. First, a week was spent working with builders in a small town in southern Colorado. An innovative Earthship began to take form with previous academy students attending the build. The second source of data came through the telephone and Skype facilitated interviews. These were conducted with graduates of the EB academy program and participants were spread around the Earth.

Figure 5. Blueberry Hill area facing northwest (Personal Photo Aug 2014).

2.3.1 **Access**

Gaining access to Earthship builders and inhabitants began with an email to Dr. Rachel Joy Harkness on May 12, 2013. Dr. Harkness wrote her dissertation on Earthships in Taos, New Mexico and Fife, Scotland, for the Anthropology Department at the University of Aberdeen (see Harkness 2009). Dr. Harkness suggested contacting a few people, including Sara Baseheart, a local business owner of reused and recycled goods. Sara lives in an Earthship and her husband is a "foreman" for EB. Sara directed me to her husband, Phil. In the June of 2013 I took a preliminary visit to Taos and rented an Earthship. I introduced myself to the visitor center workers and volunteers. Additionally, I volunteered at a construction site where I met with Phil. He encouraged me to contact him in anticipation of an internship the following summer.

In the summer of 2014 I applied for the internship. However, by the time I applied it had been filled. I reached out to Phil who contacted the internship coordinator Heidi Loehrer. After emailing Heidi about my project, she accepted me into the internship program and over the next three years she became a most helpful informant. Prior to the internship, I met with Heidi and gave her the consent forms and research description documents. From then on, I had access to all interns, students, EB employees/residents, and some Earthship residents who did not work with EB. Between the summer of 2014 and 2015, I contacted Heidi about EB sending a mass email on their academy listserv, requesting participation in my study. This amounted to an additional ten interviews completed over the phone or Skype.

Lastly, the fieldwork session in the summer of 2015 was preceded by a few email exchanges with Heidi. This notified the crew in Colorado of my coming attendance for the build. A final week was spent in Taos after the Colorado construction. At this time, Heidi contacted several residents of the Greater World and asked for their participation in the study. This added

an additional five participants. Three more (two interns and one EB employee/resident) were interviewed during the final days of my fieldwork in Taos.

2.4.1 **Fieldwork**

Fieldwork proceeded within financial and occupational constraints. As this work was self-funded, I restricted my fieldwork session in New Mexico/Colorado to the summers. Luckily, summer was the busy time for EB with several projects, internships, and academy programs co-occurring. I began the formal data collection in the middle of July 2014. Having arrived a week before the internship program I was able to visit EB offices several times and meet the full-time employees. No special spaces or materials were requested from EB. Before the internship, I stayed in a local hostel with other interns. During the internship, I lived in an Earthship called PODS, which was located in Blueberry Hill.

My research materials consisted of the usual ethnographer's toolkit. I had several composition notebooks, small pocket notepads, a digital recorder, and a laptop. Usual materials included tools required for construction work, such as: bedding and pillow, towel, 1 gallon water bottle, rain gear, closed-toe shoes, "clothes you do not mind ruining", flashlight, sun hat, 25' tape measure, utility knife with blades, framing hammer (over 16 oz in weight), tin snips, pencils, sharpie marker, heavy duty rubber gloves, leather gloves, and a tool belt (ecoshout.org). These items composed what sociologists Fox and Allred (2017) term the "researcher –assemblage [that] comprises the bodies, things, and abstractions that get caught up in the social inquiry" (152). Every day during the internship (and later during the Colorado build) I was armed with two backpacks, one with my notebooks and recorder, the other with tools of a builder.

Figure 6. Twin bags of socio-materialist imagination ethnography (Personal Photo Aug 2014).

During the internship, I awoke in the PODS Earthship with five other interns. We would prepare our breakfast and lunch before carpooling to the worksite. Once there, we would be divided up into different groups to work on different tasks. The day differed drastically based on the task. Some days I was caulking inside with three other interns in the same room. Other days I was clearing brush, placing tires, filling them with dirt, and pounding them. This variety gave me exposure to a wide variety of people, actants, and activities. Evenings were often spent relaxing together, by a fire, or visiting one of several popular sites, like the hot springs off the Rio Grande River. Evenings were the best time to interview interns, but as time progressed I started fitting interviews in before the start of work and at lunch. I exited the field a few days after the end of the internship program on Aug 10,2014.

In February 2015 I contacted Heidi about sending a recruitment email on my behalf to the Earthship listserv. On March 16, 2015, I completed my first telephone interview with a graduate of the academy program. By April 27, 2015, I had completed my last long-distance interview. Details on these interviews and their protocol are provided in the Formal Methods section below.

On July 13, 2015 there was a large build occurring in Colorado where many academy students were working. I volunteered for a week at this build. For this fieldwork session my partner and our dog accompanied me. We camped 15 miles away from the worksite. Every morning my partner would drop me off and I would join the volunteers milling about. This fieldwork session was physically difficult. The degree and pace of work was heightened relative to the relaxed pace of the internship. The worksite was over 7,000 feet above sea level, well above the 580 feet of Chicago. This put great strain on my ability to function as a volunteer and even more on my ability to take field notes after work.[3] As such, my main source of data comes from the interviews.

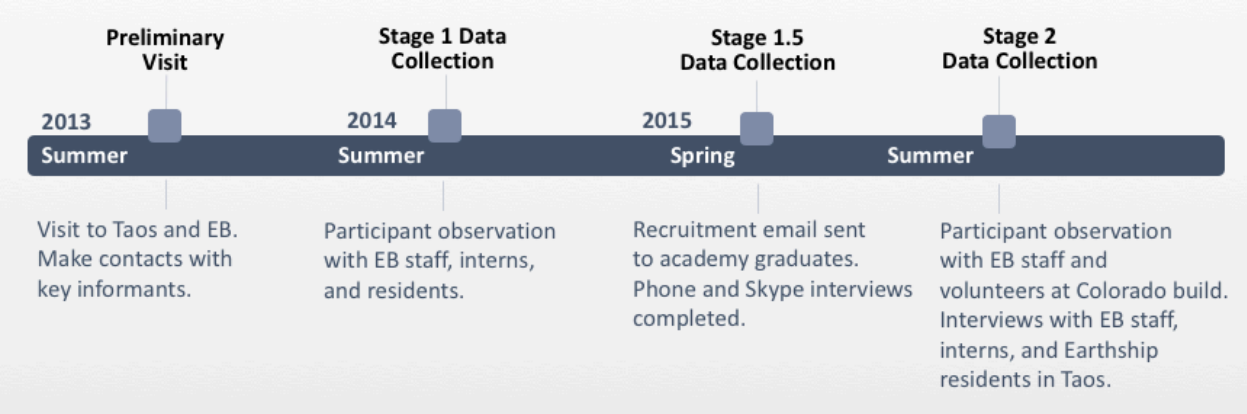

Figure 7. Data collection timeline.

After a week in Colorado I returned to Taos to interview residents of Earthships. With the aid of Heidi I contacted several Earthship dwellers. I arranged meetings with them at their homes. This provided me access to both them and their Earthships. I spent a week following up on leads and interviewed a few interns. I left the field on July 25, 2015, which concluded data collection for the project.

[3] This is a great example of Bryant's thermodynamic politics (see below).

2.5.1 **Ethnography as New Materialist Imagination**

Ethnographic fieldwork has been described as "located between the interiority of autobiography and the exteriority of cultural analysis" (Tedlock 2000) and the ethnographer as a "bricoleur" (Denzin and Lincoln 2000).[4] This method is often set opposite to the positivist method of inquiry that presumes an objectivity that can be acquired by a detached observer. In a post-positivist stance, performance scholar Diana Taylor (2003) wrote "Ethnography not only studies performance (the rituals and social dramas commentators habitually refer to); it is a kind of performance. Some commentators stress that they perform ethnography…" (75). Since my research is based on how materiality and the sociality are entangled it makes sense to approach methodology with similar sensibilities with the recognition of the researcher as a social and physical being who is always embedded in a plurality of socio-material relations: a "research-assemblage."

The defining feature of ethnography is the embedding of the researcher's life within the lifeworld of those they wish to study. The goal is to "describe, analyze and interpret social expressions between people and groups… to enter the natural settings for purpose of understanding the hows, whys, and whats of human behavior" (Shaffir 1999:676). Ethnographies are a preferred way to study the complexities of everyday life (see Drake et al. 1993; Malinowski 1967; Nader 1969; Whyte 1969). Building and dwelling are very much an everyday life affair. However, as archeologists argued, ethnological study of everyday material culture requires understanding the plurality of an artifact. This means considering not just the informational usage (symbolic), but the material function (nonhuman agency) of any object as well (see

[4] Interestingly, bricolage is a common concept used within flat ontological approaches, as it means "construction (as of a sculpture or a structure of ideas) achieved by using whatever comes to hand" (Merriam-Webster).

Lemonnier 1986). Circumvention in general, and the off-grid movement in particular is a constant mingling of everyday aesthetics with functionality.

This study makes use of an emerging methodology best articulated as a new materialist imagination. Building off of the sociological imagination, human geographers and sociologists have argued that as the ethnographer learns to "see" the social they must also be attentive to material processes. In these preliminary remarks, I provide a discussion of material ethnographic practices.

Loïc Wacquant serves as a good entry point for a new materialist imagination, although he did not use that term. Through his case study of Chicago boxers, Wacquant investigated the corporeal and non-corporeal aspects of others and himself. By taking habitus as "both empirical object (*explanandum*) and as method of inquiry (*modus cogitionis*)", he argued for a carnal sociology that could "revoke the dominant dualistic paradigm of embodiment, canonized by Descartes at the start of the rationalist revolution" (Wacquant 2014:191, 195).[5] Wacquant (2011) described his project as both "a carnal microsociology of the apprenticeship of boxing as subproletariat bodily craft in the ghetto… and a historical and theoretical macrosociology of the ghetto as instrument of racial closure and social domination" (85). Opening the analysis to bodily materialities, the division between micro and macro begins to blur. It is Wacquant's claim that what was required "the desiring and suffering body, to grasps *in vivo* the collective manufacturing of the schemata of pugilistic perception, appreciation, and action that are shared" (emphasis in original 2011:88). Crassly put, things clicked for Wacquant when his nose was broken during a boxing match. It became viscerally difficult to limit the analysis to the level of discourse.

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[5] See Appendix A for discussion of Descartes' relevance to classical sociology.

Extending a carnal sociology to larger collections of entities, a new materialist imagination makes use of the sensing body, but in doing so redefines the body. Sociologist Paul Simpson (2013) parallels Wacquant's use of habitus, but explored the idea of ecology of experience in a study of street performers. Echoing Donna Haraway's (1991) question "Why should our bodies end at the skin, or include at best other beings encapsulated by skin" (178), Simpson began his discussion by asking, where does a blind person start and stop? At their skin, the handle of cane, or the tip of the cane? He argued, along with philosopher of ecology Gregory Bateson (2000), that the mind cannot be understood by separating it from its environment. Some post-humanist go further and argued that there is no mind without an environment (see Hayles 1999). For the post-human tradition "human skin no longer has the weird property… of separating everything human that is inside it… from everything else 'environmental' that is outside" (Fox and Alldred 2017:44). Returning to Simpson, his goal is to "think through the production of affective atmospheres and processes of subjectification that emerge in and through the interrelation of the full range of human and nonhuman" (2013:182). Street performers, Simpson recounted, had to negotiate with diverse situations from the weather to the flows of consumers and tourists. Combined with the pigeons and the attentive and inattentive humans, the street theatre ecology emerges from social and material sources. Both the human and nonhuman all have the capacity to effect a change in the other components of the theater. This situation required dynamic and relational thinking on behalf of the performers as well as Simpson. By taking a new materialist imagination approach, the street performer/performance is better-captured in all its heterogeneity.

A final example comes from Pamela Richardson-Ngwenya's (2014) study of Caribbean farmers' responding to European agricultural trade reform. In her article entitled "Performing a

more-than-human material imagination during fieldwork: muddy boots, diarizing and putting vitalism on video", she argued that brand new methodologies were not required to include nonhumans in social analysis. Instead, she insisted that a "cultivation of a vitalist geographical imagination that was receptive and open to the liveliness of materialities and the significance of relational becoming was much more important" (2014:293). During fieldwork in cane sugar fields Richardson-Ngwenya

> adopted the attitude to the task that, (it was hoped), attended to the vital material relations that quite literally surrounded [her]. There was an attempt to become more consciously and affectively aware of non-human agencies. [She] touched the cane, sniffed around, worked hard, listened… (2013:295).

Through a new materialist imagination the researcher is able locate the various agencies that compose a situation. For example, personal bodily exhaustion and the stubbornness of actants that resists enrollment into a network provide richer detail than if only social variables were the sole source of data. As Anderson and Wylie (2009), proponents of non-representational theory, put it in a review of the materialist turn in geography "Corporeal perception and sensation is thus an incorporation of matter into the connective tissue and affective planes of a body subject whose ambit is involvement and engagement, rather than a detached gaze in which material stiffens into objectivity" (324). My project's proposal is to incorporate the materiality of off-grid homes and surrounding environments in its dynamic relationship with the people and their social worlds.

In a similar vein Levi Bryant (2014) proposed a thermodynamic politics in contradistinction to semiotic politics. Thermodynamic politics switches focus from oppressive ideas that people carry in their heads, to the real inability to satisfy bodily requirements and the negative effects of sleep deprivation, hunger, or other physiological experiences that diminish an individual's powers to act and consequentially to act in a political way.

This variety of works (carnal sociology, ecology of experience, vitalist geography and thermodynamic politics to name a few) can be grouped under the heading of a new materialist imagination. They all demand and construct a method of ethnography that incorporate non-discursive dimensions experienced during fieldwork. However, this is hardly the paradigm shift that it may seem. Field notes and personal reflections of sociologists are scattered with nonhuman actors, and observations of participants' physiology. A new materialist imagination simply acknowledges the agentic capacities of nonhumans.

2.5.2 **Nonhumans and The Study of Social Movements**

Social movement case studies have successfully applied a new materialist imagination through their incorporation of actor-network theory (see Chapter Three). By exploring three examples I illustrate just what it means to implement a new materialist imagination.

Stewart Lockie (2004) studied the development of the Landcare Movement in Australia. He found that chemical corporations were able to co-opt this movements through various actor-networks. He concluded "The provision of sponsorship, materials, information, technical support, etc. has been used to enact 'action at a distance' in a situation where agrichemical companies have no direct means of control" (Lockie 2004:53). In the absence of direct legal action, the utilizing of nonhuman assemblage was observed as a tactic to co-opt social movements. Lockie argued this would have been hard to account for without a focus on the demand, flow, and function of these actants.

A second example comes from Spain in 1998 when a mining dam broke. This resulted in pollution of nearby bodies of water with various metals. It was subsequently named the Doñana environmental disaster. Israel Rodiguez-Giralt (2011) showed how the disaster and the parties

involved changed when migratory birds spread the contamination beyond the national borders of Spain. Consequently, the mobilization pattern of the social movement response became international. This pattern did not occur because of a collective identity of environmentalists across borders or the sympathy of others. Rather, it was a direct response to a nonhuman process of migratory birds. Their actions changed the scope and scale of the problem and the subsequent human reaction. In this way birds were seen as mobilizers.

Lastly, Natalia Magnani (2012) studied the controversy surrounding the building of a municipal incinerator in Trento, Italy. She found that several attempts at creating different actor-networks were subverted by both humans (the creation of community groups and local elites) and nonhumans (the changing amount of physical waste and the pollution of a nearby stream). The unfolding of the municipal drama was composed of traditional politics interacting with nonhuman processes. They had to be studied together.

This small sample of empirical case studies of literature on social movement that use a new materialist imagination exemplify the forces, flows, and agencies of nonhumans and their subsequent impacts on human actions and meanings. For further clarity, I provide an example of a new materialist imagination from my own fieldwork.

2.5.3 **Practicing a New Materialist Imagination**

Practicing a new materialist imagination was quite natural on an Earthship construction site. There are times between interacting with other builders that nonetheless were indispensable to social science research. Such as when I was focused on taking three-dimensional measurements and then cutting wood to match. This was a procedure I had to redo over and over, as the wood I cut continued to be the wrong dimensions for the spot it was to be screwed on. Or

times where I was shoveling dirt into a tire, then taking a sledgehammer in my hands and swinging it into the dirt pile in the center of a tire. Without discussion with others or much conscious thought, I had to conform my body to meet the sledgehammer's weight and the shifting dirt. Or times that were spent alone taking a can, crunching it to make a V-shape on the side, and then placing it on a concrete mixture. I repeated this over and over, checking the level occasionally, until a can wall was completed. Occasionally I noticed that my plastic gloves were filled with sweat, my bucket running low of concrete, and the painfully slow wall rising before me. Once and a while I took a break to take in the breathtaking (literally, as the altitude affected my body's capacities, making it hard to breath—thermodynamic politics) view of blue skies, distant mountains, and the unforgiving sun.

These moments where nothing was said, where the only interaction that took place was between a few selective actants and myself was what building off-grid was about. These construction techniques made up, what Charles Tilly (2006) called the "repertoire of contention." Importantly, Tilly's term fits well with a new material imagination, as repertoire is defined as "skills, devices, or ingredients [that a] person is prepared to perform"(Merriam-Webster). It is the skills (plumbing, carpentry, and botany), devices (power tools and hand tools), and ingredients (tires, cans, bottles, wires, glass, wood, and dirt) that come together on the construction site that composes the politics of circumvention. Despite the seemingly non-contentious form, I argue circumvention is a form of challenging power as it operates at the ubiquitous level of daily life.

Now, of course, planned and impromptu interaction between humans was ever present. However, this was not omnipresent, as was the case with nonhumans during the monk-like isolation of a single task. In order to study off-grid building and dwelling a methodology had to

be implemented to accompany both very social moments, drenched with category defying discourses, and very non-social moments, where the omnipresence of nonhumans filled sensory organs and functioned autonomous, reciprocally leaving traces on my mind and body. Combining traditional participatory observation and semi-structure interviews with a new materialist imagination accomplished this. But to translate the field into the written report takes yet a further academic maneuver, transdisciplinarity.

2.6.1. **Transdisciplinarity**

To aid in the ontological aspect of this project I take a transdiscipline approach. This has been described as "intellectual 'perversities,' [ranging] from disciplinary infidelities and epistemological promiscuity, to theoretical irreverence and heterotopic imaginings" (Lowe and Halberstam) and "deployment of feral methods and rogue genre" (Chen and Puar). Julie Thompson Klein (2010) wrote in *The Oxford Handbook of Interdisciplinarity* that transdiscipline was the "social and intellectual formations that have breached canons of wholeness and the simplicity of the Kantian architecture of knowledge and art" (25).

Transdiscipline is a growing methodological and epistemological trend. Sociologist Jerry Jacobs (2013) noted the recent proliferation of terms such as "nondisciplinary, antidisciplinary, neo-disciplinary… cross-disciplinary, critical interdisciplinary, intersectional, intertextual, and pluridisciplinary… post disciplinary… supra-disciplinary… de-disciplinary… post-disciplinary... supra-disciplinary… de-disciplinary… [and] postnormal science" (76-77). Of concern to my project is transdisciplinarity. It is distinguished from multidisciplinarity and interdisciplinarity. It holds the promise of uncovering realities that exist between the realities of any particular set of disciplines. Major proponent of the transdiscipline move Basarab Nicolescu (2002) argued that

"Nature is an immense, inexhaustible source of the unknown… Reality is not merely a social construction, the consensus of a collectivity, of some intersubjective agreement. It also has a trans-subjective dimension" (21). This transubjective dimensions recognizes that there exists a "multidimensional and multireferential reality" (Nicolescu 2002:22).

To make this more palpable, I take an example from Paul Feyerabend's (2002) *Against Method*. Rather than assuming that all of metaphysics should contain a singular consistency, he showed that science actually develops what appear to be inconsistencies, but in reality are expressions of this multidimensional and multireferential world. He wrote

> It is well known… that Newton's mechanics is inconsistent with Galileo's law of free fall and with Kepler's laws; that statistical thermodynamics is inconsistent with the second law of phenomenological theory that wave optics is inconsistent with geometrical optics; and so on (Feyerabend 2002:24).

His point, which is generally supported by more recent histories of science, is that linear and deterministic accounts that use the heuristic of local causality of classical thought are more fiction than reality. Rather than defend against inconsistencies, there should be an acceptance of a "complex plurality" (or a "multischizoid, complex reality") and this is in part accomplished through a transdiscipline method. Consider the comparison Nicolescu noted in the table below.

Disciplinary Knowledge	Transdisciplinary Knowledge
In Vitro	In Vivo
External world-Object	Correspondence between the external world (Object) and the internal world (Subject)
Knowing	Understanding
Analytic intelligence	A new type of intelligence- A balance between intellect, feelings, and the body
Orientation towards power and possession	Orientation towards astonishment and sharing
Binary logic	Logic of the included middle
Exclusion of values	Inclusion of values

TABLE I. I. NICOLESCU'S DISCPLINARITY AND TRANSDISCPLINARITY KNOWLEDGE COMPARISION (Nicolescu 2008:3).

Transdisciplinarity is significantly different from multidisciplinarity and interdisciplinarity. Nicolescu (2002) defined each in the following contrastive manner. "Multidisciplinarity brings a plus to the discipline in question (the history of art or philosophy…), but we must remember that this 'plus' is always in the exclusive service of the home discipline" (Nicolescu (2002:43). Whereas, "Interdisciplinarity has a different goal than multidisciplinarity. It concerns the transfer of methods from one discipline to another… Like multidisciplinarity, interdisciplinarity overflows the disciplines, but its goal still remains within the framework of disciplinarity research" (Nicolescu 2002:43). The presumptions of a vernacular reality claim made within a discipline is maintained. "In contrast, transdisciplinarity concerns the dynamics engendered by the action of several levels of reality at once" (Nicolescu (2002:45). A transdiscipline approach has no qualms shifting from the world of objects and the discursive world to speculative prehistory accounts and current psychological surveys. Metaphorically, my goal is not to dig a hole in one spot, uncovering sedimentation and local relations, but rather to skip across a pond, creating ripples that interfere with one another generating a unique and meaningful pattern of both the surface and the edge.

Despite seemingly exotic in terminology, transdisciplinarity has been a staple of the modern academic landscape since the 1940's and common practice by classical sociologists.[6] In a 2010 study based on the National Survey of Earned Doctorates 24% to 30% of dissertations defended between 2001 and 2008 were self-reported as interdisciplinary (Falkenheim 2010:1). While not explicitly transdiscipline, these figures provide proof of growth in regards to a change in the academy. In *Defense of Disciplines* Jacobs (2013) singles out American Studies as "having

[6] Consider German sociologist Ferdinand Tönnies. "Although Tönnies himself was to spend a lifetime promoting academic 'sociology', there is no evidence to suggest that either in 1887 or later he saw his work as being confined within a single disciplinary sphere" (Harris 2001:ix).

achieved the 'transdisciplinary' intellectual synthesis" (7). This is seen in other programs such as "Women's Studies" (Ginsberg 2008), Africana Studies (Stewart and Anderson 2015), Multicultural Education (Ball et al. 2014), Video Game Theory (Wolff and Perron 2003) and others. Additionally, the creation of "cluster hires" in universities further, if not transdisciplinarity than multidisciplinarity and interdisciplinarity as a legitimate feature of the academy. Lastly, consider a special issue of *Theory Culture Society* (Featherstone 2015), which showcased the rise of transdisciplinarity with contributing authors including notable scholars including Michel Serres, Étienne Balibar and Félix Guattari.

A word of caution is due here. Transdisciplinarity should not be read as antagonistic to disciplines. The goal is not to create an alternative to replace the "silos" of disciplines. This was the slight misreading by the likes of Jacobs. As he wrote "The rejection of disciplinary structures leads to a quest for a permanent revolution, a rejection of the intellectual constraints that form the basis for scholarly communities" (Jacobs 2013:151). However, at the First World Congress of Transdisciplinarity in Convento da Arrábida, Portugal in 1994 a charter was created which explicitly stated that transdisciplinarity is not meant to replace the discipline structure.

> Article 3: Transdisciplinarity complements disciplinary approaches. It occasions the emergence of new data and new interactions from out of the encounter between disciplines. It offers us a new vision of nature and reality. Transdisciplinarity does not strive for mastery of several disciplines but aims to open all disciplines to that which they share and to that which lies beyond them (Nicolescu 2008:262).

Jacobs' sober work offers a much needed level headedness. Rather than seeing transdisciplines and disciplines as mutually exclusive categories, there is a mutual constitutivity that exists. Jacobs (2013) is correct when he noted that "Proposals for a transdisciplinary university remain vague and based on sketchy premises" (9). However, the *modus operandi* of vagueness should be considered a strength in creating the *homo sui transcendentalis*. While this approach may lack

direct appeal to positivists and utilitarian imperatives of science (particularly seen in the US), it does have much to offer human knowledge and life. In Nicolescu's words "Transdisciplinarity is a generalized transgression which opens an unlimited space for freedom, understanding, tolerance, and love" (Nicolescu 2002:74). In this view, transdisciplinarity is a continuation of feminist critiques of science (see Ramazanoglu and Holland 2002). Regardless of these points the discipline and the transdiscipline are locked together for the foreseeable future.

The applicability of transdisciplinarity in the present project unfolds in each chapter as I gather resources from several fields. Moving between fields allows the project to move beyond being a sociological ethnography, or a historiography, or a philosophical treatise, or a psychological analysis, or an archeological meditation. This is not dissimilar to the broad approach of posthumanist Rosi Braidotti (2002), who wrote that her "book functions… like a walk along a zigzagging nomadic track of my own making…" (5). Consider more recent comments by British geographer Andy Merrifield (2017) who argued in *The Amateur* that disciplinary "[e]xpertise frustrates genuine interdisciplinarity and inquisitive learning, muffles curiosity. It crushes imaginative flair, ignores the pure joy of not knowing what you're doing, of zigzagging and fumbling around a subject until you master it" (149). I follow in Braidotti and Merrifield footsteps, however they and I may swerve.

The present project, which takes seriously the links between the humans and the nonhuman certainly requires a level of vulnerability, but the conglomerated effect amounts to an opening up for a new understanding. This seemingly anti-specialist approach is not only the method, but also reflected in the data. This is in the process of circumvention in general, as to circumvent requires overcome the specialization of labor that on-grid dwellers embrace (see Chapter Nine). This will become clear by the conclusion.

2.7.1 **Formal Methods: Sampling**

It is not desired nor demanded to throw out the baby with the bathwater. Under the unfamiliar and exotic jargon is a firm methodology developed through tried-and-true scientific principles. Fox and Alldred (2015; 2017) reviewed 40 social science studies that make use of a new materialist approach. They found that "the overwhelming preference… was for qualitative designs" (2017:170). Furthermore, they concluded that qualitative methods have been preferred due to their ability to "contextualize events, thereby revealing the range of relations that compose assemblages and affective economies" (2015:407). This is the same conclusion Latour referred to as "tracing associations" (2007). By taking a new materialist imagination, there are shifts in outcome. As Fox and Alldred (2015) stated

> Human accounts can no longer be accorded validity on their basis of their 'authenticity', and methods such as interviews must be treated not as a means to obtain subjective representation of the world but as evidence of how respondents are situation with assemblages (409).

Otherwise stated this approach allows one to understand off-grid people's relation to the grid and the alternatives being constructed. Listening to and observing the relationality within and without assemblages becomes a main goal.

Regarding more formal aspects of the research project, I now report some concrete dimensions. Participants were all recruited through their contact with EB. The summer of 2014 sample included 22 interns and three residents (two of which worked at EB). The spring of 2015 included ten previous academy students. The summer of 2015 sample was composed of 11 volunteers (mostly academy students), six residents (2 EB Employees), and one intern. In total, I interviewed 54 people. Interviews lasted between 25 and 120 minutes. In total, approximately 33 hours of interviews were recorded. Below is a table of the pseudonyms, interview data, and some

demographics. The sample is made up of majority white, slightly more males, and a rather even spread of ages. There is also a large group of non-US residents.

	PSEUDONYM	LENGTH	PHASE	SEX	AGE	RACE	ORIGIN
1	Dalton Duncan	1:24:56	Summer 2014	Male	24	White	US
2	Essie Clark	" "	Summer 2014	Female	21	White	US
3	Heather Bryant	17:31	Summer 2014	Female	23	White	US
4	Erika Fernāndez	24:56	Summer 2014	Female	24	Latina	Brazil
5	Lynda Allen	28:11	Summer 2014	Female	24	White	US
6	Manahil Ali	27:31	Summer 2014	Female	32	Middle East	Palestine
7	Nathan Tremblay	20:46	Summer 2014	Male	23	White	Canada
8	Coletta Day	46:16	Summer 2014	Female	21	White	US
9	Omeika Bello	34:48	Summer 2014	Female	32	Black	US
10	Lillian Gray	25:57	Summer 2014	Female	23	White	US
11	Cherry Mcmillian	34:51	Summer 2014	Female	23	White	US
12	Krystal McKee	" "	Summer 2014	Female	22	White	US
13	Istvan Nagy	25:05	Summer 2014	Male	21	White	Hungary
14	Freddy Odonnell	36:00	Summer 2014	Male	20	White	UK
15	Bobby Hughes	56:06	Summer 2014	Male	28	White	US
16	Dennis Lawrence	13:19	Summer 2014	Male	71	White	US
17	Larry Clayton	22:26	Summer 2014	Male	27	White	US
18	Tricia Gould	28:57	Summer 2014	Female	21	White	US
19	Ivan Mann	22:58	Summer 2014	Male	22	White	US
20	Abel Kovács	35:10	Summer 2014	Male	30	White	Slovakia

21	Lucy Strafford	45:35	Summer 2014	Female	21	White	US
22	Bartholomeus Jansen	21:52	Summer 2014	Male	43	White	US
23	Mia Burnett	41:23	Summer 2014	Female	59	White	US
24	Hazel Elliot	23:02	Summer 2014	Female	50	White	US
25	Michel Arnold	46:03	Summer 2014	Male	24	White	US
26	Danny McCarthy	1:01:52	Spring 2015	Male	24	White	US
27	Shane Anderson	1:00:09	Spring 2015	Male	33	Black	US
28	Daryl Clark	1:49:23	Spring 2015	Male	41	White	Canada
29	Ralph Bailey	34:06	Spring 2015	Male	35	White	US
30	René Martín	1:10:39	Spring 2015	Male	37	White	Spain
31	Ricky McGuire	1:31:10	Spring 2015	Male	39	White	US
32	Henri Costa	32:25	Spring 2015	Male	35	White	France
33	Fae Lacerte	49:45	Spring 2015	Male	26	White	Canada
34	Jacob Stark	35:28	Spring 2015	Male	26	White	US
35	Evan Chaney	43:25	Spring 2015	Male	27	White	US
36	Scott Clemons	34:59	Summer 2015	Male	27	White	US
37	Hans Backmeier	46:28	Summer 2015	Male	29	White	German
38	Theo Alston	46:10	Summer 2015	Male	42	White	US
39	Ovidiu Vasile	34:44	Summer 2015	Male	40	White	Romania
40	Hannah McKinney	36:28	Summer 2015	Female	46	White	US
41	Kari Bates	34:13	Summer 2015	Female	40	White	US
42	Liam Roy	34:38	Summer 2015	Male	24	White	Canada
43	Lachlan Williams	24:32	Summer 2015	Male	27	White	Australia

44	Kacey Holt	27:46	Summer 2015	Female	20	White	US
45	Vaola Rossi	" "	Summer 2015	Female	22	White	Italy
46	Saul Newton	26:34	Summer 2015	Male	46	White	US
47	Jackie Goodman	1:13:55	Summer 2015	Female	67	White	US
48	Floyd Huber	26:46	Summer 2015	Male	45	White	Austria
49	Sarah Knowles	1:22:07	Summer 2015	Female	65	White	US
50	Debrah Boyle	" "	Summer 2015	Female	59	White	US
51	Trey O'Neil	27:06	Summer 2015	Male	47	White	US
52	Amarina Smith	24:49	Summer 2015	Female	36	White	Australia
53	Edgar Madden	29:43	Summer 2015	Male	58	White	US
54	Shanon Donovan	43:40	Summer 2015	Female	36	White	US

TABLE II. RESPONDENT DEMOGRAPHICS.

2.7.2 **Data Analysis**

All interviews were transcribed with the aid of ExpressScribe. For analysis, Dedoose.com, a cloud-based mixed-method data analysis software was used. Coding proceeded in two general ways. First each interview was coded with general demographic data, a processed referred to as attribute coding. Second, the content underwent two cycles of coding. The software allowed me to distinguish code frequencies by the attributes assigned to each interviewee. The content coding mixed several approaches delineated in Jonny Saldaña's (2011) *The Coding Manual for Qualitative Researchers*. I took a grounded coding approach starting with provisional codes and in the second cycle a value coding approach. Limited use of *in vivo* coding and axial coding were also applied.

Provisional coding, part of exploratory methods, "begins with a 'start list' of researcher-generated codes based on what preparatory investigation suggests might appear in the data" (Saldaña 2011:118). Both the interview guides, as well as early emergent themes were utilized as a starting list for the initial coding cycle. This generated approximately 45 codes. In the second cycle, I decided a value coding approach was called for since many of the provisional codes contained themes of critiques or endorsements. Saldaña (2011) defined value coding as "reflecting a participant's values, attitudes, and beliefs, representing his or her perspectives or worldview" (89). As such, I coded for common critiques of on-grid life and mainstream culture, as well as motivations and experiences of off-grid life. Additionally, *in vivo* codes were used, as certain phrases were common such as "common sense" and "centralized." Lastly, axial coding described as "the transitional cycle between the Initial and Theoretical Coding process of grounded theory" (Saldaña 2011:160), helped to reduce the overall code count into a manageable list while maintaining an emergent approach.

2.8.1 Conclusion

I follow in Jane Bennett's (2010) footsteps when she wrote "What is […] needed is a cultivated, patient, sensory attentiveness to nonhuman forces operating outside and inside the human body… to learn how to induce attentiveness to things and their affects" (xiv). Hands developing blisters from wood handles, dirt caked socks, quiet lunches consumed with gusto, leaning against an eight foot-wall of tires that wasn't there a few days ago; these were important aspects of studying the building of a politics or a politics of building. Important aspects of living off-grid were waking up surrounded by a warmth produced with no moving parts, flushing the toilet and knowing your thoughts, values, and actions correspond to a non-discursive reality,

grazing off the plants that continue to change with each passing day, and forgetting to charge your laptop and being "shit out of luck." The ubiquity of nonhumans being ignored is replaced with a degree of attentiveness. This attentiveness is not wholly ideological, but rather is enforced by things outside of human control. It is here, the entanglement of human and nonhuman, which is a large portion of the off-grid phenomenon is engaged in. And it is here that the sociologist must adapt and not just listen to what people say, but also experience what things do.

PART TWO

In Part One, I introduced an overview of the present project. In Part Two I present my thesis in detail and provide supporting historical cases. Specifically, in Chapter Three I follow several literatures to substantiate the claims of an Object-Friendly Sociology. I begin this with environmental sociology's attempts at bringing nonhumans back in. With this story told I turn to the importance of their inclusion. I do this by way of actor network theory (ANT). ANT argues for the indispensability of nonhumans to the durability of the social world. To go further with the argument of nonhuman action I consider works that deconstruct what human agency is—consciousness. I conclude with previous attempts at "leveling" (without reduction or determination) of social and material processes, what I term "universal processualists". These are theorists that argue for processes that are found among human actors and nonhuman actants. Lastly, I argue for the assemblage theoretical framework over that of the network, as the language of assemblage, particularly its rhizomatic nature, are fitting for the decentralized and heterogeneous particularities of the off-grid case.

Chapter Four carries a larger load on its shoulders than the previous chapters. In this chapter, I present and challenge some prejudices towards a circumvention-based politics. I argue this can be found in the supporters of capitalism as well as the supporters

of communism, not to mention the wider public. With these biases identified I review processes of social and material caging. Circumvention is only necessary if one is surrounding by obstacles, hence the need for finding a way around them. In order to explore this process I follow Michael Mann and others' description of social caging as it occurred during prehistory and early state-societies.

It has been argued that a significant process of civilization is the process of caging. However, individuals and groups have frustrated this process, whether in the river valleys of Egypt and hills of Southeast Asia or the countryside of medieval Russia. Since circumventing has no leading intellectual figure, tracing the act of circumvention to these early periods helps argue the foundational role that circumvention has played. Throughout the chapter I make the case for the integral role that nonhumans play in both caging people and in the subsequent creation of circumvented spaces.

I conclude Part Two with six brief exemplars of circumvention. In many ways, the primordial off-gridders of the US were the back-to-the-land movement in the 19th century. This reoccurring movement sought autonomy and meaning by a direct exchange with nonhuman processes. Critiques at the time were that society could not provide subsistence, security, or a meaningful life. In more recent times, communes and ecovillages have emerged for the same reasons and motivations. Moving further from the Earthship case study, there are numerous faith-based circumventions from the story of the Exodus to the Anabaptists. I explore some of the similarities that the Amish in the US have to the off-grid movement, particularly their intentional incorporation of technology. The last two examples, maroonage and the Zapatistas, provide examples of more contentious circumventions. However, I find the basic processes are the same. This

includes construction of alternative knowledge systems that recognize nonhuman agencies, similar swidden horticultural modes of production, a range of interactions with the circumvented society, and novel organizational forms that mix egalitarian principles with the need for authoritarian decision-making in times of crisis.

By the conclusion of Part Two the reader may feel a bit deterritorialized, as my style and detours may start to add up. However, they will also be in a superior and unique position to approach the Earthship assemblage and the ideas that off-grid people espouse. My project does not move in a direct line, like a geometric ray in an abstract space. Rather it recognizes the idiosyncrasies of the conceptual terrain and the assemblage that writing itself creates. In this I invoke Rosi Braidotti's (2002) *modus operandi* of "zigzagging" and attempt a "nomadic track of my own making."

3. OBJECT-FRIENDLY SOCIOLOGY

"I find that becoming human is dangerous because it is so easy to forget what we really are, while we are in the human space. The cloak of humanity so often covers our 'eyes.' We should simply skate along the edge of humanity- close enough to participate in it but far enough away so as not to be consumed. Make the days you spend as a human give you the peace you need to stop being human- so nothing is there."
Michael Reynolds 1989:225

3.1.1 **Introduction**

It is my contention, along with a growing number of scholars from the social sciences and humanities that certain questions require that mind-dependent phenomenon and mind-independent noumenon be studied together. To do this I consider not only epistemological questions of how humans know what they know, but also ontological questions from a non-anthropocentric position. As controversial intellectual Nick Land (2012) recognized "materiality is problematic for enlightenment thought [as] alterity cannot be registered, unless it can be inscribed within the system" (71). Knowing this, I proceed through a transdisciplinary approach (see Chapter Two) that attempts to go beyond the ontology traced back to Cartesianism and develop an Object-Friendly Sociology.

To begin, I follow environmental sociologists' attempts to stitch nonhumans into the social world, particularly by following their critique and reformation of "environment" within

sociology (for a preceding history of the use of nonhumans in sociology and related philosophy see Appendix A). With this trajectory laid out I review arguments from actor-network theorists and primatologists to argue that societies are collections of socio-material assemblages. Confident in these claims, I question the exceptional importance of human consciousness as a prerequisite of agency-hood. This is accomplished through the advances made by new materialist inspired social scientists, such as Karen Barad and Alex Wendt. I also meditate on the shared agentic capacities between humans and nonhumans, what I term universal processualists. Concluding this chapter is a short review of the assemblage concept, which allow for a less centric heuristic than actor-networks theory and method generally provide.

Although a transdisciplinary sociological approach is used, I find that the arguments in this chapter are necessary for grasping the thesis of a politics of circumvention. With an ontological basis as diverse as the one I sketch below, I am able to articulate how humans are caged into assemblages of more-than-human power. Circumventing these assemblages requires, not only discourses of escape, but also social organizations and physical construction of subsistence assemblages. In fact, constructing these assemblages is the primary activity of circumventors, from the escaped slaves of maroonage and 19th century homesteading to the present day Earthshipper. I ask for the reader's patience through this transdisciplinary journey as I test if as Katherine Keller (2014) wrote in *Cloud of the Impossible* that "The boundaries of a context are constructs" (50) and if they too are circumventable. In some ways this project is not just on the circumvention of off-grid people, but is also a method of circumvention.

3.2.1 **Stitching Sociology and the Natural Environment Together**

By the late 1970's Dunlap and Catton (1979a; 1979b) founders of the environmental sociology subfield argued that sociology was not poised well to understand or contribute to the environmental movement. It was only until very recently that the disciple started taking a strong initiative to contribute to global warming debate and science with the creation of the ASA Task Force on Sociology and Global Climate Change. In the recently published *Climate Change and Society: Sociological Perspectives* Dunlap and Bruille (2015) wrote just this.

> However, until fairly recently, sociology continued to marginalize work seeking to integrate environmental and social concerns. Like the rest of the social sciences, sociology assumed that the natural world is a more or less passive stage on which the social unfolds (16).

The lack of readiness was in part due to the historical development of the discipline (see Appendix A). Environmental sociologists focused on the problematic way sociologists defined the environment. Among most sociologists the environment usually meant the "social and cultural influences upon behavior" (Dunlap and Catton 1979a:245). The physical, chemical, and biological are jettisoned. And "'Environment' or 'nature' are used as 'dummy concepts' for undifferentiated substances" (Feldman 1993:2). Dunlap and Catton (1979a) argued that this attitude towards the environment developed because "'anti-reductionism' had become mandatory in sociology's drive for autonomy from other disciplines" (245). Environmental sociologist Raymond Murphy (1995) argued "we have material and ideal interests in drawing attention to the importance of social action, even at the expense of the relationship between it and the process of nature" (693).

In other words, the construction of a sociology discipline was predicated on the "revulsion and repulsion" (Murphy 1995) of other disciplines. This process allowed for the charge of reductionism and determinism for inquiries that extended beyond the social fact. Jacobs (2013) described this as a process of silo'ism and "can be belittled as mere 'turf wars,' or

it can be elevated to a contest for intellectual authority, autonomy and legitimacy" (19). He continued "Either way, what is at stake is the ability of specialists in a field to 'own' their intellectual domains, to be seen as legitimate and ideally exclusive authorities" (Jacobs 2013:20). As mentioned, in sociology there was a particular fear of "biological determinism" (see Stevens 2012).

There are good reasons to be suspicious of non-social factors (especially biology) being included in sociological analyses. Social Darwinism naturalized inequality and casted 19th century reformist agendas as both pointless and counterproductive. Scientific racism, eugenics, and phrenology all attempted to erase the social world and networks of power. It is understandable why sociology and primarily anthropology (see Montagu 1962) would swiftly counter biological explanations for social outcomes. Murphy (1995) even argued that "Durkheim developed his social reductionism as a result of his reaction to biological reductionism" (697).

However, as humans approach various existential threats (global warming, pandemics, genetic modification, and bio/nanotechnology—see Zizek 2010) some sociologists are concerned "that sociology many times has adopted an 'oversocialized' view of the environment" (Lidskog 2001:117), which limits understanding and contributions. While sociology continues to have unique methods and frameworks to offer, in fact are necessary, a transdisciplinary approach gives the sociologist a way to study how the human and nonhuman are entangled. I take a cue from civil rights lawyer James Farmer who remarked at the first Earth Day "If we do not save the environment, then whatever we do in civil rights will be of no meaning, because then we will have the equality of extinction". Of course, if human self-extinction does occur it would not be evenly distributed; impacting the global south, poor, women, children, indigenous, and nonwhite

populations first. However, Farmer's point is that solving social issues is not in isolation from nonhuman concerns as well, our future is inextricably linked.

One outcome of these disciplinary developments was the separation of sociology and anthropology, the latter which was much more comfortable with nonhumans. The importance of this cannot be overstated. The consequence was that "sociologists tended to become increasingly insulated from the study of small societies with comparatively simple technologies, where human dependence of the forces of nature and on the varying characteristic of ecosystems were more visible" (Dunlap and Catton 1979b:58).[7] The proliferation socio-material assemblages in industrialized society put people and their ideas far from the direct intercourse with nonhumans for subsistence. "For the ever growing majority of us who are employed in the service sector, reality consists largely of words, ideas, abstractions, social relations, activities, records, careers, and countless other things having little or no material substances" (Catton et al. 1986 quoted in Feldmann 1993:6). Sociologist Andrew Collier echoed this assessment in his introduction to philosopher Roy Bhaskar's work. "Now academics, at least in the arts, are mainly engaged in meta-discourse – that is, talking about talking – and do not, in their professional capacity, interact much with extra-linguistic realities" (Collier 1994:4). The case studies of sociologists, as well as their own daily life may be contributing to the neglect of nonhumans in a way that would be unlikely if they studied the !Kung and spent time growing, foraging, and hunting for food, that is to say nothing about humans processing their own waste.

This division of academic labor provided the sociology discipline with a bracketed world in which a Human Exceptionalism Paradigm (HEP) could develop. HEP (similar to the Standard Social Science Model, see Appendix A) is the belief "that the exceptional characteristics of our

[7] In Weberian terms, this would be his traditional-organic society.

species (culture, technology, language, elaborated social organization) somehow *exempt* humans from ecological principles and from environmental influences and constraints" (emphasis in original Dunlap and Catton 1979a:250). Additionally, "it was assumed that reason is enabling humanity to escape from nature's forces and socially reconstruct them, leading to the ascendance of the cultural and the social over nature" (Murphy 2002:315). This ultimate "cultural turn" can be seen in the exclusive focus on narratives, discourses, and texts in much of mainstream sociology. Raymond Murphy (1995) creatively put it in the following way:

> Sociology as if nature did not matter is a theory in a vacuum, interactive and interpretive work having nothing to work with, on, or against. It is a sociological theory of Disneyworld: a synthetic world inhabited by artificial creatures, including humans, constructed by humans. It postulates all-powerful interpretation that creates what little reality it perceives. It is a contemporary variant of idealism, of the almighty role of ideas in history and of 'an idealist or dualist anthropocentrism'… Nature as a dynamic force has thereby been evacuated from sociology (693).

In response to the HEP, a New Ecological Paradigm (NEP) was proposed by Dunlap and Catton (1978a, 1978b). By building off the of human ecology of Park (1936) and later Duncan (1959), they sought "to examine (a) how variation in populations, technology, culture, social systems, and personality systems influences the physical environment, and (b) how resultant change in the physical environment may in turn modify population, technology, culture, social systems, and personality systems" (1978b:68). This feedback loop appears to be faithful to some readings of Marx[8] and Weber[9] (2013). Buttel (1987) claimed that with NEP Dunlap and Catton "sought nothing less than the reorientation of sociology towards a more holistic perspective that would conceptualize social processes within the context of the biosphere" (466). Though he concluded that "These lofty intentions, however, have largely failed" (Buttel 1987:466). It is true

[8] See Foster, Clark, and York's (2010) *The Ecological Rift: Capitalism's War on the Earth*.
[9] See Weber (2013) *The Agrarian Sociology Of Ancient Civilizations*.

that their NEP, as they formulated had little empirical usage within the discipline. Instead, nonhumans were reduced to their representations, as in a public opinions surveys about the perception of pollution without the inclusion of actual measures of parts per million of pollution.[10] This is what critical sociologist Stoner (2014) has identified and problematized as the "value-based approach" within environmental sociology. Despite this immediate failure, NEP inspired the following decades of environmental sociologists to study the nonhuman alongside the human.

More recently, sociologists Freudenburg, Frickel, and Gramling (1995) took up the mantle from Dunlap and Catton in their work on Iron Mountain along the Wisconsin and Michigan border. They developed the concept conjoint constitution in order to overcome the Cartesian division. They wrote that conjoint constitution captured how

> physical facts are likely in many cases to have been shaped strongly by social construction processes, while at the same time, even what appears to be 'strictly social' phenomena are likely to have been shaped in important if often overlooked ways by the fact that social behaviors often respond to stimuli and constraints from the biophysical world (Freudenburg et al. 1995:366).

By allowing the features of nonhumans a degree of agency (although Freudenburg and colleagues clarify that they "do *not* impute any volition or will to the biophysical environment" [emphasis in original 1995:367]), they are able to chart how human meaning and the real Iron Mountain interact and undergoing various phases. What is key for them is that it would be possible to analyze 200 years of mountain and human interaction from purely physical or purely social position. However, both would "render pictures that are necessarily incomplete"

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[10] It is not lost on the writer that measures of pollution are also representations, just as social surveys. However, I follow the Critical Realist's stance of a transcendental realism that is composed of ontologically different domains of real, actual, and empirical (see Collier 1994:44; Decoteau 2016:10). In this way, one can analytically separate the transitive and intransitive differences of the signified.

(Freudenburg et al. 1995:387). Furthermore, "without attention to the nature of the interplay of the social and the physical, there is a significant risk that what in fact are social as well as physical properties *will* be ignored" (emphasis in original Freudenburg et al. 1995:388).

Similarly, Woodgate and Redclift (1998) made a comparable argument, although on a larger scale. By combining nonhuman systems of evolution and societal systems of structuration, they argued that modernity is a coevolutionary process built on hydrocarbons and the ideals of the Enlightenment, not solely the rational mind.

Perhaps the most conceptually worked out theorizing of human and nonhuman relations coming out of this tradition came from James Rice (2013). Rice provided three concepts to aid sociologists in navigating human and nonhuman entanglement: conjoint constitutionality, biophysical-material performativity, and decentered asymmetry. Following Freudenburg and colleagues (1995), conjoint constitutionality is

> the idea that the biophysical–material and the social are intertwined such that the social constructs what is construed as the natural even as biophysical–material properties, processes, and reactions are deeply implicated in what is normally construed as the purely social (Rice 2013:246).

As Freudenburg et al. showed, it is important to understand the possibility for two-way interaction of meaning and matter.

Biophysical-material performativity recognizes the fact that action is not limited to human beings. "Both the social and the natural, at times, are emergent together, *the social predicated upon the vibrancy and force of the biophysical-material*, what nature does rather than simply how it is conceptualized in language" (emphasis added Rice 1995:248). I will further problematize representation via performative accounts (which support the materialist imagination explored in Chapter Two) when I explore agency in more detail below.

Lastly, decentered asymmetry is "a posture that recognizes the intentionality and reflexivity of human agency but eschews assumptions of anthropogenic dominion in favor of the dialectic of resistance and accommodation inherent to human-nonhuman temporal evolution and retrogression" (Rice 2013:249). A complete leveling to a flat ontology is something that is hard for all but the most radical posthumanists. In contrast, decentered asymmetry maintains humanity's most unique attributes, while not inflating them to a level that crowds out all nonhuman processes. Taken together these conceptual advances made by environmental sociologists laid the ground work for a sociology of the 21st century, but they were not alone.

The separation that began with Descartes, reformulated with Comte, and institutionalized within sociology, is being challenged in many corners. Environmental sociology has continued to overcoming dualism inherited from its philosophical origins and institutionalized disciplinary demands. However, some observers claimed that environmental sociology "has remained fundamentally *anthropocentric*" (emphasis in original Fox and Allred 2017:38). Despite this, environmental sociology is an important step toward a new materialist imagination and an Object-Friendly Sociology. To overcome some of these limitations I trace fundamental discussions within science and technology studies (STS). But, it is important to recognize that these are only two paths through the disavowment and re-admittance story. Other subfields had a similar trajectory. Sociology of the body (Blackman 2008), sociology of animals (Tovey 2003), sociology of emotions (Thoits 1989) and disability studies (Galis 2011) all had to stake their claim to a broader ontology. None of these positions were arguing that the bread and butter of sociological work should be abandoned. Rather they sought to expand it as case studies dictated.

3.3.1 **Moving Forward: Society as Actor-Networks**

Having understood the historical separation of nonhuman and human within sociology and its re-admittance, I can now proceed more directly with the importance. To do so I begin with one of humanity's closest relatives, baboons.[11] Gradually primatologists have come to recognize the rich social life of these creatures. Their organizations were once thought of as an outcome of unthinking behaviors like aggression. In the 1960's and 1970's, primatologists found that in fact "Kinship and friendship appeared to be the basis of baboon society… rather than the male dominance order" (Strum and Latour 1987:787). More recently, primatologists believe that the social organization of a troop was more dynamic and required a great deal of individual social skills to navigate interactions. Strum and Latour (1987) concluded that "Baboons are not *entering into a stable structure* but rather negotiating what that structure will be and monitoring and testing and pushing all other such negotiations" (emphasis in original 788).

The flexibility of the social structure and the agency of the baboons continue to be discovered, more so than most imagined. For instance, acclaimed and popular primatologist Robert Sapolsky (2001) documented a Kenyan troop of baboons that underwent a social change from a "typical behavior" of "males behave[ing] badly, angling either to assume or maintain dominance with higher ranking males or engaging in bloody battles with lower ranking males" (PLoS Biol. 2004). After a tuberculosis outbreak at a local hotel, the alpha males consumed the contaminated food; that result in their death. It was assumed that the lower ranked males would continue to vie for power and establish a new hierarchy. However, Sapolsky and his colleague

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[11] Interestingly Hirschman (1970) also discussed baboon society in his book, *Exit, Voice, and Loyalty*. Hirschman, citing the slow and peaceful way that alpha males gradually rescind power to younger males, believed that the major difference between humans and baboons is one of mastery over environment, leading to surplus. Human societies can tolerate a certain degree of social deterioration, as seen in the "violent ups and downs to which human societies have always been subject as 'bad' government followed upon 'good,' and strong or wise or good leaders". However this "would mean a disaster for baboons" (Hirschman 1970:6).

Lisa Share observed a "cultural swing toward pacifism, a relaxing of the usually parlous baboon hierarchy, and a willingness to use affection and mutual grooming rather than threats, swipes and bites" (Angier 2004). This circumstance is made more remarkable by the fact that decades later, after the original members have died, the troop still exhibits behavior that is more peaceful. These observations show that there is indeed a society among nonhuman primates, which may in fact warrant a "mammalian sociology" (see Zuckerman 1932). Therefore, nonhuman primate societies are not just an expression of genetics and environment; rather there is a certain flexible rigidity to their society, as well as *complexity*.

Now, what concern of this is to questions of human society? Bruno Latour argued that the difference between baboon society and human society is a difference of complexity and complication. Latour (1993) defined complexity as "the simultaneous presence in all interactions of a great number of variables, which cannot be treated discretely" (233). For baboons to be socially intelligent, they have to consider the whole of their society at once and this may in fact change quite rapidly.

Human societies are different. They have displayed the ability to construct placeholders to allow interactions to unfold in a chain, rather than all at once. This is less complex, but more *complicated*. Complicated defined as the "successive presence of variables, which can be treated one by one, and folding into one another in the form of a blackbox" (Latour 1993:233). Latour illustrated this in the following story.

> While I am at the counter buying my postage stamps and talking into the speaking grill, I don't have my family, colleagues, or bosses breathing down my neck… A baboon could not operate such a felicitous channeling. Any other baboon could interfere in any one interaction (Latour 1996:233).

Rather, by making use of symbols and physical objects humans are able to construct ordered networks. These networks are what compose the social world.

When these networks become stable, they are treated as black boxes. Latour (1987) explained "The word black box is used by cyberneticians whenever a piece of machinery or a set of commands is too complex. In its place they draw a little box about which they need to know nothing but its input and output" (2-3). Latour and others polemically claim that sociology treats the "social" as a black box. "[W]e use 'social' to mean that which has already been assembled and acts as a whole, without being too picky on the precise nature of what has been gathered, bundled, and packaged together" (Latour 2007:43). As scholars of ANT have shown, when they open up the black box of the "social" they find it is filled with both symbols and physical objects.

Scholars of ANT tradition ask how have humans constructed black boxes that appear to exist apart from us and seem to rule us? Take the state as an example. The leviathan that Hobbes wrote about is curious human invention. How is it possible that there is a thing that seems above us, but is really created between us? Arguably nonhuman primates could never build such a thing. "In the state of nature, no one is strong enough to hold out against every coalition" (Callon and Latour 1981:284). This is why a troop is constantly being maintained and transformed and coercive hierarchical authority is fluid. Human sociality depicts a temporal and spatial durability, one that does in fact lead to leviathans. Callon and Latour continued (1981), "But if you transform the state of nature, replacing unsettles alliances as much as you can with walls and written contracts, the ranks with uniforms and tattoos and reversible friendships with names and signs, then you will obtain a Leviathan" (284). It has taken decades for these insights to make their way into mainstream political science, but this was exactly what Jason Dittmer (2017) did in his book *Diplomatic Materialism*. He argued for a more-than-human approach to the state and international relations. Following Latour he traced the "government of things", how the effects

of objects act as force relations (as opposed to social relations), that constituted the creation of individual states and the connections between states.

The human social world is an extra-semiotic network. Humans socially construct symbols, which allows for a more complicated (in the Latourian sense) world. Utterances represent some things and not others, creating the possibility of bracketed, isolated, and unfolding interaction. Beyond this, utterances are carved into stone, marked on parchment, and typed in databases. All of this overcomes the limits of individual or generational memory as well as spatial limitations. As Levi Bryant (2014) humorously put it "Writing creates a materialized memory no longer subject to the decay of brains sodden by alcohol and the forgetfulness of age" (32). He continued, "in being written down, the articulated is freed from the limitations of speech traveling through the air, allowing the inscribed to travel throughout a much greater geographical expanse in time and space" (32).

These durable physical objects all become the extra-semiotic *complicates* that make up human society. These and other variables give rise to more elaborated symbols and identities that are co-constituted with material artifacts. Benjamin Anderson (1982) argued just this, although within a very different framework. In *Imagined Communities,* he maintained that without the advances of the printing press and literacy, large areas of people could not think of themselves as one. Only once daily news could be transmitted and printed across a continent does it become possible to think of an abstract shared space and time. With this comes the "imagined community" of a nation. On a whole, materials act "As infrastructures, they interconnect and form a continuous material base over which the social world of representations and signs subsequently flows" (Latour 1996:235).

There is a network of ontologically heterogeneous entities. Some are corporeal and some not. Some have consciousness and others not. Some are considered social and others natural. But they all affect one another, of rather through one another. Actor-network theorists use the term *translation* to explain how different actors are put together into a network. John Law, a prominent ANT scholar explained this process.

> To translate is to make two words equivalent. But since no two words *are* equivalent, translation also implies betrayal: *traduction, trahison*. Translation is both about making equivalent and about shifting. It is about moving terms around, about linking them and changing them (emphasis in original Law 2007:144).

Translation has been the major empirical question of ANT. Translation is inherently about power. "An actor… becomes stronger to the extent that he or she can firmly associate large number of elements – and, of course, dissociate as speedily as possible elements enrolled by other actors" (Callon and Latour 1981:292). Translation, at its most basic level, is the process of consolidating and ordering heterogeneous networks into black boxes. Different strategies are taken when constructing an actor-network. For instance, "some materials are more durable than others and so maintain their relational patterns for longer… Thus a good ordering strategy is to embody a set of relations in durable materials" (Law 1992:387). It is this durability that is key to constructing different social relations. In *The Pasteurization of France* Latour (1988) wrote "To create an asymmetry, an actant need only lean on a force slightly more durable than itself" (160). He continued, "Even if this difference is tiny, it is enough to create a gradient of resistance that makes them both more real for another actant" (Latour 1981:160). A cement wall in a prison translates the correctional officer's will more faithfully than a hedge bush.

Translation increases the durability of relations, but also their mobility, what "Latour calls *immutable mobiles*—letters of credit, military orders, or cannon balls" (emphasis in original Law 1992:387). As Anderson's case illustrated. This has been referred to as "action at a

distance", harkening back to Einstein's comment on quantum mechanics (and used by Lockie [2004] in his study of the Land Care Movement in Australia). Action appears to occur even when separated by great distance and no direct observable cause and effect. Furthermore, translation is a predictive and calculative process. "[I]t anticipates the responses and reactions of the materials to be translated" (Law 1992:388). All human actions have to be translated through these omnipresent nonhumans and translations are never perfect. Some things get lost and mistranslated.

ANT case studies focus on how stable actor-networks are constructed or thwarted. Through the methodology of "tracing associations" with no *a priori* defined ontological categories that are off-limits, they open black boxes to find the various strategies, as well as resistances that human actors and nonhuman actants enact. Going back to *The Pasteurization of France*, Latour (1988) traced how Louis Pasteur was able to generalize what happened in his laboratory at the microscopic level to the burgeoning biopolitical state and wider public. Through various organized groups, experiments, and actants Pasteur was successful. However, in another case study, Latour (2002) documented how the creation of actor-networks can fail. In *Aramis, or the Love of Technology* he explored how a collection of engineers, bureaucrats, entrepreneurs, train cars, drivers, proximity sensors, and prototypes were unable to consolidate the necessary network to build a public transportation infrastructure called ARAMIS in Paris. Other notable cases involved the creation of road rage as car-human hybrid (Michael 1998), creation of marine conservation programs between scientists, scallops, and fishermen (Callon 1986), diagnosis and treatment of atherosclerosis (Mol 2003), and the creation of scientific facts (Latour and Woolgar 1979). It is important to note that no actor-network is completely black boxed. The various strategies of translation are never a one-for-one process, "black boxes never remain fully closed

or properly fastened" (Callon and Latour 1981:285). This allows for resistance and as I will show, in regards to my case study, circumvention as a political project.

3.4.1 **A Few Words on Agency**

From ANT one comes away with the undeniable utility of nonhumans to the social world, specifically in the form of durable yet imperfect translators of humans' desires and goals. However, this position still endorses anthropocentricism that prevents one from fully understanding nonhuman agency. It should be remembered that actants have their own (mind-independent) powers/capacities/properties and can resist enrollment into actor-networks. When this happens, humans feel frustrated, like my father and his father before him, yelling at whatever nonhuman components for home improvement they had been working on for a few hours. It is through this frustration that one come to recognize, what Jane Bennett (2010) calls "thing-power". She quoted Spinoza as writing "'Each thing [res], as far as it can by its own power, strives [*conatur*] to preserve in its own being.' *Conatus* names 'an active impulsion' or trending tendency to persist" (Bennett 2010:2). Humans' actions are circumscribed, or otherwise influenced to varying degrees by the thing-power of actants. Instead of humans enacting their agency on actants, there is a "dance of agencies" (Pickering 1995). Power is always distributive and "not something outside or beyond the flows of affects in assemblages, but *as* this flow itself" (emphasis in original Fox and Alldred 2017:27). This will become more concrete when I propose the origins of socio-material cages as the property of plants in horticulture, dams, dykes, water in artificial irrigation, components of the electricity grids, and many others.

Despite reviewing arguments in environmental sociology and STS there are still scholarly positions to review concerning nonhuman agency that this study will benefit from. In this section

I provide two of the broad arguments of nonhuman agency. The first is to rethink what human agency is, while the second is to find commonalities between nonhuman and human agencies, what I call universal processualists. I briefly consider each below.

3.4.2 **What is (Non)Human Agency Anyways?**

Sociologist Karen Creulo (2009), in her *Annual Review of Sociology* article on nonhumans begins by providing human consciousness as the quintessential reason given to exclude nonhumans from sociological studies. Only humans can have social interactions due to our intentionality, self-recognition[12], evidence of theory of mind, and language—all derived from consciousness. However, sociologists rarely explore what consciousness is or where it comes from. It is black boxed, as Latour would say. Instead, social scientists generally focus on the inputs (norms, ideology, social relations, and aesthetics) and outputs (norms, ideology, social relations, and aesthetics).

Karen Barad (2007) takes issue with this in *Meeting the Universal Halfway*. In critiquing the cultural turn, she wrote "Language matters. Discourse matters. Culture matters. There is an important sense in which the only thing that doesn't seem to matter anymore is matter" (Barad 2007:132). Using scientific activity, she showed how scientists do not represent or reflect nature in their work. Instead they are performing, what is normally seen as language and discourse. Performances are always embedded actions and given the omnipresence of nonhumans this means that humans are always performing with, among, and against something (as Murphy's

[12] Self-recognition has been acknowledge by scientists in a variety of animals including pigeons, rhesus macaques, chimpanzees, magpies, dolphins, and elephants (Haraway 2016:18).

[1995] previous comment on Disneyland attested to). There is no detached observer faithfully following the positivistic scientific method. Barad continued

> Unlike representationalism, which positions us above or outside the world we allegedly merely reflect on, a performative account insists on understanding thinking, observing, and theorizing as practices of engagement with, and as part of, the world in which we have our being (133).

Her tome contains numerous examples from general relativity to quantum mechanics. Her point being that science is not a mirror of nature; rather that science is an entanglement of ontologically diverse entities intra-acting rather than interacting.

Consider the quantum physics two-slit experiment. By beaming a ray of light through two slits and then measuring how the atoms accumulate beyond the slits researchers observe a wave pattern, with alternating light and dark marks indicating the particles from one slit are interfering with the particles from the other. Even if they send one atom at a time, they still interfere! This creates a diffraction pattern. But when scientists measure which slit the particles are going through they find the wave-diffraction-pattern has 'collapsed' into a bimodal distribution, indicating that light is a particle, not a wave. Physicists and philosophers postulate that the observation of matter collapses the wave function into what is generally thought of as the billiard balls physics. One can never solely represent reality, as humans are always summarily enacting it through their observations.

Take the Bell Experiment. This is where two identical photons are sent in opposite directions through a polarized apparatus allowing for only certain "spins" of electrons to pass and then measured. If the scientists polarize one photon ray, the other will be perfectly correlated even as the second ray is unmolested. This lead quantum physicists and philosophers to believe "observation of one object can instantaneously influence the behavior of another greatly distant

object—*even if no physical force connects the two*" (emphasis in original Rosenblum and Kuttner 2006:12). Hence Barad's intra-action.

Physicists, philosophers, activists, and religious leaders use quantum physics experiments like these to claim a fundamental inseparability (or entanglement) between all matter and consciousness (for social justice implications see Vandana Shiva's [2014] work). Thus, pure representation is impossible, as what is being represented is, at the most fundamental level, being created through the process of representation (which is actually performance).

A second path breaking work is Alexander Wendt's (2015) *Quantum Mind and the Social Science*. In my discussion thus far, there is still a basic Cartesian separation between mind and matter. Matter is a wave of potentiality until the mind observers it. But what is the conscious mind? For Wendt "human beings *really are* quantum systems" (emphasis in original 3). Our bodies are equally material as nonhumans, including our brain. However, consciousness arises from the ability to maintain a quantum wave function even in the face of interaction and observation with other entities. This ability to not collapse the wave function is what physicists call coherence. It is from this coherent state that intentionality, self-identity, theory of mind, and language become a reality that is experienced. Geneticist Mae-Wan Ho concurred with Wendt on this "If quantum coherence is characteristic of the organism as conscious being… then the conscious being will possess something like a macroscopic wave-function. This wave function is ever evolving, entangling its environment, transforming and creating itself anew" (Ho 2017:280).

These arguments about consciousness are obviously much more complex than recounted here. It is beyond the scope of this work to elaborate on the specifics. However, Fox and Alldred (2015; 2017) have drawn some conclusions of these non-sociological works for sociology. They began by summarizing new materialism as focusing on social production, which is distinguished

from social construction of the likes of Berger and Luckman (1967). This is accomplished by understanding that "Critically… all relations (human and non-human, animate and inanimate) have affects this means that non-humans as well as humans can be agentic" (Fox and Alldred 2017:18). Elsewhere they wrote "Matter is not inert, nor simply that background for human activity but 'is conceptualized as agentic', with multiple non-human as well as human sources of agency with capacities to affect" (Fox and Allred 2015:400). The shift toward production and away from construction is more than wordplay. It shifts from primarily an epistemological founded inquiry and towards an ontological one. By exploring the heterogeneous form of being, the production of social is exposed as a process that is extra-discursive. That is to say, human actors with their mind-dependent entities of language and nonhuman actants with their mind-independent capacities produce the social jointly not separately.

My purpose here is to nudge anthropocentric tendencies. When Earthship dwellers describe their homes as living beings and when I treat the nonhumans of the Earthship assemblage as allies in the politics of circumvention, one may not be so quick to disregard these ideas as anthropomorphic mysticism, nor subsume everything under the rubric of human meaning. The implication for these shifts will bear out through this project, but first there is a little more groundwork to lay.

3.4.3 **Commonalities: Universal Processes**

The second approach to the agency of nonhumans is the universal processualists. Principally, Gabriel Tarde sought to develop universal principles that applied to all ontologies (see Appendix A). These principles (composites of imitation) are repetition, opposition, and adaptation. In keeping with the transdisciplinary spirit, his movements in between astronomy,

biology, botany, zoology, mythology, psychology, law, religion and other fields showed how "science consists in viewing any fact whatsoever under three aspects, corresponding, respectively, to the repetitions, oppositions, and adaptations', which it contains and which are obscured by a mass of variations, dissymmetries, and disharmonies" (Tarde 1899:4). In a characteristic style of his parallel, rather than continuing the hierarchical approach, he wrote

> 1. All resemblances which are to be observed in the chemical, or physical, or astronomical worlds (the atoms of a single body, the waves of a single ray of light, the concentric strata of attraction of which every heavenly body is a centre), can be caused and explained solely by periodic, and, for the most part, vibratory motions.
> 2. All resemblances of vital origin in the world of life result from hereditary transmission, from either intra- or extra-organic reproduction. It is through the relationship between cells and the relationship between species that all the different kinds of analogies and homologies which comparative anatomy points out between species, and histology, between corporeal elements, are at present explained.
> 3. All resemblances of social origin in society are the direct or indirect fruit of the various forms of imitation, custom-imitation or fashion-imitation, sympathy-imitation or obedience-imitation, precept-imitation or education- imitation; naive imitation, deliberate imitation, etc (Tarde 1903:14).

Social geographers Andrew Barry and Nigel Thrift (2007) concluded "Tarde did not set out to demarcate social from biological, material or psychological phenomena, but rather to draw out the analogies and relations between different domains" (521).

One can see why such a holistic approach would not serve to unify a burgeoning field called sociology. Tarde's program was in conflict with "modernists" as Latour (1991) described them in *We Have Never Been Modern*, who sought a purification of the sciences. The obvious issue raised is one that has been raised since the beginning of sociology—reductionism. Does Tarde's work (or any inquiry that seeks inclusion of nonsocial variables) not lead one to a sort of biological reductionism and ultimately a perpetuation of inequalities? This is treated as a

foregone conclusion instead of an open question. In fact, Tarde himself explained his framework as predicting a reduction of certain social inequalities.

> Every act of imitation… results in the preparation of conditions that will make possible and that will facilitate new acts of imitation of an increasingly free and rational and, at the same time, precise and definite character. These conditions are the gradual suppression of caste, class, and nationality barriers (Tarde 1903:370).

Any claims of universalism and truth can be politically used to support systems of exploitation and exclusion. However, it has been demonstrated in transdisciplinarian works that the "natural sciences" have come to a point where there can be fruitful contact across even the most entrenched discipline barriers. Outside of sociology there is a growth of nondeterministic (or indeterministic) and complex frameworks such as: quantum decision making, complexity theory, nonlinear mathematics, chaos theory, cybernetics, string theory, advance ecology, and others. Even the classical example of biological determinist accounts of Darwin's survival of the fittest has "given way more recently to the notion of 'survival of the sufficiently fit': not only is random mutation not… predictable or reproducible, but neither is the interaction of mutation with its environment" (Holland 2011:18). This sufficiently fit stance argued that if one rewound the clock backwards and let biological life evolve again there would be different results. The deterministic account has broken down even with the "hard sciences". These intellectual developments make it more difficult to justify social inequalities according to some transcendental deterministic claim. There are benefits (possible even an existential demand) to thinking the nonhuman and human alongside each other in a way that has only started to be accomplished in the Western world.

Close to a hundred years after Tarde, sociologist Andrew Pickering (1995) provided an update to this universal processualist approach. Pickering, working in STS, built off of the main premise of ANT. Using physicist Donald Glaser's building of a bubble chamber in order to study

particle physics, Pickering (1995) argued that "we should see the chamber as a locus of nonhuman agency" (37). He believed that humans and nonhumans relate to one another through universal processes of resistance and accommodation, not too different from Tarde's framework. And like Barad, Pickering (1995) found that "acknowledgement of material agency can help us escape from the *spell of representation*" (emphasis added 13). Although he maintained his discussion within the activity of science, he argued that it is not confined to this activity. He wrote "much of everyday life, I would say, had this characteristics of coping with material agency, agency that comes at us from outside the human realm and that cannot be reduced to anything within that realm" (6). Just ask any pet owners who before bed take their dog outside to go the bathroom and the dog resists by not "going". The tired dog owner is coping with material (or animal) agency as expressed in the capacity to affect another entity, not to mention the fatigue of the body itself affecting the dog owner. They are coping with non-discursive material agency.

Pickering's most important contribution to my discussion is in the form of temporality. Both human agency and nonhuman agency are temporally emergent and although both are unfolding on various time scales, they intersect (see Connolly 2011; Morton 2013; Meillassoux 2008 for challenging, yet intriguing examples of nonhuman temporal and spatial scales). Temporally emergent resistance and accommodation (what he termed "the mangle") are performances. For scientists, the answers to how, when, and why are not known beforehand—hence experiments and experimental apparatuses are emergent practices. Pickering argued that humans and nonhumans are in a constant state of tuning, a process he found similar to Knorr-Cetina's (1981) tinkering. Glaser had to tune his apparatus in order to gain the accommodation of the nonhumans. At times, this meant different material configurations; other times it required a

rearrangement of the social organization of the lab. Glaser began his work with only the help of a graduate student. However, after the failure of his experiments (due to nonhuman resistance) his project grew to include nine people. Pickering (1995) argued "The social aspect of Glaser's practice did not evolve in accordance with any pure social dynamics" (61). Rather it was in response to the resistance that the various nonhumans performed.

Despite arguing for these universal processes (resistance and accommodation), Pickering does not reduce humans to the nonhuman. He rightly recognized that "human intentionality… appears to have no counterpart in the material realm" (Pickering 1995:18). But our intentionality is not itself unconnected to material agencies. "Goals in practice has to be understood in terms of contingently formulated accommodations to temporally emergent resistance… Just as the mangle… pulls material agency onto the terrain of human agency, so it materially structures the goals of human agency" (Pickering 1995:58). This is particularly seen in the activities of circumventors, as they must tune their intentions to the agentic capacities of nonhumans if they are to reach their goals of extrication.

Beyond intention, at a more basic level, social anthropologist Veronica Strang (2014) argued that "material properties provide consistent and cognitive stimuli and phenomological experiences and encourage recurrent ideas, values, and practices" (140). Natural regularities (and irregularities) present themselves to humans, which they must then deal with in action and language. The intent filled mind may not be so easily divided from the supposed unthinking nonhuman world.

Pickering is not alone in these discussions. Manuel De Landa proposed that "we live in a world populated by structures—a complex mixture of geological, biological, social, and linguistic construction that are nothing more but accumulations of materials harden by history"

(2014:25). He traced sets of universal processes[13] that construct and change the world. Although a more elaborate argument than those of Pickering and Tarde, De Landa nonetheless figures prominently in his attempts at locating parallel processes in ontologically heterogeneous networks. In an illustrative case, he pointed to the process of organic water-based life undergoing a process of "mineralization". The creation of the vertebra "made new forms of movement control possible among animals, freeing them from many constraints and literally setting them into motion to conquer every available niche in the air, in water, and on land" (26-27). This is similar to (but not the same as) a process humanity underwent. De Landa continued, "About eight thousand years ago, human populations began mineralizing again when they developed an urban *exoskeleton*… This exoskeleton served a similar purpose to its internal counterpart: the control of human flesh in and out of a town's walls" (emphasis in original 27). He went on to explore geological, genetic, biology, and linguistic examples looking for universal processes. Concluding that

> [H]uman culture and society… are no different from the self-organized processes that inhabit the atmosphere and hydrosphere… or, for that matter, no different from lava flows and magmas, which as self-assembled conveyor belts drive plate tectonics and over a millennia have created all the geological features that have influenced human history (2014:55).

De Landa helps one to reconceptualize the agency of humans as just one expression of an infinite number of actor/ants. Scientists are still chasing after a way to understand, what Tarde described in the following poetic way. "[A]ll phenomena are nebulous clouds resolvable into the actions emanating from a multitude of agents who are so many invisible and innumerable little gods" (Tarde 2012:24).

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[13] De Landa proposes the following conceptual framework: attractions, bifurcations, intensifications, and autocatalysis that create self-organized meshworks (heterogeneous elements) and hierarchies (uniformed elements).

Perhaps William Connolly (2011) best summarized the move that De Landa and others covered in this chapter make. Contemporary theories have "shift[ed] from a tri-arcy—nature without agency, humanity with imperfect agency, God with perfect agency—to a heterogeneous world composed of interacting spatio-temporal systems with different degrees of agency" (22). I argue this is a positive move and nonhuman agency is not something to be protected against. It in no way diminishes human agency. As innovative phenomenologist Ian Bogost (2012) wrote, "all things equally exist, yet they do not exist equally" (11). In fact, recognizing nonhuman agency, including animals, may provide the ontological, political, and ethical foundation to dismantle the (self) destructive hubris exhibited by many social entities. I am here reminded of the Polynesians on Easter Island as retold by Jared Diamond (2005). The islanders committed "ecocide" and some have argued a form of self-genocide. Their social constructed meanings lead to the exhaustion of natural resources and even when it was apparent of the impending crisis they continued. As such the nonhuman processes were not completely malleable to human agency. It should be noted Diamond's narrative has undergone serious challenge by archeologists (see Hunt and Lipo 2012a, 2012b).

3.5.1 **Moving a Bit Further Out: The Assemblage**

I have just about completed my zigzagging of human and nonhuman concerns. One last move will provide the analytical language in order to construct my thesis of a politics of circumvention and understand the Earthship, Earthshippers, and historical cases of caging and circumvention. I find it necessary to introduce another framework alongside actor-network, ultimately to supersede it. Scholars of ANT have made great strides in making a place for things, but their case studies are often limited to highly institutionalized settings, especially science and

medicine. This also leads to a rather formal method of inquiry itself despite its ontological breadth, one that may not be suitable for less centralized case studies. Given the fluidity of my case study (as I am not enacting an organization study of Earthship Biotecture, nor any single off-grid dwelling) I find a different academic language, that of the assemblage, assists me in describing the disconnectedness of the off-grid phenomenon. In this, I follow fellow new materialists who, not uncommonly take equal part from Latour as they do from Deleuze.

The assemblage concept is rooted in Deleuze and Guattari's (1987) *A Thousand Plateaus: Capitalism and Schizophrenia*. A complicated (maybe even complex work in the Latourian sense) and highly regarded work. I will touch on a few aspects in order to accumulate the language to move forward. In regard to the assemblage, I will review component concepts such as: lines of flight, territorialization, deterritorialization, and double articulation. All of which are useful when thinking about the social and material dimensions of caging and circumvention as a process of extrication and terraformation.

The assemblage is a similar concept as an actor-network. In fact, when applied to empirical work the "assemblage becomes something more sober like actor-network theory" (Marcus and Sata 2006:102). Where the latter is concerned with "tracing" associations or following actors (whatever type they may be) in order to create a topography of what was previously black boxed, the former is significantly more abstract. Nevertheless, both are designed to problematize the notion of the social, as its own discrete space. This is why new materialists draw on both traditions.

Couze Venn (2006) summarized the assemblage, arguing "It focuses on process and on the dynamic character of the inter-relationships between the heterogeneous elements of the phenomenon. It recognizes both structurizing and indeterminate effects: that is, both flow and

turbulence, produced in the interaction of open systems" (107). This can be broken down as a "tetravalent" phenomenon, composed of two axes with a total of four poles.

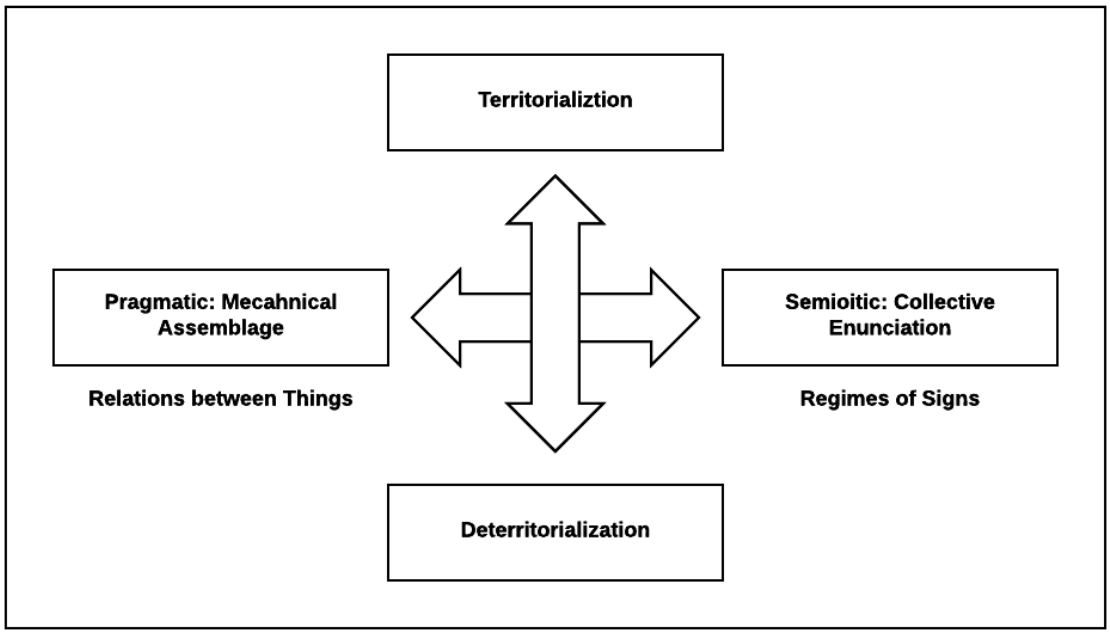

Figure 8. Basic Deleuzian assemblage framework.

The first axis contains the pragmatic (or mechanic pole) and semiotic (or collective enunciation) pole.

> On the one hand it is a *machinic assemblage* of bodies, of actions and passions, an intermingling of bodies reacting to one another; on the other hand it is a *collective assemblage of enunciation,* of acts and statements, of incorporeal transformations attributed to bodies (emphasis in original Deleuze and Guattari 1987:88).

The assemblage is the combination of physical processes as well as social or linguistic. This dual process of things and meanings is described as a double articulation. Elsewhere in the same text Deleuze and Guattari (1987) wrote

> [T]here is not an articulation of content and an articulation of expression—the articulation of content is double in its own right and constitutes a relative expression within content; the articulation of expression is also double and constitutes a relative content within expression (44).

Environmental sociologists make a similar point in their concept of conjoint constitution. To understand matter and meaning one has to look for their co-emergence.

For instance, the social construction of "away" that modernity is based on is aided by the out of sight out of mind design of material infrastructures. As philosopher Timothy Morton (2013) argued in *Hyperobjects*, "when we flush the toilet, we imagine that the U-bend takes the waste away into some ontologically alien realm" (115). Similarly, Stephen Collier (2011) pointed out the difference between Russian utility infrastructure and the US as one of visible pipes. He wrote, "Anyone who has spent time in Russian cities has been struck by the obtrusive presence of pipes" (Collier 2011:202). Russia's socialist ideology was given material form, as a single boiler would supply heat for 30,000 people or more. The connection to one another was made visible by the pipes. Contrast this to the US's individualism, where connections are physically buried and flushed away. The point is the creation of assemblages is dual, whether it is the notion of "away" in an individualistic capitalist society or the notion of the "soviet" in a socialist one. Assemblages are dual processes of mattering and meaning.

The second axis of the assemblage is the process of territorialization and deterritorialization. Territorialization is "a question of *consistency*: the 'holding together' of heterogeneous elements" (emphasis in original Deleuze and Guattari 1987:323). This is similar to ANT's stabilizing of actor-networks, of creating stable and unquestioned relationships—black boxes. However, assemblages are never static, they continue to undergo a redefinition of their unification. As Deleuze and Guattari (1987) put it, "The territorial assemblage is inseparable from lines or coefficients of deterritorialization, passages, and relays toward other assemblages" (333).

Deterritorialization is a process of lines of flight. More concretely, Deleuze and Guattari explained this process in the evolution of biological life, similar to De Landa's example. "When the seas dried, the primitive Fish left its associated milieu to explore land, forced to 'stand on its own legs,' now carrying water only on the inside, in the amniotic membranes protecting the embryo" (1987:55). The fish circumvented the fish-water territorial assemblage by following a line of flight. They continued

> In one way or the other, the animal is more a fleer than a fighter, but its flights are also conquests, creations. Territorialities, then, are shot through with lines of flight testifying to the presence within them of movements of deterritorialization and reterritorialization (Deleuze and Guattari 1987:55).

Here one can see the dual process of circumvention, in their language extrication is the process of deterritorialization and terraformation is the process of reterritorialization. In this language, the politics of circumvention is a voluntary deterritorialization of the self from various assemblages of power and the territorialization of new assemblages.

3.6.1 **Conclusion**

I have visited a baboon troop in Kenya, quantum experiments, the burgeoning field of 1970's environmental sociologists, contemporary STS, and a 19th century would-be transdisciplinarian. The journey may have seemed assemblage-like, but as I move forward, the lines of flight will reveal a new territorialization. I have attempted to chart a deep problematic, an underline presumption, not just in sociology, but in many modern modes of inquiry. None of the arguments I borrowed from were completely presented. I have not exhausted all the possible avenues for rethinking the human and nonhuman. However, as I move forward, first with my detailed argument, then historical cases, and finally with the empirical case study the arguments and facts present in this chapter will be drawn upon.

The title of this chapter, Object-Friendly Sociology, is meant to push sociology away from a social reductionism attributed to the likes of Durkheim, yet not towards any determinism or reductionism of a non-social variety. What is important for this move is an attitude that comes with the recognition of realities that are beyond our meaning making processes or are not completely contained within a type of autopoiesis social realm. Rather, there exists a nonsocial excess emanating from all sorts of objects. As Connolly (2011) wrote, there is no longer the tri-archy of agencies, but a flatter field of action that must be accounted for.

An Object-Friendly Sociology is an approach that carefully proceeds with questions of the social world, but in a sober way acknowledges and is attentive to non-social entanglements. From this chapter one comes away with five ways this attitude is established: (1) nonhumans make durable social worlds possible; (2) humans are entangled with nonhumans as they perform their representations like a dance; (3) nonhumans possess an agency that is temporally emergent, as is humans; (4) humans and nonhumans can navigate one another in similar ways; and (5) although there are differences in agencies, there is no separation.

To be sure, this is a difficult project. To conclude I turn back to Katherine Keller (2015). In her unique and much complimented literary style, she wrote "To make a complex conscious is not to relieve complexity of its opacities. The entanglement of the human in the crowding nonhumanity of the species and elements of the earth will endlessly overwhelm speech—with wonder or horror" (269).[14] An object-friendly sociologist learns to sit amidst both.

[14] I am reminded of late science fiction writer Ursula le Guin who said "Imagination, working at full strength, can shake us out of our fatal, adoring self-absorption… and make us look up and see—with terror or with relief—that the world does not in fact belong to us at all" (Phillips 2016).

4. NETWORKS AND ASSEMBLAGES AS CAGES AND THEIR CIRCUMVENTION

"Nowadays people often feel that their private lives are a series of traps".
C. Wright Mills 1959

*"Partout où la liberté recule d'un pouce, elle accroît au centuple le poids de l'ordre des **choses**".*

*["When freedom retreats an inch, there is a hundredfold increase in the weight of the order of **things**".]*
Raoul Vaneigem 1967:13

4.1.1 **Introduction**

Critical Realist Roy Bhaskar is known for beginning inquires with the following question, 'What must exist for the phenomenon to occur in the first place?' Off-grid people's extrication and subsequent terraformation is predicated on being entangled in the first place. This entanglement can be thought of as a cage or for my case study a grid. It is only through being caged that escape presents itself. But where did these cages come from? What are they made of? Who built them? And why did so many people allow them to be built? These are the sorts of questions I will be considering in this chapter. Specifically, I will look at how political theorists, as well as the public have thought of circumvention-based movements. This exposes a misunderstanding and prejudice against the action of circumvention. With this addressed, I

follow Michael Mann and others in their argument for how horticulture, kinships, and artificial irrigated agricultural societies (and in a later chapter the electricity grid) functioned as some of the first socio-material cages or "grids". Through the nonhuman agency of plants, animals, and the environment, social relations shape themselves in dialogue with the nonhuman world. This view of entanglement contrasts with the view that social relations are completely malleable and are only formed by social forces in an *ex nihilo* manner. Perhaps surprisingly Berger and Luckmann (1967) of all people stated as much in their conclusion of *The Social Construction of Reality*.[15]

> It is important to stress now that the organism continues to affect each phase of man's reality-constructing activity and that the organism, in turn, is itself affected by this activity. Put crudely, man's animality is transformed in socialization, but is not abolished (180).

They continued

> Man is biologically predestined to construct and to inhabit a world with others. This world becomes for him the dominant and definitive reality. Its limits are set by nature, but once constructed, this world acts back upon nature. In the dialectic between nature and the socially constructed world the human organism itself is transformed. In this dialectic man produces reality and thereby produces himself (183).

Socio-material relations can amount to hindering and enabling a humans' scope and direction of action. In regard to the former (hindering aspects of cages) they are never totally secured. This allows for the latter, enabling of circumvention. Once partial or completely outside of dominant assemblages, circumventors engage in creating subsistence by directly constructing nonhuman assemblages. They often construct mutual aid social arrangements in contradistinction to the hierarchical social arrangements of the circumvented society. More recently there has been a

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[15] Additionally, Berger and Luckmann's (1967) conception of sociology required that "sociology must be carried on in a continuous conversation with both history and philosophy or lose its proper object of inquiry" (211). This present work attempted to carry on this tradition.

move away from the more complete spatial circumvention that was seen in previous periods. Rather interstitial and variegated structural withdrawal from assemblages continues in many forms, as exemplified in the Earthship case. This will be made clear upon the conclusion of this chapter as I draw from political theorists of escape, exodus, and exit.

At the core, this chapter explores how for the last 5% of *Homo sapien sapiens'* existence they have lived in cages made possible by enrolling nonhumans into assemblages. Yet despite this there has always been those who seek to circumvent these durable obstacles.

4.2.1 **Challenging Prejudices of Circumvention: Sociologists and the Public**

Perhaps the only well-known sociological attempt made to theorize humans attempting a form of circumvention comes in the form of Robert K. Merton's escapism. Merton argued that "Every social group invariably couples its scale of desired ends with moral or institutional regulation of permissible and required procedures for achieving these goals" (Merton 1938:673). As such, goals and means can become divorced. This lead Merton to postulate five logical patterns: conformity, innovation, ritualism, retreatism, and rebellion. Regarding retreatism, he stated that "Adaptation IV (rejection of goals and means) is the least common" (Merton 1938:677). Perhaps, but as I will show it is much more common, perhaps even foundational to civilization than Merton would have one believe.

Merton (1938) continued "Defeatism, quietism and resignation are manifested in escape mechanisms which ultimately lead the individual to 'escape' from the requirements of society" (678). I find that escape is never complete and more importantly escaping requirements of society does not allow one to escape the requirements of the physical body nor the social requirements of the mind. It is here, when one has built a partial life outside of the dominant

assemblages that the second act of the story (terraforming subsistence) becomes paramount but is absent from Merton and others' accounts. Once one escapes, what becomes of them? What sort of innovations do they create? Just what do they think and do all day? How does circumvented society react to escape? The sociologist's job is not over, they must follow them to these edges and when they do at least one thing becomes accentuated to the researcher—things are revealed as consequential actors in their own right. Subsistence is a human and nonhuman entanglement that there is no escape from. How this is constructed in these exilic spaces requires analysis just as much as the reasons given for the original movement towards an outside or off.

Before beginning the historical argument for a circumvention-based politics, I would like to address a few normative aspects of Merton's terminology, something that can be readily seen in the wider public today. Merton's usage of the words defeatism, quietism, resignation, escape, and retreatism presume two things. First, that those individuals within a society somehow have signed the fabled "social contract" of Jean-Jacques Rousseau (1968). Supposedly, this contract instinctively imbues a deontological (duty) ethic to every individual. This has been roundly critiqued, particularly by interdisciplinary social theorist Eugene Holland (2011), who claimed that modernity uses "myths of the social contract and the labor contract… to conceal and whitewash the role that violence has played and continues to play in the constitution of modern forms of sociality" (xx). Second, Merton's terms ring of a militaristic and masculine tone. Retreat is entwined with cowardice, of not living up to the deontological requirements that modern humans have supposedly non-coercively agreed to uphold. Quietism, resignation, and escape, these are not heroic or strong descriptors of an individual. Merton (1938) went further in his dismissal by comparing retreatists to the "activities of psychotics, psychoneurotics, chronic

autists, pariahs, outcasts, vagrants, vagabonds, tramps, chronic drunkards, and drug addicts" (677). Are these truly the best or accurate descriptions available?

Today these prejudices continue, whether from the dismissive stance that the "rebellious" left takes or the equally dismissive stance of the conformists. For instance, Hirschman (1970) wrote "rather than being characterized as 'merely ineffective or 'cumbrous,' exit has often been branded as criminal, for it has been labeled desertion, defection, and treason" (Hirschman quoted in Grubačić and O'Hearn 2016:26). Other examples are "Employees who threaten to leave the firm are called 'disloyal,' people who refuse the world of paid work are 'bums' and 'hoboes'; nomads 'gypsies'; citizens who threaten or make exit are 'traitors' or even suspected 'terrorists'" (Grubačić and O'Hearn 2016:26).

Sociologist Sara Lawrence-Lightfoot (2012) wrote a book exploring the large and small exits people make in life, from "exiting the closet" and leaving a marriage to quitting a job or leaving the Church. Contrasting exit with entries, she argued that "our culture seems to applaud the sprit, gumption, and promises of beginnings. We admire the entry, the moment when people launch themselves into something new... These are likely to be moments of hope, optimism, and expectations" (6). Whereas exits are "tinged with sadness, poignancy, a sense of defeat" (5). They are "often ignored or invisible. They seem to represent the negative spaces of our life narratives" (6). In continuance with reversing the normative ideas around exit, author Debra Leigh Scott is editing a collection of essays exhibiting the power of leaving employment in higher education.

> *Exit the Edu-Factory: Essays on Refusal, Rebellion & Rebirth* is a collection of essays discussing the ways in which scholars and students are finding their power and their voice through exodus, and through refusal to submit to the exploitation and ruin caused by the corporatized university (Scott 2016).

From leaving relationship or an industry to leaving the grid, the deontological ethic creates barriers that keep people caged. Due to these normative positions I choose to use the term circumvention over escape, exodus, retreat and others. The word circumvention has no morality attached to it. It conjures up no blame, ill will, or jealousy. It is a simple, perhaps more technical term. This work requires that some of these immediately invoked attitudes are identified and put aside. In continuing this process, I now turn to how circumvention relates to the political strategies of liberal social contract theory and Marxism.

4.3.1 **Circumvention in Relation to Other Political Forms**

I begin by positioning circumvention by way of other dominant political forms of action, what philosopher de Zeeuw (2013) referred to as "paradigmatic models of emancipation, operative in political and social philosophy today" (9). Erik Olin Wright (2015) exemplified these paradigms with his two-by-two table of anti-capitalism strategies. The two dimensions are the goals of the strategy (neutralize harms and transcend structures) and the target of the strategy (macro-political and micro-political). This gave Wright four possibilities: taming capitalism, smashing capitalism, escaping capitalism, and eroding capitalism.

FOUR STRATEGIC LOGICS OF ANTI-CAPITALISM

		Goal of strategies	
		Neutralizing harms	Transcending structures
Primary target of strategy	Macro-political	*Taming capitalism*	*Smashing capitalism*
	Micro-social	*Escaping capitalism*	*Eroding capitalism*

TABLE II WRIGHT'S FOUR STRATEGIC LOGICS OF ANTI-CAPITALISM (Wright 2015).

The first is seen in the social democratic regulation of capitalism, such as Keynesian policies. The second are the many the Marxist-Leninist inspired political revolutions of the 19th and 20th centuries. Only recently theorized, the fourth is the numerous localist attempts at participating in non-market alternatives until market ones become less necessary or unattractive, such as a neighborhood sharing a tool shed. The third, in partial disagreement with Merton, Wright argued had been "one of the oldest responses to the onslaught of capitalism" (2015). The escapist strategy finds that the other alternatives are unrealistic and "the best we can do is to try to insulate ourselves from the damaging effects of capitalism" (Wright 2015). Wright quickly and briefly cited the western frontier settlers, the hippie motto "turn on, tune in, drop out", intentional communities, and the Amish as examples. Far from developing this beyond their mere mention, he concluded that "escaping capitalism may not have been crystallized into systematic anti-capitalist ideology, but nevertheless it has a coherent logic" (2015).

Theorist of maroonage, Neil Roberts (2015) observed a similar situation in the understanding of escape or flight. For him "Contemporary political theory lacks a sufficient vocabulary to describe the activity of flight" (Roberts 2015:8). In an attempt to overcome this, I make use of the transdisciplinary approach. Furthermore, by exploring a host of historical examples of circumvention and then empirically examining the Earthship Movement, I address this deprivation more directly and elucidate a coherent logic of circumvention-based politics. In doing so, I provide a rethinking of politics alongside of ontology (see previous chapter).

4.4.1 **Circumvention Understudied**

Why has escape, exit, retreat, or circumvention been under-theorized? First, the state-centered and teleological political theorization coming out of European Enlightenment in the

middle eighteenth century made circumvention a devolution and so to them a ridiculous proposition. One can consider Thomas Hobbes' discussion of anarchy as best approximate what Enlightenment political theory would have one believe about circumvention. For Hobbes, anyone seeking to exit from the domain of the sovereign would be returning to a state of nature. "That the condition of meer Nature, that is to say, of absolute Liberty as it theirs, that neither are Sovereigns, nor Subjects, is Anarchy and the condition of Warre" (Hobbes 2010:213). Adam Smith followed Hobbes into the fancifully scary image of prehistoric man as a beastly warrior. For Smith Native American nations

> are so miserably poor, that, from mere want, they are frequently reduced, or at least, think themselves reduced, to the necessity sometimes of directly destroying, and sometimes of abandoning their infants, their old people, and those afflicted with lingering diseases, to perish with hunger, or to be devoured by wild beasts (Smith 2003:2).

This is to be contrasted to his industrializing world.

> Among civilised and thriving nations, on the contrary… the produce of the whole labour of the society is so great, that all are often abundantly supplied, and a workman, even of the lowest and poorest order, if he is frugal and industrious, may enjoy a greater share of the necessaries and conveniences of life than it is possible for any savage to acquire (Smith 2003:2).

The idea of leaving the confines of such a superior stage of human development would be so absurd that it would not warrant study or impartial considerations.

This is exemplified by the perplexed statements of observers of "White Indians". White Indians were Europeans colonists who were taken captive by Native Americans and did not leave when given the option or sought to live amongst them in the late 1700's. The common belief was that "no civilized person in possession of his faculties or free from undue restraint would choose to become an Indian" (Axtell 1975:56). However, facts contradicted this as there were abundant cases of both French and British captives choosing to stay in Indian society. "The English had as much difficulty to persuade the People, that had been taken Prisoners by the *French* Indians, to

leave the Indian Manner of living (emphasis in original Axtell 1975:57). Historian James Axtell (1975) cited an author of the time as noting "No Arguments, no Intreaties, nor Tears of their Friends and Relations could persuade many of them to leave their new Indian Friends" (57). Benjamin Franklin also commented on this fact but stated that the reverse was untrue. "When an Indian Child has been brought up among us, taught our language and habituated to our Customs, yet if he goes to see his relations and makes one Indian Ramble with them, there is no perswading him to ever return" (Benjamin Franklin quoted in Axtell 1975:57). Even when faced with empirical evidence of the existence and validity of a sort of circumvention, the modernist ideology of progress prevented scholars and the public from recognizing it.

Second, there was a dismissal of early utopian thought and projects by highly influential revolutionary tradition. Although Marx and Engels did not write about circumventors *per se*, they did write about utopian socialists. In the *Manifesto of the Communist Party*, Marx and Engels (1958) discussed Saint-Simon, Fourier, and Owen, in which they showed some sympathy. For instance, they wrote that utopian socialists "inculcated universal asceticism and social leveling in its crudest form" (1958:61). As I show in the next chapter simplicity lifestyle and egalitarian social forms are common among the historical cases of circumvention. However, here Hobbes' influence on Marx is present as "crude" is to stand in for primitive—a devolution. Marx and Engels (1958) remarked that these utopian movements "contain also a critical element. They attack every principle of existing society. Hence they are full of the most valuable material for the enlightenment of the working class" (63). They continued

> The practical measures proposed in them—such as the abolition of the distinction between town and country, of the family, of the carrying on of industries for the account of private individuals, and of the wage system, the proclamation of social harmony, the conversion of the functions of the state into mere superintendence of production, all these proposals point solely to the disappearance of class antagonisms… (Marx and Engels 1958:63).

Despite their general non-antagonistic position, they see utopian projects as childish, as they "spring into existence in the early underdeveloped period… of the struggle between proletariat and bourgeoisies" (Marx and Engels 1958:61-62). And although the leaders of these movements, they believe are revolutionary, the followers become reactionary. They "deaden the class struggle" (Marx and Engels 1958:63). From the Marxian position, they do not further the dialectic of historical materialism. Thus, despite being well meaning and containing similar goals utopian socialists prolong class struggle instead of sharpening it.[16]

One can see why off-grid is often associated with primitiveness and even a ridiculous, or most certainly not a serious project. Several Earthshippers mentioned how when they told others about their plans their friends and family envisioned them living in a primitive state. Michael, an EB employee told me "So for the first three months I was here, people were thinking I was living in a mud hut" (Personal interview 8/11/2014). Debra, an owner-builder of an Earthship in the Great World with her partner Sarah, had a similar initial reaction.

> Debra: A friend and colleague was looking into them and she brought one of his owner-builder books to school and threw it on the table and I just took a look at the cover. I looked at all those tires, that blue book with just tires on the front and it's all dug out and I thought eww. I didn't even open it.
> Sarah: Who would live like that?
> Debra: Who would live in a stack of tires? This is ridiculous (Personal interview 7/20/2015).

Fast forward a dozen of years and they seemed to be living happily ever after in their Earthship.

Having established the general prejudice and dismissal found in the likes of Marx, Engels, Hobbes, Smith, and Merton and in popular culture as Hirschman, Grubačić, O'Hearn, Lawrence-Lightfoot, and Wright have described, one begins to understand the paradigmatic

[16] I challenge this zero-sum approach, arguing with others for a more pluralistic approach to politics that include negotiation with elites, antagonistic movements, and circumvention.

challenges both generated and faced by circumvention-based political modes. In this chapter, I challenge these attitudes with empirical work from a variety of sources. Notably I will follow Michael Mann's description of society as social cages built through networks. Through a transdisciplinary expositional method, I consider work from anthropologists, archeologists, political scientists, and sociologists that argue these cages have always had to contend with a politics of circumvention. I develop this mostly in regards to prehistorical and early state societies, but in the next chapter I will look at examples that are more recent. Part Three will apply these insights to today's off-grid population.

4.5.1 **Introduction to Networks and the IEMP Model**

Within political sociology and social movements literatures, the network is invoked to understand the mobilization of people. If the mass theory of previous generations was motivated by functionalist biases and protest was not an expression of individual alienation, then what explained it? The answer was to be developed in resource mobilization theory, which used the network as both an abstraction and as an empirical tool (see: Freeman 1975; Fernandez and McAdam 1988; Gould 1991, 1993; Jackson et al. 1960; McAdam 1999; McCarthy and Zald 1977; Munson 2008; Oberschall 1973; Pinard 1971; Zald and Berger 1978). In a popular work by McCarthy and Zald (1977), they asserted "resource mobilization task is primarily that of converting adherents into constituents and maintaining constituent involvement. However, at another level the task may be seen as turning nonadherents into adherents" (1221). This basic process, however, was not purely predicated on ideational factors. Scholars argued that even if conditions for a social movement existed, say relative deprivation (see Stouffer 1949; Gurr 1970), it would not form without some pre-existing network (see Freeman 1975; McAdams

1999). McCarthy (1986) argued that sentiments must line up with social infrastructures or networks in order to be mobilized into a social movement organization. More recently, Manuel Castells (1999) developed the theory of *Network Society* in three volumes, where he provided an updated version of mobilization theory by focusing on the flows of information and global communication broadly conceived.

These approaches have several general weaknesses. They are often limited to modernity, focus on rebellion, and exclude nonhumans (or mistakenly claim capital as material rather than capital as a form of 'value in motion'—something very social). For this work I continue the network heuristic although push it further with the assemblage. I also explore historical and contemporary cases, focus on the formation of domination, its circumvention, and include nonhumans and their agentic capacities. To establish this process I begin with Michael Mann's framework of power—Ideology, Economy, Military, and Politics (IEMP).

Latour (2007) wrote that "Society is not the whole 'in which' everything is embedded, but what travels 'through' everything, calibrating connections and offering every entity it reaches some possibility of commensurability" (241-242). This is the basic principle (although not as conscious of the role of nonhumans) that has propelled Michael Mann through his four volumes of *The Sources of Social Power*. For Mann (1986) "*Societies are constituted of multiple overlapping and intersecting sociospatial networks of power*" (emphasis in original 1). This is contrasted to the bounded view of social entities. He went on to say that societies are not unitary social systems with definite boundaries. Mann considered Marxist, functionalists, and others as making the mistake of formulating society as bounded, which leads them to make a second mistake—teleology. For instance, the today the nation-state gives an illusion of a bounded society, but these are relatively recent in human history and they are not bounded when the level

of international trade, human migrations, global media, and the various global climate systems are considered. Important to my argument later, Mann (1986) recognized that "Despite the increasing 'caging' of people within modern nation-states… these have never been powerful enough to constitute whole 'societies' (343).[17]

Mann replaced the totality of social systems with four primary networks that have emerged as humans pursue their goals. The model he developed is the IEMP model, comprised of ideological, economic, military, and political networks. The characteristics of these networks vary along several axis: extensive/intensive, authoritative/diffused, collective/distributive, and infrastructural/despotic. Each reorganizes social life and as I will show create ever more delineated social worlds that affords greater concentration of power in the process. I believe that Mann overly attributes human will as the key to their development. As he wrote "Each [network] attains its prominence by virtue of the distinct organizational means it offers to achieve human goals" (Mann 1986:518). However, as I have labored to argue in the previous chapter, human goals are not the only agency in motion. More on this after a basic description of Mann's framework.

Briefly, I will introduce the IEMP model before providing for the inclusion of nonhumans. Ideological networks create norms, trust, and meanings that allow small and large groups of people to coordinate or act in concert. This begins in the form of kinships, which act as a loose cage, but quickly grows and changes form into religions and ultimately nationalism. For ideological power to diffuse beyond face-to-face exchanges and through a wider socio-spatial

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[17] Totality, which might not be actual, is made real through discourse and constitutes another cage. Ernesto Laclau (2007) argued a similar point in *Emancipation(s)*, where subjective identities are formed in relation to a constructed totality. Both the discursively formed totality and the corresponding identities can act as cages. Chapter Seven takes up these questions of identity. I believe others like Eugene Holland, Deleuze, and Latour would agree on this point.

area, a universal infrastructure (similar to what actor-network theorists refer to as immutable mobiles) is required; such as literacy, coinage, and markets.[18]

Second, "*Economic power* derives from the satisfaction of subsistence needs through the social organization of the extraction, transformation, distribution, and consumption of the objects of nature" (emphasis in original Mann 1986:24). I will deal more extensively with this specific network, as subsistence is a major project of circumvention politics. This also allows for the agency of nonhumans to be most clearly demonstrated, as their processes and temporalities curtail, encourage, or otherwise influence human intentions in direct and indirect ways. This point was made in the previous chapter through Latour and Pickering's work.

Third, the military network is a form of "concentrated-coercion". It is "the necessity of organized physical defense and its usefulness for aggression" (Mann 1986:25). This cage is composed of fear of bodily harm or loss of liberty. And lastly, political networks are "centralized, institutionalized, territorialized regulation of many aspects of social relations" (Mann 1986:26). Political networks are essentially states and states have two distinct forms of power. Despotic power "is the range of action which the elite is empowered to undertake without routine, institutionalized negotiations with civil society" (Mann 2003:111). The second form is infrastructural power, which "is the capacity of the state actually to penetrate civil society" (2003:113). Take note of infrastructural power as it most closely captures the fundament process of socio-material caging.

Taken together Mann's IEMP is best summarize in the following way. "*Societies are actually federations of organizations*" (emphasis in original Mann 1986:52). This model is both multi-causal and antecedent, what critical realist would call conjunctural. Social change cannot

[18] Think here Benedict Anderson's (1982) *Imagined Communities*.

be attributed to one network of social power alone and change flows from previous developments. This is because networks are promiscuous with one another, dialectical, and emergent. One can begin to see the affinity with assemblage theorists like Deleuze and De Landa. Mann's semi-fluid networks are also similar to what Crumley (1995) would call a heterarchy-hierarchy, defined as a dynamic between elements that cannot be ranked, have a plurality of ranking, and have been stabilized into a generally agreed ranking scheme. And as Pickering emphasized, this whole dynamic is temporally emergent.

For instance, the more the political network is institutionalized (literacy), the more its innovation begins to spread interstitially along periphery trade routes, thus weakening the monopoly the political network held and leaking into economic and ideological networks. As Mann (1986) stated "The state's problem is that none of its techniques can be confined within its own body politic - they diffuse into society" (165). Another example is that the growth of military networks can strengthen political networks (the state), but always runs the risk of empowering themselves (military elite) or economic elites against the state, as it the case of a political coups. Or due to changes in economic networks (building of trenches and irrigation systems) in river valleys, political networks develop to coordinate labor and distribute surplus, in part, due to the delayed return of individuals' activities (I will explore this process in detail shortly). In each case, the structure of social life is reorganized and the once dominant assemblage is merged, superseded, or dissolved.

Mann provided an amazingly detailed account of the role nonhumans have played in human civilization from the very beginning, most notably alluvial soil. He felt uneasy about attributing too much causal explanation to these "ecological factors," however nonhumans are at every turn of his arguments, from iron tools and rain-watered soil to the machines of the

industrial revolution. He treated nature as a passive almost quasi-actor. However, for him "power is the ability to pursue and attain goals through mastery of one's environment" (1986:6). A very anthropocentric definition of power. Where is the environment's power? By the end of his fourth volume (published 26 years after Volume One), with the growing of climate science, a global environmental movement, and more erratic and hotter weather Mann began to attribute more agency to the nonhuman world. He wrote "Perhaps the most appropriate metaphor is a lethal boomerang, our own inventions coming back to kill us" (Mann 2013:361). And "Our collective mastery over Nature was supposedly total but instead proved self-destructive" (Mann 2013:395). Humanity is still read as the progenitor of all action, hence the anthropocentricism. This point aside, one does not have to wait for a cataclysm to recognize that nonhumans are actors in the human story. One of my interventions is to punctuate Mann's story of social (re)organization with the importance of nonhumans as actants in these processes. To be sure, they are a very different type of actor, but as the previous chapter shows they are indispensable, not just for biological life, but for social life. For these reasons I replace Mann's usage of network with assemblage, to better recognize the ontological variety of elements.

This ontological project is forcefully made because of the empirical data on circumvention from both my case study and the historical cases outlined in Chapter Five. Once circumventors manage to get outside the cages of some of the IEMP assemblages, what do people do? They are not plotting against the state elite or battling in the streets. They are not requesting parley. They are rarely actively mobilizing the masses. Rather, they are spending the days finding food (foraging), growing food (gardens, swidden horticulture, husbandry), building physical structures (cabins, Earthships, tiny homes), devising ways to deal with waste (leach fields, "outlaw septic" tanks), and for some defending and evading further. To circumvent is

more about constructing or terraforming a process of world making through middle sized objects.[19] This is a process of assembling assemblages to allow circumvention to continue.

This is axiomatically different than traditional social movements' symbolic and state-directed activities. Comparatively, some environmental activists fed up with green washing are looking toward non-symbolic actions to counter climate change (see Farnish 2013:246). This performative dimension of politics fits well with the claims of Barad, Wendt, and environmental sociologists in general that was presented in Chapter Three.

This is not to say that social organization or ideational factors disappear in the circumvention process. Not at all! I will show how novel forms of relating to one another is emergent with the process of physically relating to nonhumans, a Deleuzian double articulation. And in the mix of all this people are talking, talking about the society they circumvented, talking about each other, talking about the nonhumans they engage with daily, and talking about existential issues. But one should resist the anthropocentric tendency, by understanding, what the famous science fiction writer Isaac Asimov (1982) concluded. There is a "Galactic mish-mash of life and non-life" (347).

4.6.1 **Social Caging: Preliminary Thoughts**

The process of civilization is also the process of caging, giving the impetus for circumvention. Fixity brought on by delayed returns on labour; specialization stemming from density, surplus, and efficiency; unequal agricultural yields due to ecological differentials; defense of built infrastructures; social construction of a "people" from prolonged cooperation;

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[19] See Graham Harman (2011) discussion of "overmine" and "undermine" processes in the social sciences and humanities.

and centralized political organizations created the basic cage that humans have lived in for five millennia. I briefly review this process to help establish its negation—circumvention.

The story of civilization, which I will comment on further, is one of linearity, of savage leading to civilian. This process is generally thought of as a common, almost natural process. It is referred to as unilineal evolution, with notable proponents such as Comte, Herbert Spencer, Lewis Morgan, and Durkheim. However, famed prehistorian Stuart Piggott disagreed. "All my study of the past persuades me that the emergence of what we call civilization is a most abnormal and unpredictable event" (Piggott cited in Mann 1986:38). Whenever hierarchical authority began to form there were "devolutions" back to a form of primitive communism. This process is most likely the reason why humans lived in classless societies for 95% of their genetic existence (see Harman 2008:4). Mann, French anthropologist Pierre Clastres, and many others argued that "human beings devoted a considerable part of their cultural and organizational capacities to ensure that further evolution did not occur" (Mann 1986:39). Anthropologists of the !Kung and Bushman have noted the various strategies to limit boastful and prideful behavior that could lead to stable coercive authority relations. It is theorized that prehistoric people did the same to prevent power from accruing within one person or group (See Diamond 1974; Lee 1979). Furthermore, in the absence of the enrollment of nonhuman assemblages, caging through purely social mechanisms would prove an elusive practice.

Why such reluctance? The benefits of civilization seem unquestionable to the 21st century observer. Civilized people have running water, iphones, national identity, dubstep music, skyscrapers, Big Macs, and central air. However, civilization's comfort, standard of living, and purpose may be less about satisfying some internal desire than it is creating the need in the first place. Freud (1994) surmised as much in *Civilization and Its Discontents*.

> Mankind is proud of its exploits and has a right to be. But men are beginning to perceive that all this newly-won power over space and time, this conquest of the forces of nature, this fulfillment of age-old longing, has not increased the amount of pleasure they can obtain in life, has not made them feel any happier (20).

This is seen easily in consumer culture and marketing due to the rapidity of fashion and production strategies of planned and perceived obsolesces (see Leonard 2011). However, something like electricity and its contemporary ubiquity seem elevated beyond a simple commodity fad. Despite this, electricity itself is not a biological or psychological need, but rather a socially constructed and commodified one. And one that took an aggressive marketing campaign, especially to rural households to accept (I will explore the growth of the electricity grid, consumer culture, and off-gridders rejection of them in Part Three).

Comfort is not just about stuff. It is also about ones' physical wellbeing, such as warmth and cold. Less known is that even comfortable temperature is socially constructed… up to a point! A human's physical comfort, referred to as "thermoception" (see Vannini and Taggart 2014), is a mixture of cultural influences and some "natural" sensuous or biological factors. This is known from cases of feral children, children raised with little human contact. Several of these feral children have been observed to have a large threshold for lower temperatures. Genie, a famous child discovered in the 1970's was seen drawing her own bath at ice-cold temperatures but appeared to have little response to the low temperature. Also, a boy found in France in the late 18th century, Victor of Aveyron would play in the snow naked, unaffected by the temperatures (See Garmon 1994). Furthermore, Native Americans' would wake their captives early in the morning and make them stand in freezing ponds to "harden them", as the Europeans were generally thought of as weak (Axtell 1975).

Life in civilization, from consumer goods and electricity to how our bodies experience temperature should not be thought of as normatively more in line with some inherent comfort,

but producing needs and ultimately caging groups into relations to procure them. Anthropologist Marshall Sahlins (2017) observed that "The amount of hunger increases relatively and absolutely with the evolution of culture" (36) and more recently psychologist Berry Schwartz's (2004) study of consumer choices has led him to conclude that "modern Americans are feeling less and less satisfied even as their freedom of choice expands" (4). Perhaps economic progress is paradoxically regressive. This is what historian Ronald Wright (2004) argued in *A Short History of Progress*. He used the metaphor of a trap to describe civilization. For him hunting was the first progress trap. "[O]ur escape from that trap by the invention of farming led to our greatest experiment: worldwide civilization. We then have to ask ourselves this urgent question: Could civilization itself be another and much greater trap?" (Wright 2004:31-32).

On the flip side, the discomfort of pre-civilization may not have been as great as advertised. The life of a "savage" may actually have been one of "equality (with respect to social, economic, and political rights), leisure, considerable freedom from sociocultural constraints, and relative insulation from the ravages of external war and internal conflict" (Maryanski and Turner 1992). This is far from Hobbes' (2010) uncritically accepted view of "continual fear and danger of violent death, and the life of man, solitary, poor, nasty, brutish, and short" (84). Rather, hunter-gather societies have been described as the "original affluent society" (Sahlins 2017). Once again, this is similar to observations of Native Americans during colonialism where abundance was secured with relatively little labor.

Mann (1986) acknowledged that "Gatherer-hunters satisfy their economic wants and calorific requirements by working intermittently, on average three to five hours daily" (42).[20]

[20] Here it is important to recognize that work and play were often the same thing. This led cultural theorist Huizinga (2016 [1938]) to term humans as *Homo Ludens*.

Contrast this with the average American working 7.8 hours a day in 2014 (Bureau of Labor Statistics 2015). Additionally, studies have noted how "primitive" people live to old age, rarely get cancer, and are generally healthy (Clark and Hindley 1975:55-57).[21] In fact, skeletal remains from the Paleolithic period show the tallest skeletons and largest pelvic inlet depth of humans ever, including modern humans. Both measures are assumed to be related to health (see Angel 1984). Sociologist Eugene Halton (2014) concluded the same. "Our foraging ancestors did indeed live in a nutritional paradise on average, eating far better and working far less than their civilizational counterparts, at least until pushed to peripheries by expanding agriculturalists" (Halton 2014:38).

Despite the leisure, freedom, and health experienced, authority was not absent in nomadic and semi-nomadic groups. People "would freely give collective, representative authority, to chiefs, elders, and bigmen for purposes ranging from judicial regulation to warfare to feast organization. Chiefs could thence derive considerable rank prestige. But they could not convert that into permanent, coercive power" (Mann 1986:63). This was not too different from the "pirate democracy" that sociologist Peter Leeson (2007) studied; where temporary authoritarian power was conceded in specific cases (attacking other vessels), but was easily stripped. It is on this question of durability that defines the state from other authority relations. Deleuze and Guattari understood this difference (1987). "But the State is not defined by the existence of chiefs; it is defined by the perpetuation or conservation of organs of power" (Deleuze and Guattari 19867:11). These early unequal social relations lacked the durability, fixity, and division of labor that would emerge when enrolling nonhumans and coping with their agencies.

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[21] Infant mortality, however, was found to be high, although modern infant mortality is on the rise in many places and among certain populations.

First, and paramount to my overall argument, prehistoric people "rarely given away powers to elites that they could not recover; and when they have, they have had opportunity, or been pressured, *to move away physically from that sphere of power*" (emphasis added Mann 1986:67). Spatial as well as structural withdraw (see Grubačić and O'Hearn below for distinction) was and is a foundational human response to authority.

The lack of stable authority relationships also stems from the lack of cohesion among the pseudo-elites. Opposing authorities did not develop the class consciousness that would later occur (this was a problem, what Bourdieu [1991] labeled linguistic unification of the elites, which has existed as recent as the French Revolution). As such "the masses" could dispose leaders. Or "If they have acquired resources such that they cannot be deposed, the people turn their backs on them, find other authorities, or decentralize into smaller familial settlements" (Mann 1986:68).[22] Ronald Wright concluded the same. "In hunter-gatherer societies… if a leader became overbearing, or a minority disliked a majority, people could leave. In an uncrowded world without fixed borders or belongings, it was easy to vote with one's feet" (Wright 2004:48). The operative concern here being the nonhuman agency of things (belongings) and social ontologies made real through things (borders). This may be the origins of the circumvention tradition that off-grid Earthship builders and dwellers are continuing.

4.6.2 **The Caging Process**

[22] This decentralization process is also exhibited in nonhuman primates, as a process of fission-fusion, which is thought of as a way to deal with limited food sources within a single location (see Turner and Maryanski [2008]). This also relates to Hirschman's (1970) distinction between human and baboon society.

If the simple movement away was a prevention of cages and was a normal occurrence, then how did humanity get itself kettled?[23] Sociologists Maryanski and Turner (1992) take up this question in their book *The Social Cage: Human Nature and the Evolution of Society*. I find their discussion of horticulture and kinship as containing the seeds for future caging convincing. They argued that some groups of humans were unable to satisfy their nutritional requirements through hunting and foraging. They began loose settlements using a horticultural mode of production. However, the nonhuman agencies involved in horticulture "requires more control, regulation, and coordination of large numbers of individuals… To become horticulturalists, then, necessitates the elaboration of culture and social structure; and as a consequence, humans began to cage themselves in sociocultural creations" (Maryanski and Turner 1992:92). Much like how Glaser's bubble chamber led to a change in social organization (see previous chapter), regular interaction with the garden plots and seasonal or annual activities demanded a level of organization (or "tuning" in Pickering's conceptual language) that was not required in nomadic tribes. Kinship took on a qualitatively different character. Relatively weak cages, these "family-level societies" were distributed over a large area providing for significant autonomy from elaborated governing structures. However, increase in density and more complicated subsistence techniques "humans were compelled to create an emotionally charged sociocultural cage revolving around proscriptive kinship rules" (Maryanski and Turner 1992:104). These were the elders and big men that Mann referenced. The deontological ethic begins to take hold and feuds

[23] Interestingly law enforcement officers use kittling as a means for repressing mass mobilizations. For notable examples see: May 1968 Democratic Convention, 1999 Seattle Washington WTO protest, 2003 Chicago Iraq war protests, and 2017 Washington D.C.'s inauguration protests.

among clans and kin "force people into contractual obligations" that were not known amid hunters and gatherers (Maryanski and Turner 1992:110).

Groups that were near river-flooded land provide the second development of caging. Archeologists find the first major civilizations (Egypt, Indus, Mesopotamia, Shang China, Mesoamerica) all had access to river-flooded land. Mann (1986) went so far as to have argue that what "explains the origin of civilization is the opportunity presented to a few human groups by flooding, which provided ready-fertilized alluvial soil" (78). Alluvial soil, being soil that is regularly replenished by the silt and particles carried by a river and is more superior for agriculture than rain watered land (until the invention of iron tools and draft animals for toiling soil).[24]

Through a process of biomimicry, it is speculated prehistoric people would then have observed the higher yields of land flooded by rivers and create artificial flooding assemblages. "A local network of such ditches and dykes would generate a surplus far greater than that known to populations on rain-watered soil. This led to an increase in population and density, perhaps beyond that supported by rain-watered agriculture" (Mann 1986:80). This resulted in the creation of economic assemblages that were fixed in space and required a longer time to realize the fruits of the labor, more so than horticulture.

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[24] Furthermore, sociologists York and Mancus (2013) argued that "Since plows only gain their utility when pulled by draft animals, the emphasis on the plow itself is misplaced. Plows are of secondary importance to the draft animals that make them functional" (85). As such, they point to the difficultly of large draft animals ability to survival in sub-Sahara Africa's environment, mainly the disease carrying tsetse fly. They believed that macrosociology should include a zoological component to recognize these nonhuman agencies. Dunlap and Catton would surely agree.

This "delayed return" began shaping the social world in several ways. First labor on nature itself required time to recoup. Second, the larger scale of artificial irrigation would increase the amount of social cooperation leading to ideology of norms, trust, and shared meaning. Lastly, the creation of tools (or "belongings") that were not as mobile would further reinforce the fixity. The physical durability of tools and infrastructures, temporal dimensions of plant life cycles, seasonal variations, and other nonhuman agencies were omnipresent in these early assemblages. One can see the entanglement of nonhumans with emerging social ontologies of community and other social facts. These socio-material assemblages (Mannian economic and ideological networks) acted as more extensive cages than known by horticultural kinship societies or nomadic groups.

This points to what archeologists call the Wittfogel-Steward hydraulic theory.[25] Proponents Karl Wittfogel (1956;1957) and Julian Steward (1955) argued that the demands of large public works, such as irrigation systems for agriculture demanded management forms of hierarchy and despotism. In his review of the theory, environmental historian Donald Worster (1992) stated that due to population pressures it became necessary

> to plug all the rivers with storage dams, diverting waters into elaborate networks of canals and ditches to irrigate the peasants' fields. Construction and maintenance of these massive public works required the marshaling of vast corvée-faceless armies of laborers-for at least a part of every year. And where workers were brought together in this regimented fashion for the conquest of nature, there had to be organizers. A remarkable similar power elite emerged, consequently, in all those irrigated systems (1992:55).

[25] Max Weber took the same line of thinking. In *Agrarian Sociology of Ancient Civilization* he wrote Egyptian social institutions in the Old Kingdom were shaped by three factors, one of them being "the necessity, arising from geography and climate, to developed a somewhat sophisticated bureaucratic administration and to mobilize the population for large scale work on the irrigation system" (Weber 2013:106).

This thesis culminated in a 1955 symposium comparing irrigation civilizations. In one paper on Mesoamerica, the authors found "the need for firm leadership and authority among irrigation-cultivators of Tecomatepec is evident" and "A system of sanctions for lack of discipline or abuses extends from deprivation of water for a specific period up to complete prohibition" (Palerm 1955:30). Once empowered, these "hydro-states" began implementing "nonagarian hydraulic" assemblages such as navigation canals and aqueducts and other infrastructural projects such as roads and walls. Increased division of labor would follow, as calendar-making and other managerial stations emerged, primarily concerned with decision making over the flow of water. I consider this the beginning of a grid society, one that fractured the smooth space of first nature into striated spaces of a human domain of second nature.[26]

The hydraulic theory has been controversially discussed in the archeological literature for decades. In some regions, state structures may have formed without or before artificial irrigation (see Carneiro 1970) and in other places where the structures did exist, there is lack of evidence for durable social stratification (see Mitchell 1973). However, the theory continues to be widely cited. More recently, the argument of authoritarian control stemming from demands of irrigation systems has given way to a conjunctural argument, where irrigation is necessary, but not the only variable. Mitchell (1973) concluded "Indeed, irrigation may have been important in some areas of the world and still other factors important in other areas of the world" (534). Another conciliatory stance was proposed by Mathew Davis (2009), in that artificial irrigation does led to new management arrangements, but it is more of a heterarchy nature than a single despot. He wrote

[26] See William Cronon's (1992) *Nature's Metropolis: Chicago and the Great West* for a discussion of first and second nature and consult Tsing (2015) for her addition of third nature.

> I argue that what [Wittfogel] got wrong was not that the requirements of irrigation management lead to new forms of authority (they do, but this has been played down by archaeologists who have seen authority only from the perspective of top-down, hierarchical systems of management). Rather, what he misunderstood was that these forms of authority should be, in any way, hierarchical or, to use his own term, 'despotic' (31).

Regardless of the exact nature of power relations (a despot or a proto-council administrators), what is uncontested is that enrolling actants to create a water assemblage did alter social relations towards a more delineated form. In a recent empirical study, it is claimed that there is a statistically significant relationship between irrigation agriculture and autocracy between countries, within countries, and in premodern societies (Bentzen et al. 2016). This breathes new life into the Wittfogel-Steward hydraulic theory.

The increase in population density in hydraulic states led to economic spinoffs both in the valley and in between valley core and periphery. "Wildfowling, hunting of pigs, fishing, and reed collecting interacted with agriculture, providing a division of labor between loosely kin-structured gatherer-hunters and the sedentary village-dwelling, caged irrigators" (Mann 1986:81). Animal domestication was another enrollment that required new activities, such as herding and more generally husbandry. These various divisions of labor (a familiar topic to sociology although more associated with industrialization) increased specialization and functioned as a socio-material cage, just as it does today.

Cases of circumvention, such as the off-grid movement, are a learning process in overcoming labor specialization. Anthropologists Clarke and Hindley (1975) stated that "the secret of the primitive's success as a social being was undoubtedly the absence of Western respect for specialization" (82). And historian Ronald Wright claimed that as societies become more complex, specialization can lead to vulnerability of an entire society—the "progress trap" as he termed it. Humorously he wrote of the specialists as "people who know more and more

about less and less, until they know all about nothing" (Wright 2000:29). In regard to the Earthship case study, overcoming specialization is one of the first steps for a person living off-grid (see Chapter Nine).

The increase in infrastructures (dams, dykes, buildings) in an ecologically differential region (unequal agricultural yields outside the valley and along the river) added up to a "greater tendency to defend rather than to flee from attack" (Mann 1986:48). Wittfogel (1957) stated that "the need for comprehensive works of defense arises almost as soon as hydraulic agriculture is practiced" (34). The creation of a military network added to the caging those river irrigators experienced. Although, it is important not to universalize war, as Mann maintained that war is ubiquitous to humans, but not absolute (1986:48). Just as economic assemblage (horticulture then agriculture) lead to more fixity, so too did a military assemblage. "Military investment in nature, for example, in fortifications, increased territoriality… Military investment in social relations, that is, in organization of supplies and coordination of movement and tactics, greatly intensified social solidarity" (Mann 1986:48-49). Mann's work showed how economic, military, and ideology assemblages start to overlap with one another, furthering the caging process with every supersession.

It is important to keep in mind the timescale of this process. "Between 5500 and 5000 B.C. we have evidence of artificial canals, of which the major ones required about five thousand hours of labor time to construct" (Mann 1986:78). However, urbanization did not occur until 3,900- 3,400 B.C., depending on location. This slow caging progress may explain why pre-civilization techniques for preventing caging did not continue to prevail. However, despite all the physical and social aspects of the economic, military, and ideology assemblages there was yet not evidence of political assemblages, such as coercive states. There may have been loose

authority, as described earlier, and this may have extended outward towards other settlements along the river, creating pseudo-geopolitics, but this was not a political state that Weber (1991) wrote about in *Politics as a Vocation*—"*monopoly of the legitimate use of physical force* within a given territory" (emphasis in original 78).

With further increase in density, river valleys became more crowded leading to a sense of private property. "Private property was encouraged by territorial and social fixity. As it emerged from a broadly egalitarian village and clan mixture, it took the form of extended-family, or even clan, property rights rather than individual rights" (Mann 1986:82-83). Ecological differentials

> intensified a territorially centralized authority, that is, a state. Irrigation management played a part. Exchange of produce where the more powerful party's territory was fixed and strategic for transport meant that the redistributive storehouse or the exchanging marketplace would be centralized. The more resources are centralized, the more they require defense, hence also military centralization. The imbalance between the parties created another centralized political function; for the irrigators would seek more ordered routines of exchange than pastoralists and gatherer-hunters' own existing social organization could provide (Mann 1986:85).

The necessity of temporal ordering supports Pickering's claims on the importance's of nonhuman temporal emergence and the social forms that conjuncturally develop in relation with them. This last development was furthered through writing as a means of accounting and created a more delineated (readable and seeable in James Scott's terminology) relationship between human, nonhuman, and ultimately between humans of different emerging classes. Writing's "major purpose was to stabilize and institutionalize the two emerging, merging sets of authority relations, private property and the state" (Mann 1986:89). Writing first emerged as clay tokens in Mesopotamia. The importance of this early enrollment of nonhumans cannot be overstated. The simple representation of agricultural goods by clay tokens is said to have "ushered in a revolution in human cognitive capabilities" (Mouck 2004:109). In *Before Writing Volume I:*

From Counting to Cuneiform, Schmandt-Besserat (1992) argued that "Tokens and clay tablets functioned as an extension of the human brain to collect, manipulate, store, and retrieve data" (quoted in Mouck 2004:109). Perhaps our posthuman-ness began a long time ago. In any case, cuneiform and other writing forms expanded the delineated social worlds humans lived in and these were not possible without the agency of the nonhumans enrolled into the assemblages, i.e. the durability and mobility of the clay tablet.

Writing as an ideological assemblage would emerge as a "transcendental" power, escaping the confines of any state boundary and providing a challenge to state hegemony. This would open some cages, while simultaneously creating others. This is exemplified in Martin Luther's (1517) *Ninety-Five Theses* (imagine if there was no paper to add durability to Luther's thoughts, no church door to nail it to, and no nail to hold it up—that is to say nothing of how the printing press translated the burgeoning protestant actor-network). Again, I draw from Freud to understand a caging feature, this time of a religious form. "Religion circumscribes [the] measures of choice and adaptation by urging upon everyone alike its single way of achieving happiness and guarding against pain" (Freud 1994:17-18). Thus, as some cages are forced open, others take their place.

Maryanski and Turner accurately summarized all these caging assemblages and multi-millennia process in this following excerpt.

> Institutionally, dramatic transformations take place in the movement to an agrarian system. New technologies, heighten levels of capital formation, more complex divisions of labor, new entrepreneurial mechanisms, and an increased access to resources greatly expanded production with the surplus being used to finance the privilege and power of elites… As production increases, new entrepreneurial mechanisms (markets, law, territorial specialization, guilds) and the ever-expanding and restrictive hierarchy of state power (local and regional elites connected to a monarch) replaces kinship as the integrating and organizing mechanisms of society (Maryanski and Turner:1992:128).

After a process of two millennia, humanity was becoming civilized and caged. However, they were moderately caged or semi-caged as "there are always gaps and interstitial areas that enable people to escape" (Maryanski and Turner 1992:127). Individuals were involved in economic assemblages of stable trade backed by state-enforced values represented in texts; limited by the division of labor leaving one specialized and unable to procure their own subsistence directly; interpellated by an ideology of socially constructed "people", which would make circumvention more unthinkable; a military that acted more defensively than the later aggressive "marches societies"; and a relatively weak state that seemed to bring stability to the other networks, while lacked despotic and infrastructure power to meddle in social life to a great extent. Still in this situation circumvention would be possible and desirable.

Geographical extension of these networks was limited "At the outer edges, where floodplain met desert or upland", this along with open frontiers are the normal home of circumventors (Mann 1986:93). As I will show in the next chapter geographically difficult areas to apply assemblages of IEMP power would continue to offer a way out, however partial and however fleeting they may be.

4.7.1 **Circumvention**

Returning to critiques of the teleological story of civilization, I take Wright's (2015) comment that "escape" was the oldest response to capitalism seriously. In the anthropological literature this indeed was the case for early state formation. Evidence from some of the first classical states "suggest that most of their subjects were formally unfree: slaves, captives, and their descendants" (Scott 2009:6). This challenges the general evolutionary story of progress. "According to this tale, a backward, naïve, and perhaps barbaric people are gradually

incorporated into an advanced, superior, and more prosperous society and culture" (Scott 2009:8). This appears to be, at the very least an overstatement if not outright false.

Life within these early societies meant domination to a hierarchical authority. Common expression of this was taxation, corvée labor, and conscription mainly for building "public works". Furthermore, due to the technologies (monocropping and substandard infrastructures) used to concentrate large people in small areas episodes of crop failure and epidemics became common. In fact, there is evidence that a large amount of diseases suffered by humans have their origins in husbandry. As livestock was concentrated in a small space near human domiciles new zoonotic diseases evolved (see Scott 2017). "When these burdens became overwhelming, subjects moved with alacrity to the periphery or another state…. For long periods people moved in and out of states, and 'stateness' was, itself, often cyclical and reversible" (Scott 2009:7). Furthermore, "The state was tyrannical, but episodically so. *Physical flight, the bedrock of popular freedom*, was the principle check on state power" (emphasis added Scott 2009:33).[27] Even the walls constructed around urban centers served not only to repel attacks from the outside, but also to keep subjects inside (as De Landa claimed was a function of the urban exoskeleton). It is no surprise given the conditions of early states that many would choose a life outside. Scott (2009) argued that people would choose "self-marginalization" or "self-barbarianization" and that this "might have been, at times, quite common" (173).

To support Scott's point, I draw off of illustrious historian of classical era, G.E.M. de Ste. Croix (1981). In *The Class Struggle in the Ancient Greek World* he pointed out that "There is considerable body of evidence from the second century to the seventh of flight or desertion to

[27] This is in conflict with Hirschman, who wrongly attributed 'exit' to economics and 'voice' to politics (1970:15). As Mann made clear exit was every much as political as voice.

'the barbarians'" (474). In one such period Ste. Croix stated "I think there is reason to suspect that large numbers of civilians may have gone over to the barbarians in these cases of their own free will. In 366, proof that many of those alleging they had been capture by barbarians were suspected of having gone off voluntarily" (476). It seems White Indians are not the only episode of this progress reversal. Ste. Croix summarized, "It was not only the very poor who became defectors to the 'barbarians'… But even men of some substance could be driven to defect" (486).

More recent history registers mass flights in places like feudal Russia. One of the most powerful challenges to the institution of *glebae ascripti* (attached to the soil) was peasant flights. Historian Arcadius Kahan (1985) claimed various reasons would motivate a serf to embark on evasive action towards a frontier. These include military drafts, famines, increased exploitation, and taxation. Not at all unlike their prehistorical counterparts. While difficult to measure, official claims put the number of serfs in Russia between 1722-1727 at 200,000. And between 1719-1744 of the 170,253 registered serfs either legitimately mobile or not, 64,757 were fugitives (Kahan 1985:72). Peasant flight was not inconsequential.

While traditional political economy from liberalism and Marxism generally treat serfdom in totalizing and non-complicated ways, evidence showed that flight had been a major political action. This is made more powerful if locations that were settled were less "developed" and outside the circuits of capital accumulation and state authority. A sort of "backwards" development was (and still is) unacknowledged, in part due to the ideological assemblage of a teleological nature (i.e. the "progress trap"), which itself acts as a cage. As Scott (2009) concluded "Civilization discourse, however made such conduct unthinkable" (173).

The choice of circumvention was very much geographically informed. Territorial sovereignty of states, Scott maintained, was constrained by the "friction of terrain". States often

limited their dominion to areas that produce could be extracted and transported to the urban center. This area was defined by the distance an animal-powered cart could transport produce without rotting or the animal consuming all of the load (consider here the importance of nonhuman agency in claims of sovereignty). States near plains and navigable water could extend their sovereignty further than areas of mountains, rain forests, and deserts. In the cases of the latter, one can infer that more instances of circumvention took place. Circumvention was more readily available to those near areas that were difficult for the state to surveil, to collect tributes, and constrained in other ways afforded by way of the specific historical IEMP assemblages.

4.7.2 **Notes on Subsistence**

Two imperatives exist for circumventors—physical (subsistence economy) and social (organizational forms). In regard to the subsistence economy, it "contains myriad ways in which people provide for themselves and each other, often outside of market relations" (O'Hearn and Grubačić 2016:152). To help one understand this, I agree with Gibson-Graham (2006) who believe that our current notions of the economy are capitalocentric, which is

> a dominant economic discourse that distributes positive value to those activities associated with capitalist economic activity however defined, and assigns lesser value to all other processes of producing and distributing goods and services by identifying them *in relation* to capitalism as the same as, the opposite of, a complement to, or contained within (emphasis in original 56).

Subsistence activities need not always be thought of in relation to capitalism. In fact, by doing so, may preclude any authentic inquiry into the possibilities of circumvention. I further follow Gibson-Graham in their thinking, which "strives to render a world with an ever-replenishing sense of room to move, air to breathe, and space and time to act—a space pregnant with negativity" (2006:xxxii-xxxiv). Subsistence practices of circumventors range in degree with their

relationship to dominant market assemblages. As I will show in the next chapter, often each case of circumvention has a range of interactions with circumvented society. From the repeated trade of niche commodities to more or less completely unconnected.

With the general prejudice surrounding subsistence economies it is useful take a closer look at these ways of life. Since most examples of circumvention include some basic agriculture, it would do well to dispel misconceptions of people who produce without "useless excess". Generally thought, subsistence is a constant struggle against the elements, a hand-to-mouth survival, and a precarious way of life with no surplus to fall back on. Membership in groups that are based on substantive economies are generally not seen as a choice, but rather as an inability to "progress" due to some personal, technical, or cultural deficiency. This is partly why circumventors are seen as moving backwards—a deep offense to the enlightenment project and the "superstitious belief in progress" as Tolstoy (2005:10) put it. Anthropologists have labored to replace these modern-centric views.

> Let it be remarked merely that a good many of those archaic societies 'with a subsistence economy,' in South America, for example. Produce a quantity of *surplus* food often *equivalent* to the amount required for the annual consumption of the community: a production capable, therefore, of satisfying its need twice over (emphasis in original Clastres 1989:14).

Common views of subsistence economies are contradictory as well. Either people are all consumed with barely scratching by or they are lazy. "[E]ither man in primitive societies… lives in a subsistence economy and spends most of his time in search for food; or else he does not live in a subsistence economy and can allow himself prolonged hours of leisure" (Clastres 1989:193). As I mentioned earlier, ethnologists studying subsistence economies note the relative little time dedicated to securing a livelihood, often only a few hours a day. In relation to housing, David

Henry Thoreau (1894) made a similar observation, claiming the superiority of the Native American teepee.

> In the savage state every family owns a shelter as good as the best, and sufficient for its coarser and simpler wants; but I think that I speak within bounds when I say that, though the birds of the air have their nests, and the foxes their holes, and the savages their wigwams, in modern civilized society not more than one half the families own a shelter (50).

Through construction of various socio-material assemblages subsistence economy dwellers are able to meet their needs in a relative comfort outside, adjacent, or in-between dominant cages.

Furthermore, Marxist feminist Silvia Federici (2012) acknowledged that "If the destruction of our means of subsistence is indispensable for the survival of capitalistic relations, this must be the terrain of our struggle" (89). Self-subsistence has always been targeted in order to cage people within capitalist market relations. Rosa Luxemburg (1913) articulated this process beautifully in *The Accumulation of Capital*. She detailed the process of the French colonization of Algeria, replacing the communal social organization of the Kabyle with the individual consumer and confiscating communal land and instituting private plots. Of interest to my project is her discussion of the separation of agriculture and industry. In the transformation of the peasant economies in the US Luxemburg wrote

> He sells his hogs and buys bacon and pork; he sells his cattle, and buys fresh beef and canned beef or corned beef, he sells fruit and buys it back in cans… Instead of clothing made on the farm he purchases his clothing ready made at the nearest town (Luxemburg 1913:400).[28]

[28] A few pages latter Luxemburg continued "Many farmers are losing their homes under this dreadful blight, and the mortgage mill still grinds. We are in the hands of a merciless power; the people's homes are at stake.' Encumbered with debts and close to ruin, the farmer had no option but to supplement his earnings by working for a wage, or else to abandon his farm altogether. Provided it had not yet fallen into the clutches of his creditors like so many thousands of farms, he could shake from off his feet the dust of the 'land of promise' that had become an inferno for him. In the middle [18] eighties, abandoned and decaying farms could be seen everywhere" (406-407). The housing and foreclosure crisis of 2009 could be considered a modern example.

The western frontier (which of course was populated) that Erik Olin Wright mentioned as a way to escape capitalism, itself became a cage where subsistence could only be acquired by entangling oneself in market relations. In Europe this process of primitive accumulation operated through the enclosure of the commons (Inclosure Acts and Game Laws between 1600-1900), which was a class-conscious action taken by the burgeoning mercantile class to cage the recently "freed labour" of the peasantry. Economist Michael Perelman (2000) argued that

> Primitive accumulation cut through traditional lifeways like scissors. The first blade served to *undermine the ability of people to provide for themselves*. The other blade was a system of stern measures required to keep people from *finding alternative survival strategies outside the system* of wage labor (emphasis added 14).

These measures include the Poor Law Amendment of 1834, which Karl Polanyi (2001) wrote about in *The Great Transformations*, essentially ended many practices to shore up the destitution faced by non-working people. In such a light, one can understand how "the contract between worker and employer", Perelman (2000) concluded is a "contract which is free in form but not really in substance" (103). Caging and circumvention has always been constructed on the grounds of direct subsistence.

4.7.3 **Brief Note on Mutual Aid**

In regard to the second feature of circumvention, social organization, one finds that mutual aid predominates. Mutual aid, an idea pioneered by anarchist scientist Peter Kropotkin stated that all organisms, including humans, engage in cooperative behavior. He wrote "wherever I saw animal life in abundance… I saw Mutual Aid and Mutual Support carried on to an extent which made me suspect in it a feature of the greatest importance for the maintenance of life"

(Kropotkin 1902:ix). Mutual aid can also be understood as "baseline communism". Anthropologist and anarchist, David Graeber developed this in his book, *Debt: The First 5,000 Years*. "The obligation to share food, and whatever else is considered a basic necessity, tends to become the basis of everyday morality in a society whose members see themselves as equals" (Graeber 2011:98). Furthermore, "[T]he need to share is particularly acute in both the best of times and the worst of times: during famines, for example, but also during moments of extreme plenty" (Graeber 2011:98). Mutual aid appears to be foundational alternative to coercive and hierarchical authority, if not necessary for sociality itself. In support of the universal processualists mentioned in Chapter Three, mutual aid is not only a human process, rather as Kropotkin contends, it is everywhere and among everything regardless of the ontological category. The examples of circumvention provided in the next chapter show the abundance of mutual aid in the effort to circumvent dominant assemblages, from barn rising of the Amish to the foodways of commune members. The off-grid movement is more complicated in that there is both a strong ethos surrounding autonomy and at the same time the construction of an off-grid community.

4.8.1 **Case Study: The Art of Not Being Governed**

One can see both of these features (subsistence economy and mutual aid) of circumvention in South East Asia. James Scott (2009) articulated this through the example of the "hill people" in *The Art of Not Being Governed*. The hill people could circumvent state structures by leaving the valleys and relocating to higher altitude and mountainous terrain, an area Scott referred to as Zomia. What comes through in his discussion is the prominent feature of daily life outside of the social organizations of market relations and state rule is that of acquiring

subsistence. "The subsistence practices, the choice of crops to grow, are… selected largely with an eye to how they facilitate or thwart state appropriation" (Scott 2009:32). The agricultural practices of the hill people incorporated state-repealing techniques, such swiddening agriculture and simple foraging.

> [B]ut pure foraging is rarely sufficient… Those who stayed any length of time cleared very small plots to grow maize, cassava, sweet potatoes, and a few cardamom bushes. The pattern was to open many small, scattered, unobtrusive plots… When possible, they choose crops needing little care, crops that matured quickly, root crops that could not easily be destroyed or confiscated and which could be harvested at leisure (Scott 2009:181).

Subsistence was a practice that circumventors had to negotiate with both pursuing state agents and the agency of the nonhumans involved. Only by constructing assemblages that took both actors into account (including bodily nutritional requirements) could circumvention be reterritorialized, stabilized, and black boxed.

Social organization among the hill people provides an interesting sociological case. Scott (2009) observed "As a general rule, social structure in the hills is both more flexible and more egalitarian than in the hierarchical, codified valley societies. Hybrid identities, movement, and the social fluidity that characterized many frontier societies are common" (18). To showcase this point, he argued that the fluidity of individuals and groups outside of the state could be seen in their postliteracy.[29]

> If swiddening and dispersal are subsistence strategies that impede appropriation; if social fragmentation and acephaly hinder state incorporation; then, by the same token the absence of writing and texts provides a freedom of maneuver in history, genealogy, and legibility that frustrates state routines (Scott 209:220).

Entering and exiting of different social groups through a quasi-nomadic lifestyle, plus a stream of new circumventors, such as runaway slaves, adventures, bandits, fugitives, and outcasts,

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[29] I will revisit writing as a cage when considering the Amish *Ordnung* (see Chapter Five).

helped give this motley crew the raw materials for further illegibility in the eyes state administers. As Scott put it, the "territorial administrators were constantly frustrated by the bewildering flux of people who refused to stay put" (Scott 2009:18).

However, this group of circumventors was not completely disconnected from society. As his study made clear, the 'barbarian' was created when the civilized was. They existed relationally in language (seen in the terms "raw Chinese" versus "cooked Chinese") and, to a degree, economically. The urban valley areas, with wet-rice agriculture, often traded with the hill people.

> Hill people had, from at least the ninth century, been scouring the hills for commodities they knew could be traded advantageously at valley markets… In light of the physical mobility of highland peoples, such goods could easily be carried to another market in another polity if the potential sellers were dissatisfied (Scott 200:106).

As I contend, my study of builders and dwellers of Earthships do not give evidence of an extremist or purist pursuit. Rather the goal is the ability to choose the level of self-entanglement/disentanglement within the various modern IEMP assemblages, not unlike the hill people.

4.9.1 **The Rise of a Political Theory of Escape, Exit, and Exodus**

Moving past James Scott's work provides some essential conceptual flush out the concept of a politics of circumvention further. I am now able to question the civilization myth as teleological and deontological, as well as underscore the importance of nonhuman agencies to the practice of caging and circumventionality. I will return to many of these themes and expand upon them in the following historical and empirical chapters. However, before leaving the Scott's work one should consider a last postulate he provided. He argued that since the Second

World War the state has developed technologies that make exiting a thing of the past. He termed these "distance-demolishing technologies" and included "railroads, all-weather roads, telephone, telegraph, airpower, helicopters, and now information technology" (Scott 2009:xii). Does this spell the end of a circumvention-based politics?

Anthropologist Andrej Grubačić and sociologist Denis O'Hearn (2016) took up this question directly in their work on exilic societies. For them "Exilic societies… consist of parallel practices and institutions of life that do not mimic those of mainstream societies. Not only do exilic communities practice the 'art of not being governed'; more precisely, they govern themselves and practice mutual aid" (Grubačić and O'Hearn 2016:32). Through a comparative study of the Zapatistas in Mexico, Cossacks of Russia, and US prisons they build on Scott's work. In asking "are non-state spaces and activities defunct?", they answer no (O'Hearn and Grubačić 2016:151). Scott is only correct in this conclusion if the analysis is limited to a narrow understanding of the economy and space, similar to the capitalocentric position. "Once one recognizes that different kinds of economic activities could be beyond state and market control, one opens up the possibility that 'distance-demolishing technologies'; cannot snuff out all possibilities of escape" (O'Hearn and Grubačić 2016:151). Just as Latour argued black boxes are never close, neither are IEMP assemblages.

Importantly, O'Hearn and Grubačić make a distinction between spatial and structural withdrawal. Spatial is the complete or near complete movement off all dominant assemblages. Structural withdrawal is premised on a more nuanced understanding of the economy (similar to what Gibson-Graham called a heterospace). Rather than assuming that capitalism is an all-encompassing totality, O'Hearn and Grubačić (2016) "follow [Erik Olin] Wright (1978) and assume that people have contradictory locations with regards to states and formal labor. Some

things draw them into capitalist and state-centered processes, and other lead them to seek withdrawal" (151). Movement off-grid is not limited to a complete removal from all social and material relations (It is possible to be off-grid and live in a metropolitan area [see Vannini and Taggart 2015]). Instead of imagining a reclusive mountain man living in a cave, off-grid is about closing some material and social flows through one's life. It is concerned with terraforming assemblages in order to receive and transform other material and social flows, as will be shown.

Along similar lines, social theorists Michal Hardt and Antonia Negri considered the multitude of ways that capital has subsumed labour[30] and proposed a prefigurative political act in response. Prefigurative politics is an immanent (opposed to a transcendental) process where social movement actors transform their everyday life in the here and now rather than organize for a future transformation of society. In Hardt and Negri's (2009) book *Commonwealth,* they argued for the legitimacy and importance of the act of exodus. Exodus for them is defined as

> not a refusal of the productivity of bio-political labor-power but rather a refusal of the increasingly restrictive fetters placed on its productive capacities by capital. It is an expression of the productive capacities that exceed the relationship with capital achieved by *stepping through the opening* in the social relation of capital and across the threshold (emphasis added 2009:152).

Rather than challenging unequal social relations head-on in a violent clash, the political act is to "step through the opening" and to labor in that space unrestricted "by the fetters of capital." For them this is not necessarily a spatial exit, but rather a process of finding current "commons" and organizing an autonomous life there. This has a close affinity to O'Hearn and Grubačić's structural withdrawal. In another passage, they even make reference to the ontological dimension of their conceptualization of exodus.

> The refusal of exploitation and alienation now more clearly is directed against the society of capital in its entirety and thus designates a process of exodus, a kind of

[30] See Karl Marx's (1844) Economic Manuscripts for origin of real and formal subsumption.

> anthropological (and ontological) separation from the domination of capital (Hardt and Negri 2009:241).

For them this ontological separation is "the process through which nature and subjectivity are transformed and constituted" (Hardt and Negri 2009:173). Being apart from the assemblages of commodified utilities allows for, what I am terming terraformation, which functions both on nonhuman nature (i.e. the off-grid structure), but also recursively on the self and the social. This is the process by which a prefigurative politics is created.

Prefigurative politics is also something Erik Olin Wright has taken in interest in for his congregative approach to real utopias. He termed this the interstitial strategy, which is defined as the "various kinds of processes that occur in the spaces and cracks within some dominant social structure of power" (2010:322). Wright acknowledged the long tradition of this movement, dating to 19th century anarchist movements and including the "lifestyle" movements of the 1960s. He concluded that the Marxists critiques of this later iteration were "too harsh" and left open the possibility that they "play a positive role in a long-term trajectory of emancipatory social transformation" (2010: 327). In a reconciliatory move, Wright argued that interstitial politics should be understood alongside the more traditional rupture-based (revolution) and symbiotic (reform) politics, not completely divorced from one another. This may have an affinity to Marx and Engels' statement on utopian socialists.

Lastly, there is a confluence of circumvention-based concepts found in a slightly more demanding (or at least counterintuitive) proposal by social theorist Eugene Holland (2011). He argued that through top-down acts by states and markets a *striated space* has been constructed. It is this striated space (the grid) that must be overcome. In his specialized language, he puts forth affirmative nomadology (building off of Deleuze and Guattari) of the *slow-motion general strike*. For Holland, one should seek out "where the social field remains a smooth space; where modes

and principles of social organization arise immanently from group activity itself rather than being imposed by a transcendent instance from above" (24). This is the commons that Hardt and Negri discussed. As Lenin famously asked what is to be done, Holland dismissed answers based on direct confrontation. Rather for him "the problem will be to (re-) discover means of self-provisioning that lie outside the orbit of capital, to (re-) connect with social means of subsistence *not* already subsumed by the capitalist system" (emphasis in original 199). However, it is

> absolutely crucial, when walking away from that old order, to have something to *walk to*, to have some 'small plot of land,' some patches of social territory that are sustainable in the medium to long term, to make it possible to walk away from the old order in the first place and—even more important—to walk away from it once and for all (Holland 2011:98).

Extricating or "walking away" can never be successful without the dual process of terraforming. And although I believe Holland's use of the term "plot of land" is metaphorical, it need not be. After all people who circumvent must have somewhere to go.

Frist, it is important to keep in mind that these ideas are predicated on the ontological framework of the assemblage, in which there is no totality. From Mann, Latour, Holland, Wright, Grubačić, O'Hearn, Hardt, Negri and others they all conceptualize the world as networked, assembled, or multiplicified rather than a container or a concentric Russian Dolls model. Second, new materialist imagination relinquishes some of the ideas of self-contained social structures, arguing that "Organizations appear far less static and structural, and far more contingent and fluid when understood as assemblages drawn into being by flows of affect between relations whose capacities are entirely contextual to a particular assemblage" (Fox and Alldred 2017:59). By taking these points seriously, one can begin to loosen conceptual cages such as teleology, capital-centricism, and state-based politics. This reveals the rhizomatic ways various forms of small and large circumvention have and can take place with or without spatial exodus. Thus, this

allows one to analyze the off-grid movement in all its seeming contradiction, while not equating contradiction as nullification or negation.

4.10.1 **Conclusion**

I claim that circumvention is a legitimate and foundational human response to enclosure and authority. This caging process was not a natural evolution and civilization should not be seen as normatively better than "primitive" society. The process of civilization was a long drawn out one with overlapping assemblages, where the human and the nonhuman entangled (like a dance). Human intentionality and action was influenced by various nonhuman agencies. One such entanglement was the delineation that caging provided. This caging is a multidimensional process composed of ideological, economic, military, and political assemblages. Despite the terribly successful proliferation of caging, humanity has always sought circumvention. Popular as well as scholarly prejudices and myths, as well as a lack of interest by circumventors to represent their politics to society at-large continue to preclude a politics of circumvention from being understood.

There is a dismissal of those who seek to live outside dominant IEMP assemblages. Critiques of those that seek to circumvent often require purist conceptions. These are strawman arguments pointing to continued connection to society. However, complete circumvention is rarely (never in my case study) the goal. This will come through forcefully in the historical examples in Chapter Five. The reality is that the enclosure boundary is multidimensional, porous, and dynamic. Complete spatial circumvention may or may not be possible. Nonetheless, selective structural withdrawal allows one to conceptualize the plurality of socio-material

assemblages that are circumvented, and the lines of flight taken to terraform alternative assemblages.

I now survey a whole host of circumvention examples. First, I will examine the back-to-the-land movement of homesteads in the United States. In many ways these were the modern day primordial off-gridders, in some cases predating the electricity grid. I then move to consider the communes of the 1960's and 1970's and the present-day ecovillage movement. These intentional communities resonant with the off-grid movement, but differ in their social organizations as off-grid tends to be less communal, but this should not be read as antisocial. After this, I turn to the Amish as an example of faith-based circumvention movement. The example given by the Amish directly deals with the role of technology. Next, I consider maroon societies (escaped slaves) as an expression of circumvention. This example challenges one to consider circumvention under some of the most inhumane conditions, but still exhibits many similarities with the less contentious circumvention situations. Lastly, the Zapatistas will guide one through what it means to circumvent while staying put, as well as the importance of self-made infrastructures.

5. HISTORICAL CASES OF CIRCUMVENTION

"Meine Brüder, wollt ihr denn ersticken im Dunste ihrer Mäuler und Begierden! Lieber zerbrecht doch die Fenster und springt in's Freie!"

["My brethren, will ye suffocate in the fumes of their maws and appetites! Better break the windows and jump into the open air!"]
Friedrich Nietzsche (2009)

5.1.1 **Introduction**

In this chapter I conclude Part Two with a selection of historical cases of circumvention. While arguably not necessary for understanding the Earthship movement, this chapter does succeed in providing instrumental information for a robust conceptualization of the politics of circumvention. In this, this chapter functions as an "extended argument".[31]

As I have shown, circumvention is both ideologically and materially concerned with self-extrication from socio-material assemblages and terraformation of different socio-material assemblages. This can include relinquishing and repudiating identities of dominant society; of overcoming specialization in regard to skills and labor, redefining comfort and relation to nature,

[31] See Price (1996:4) for discussion of "extended arguments".

physically relating differently to the nonhuman world and enacting a politics that is performance-based.

My concern up to this point has been with archeological and anthropological accounts of caging and circumvention. This is necessary in order to lay the foundation for my thesis in a more impactful way then being solely concerned with the Earthship case study. I find it necessary to continue examining historical cases of circumvention. In keeping with the zigzag heuristic, I move circuitously through several commonalities of caging, extrication, and terraformation. This will contextualize the Earthship case within the broader circumvention-based tradition.

My goal is not to trace caging through its various iterations. Rather, my goal is to support the claim that humans living in "civilizations" are discouraged from leaving for a variety of reasons beyond their individual free choice. This includes a lack of self-reliance with direct intercourse with nonhumans, constructed social identities and the following deontologies, cultural prejudices from academic and popular sources, and the physical impediments of every kind. Despite all of this individuals and small groups have sought an outside and away from. In this chapter I provide short exhibitions on several coherent examples.

My choice of cases attempts to combine diversity, while also maintaining pertinence to the off-grid Earthship movement. This exercise supports the conceptual robustness of the project. I begin with the most applicable cases to Earthships (such as the back-to-the-land movement) and move out from there. As I leave the rural US homestead and head into the islands of the Caribbean and the jungles of Oaxaca there is the same desire for autonomy and the same questions concerning nonhumans. In this chapter I roughly ask a series of questions for each case. When did the circumvention start, who were the circumventors, how did they describe their

circumvention, what sort of nonhuman assemblages did they construct to secure subsistence, how did they organize among themselves, and what importance was their circumvention to the circumvented society?

This chapter's purpose is not to give an exhaustive account of each case. I do not claim subject matter expertise in any of the movements presented below. The purpose of this chapter is to provide a few key insights from authoritative scholars in each case. Specifically, insights as they pertain to similar features, processes, and implications to the contemporary off-grid movement. I do not contribute original information for any case. However, I do claim that these cases are examples of circumvention-based political acts. Situating this discussion between the speculative prehistorical accounts and my Earthship ethnography assists my project in its goals of breadth. Building conceptual framework requires moving beyond the particulars of a single empirical case.

5.2.1 **Back-to-the-land and Homesteading throughout American History**

The back-to-the-land movement and homesteading have a long history in the United States dating back to the early migrations to cities. Prominent historian of the back-to-the-land movement Dona Brown traced the origins to the middle of the nineteenth century. She found that the preceding "stimulus for back-to-the-land enthusiasms… was the boom-bust cycle of industrial capitalism… The very first back-to-the-land book, *Ten Acres Enough*, had been a response to a major financial crisis in 1857" (Brown 2011:27). Back-to-the-land interest followed the depressions of 1893, 1907, and 1930's. In regard to the 1930's, the New Deal attempted to establish government programs for self-subsistence with mixed results. Some of these "colonies" persisted for decades, while most ended in failure. Other New Deal programs,

which amounted to more dependence on the state, took much of the steam out of homesteading and "back-to-the-land ideals stayed just below the surface of the public imagination… [only] to resurface when the nation's commitment to materialism was called into question in the counterculture turmoil of the 1960s and early 1970s" (Jacob 1997:10).

At this point, there was a renewed interest in alternative living, including back-to-the-land. This period, however, challenged the purely economic explanation for the movement up to that point. Brown referenced Hugh Gardner's (1973) work *Children of Prosperity*, in which he "asserted that communes and back-to-the-land experiments were the product of the unprecedented material abundance of the 1960s" (Brown 2011:206). Interest in circumvention, it would appear, is a process that occurs in both times of scarcity and abundance.

Again, by the 1990's "books were pouring from the press" and "the anticipated 'Y2K' collapse in the year 2000" and the "real one, in the wake of the 2001 attacks in New York and Washington" were followed by increased interests in self-sufficiency and homesteading (Brown 2011:228). A relative or absolute material deprivation (see Gurr 1970) seemed like an unlikely explanation for the rise of interest in homesteading. Rather the answer seems to be found in the lack of confidence in the set of IEMP assemblages. The sheer repetitiveness of back-to-the-land movement hints at a cyclical process.[32]

Who were these modern primordial off-gridders? Like today they vary in occupation, class, and education. One back-to-the-land colony in California "attracted members from a broad spectrum of upper working-class and lower middle-class occupations" and at another colony "under one-third of the members held white collar positions as teachers, journalists, clerks, or

[32] In the future I plan to refine this work and propose a more structured theory of circumvention that incorporates macro political, economic, and cultural transformations that encourage or discourage circumvention-based political acts.

salespeople. A slightly larger number were skilled blue-collar workers: house carpenters, dressmakers, electricians" (Brown 2011:84). I find a similar occupational and class mixture among Earthshippers, from professional architects, elementary school teachers and screenwriters/handymen to financial advisors, retired professional volleyball players, and unemployed college dropouts.

Politically speaking there is another mixed bag. Popular authors of back-to-the-land books "came from a wide variety of ideological backgrounds: they were anarchists, socialists, and progressives" (Brown 2011:3). Some were even "capitalist inclined towards charity. Some were progressive reformers with an eye to helping new immigrants" (Brown 2011:30). Again, I find a similar situation among off-gridders today. There is looseness to political identities or their repudiation. Chapter Seven will explore this as, what I term, off-politics.

Having come from various European immigrant backgrounds as well as native born at times the movement took a nativist and racist tone. For instance, Brown (2011) wrote that in the early 1900's there was a jealousy brewing between the native-born whites and "Japanese, Chinese, and Italian immigrants [who] were 'showing Americans how much better and easier it is to get a living directly from the soil'" (38). Despite there being some examples of different white ethnics succeeding in homesteading together, this was "the exception rather than the rule". Moreover, "African Americans were almost never included in the back-to-the-land plans" (Brown 2011:45). However, there was some interest and experimentation among some African American leaders, such as Booker T. Washington. As Brown (2011) acknowledged "Washington argued that self-sufficient agriculture was a critical means of advancement for African Americas" (50).

There appears to be less of a gender divide than one may think, with both men and women showing interest in homesteading. However, for women the promises of a rural life were a bit more complicated. Letters to magazines that featured back-to-the-land articles expressed the disbelief in the benefits of homesteading. One such writer wrote "'I know from both experience and observation that the average woman on a farm leads a life of nerve-racking, soul killing drudgery and isolation'" (Brown 2011:95). Another letter acknowledged "To the average city women the social position of a farmer's wife is not an enviable one" (Brown 2011:95). Despite such concerns a fair number of women did join homesteading colonies and "evidence… suggests that single, windowed, or divorced women, working mostly in lower white-collar jobs were particularly drawn to the back-to-the-land movement" (Brown 2011:100).

Common critiques made by back-to-the-landers and homesteaders focused on loss of autonomy and security, evils of mindless consumerism, and environmental degradation. Like a Charlie Chaplin film *Modern Times*, early back-to-the-landers saw life in industrial assemblages as cogs in a wheel or aptly put by Weber (1905) the iron cage. "For twenty years now I had been a cog in the clerical machinery of the United Woolen Company'", wrote one back-to-the-land enthusiast (Brown 2011:90). Many "feared a loss of autonomy, sensing that the power of giant corporations was rendering them increasingly dependent and helpless, making them 'cogs in a wheel' that turned relentlessly and without their consent" (Brown 2011:5). Bolton Hall, one of the most prolific back-to-the-land promoters proclaimed, "Day by day the cost of living advances… week by week more wealth passes away from the wage-earners to the wage-getters; month by month monopoly of the necessities of life draws closer" (Hall quoted in Brown 2011:4). This fear seems to be equally true today, if not worse as populations are becoming

increasingly superfluous to the process of capital accumulation as seen in the recent "jobless recoveries" (see Endnotes 2010).

The solution was what Brown referred to as producerism. Producerism was a populist ideology during the Gilded Age among small family farms and artisan that faced proletarization and during postrevolutionary New England and the mid-nineteen century (see Mooney and Hunt 1996:184-185) For those seeking a way out of the early-industrialized centers, producerism provided an ideological challenge to the "progress trap" that was caging them. In her study of the Nearings (a famous, if not *the* famous, homesteading couple throughout the mid and late 1900's), Rebecca Kneale Gould (2005) explained that

> The details of that life may vary [between homesteaders], but the ethic of living 'at home in nature' is an ethic of simple living, of being a producer more than consumer, and of letting nature set the terms for one's daily choices (2).

With the rise of urbanization and industrialization (a Weberian rational-inorganic society) there was an impulse to return to a simpler agricultural lifestyle (traditional-organic societies) where anthropocentricism could be bracketed by the enchantment and agency of nonhumans.

Attached to Producerism is the lack of confidence that security could be provided by the others through the state and market relations. Back-to-the-landers felt that "Security could only come from self-sufficiency" (Brown 2011:144). Producerist ideals were later expressed by the offshoot Decentralists intellectuals of the 1930's (See Sharpio 1972). The Decentralist position stated that "neither fascism nor communism was truly opposed to capitalism; both were logical results of the constant evolution of industrial capitalism towards greater concentration of power and resources at the top" (Brown 2011:174). Both options for the 20th century were an option between two cages, one capitalist the other state-capitalist (see Howard and King 2001). And

both were entangled with the growth of a particular set of nonhumans that encouraged centralization—the electricity grid.

Consider a speech given by Lenin in 1920 on Party Tasks. "Communism is Soviet power plus the electrification of the whole country, since industry cannot be developed without electrification" (Lenin 1920). And then there is Thomas Edison, owner of hundreds of private patents, deep relations with Wall Street (J.P. Morgan in particular) by way of corporate lawyer Grosvenor Lowrey, and development of electricity as the "primary commodity" (Hughes 1983). In an attempt to define a different socio-material assemblage were the Decentralist, whose logic embodied a politics of circumvention. They challenged the models of the first world and the second world.

Critiques of society went beyond the relations of production and included broad critiques of the emerging consumer culture and rhythm of life. There was a rejection of "materialism" and a focus on "cultivating idleness" and "simplicity" (Brown 2011: 5, 6, and 228). Many back-to-the-landers claimed that the "city [was] either too fast paced and competitive or monotonous and unsatisfying" (Brown 2011:82). People felt "'lost' in a world of consumerism, industrialism, rampant individualism… until 'found' again in life lived close to nature" (Gould 2005:28). The same can be said of the contemporary off-grid movement.

Once back to the land, circumventors had to construct ways of acquiring subsistence. The growing supply chains of commodified necessities in the city acted as a cage (just as it had in the hydraulic state several millennia earlier) and rendered many dependent on wage labor in order to survive. As such, few have had the skills to procure food, shelter, water, and treat waste directly. The assemblages terraformed to meet these necessities depended very much on the timeframe in question. Luckily, there is a cross-sectional survey data that gives information on the particular

modes of production that homesteaders used in the early 1990s. Sociologist Jeffery Jacob (1997) sampled subscribers to the magazine *Countryside*. The *Whole Earth Catalog* described the magazine in the following way. "The concerns and thousand odd questions of homesteaders and small livestock farmers get better regular treatment in *Countryside* than anywhere else" (Jacob 1997:30). As such, the magazine was the correct population to sample from. The survey included both open and closed questions allowing for a wealth of data on the type of assemblages produced.

Jacob provided the story of Anne Schwartz and her Chinese weeder geese. Her five-acre potato patch required weeding, something that can be "backbreaking and expensive [for] farmhand labor" (Jacob 1997:2). Instead, "Anne loads her assistances into the back of her pickup truck… Upon arrival the geese scramble out of the truck, and Anne strategically places several buckets of water for the geese in the rows between the potato plants" (Jacob 1997:1). Within a short time, the field was clear of weeds and the potatoes unmolested. This potato patch-weeds-geese assemblage, as it were, reduced the need for feed, money for herbicides, herbicides themselves, and human labor; while providing complex carbohydrates (the potatoes) for Anne.

Anne's example should not give one a picture of labor-aversion by homesteaders or circumventors in general. As Jacob (1997) noted "Physical labor is a substitute for the high energy input of hard technology. The energy for hard technology comes primarily by the way of nonrenewable fossil fuels" (109). Rather, homesteaders sought soft technologies to replace the distant commodity chains and negative externalities of industrial products. Characteristics of soft technologies are: "ecologically sound, reliance on renewable energy, low or no pollution, low specialization, easily understood, and labor intensive" (Jacob 1997:108). This is similar to what Vannini and Taggart (2014) termed "hot energies". These are practices that require greater

bodily involvement in creating energy for household use. This is contrasted with "cold energies" that remove the individual from the production process, so much so that it may require as little involvement as flicking on a switch.

In ascertaining the amount and type of soft technologies (or hot energy) Jacob surveyed the variety of modes of production. The responses (and percent of practitioners) are: gardens 95%, fruit trees 78%, woodstove heat 73%, woodlot 63%, chickens 60%, goats 28%, root cellar 22%, greenhouse 22%, fish pond 22%, bees 15%, compositing toilets 15%, grey water recycling 14%, weeder geese 14%, milk cow 11%, workhorses 7%, solar water heater 5%, wind power 3%, photovoltaic 3%, and mini-hydroelectric systems 1% (Jacob 1997: 120, 122, 124). An updated survey would no doubt include higher percentage of photovoltaic as cost of solar energy by wattage continues to decline.

Circumvention-based politics, like all politics, requires mobilization of resources. Traditionally, for sociologists this has meant human bodies via discourse. However, as I continue to contend, a politics of circumvention is primarily focused on the mobilization of nonhumans. Moreover, it is not assured that nonhumans will faithfully fall in line and hold the party line, as it were. Latour showed actants resist and their proclivities must be taken into account. Gould (2005) mentioned a homesteader that "remember[ed] how their visions of backyard milk supply were soon thwarted by nonhuman interests" (21). Any number of actors or actants can refuse to be part of the assemblage. This can become the primary political struggle for circumventors.

How much difference did the back-to-the-landers think they were making? Although there is some contradictory evidence, it appears most people that did move back to the land and began homesteading did not overstate the larger possibilities for their actions.

> Most back-to-the-landers advocates understood that their program of self-sufficiency would not right all the world's wrongs. It would not end depressions

> and panics, make jobs secure, or build a safety net for old age. Certainly, it would do little to equalize distribution of wealth or access to opportunity… Self-sufficiency was not justice, but it was 'one way out'" (Brown 2011:30).

However, some "saw the act of homesteading as not simply as a means of protecting their independence but a political act itself—perhaps the last viable political act left to them" (Brown 2011:212-213). Gould (2005) noticed this as well. "For some, homesteading becomes primarily a private, symbolic practice of dissent from the dominant culture. For others, it means of radically reforming that culture. For still others, it is a delicate balance of both" (Gould 2005:4).

The confusion as to whether back-to-the-land and homesteading was a political act of grander importance or whether it was a private form of escapism continues today. One thing is certain, regardless of personal motivations or explanations there is a lasting relationship between circumventors and what is being circumvented. "[T]he task of eking out a living on one's own is always performed in context of wider, unavoidable dependencies" (Gould 2005:21). My data concurs with Gould's findings that

> Indeed no homesteader I have ever met—including and sometimes especially, the Nearings—has managed the task of complete self-sufficiency, by which I mean complete divorce from the price profit economy against which Nearing and many other homesteaders have defined themselves (Gould 2005:21).

Consider Wendell Berry, literary figure for many environmental activists who understood the difficulty of complete circumvention. In *What are People For?* he wrote "I'm afraid I won't live long enough to escape my bondage to the machines. Nevertheless, on every day left to me, I will search my mind and circumstances for the means of escape" (quoted in Jacob 1997:131). I will continue to revisit this tension, but it would appear that the circumvention impulse is quite a regular event, even if few can say they have gone completely off-grid and back to the land. Nevertheless, one should take care before discounting the possible implications to society. Perhaps one may even find that circumvention, like rebellion and conflict as Lewis Coser (1956)

argued, is actually healthy for a society and counterintuitively serves a function. Or as James Scott (2009) put it "the bedrock of popular freedom" (33).

5.3.1 **Communes of the Past**

It is hard to give a simple and complete definition of what a commune is. Utopian in nature, they can vary broadly from anarchist collectives to the Jewish kibbutz and from Britain and the US to Russia and Vietnam. Often scholars create a typology. To conceptualize the commune, they provide characteristics rather than a fast and steady definition (see Andrew Rigby 1973). I find Daniel Miller (1999) provided the most succinct and inclusive categorization: "A sense of common purpose and of separation from dominant society", "some form and level of self-denial", "of voluntary suppression of individual choice in favor of the good of the group", "geographic proximity", "personal interaction, economic sharing", "real existence" (not just plans), and "critical mass" (xxii-xxiv). For the present purposes this holistic approach suffices.

The origins of the 1960s communes drew from several preexisting themes in American history. Miller (1999) cited many, but specifically he includes the back-to-the-land movement, transcendental literature, religious communities such as the Shaker colonies, and anarchist communes of the 19th and 20th century. In the 1960's communes numbered in the thousands and ranged vastly in their content, from the West Coast's Morning Star and Wheeler's Ranch to the East Coast's Walden Two and Cold Mountain. Southwest communes such as Taos New Mexico's own Morning Star East and Mabel Dodge Luhan House figured prominently in the landscape of the birthplace of Earthship Biotecture. It is estimate that overall "the state [New Mexico] had 25 communes, and perhaps another dozen alternative communities" (Poling 2014).

Many artists and writers spent some time at Mabel's including: John Collier (sociologist), Georgia O'Keeffe, Aldous Huxley, Mary Austin, Leo Stein, Carl Jung, Frank Waters, and D. H. Lawrence. Although no direct tie can be made between the commune and Earthship Biotecture, Mabel's (and others) have contributed to the local Taos culture in ways that most likely have had an influence in Michael Reynolds' development of Earthships.

Daniel Miller's 60s Communes Research Project included transcripts with 500 people who lived in communes in the 1960s. Through the interviews one finds that people who joined communes were somewhat predisposed due to being raised in households that were active in leftist movements. "Dozens of the interviewee were red diaper babies—that is their parents or other close relatives had been Communists or Communist supporters, usually in the 1930s" (Miller 1999:12). They varied in urban and rural backgrounds, socioeconomic positions, and age. However, "Two categories in which diversity was *not* substantial were race and social class. The communes of the 1960s era were overwhelmingly white and predominantly middle class" (emphasis in original Miller 1999:170).

It is difficult to summarize the ideology of a movement so diverse, but in general they were "avowedly opposed to American capitalism and materialism… At the heart of it all was a rejection of greed, material desire, and ultimately of individualism" (Miller 1999:149 and 151). Similarly, Marx and Engels stated of the utopias of their time containing "crude egalitarian" principles. Furthermore, Miller (1999) concluded "Communal egalitarianism was the standard ideology and goal. [However,] it was not usually fully achieved, but it is fair to say that the communes were well ahead of American society as a whole on the matter" (155). Often there was a focus on environmental concerns, or what has been termed anarcho-primitivism (see

Zerzan 2015), an extreme form of Luddism. As a whole, communes utilized and developed new and old technologies. This is attested to by *The Whole Earth Catalog's* history.

Communes were a circumvention-based project that had to recreated subsistence. This included physical structures "that ranged from the transient (tents, teepees, cars, vans, and buses) to the immense (large urban apartment building and hotels)" (Miller 1999:193). The interiors of these refashioned domiciles were often left unpartitioned. Some groups "specially set out to minimize privacy" (Miller 1999:194). Beyond securing shelter "many of the rural communities intended to earn most or all of their keep by farming, meeting their own food requirements and perhaps providing marketable excess" (Miller 1999:208). However, the latter was rarely "lucrative". Despite the excitement that many communards approached farming, "very few of them knew much about how to make it work; most had grown up in cities" (Miller 199:208). This was similar to the homesteaders and of my sample of Earthshippers. One of the first step to an off-grid journey is overcoming specialization. Miller (1999) cited "many tragicomic stories" about misadventures in constructing self-sufficiency assemblages. Such as milking a cow too long and getting butterfat in the milk, milking barefoot and having a cow fracture two toes after stepping on their foot, and lack of organization amounting to unlabeled jars which everyone avoided (209-211). Once again, I find that "escaping the requirements of society" (Merton 1938:678) is only the beginning, not the end.

In regard to these limitations, communes had frequent and regular contact with their neighbors. Many scholars of intentional communities have established this fact. Given the stereotypes of communes as havens of drugs and sex

> [M]ost middle Americans were not pleased, to say the least, about having a commune pop up in the neighborhood… Over time, however, the conflicts tended to drop away. As communitarians and neighbors got to know each other it became

> clear that the population on each side was composed of people, and gradually relations usually became cordial, if not warm (Miller 1999:218).

However, in some cases "hostile neighbors committed violence against communes with acts ranging from minor vandalism to murder" (Miller 1999:222). As with all historical and modern cases complete separation is rarely the goal, let alone achieved.

Once again, the commune movement presents a question of importance to larger society. The circumvention was never complete, however separate spaces were partially produced that allowed for alternative material assemblages, social relations, and discourses. The majority of those that participated in the communes returned to society and with the ending of the circumvention, their experiences lingered. Perhaps the largest change the commune movement may have had was in attitude towards authority, especially when it came to food and sex. "Foods once thought of as weird hippie fare—yogurt, rice and beans, tofu, whole-grain bread, high-fiber vegetables—are now recognized as components of a healthy diet" (Miller 1999:238). Also, the commune movement was connected to "the sexual revolution of the 1960s, [which] seems to have left a permanent legacy of liberalized sexual mores" (Miller 1999:238). Nevertheless, these were by and large latent outcomes.

Sociologist of countercultures Gilbert Zicklin (1983) concluded that communards "turned to rural and urban communes not as vehicles for the transformation of society, but out of a need to find places where they could be at peace with themselves and with one another" (1). A politics of circumvention need not be absolute and everlasting. Again, Scott argued there was common movement out of and back into state-society. Nor is it primarily concerned with modifying circumvented society, yet modification may occur.

5.3.2 **Ecovillages**

The ecovillage movement is the spiritual successor of the 1960s communes, if not a direct continuation of some communes. I consider ecovillages as a hybrid of the back-to-the-land movement and the communes of the 1960's. As is becoming obvious in the above examples of circumvention there are a variety of types of ecovillages. They "are diverse in every way you can imagine – cultural, architectural, economic, climatic" (Litfin 2014:10). They range in sizes from a large extended family to small towns. Some are focused around spiritual issues, while others are secular. You can find low-tech and pre-modern technologies in some and state-of-the-art sustainability tech in others. Some are strict vegans or raw food eaters, while others raise livestock and consume meat. They can be composed of monogamous couples and children or sexually polyamorist social organizations. Their history is rather short, formally beginning in the 1990's (some have existed since the 1950's), but historical roots include the back-to-the-land movement, communes, "monasteries and ashrams", "the social movements of the 1960s and 1970s including the environmental, peace, feminist, and alternative education movements" (Litfin 2014:11). They dot the globe and thanks to the Global Ecovillage Network database, one can get an idea of how many self-defined ecovillages exist. As of May 31st, 2016, the database listed 1,068 ecovillage projects around the planet. If projects that are just being initiated, under construction, and ended are omitted there are 438 functioning ecovillages registered with the Network.

A commonality that exists between them all is mutual aid or in political scientist Karen Litfin's words, "if I had one word to express the taproot of ecovillage life, it would be 'sharing'" (Litfin 2014:16). Sharing, an antithesis to capitalism's possessive individualism, is seen in several approaches that ecovillages take. For instance, collaborative consumption and full cost accounting are two common practices.

Collaborative consumption includes the communal creation, eating, and cleaning of food, often from permaculture and organic farms (this has an affinity with the Zapatista's *mantenimiento* discussion below). Among the 10 rural ecovillages Litfin (2014) studied, everyone "was growing a substantial portion of its food, in some cases virtually all of it (83-84). Sharing also meant the redefinition of needs and plenty. For example, in the search of self-sufficiency ecovillagers had to change their thoughts and actions around water. They did so by incorporating water systems such as roof top harvesting, reuse of gray water, and conservation. At the Findhorn ecovillage in the UK, villagers use "about 30 gallons of water per day – less than the UK average of 40 gallons and about one third the US average" (Litfin 2014:52).

Connected to collaborative consumption is full cost accounting. The more popular ecological or carbon footprint measurement is a type of full-cost accounting. Popularized by William Rees (1992) in the early 1990's, ecological footprint is the measurement of how much natural resources and space (food, wood, land, and energy) are required for an individual or population's consumption lifestyle. Full-cost accounting among ecovillagers is the consideration of the impacts of their activities to nonhumans and other humans. "On the whole ecovillages are adept at full-cost accounting and valuing what may not be reflected in prices" (Litfin 2014:82). This holistic approach is reinforced by ecovillagers' spirituality, ideology, or culture, which stated "that we are not separate from nature" (Litfin 2014:153-154). The key point developed in Chapter Three.

I return to the question of larger impact that circumventors have on the circumvented. I am in agreement with Litfin's impression.

> I like to think ecovillages as a pioneer species. In botany, it's known that whenever land has been devastated, whether through natural causes like fires and floods or through human activities like plowing and clear-cutting, there are certain tenacious plants that are the first to grow. The pioneer species have deep roots

> that are strong enough to fracture rocks and release their minerals into the soil. These plants also serve as nitrogen fixers, fertilizing the soil by pulling nitrogen out of the air. And when the pioneer species die, their decomposition produces soil for later species (Litfin 2014:19).

This analogy is very similarly to anthropologist Anna Tsing's (2015) book *Mushroom at the End of the World*. The premise is that humans and nonhumans can interact in a space called "third nature". Third nature is the creation of something new out of the waste of the second nature (second nature being the built environs and externalities of modern human activities). The ecovillages that dedicate resources to receiving visitors and education programs enact a transfer of culture and technology. "As living laboratories, ecovillages are places of learning, and the knowledge they produce does not stop at their gates. Ecovillages aim to send out shoots and branches" (Litfin 2014:131). However, this should not be understood as the same as other social movement mobilizations. I argue that circumventors practice something more akin to a passive mobilization when it comes to other humans. This will be explored during my discussion of off politics in Chapter Seven.

5.4.1 **Religious Circumventions: The Exodus**

The *Book of Exodus*, from the *Old Testament*, is a story of Israelites enslaved by the Egyptian Pharaoh. The Pharaoh's fear of the Israelites growing numbers lead him to enslave them and called for infanticide of the males. One male rescued from such a fate was Moses. As an old man, God spoke to Mosses and sent him to Egypt to free the Israelites. After a series of fantastic manifestations of God's power (10 plagues) the Pharaoh capitulated and let the Israelites leave. This of course was followed by the parting and un-parting of the Red Sea, 40 years of wandering the wilderness, detailed how-to building instructions, and the 10 commandments.

I interpret this story as essentially a didactic tale of a politics of circumvention. Redemption from servitude could have come in the form of a revolution, with the overthrowing of the Egyptian state. Alternatively, emancipation could have been negotiated between elite Israelites and the Egyptian state administrators. Instead, the Israelites chose to circumvent all state-based institutions and set out to the desert. In this story, when put in conversation with Scott's discussion of physical flight as a check on tyrannical states, one begins to see just how important circumvention, or at least the political imaginary of it has been to humanity. This becomes even stronger when considering the other examples in this chapter, particularly the Amish and maroonage cases.

This imaginary continues in the modern era, perhaps best exemplified in Bob Marley and the Wailers' (1977) most popular album and song *Exodus*—"Exodus, all right! Movement of Jah people!" This imagery of exiting, leaving, retreating, escaping, or circumventing a situation has held a strong currency to many, perhaps even more so than rebellion. Importantly, the process is not just that of displacement, but also of creation. Circumvention is not migration to an already existing civilization, rather it is the dual process of extrication and terraformation of something new.

The numbers of religious movements that have chosen circumvention are numerous; from the Christian monks referred to as the Desert Fathers of the third century AD, whom lead isolated lives in the Egyptian desert (see Ward 2003) to the Buddhist temples of Nepalese mountains (see Gnanarama 1998). Within Europe in the middle of the last millennia, the Anabaptists sects that refused state compelled religion responded with circumvention and created exilic societies away from the growing usury practices of mercantile capitalists and the growing bureaucracies of the burgeoning nation-state. There is neither space, nor a necessity to follow the

story of circumvention among many religious movements. However, there are numerous parallels between the Amish and the current off-gird movement that warrant their inclusion in this chapter.

5.4.2 **The Amish**

Notable and prolific scholar on the Amish Donald Kraybill described the Amish as "a people of separation". He went on, "Indeed their entire history can be called a struggle to be separate" (1994:1). The Amish originated in the late 1600's in Switzerland, led by Jacob Ammann. Coming out of the Anabaptist tradition, they believed that the church and state should be separate, a dangerous idea in the 17th century that was met with persecution. This is attested to in the book Martyrs Mirrors, which "is often found in Amish homes and sometimes Amish sermons" (Kraybill 1994:261n3). In it are list of hundreds of persecutions of Amish, which details their torture, execution, and circumvention. One account is illustrative of circumvention-based politics.

> Those who escaped all this were hunted and driven from place to place and from land to land. They had to be like owls and night herons not daring to appear by day, hiding among crags and crevices in the rocks, in wild woods, and in pits and holes. They were hunted by constables and dogs; snares were set to capture them like birds. All of this without any offence on their part—they were neither harmed nor wished to harm anyone (quoted in Hostetler 1989:21).

The use of the friction of terrain, that James Scott discussed, appears again—" among crags and crevices in the rocks, in wild woods, and in pits and holes". Consider the invocation of the animal, breaking down rhetorically the human and nonhuman division.

Within a few decades the Amish expanded their circumvention and left for the New World in two waves, 1727-1790 and later between 1815-1860 (Holstetler 1990:2). In the New

World, the Amish spread out, but mainly settled in Ohio, Indiana, and Pennsylvania. In the late 19th century some Amish moved farther westward.

> In addition to the desire to homestead and find cheap land, there were other factors. A deep concern for the spiritual welfare of their children spurred them on to find more tolerable places to live. Others wished to *escape* overcrowding and the regulations imposed on simple farming people (emphasis added Holstetler 1990:38).

As the IEMP assemblages started to surround these farms the Amish continued westward attempting to construct new exilic spaces. Once back-to-the-land again, the Amish faced the struggle of creating nonhuman assemblages for subsistence. Stories included dust storms, tornados, fires, draught, and pests. In Nebraska 1899, Abe Yoder discussed the first house his father built. It was a sod house

> built by first plowing the sod about 2 ½ inches deep and 12 inches wide. Prairie sod was nice and tough and not brittle. Then it was cut with a spade, twice the length of the width and laid up like a brick—one crosswise and the next longways two beside each other. Thus a wall 24 inches thick was built which resembled our earthen stone dwellings. This was plastered on inside (and some dwellings on outside) right against the sod, making quite a comfortable abode (Luthy 1990:39).

The son goes on to discuss how his home was fire proof, a common concern at the time. By using locally sourced materials and simple construction techniques, a higher level of extrication is possible. This can include Tsing's third nature, as Earthships demonstrate by sourcing automobile tires (which by happenstance are also heralded for their fireproof character when encased in dirt and adobe) from local landfills and junkyards as building materials.

Another story showed how sometimes things do not work. For ten years, in the early 1900's several Amish families tried to establish a homestead in Northern New Mexico near Taos. Various nonhuman actors repeatedly thwarted their intentions. Examples included: coyotes attacking their cows, rattlesnakes jumping at their horses, and jackrabbits and wild donkeys

eating their crops (not to mention the bobcats). Another example included Jacob T. Borntrage who, when he

> built an addition to his house, he discovered that the lumber was full of bedbugs. He and his family tried washing the lumber with kerosene and put jar lids filled with kerosene under the legs of all the beds. But the bedbugs soon learn to crawl up the walls and along the joists and drop down on the sleeping people (Luthy 1990:49).

Within the jar lid-kerosene-bed legs-bed bugs assemblage the bed bugs resisted enrollment and took a line of flight through another avenue. As such, it was not the persecutions by other humans that forced the New Mexican Amish to leave, it was a host of nonhumans and the Amish's inability to terraform assemblages.

In more recent times the public have come to associate the Amish with agrarian lifestyles and rejection of modern technologies. This focus on "self-yieldness" was in part due to the inability to own or work on agriculturally rich land in Europe. As such, "They ended up renting isolated acres well removed from village life. Living on the periphery of society and tilling marginal property drove them to improve weak soils" (Meyers and Nolt 2005:107). Living in these outside spaces allowed the Amish to experiment with different farming techniques (just as the New Mexico mesa offered Michael Reynolds a space to experiment with housing design). When they arrived in the New World, they met difficult terrain and climates. Once again, many observers have noted the Amish's successful and inventive agricultural practices such as "stall-feeding of cattle, rotation of crops, meadow irrigation, and to use natural fertilizers and clover and alfalfa pasture as a means of restoring fertility to the soil" (Kollmorgen in Stoltzfus 1973:197). The agencies of various nonhumans forced the Amish to construct alternative assemblages than the ones used in locations that were more hospitable for agriculture.

Due to the teachings of the *Ordnung* certain technologies, specifically agricultural machinery such as the tractor, were resisted.[33] The "*Ordnung*, or church rules, restrain members from adopting aspects of technology which would erode the social bonds of family and community. Humility, simplicity, sharing, and sacrifice for the welfare of a community are emphasized" (Hostetler 1989:2). The Amish recognized the entanglement of the human and nonhuman. In constructing the assemblages of their exilic society, the consideration of nonhuman agencies was paramount. In regard to farming technology such as the tractor, it "was resisted to keep labor opportunities for young people" (Stoltzfus 1973:197-198). Although, they do use some modern devices such as "pocket calculators and battery-operated razors" since they "are not a threat to family solidarity" (Hostetler 1989:6).

An important addition was made to the *Ordnung* in the early 1900's—a ban on the telephone. This was first done in Lancaster and then spread to other settlements. For the Amish the telephone "symbolized a desire to be connected to the larger world… was understood to be individualistic… provided temptations to gossip, 'spooning,' and other mischief… Finally the telephone had the potential to disturb the pace and style of work routines (Umble 1994:104). However, "They see no contradiction in forbidding a telephone in the home but permitting its use from a pay station" (Hostetler 1990:6).

Similarly, the electricity grid is forbidden in the Old Order and some New Order Amish communities (the distinction will be discussed below).

> The Amish feel that, should they plug into an electrical socket, they will change their whole way of thinking and their relationship to nature, for with electric power will come all the conveniences that would wipe out simplicity, humility, and the institutions of communal dependence (Hostetler 1990:6).

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[33] The *Ordnung* is unwritten; perhaps this functions as a state-aversion method, such as postliteracy of the hill people of Zomia.

Kraybill and Nolt (1994) noted "The technological restrictions in Amish life have encouraged an inventive spirit that, rather than stifling creativity, has actually spurred Amish mechanics to experiment" (158). Specifically, air and hydraulic motors power many devices that the Amish use. Alternative assemblages are terraformed while in these exilic spaces and contribute to their continued circumvention.

Communal dependence (or mutual aid), a common theme among circumventors, is foundational to the Amish community. Barn raising is probably the most iconic Amish mutual aid act. The late farmer and author Gene Logsdon was invited to an Amish barn raising after a tornado destroy four barns near Wooster, Ohio in the 1980's. He recounted the industriousness of the Amish workers. "In just three weeks the downed trees were sawn into girders, posts, and beams and the four barns rebuilt and filled with livestock donated by neighbors to replace those killed by the storm. Three weeks" (Logsdon 1989:78). Beyond events such as this, there are examples of mutual on a daily scale, such as livestock production and fieldwork.

The Amish way of life has been under severe strain in the last 50 years. In the late 1960s, there occurred a split, with the New Order emerging. This Order allowed the most amount of modern technology such as bottled gas appliances, natural gas lighting, gas freezer, tractors for some (but not all) farm work, forage chopper, haybine, bulk milk tanks, milking machines, electric lights, 12 volt motors, and air travel (Kraybill 1994:63,65, 67, 69, and 71). Tourism and commercial credit are two other features that some Amish communities have begun to participate in. The degree of circumvention seems to be waning for some Amish communities. However, the Amish in North America have been steadily growing. Between 1900, 1951, and 1992 the number of Amish churches (and population) were 32 (4,800), 202 (30,300), and 930 (139,500) (Kraybill 1994:9).

The impact of the Amish circumventors on the circumvented society may be limited to the symbolic at this point. This is what sociologist Marc Olshan (1994) concluded. "The Amish stand as a promise of the autonomy, meaning, and humaneness that are possible when the limitlessness of an anomic world is resisted" (Olshan 1994:242). And sociologist Victor Stoltzfus (1973) believed that the Amish offer the environmental movement and rest of society a prototype. "It is not likely that the Amish model will be directly imitated by many people in the near future but it aids us in more critically and consciously evaluating our own man-machine equilibrium in light of our own professed humane values" (Stoltzfus 1073:204). In this way the Amish are similar to the eco-village movement.

5.5.1 **Circumvention of Emancipation: Maroon Societies**

On the scale of least coerced circumvention to most, maroon societies fall on the end of the latter. Maroon societies are groups of African slaves in the Americas and Caribbean who escaped their bondage and founded semi-independent communities. They have existed since at least the early 1500s and for centuries they "stood out as a heroic challenge to white authority, and as the living proof of the existence of a slave consciousness that refused to be limited by whites' conception or manipulation" (Price 1996:2). Other terms for these phenomena are *cumbes*, *palenques*, *rochelas* and *quilombos*.

Maroonage is an interesting example of circumvention where servitude is not directly challenged (a slave rebellion), nor negotiated (constitutional amendments). Rather a space outside is produced. Hardt and Negri (2009) used the case of maroonage in their development of their conceptualization of exodus, but argued that such acts need not necessarily be spatial

(similar to Grubačić and O'Hearn [2016]).[34] Beyond this point, there is also a special affinity with assemblage theorists. Neil Roberts (2015) followed Édouard Glissant (a Caribbean philosopher) in making a connection between Deleuzian lines of flight and maroonage.

> The philosophy of the rhizome applied to maroonage is significant for Glissant insofar as it accentuates the *concurrent* modalities of flight from slavery occurring in the world. The fugitive's episodic running away from a plantation for a day, mutineers on a slaver, [and] marooners in the hills… (emphasis in original Roberts 2015:167).

Briefly, I trace these flights below.

The demographic composition of maroon societies ranged over time. "During the early colonial period… there was a severe imbalance of male to female slaves… and this proportion was further increased among the original bands of runaways" (Price 1996:19). It is documented that male slaves ran away at twice the level of female salves (see Heuman 1986:98 for data on Barbados). Beyond this gender difference, historians have documented three general types of maroon society members. First, the least acculturated slaves "literally just off the ships" (Price 1996:24). Second, native-born Africans that "were not particularly prone to flight", who only left after having "been victims of brutality considered excessive even by ordinary standards of the plantation" (Price 1996:24). Third, "a high proportion of Creoles and high acculturated African-born slaves… with particularly strong ideological commitments against the slave system itself" (Price 1996:24).

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[34] Hardt and Negri (2009) wrote of exodus: "As a first approximation, then, think of this form of class struggle as a kind of maroonage. Like the slaves who collectively escape the chains of slavery to construct self-governing communities and quilombos, biopolitical labor-power subtracting from its relation to capital must discover and construct new social relationships, new forms of life that allow it to actualize its productive powers. But unlike that of the maroons, this exodus does not necessarily mean going elsewhere. We can pursue a line of flight while staying right here, by transforming the relations of production and mode of social organization under which we live" (152-153).

Interaction between maroon society and slave society was diverse. There were strong reactions by plantation owners, including torture if caught. However, there was also a tolerance on the behalf of slave owner society. "As long as the numbers of slaves who took to the hills remained small, only the least skilled slaves were involved, and they did not interfere directly with plantation life, the maroons' existence might be tolerated or largely ignored" (Price 1996:3). There was also a recognized form of "petite maroonage", which was the "repetitive or periodic truancy with temporary goals such as visiting a relative or lover" (Price 1996:3). Interactions on the marooners' side also ranged from helping whites capture future runaways if let unmolested to raids on plantations. Trade did exist, as certain items could not be acquired directly off the land by the marooners. However, there is some controversy as to the degree of economic dependence. Richard Price (1996) (editor of a seminal text in maroon studies) argued "the inability to disengage themselves fully from their enemy was the Achilles heel of maroon societies throughout the Americas" (12). Although, in a footnote he followed up with "In some cases, at least, maroon groups may have been less the victims of economic necessity than these statements imply… To some extent, then, the 'economic dependence' of maroons on colonial society was a matter of choice" (Price 1996:12).

Marooners found themselves fighting on two fronts. The first being subsistence and the second being the slavers that hunted them. "To be viable, maroon communities had to be almost inaccessible, and villages were typically located in inhospitable, out-of-the-way areas" (Price 1996:5). In these exilic spaces, they developed agricultural methods similar to the hill people Scott discussed.

> Swidden horticulture was the mainstay of most maroon economies, with a similar list of cultigens appearing in the reposts from almost all areas—manioc, yams, sweet potatoes, and other root crops, bananas and plantains, dry rice, groundnuts,

> squash, beans, chile, sugar cane, assorted vegetables, and tobacco and cotton (Price 1996:10).

Intercropping and scattering of planting allowed for less visibility. Again, I find the same sort of state-averse methods of self-subsistence that Scott found among the hill people. Price quoted a Captain Stedman's statements on marooners' tactics and knowledge of the environment. "Inconceivable are the many expedients which these people employ the woods… Game and fish they catch in great abundance, by artificial traps and springs, and preserve them by barbecuing; while their fields are even overstocked with rice, cassava, yams, plantains, &c" (Steadman quoted by Price 1996:11). The plentitude created in these exilic societies was impressive, even by slavers' observations.

Many maroon societies were "living with the ever-present fear of sudden attack" (Price 1996:10). This was reflected in their social organizations that included "loose shifting federations [,] … isolated bands [,]… [and] communities at war" (Price 1996:16). Ongoing war left little room for dissent and many "early maroon communities allowed a great deal of power and authority to accrue to their leaders, and they learned to live with very harsh sanctions on internal dissension" (Price 1996:18). This is contrasted with the more egalitarian arrangements found in other cases of circumvention. However, among maroons the more authoritarian arrangements seemed to have been replace in the eighteenth century and "the power and authority of early wartime leaders was gradually diffused into a number of developing institutions" (Price 1996:21). Without large scale infrastructure of enrolled nonhumans ossification of hierarchy may again prove as elusive as seemingly was for pre-civilization humans.

Impacts of circumvention by escaped slaves were as serious as the Mexican maroon community led by *Yanga* that secured their freedom as the first free black colony of the West

(see Davidson1966) and other episodes that were "a serious threat to early plantation economies" (Heuman 1986:3). However most maroon communities held a negligible importance to the planation political economy. As I began this section maroon society was an affront to prevailing racist notions of the African. Their communities served as an inspiration for slaves unable or unwilling to circumvent and often enslaved people would provide arms to marooners. Some scholars go so far as to say that without the assistance of maroons, slave rebellions, including the Haitian revolution, would have end in failure (see Thompson 2006). Furthermore, it would be a mistake to explain maroonage as "individualistic reactions to planation servitude. Rather they must be understood as *complete rejections of their lot*, generative instances of collective world-building in the face of utter devastation and in refusal of the world that still must be refusal" (emphasis in original Edwards 2017:253).[35]

Still today, maroon communities exist, like Accompong in Jamaica. Accompong serves as a tourist and education area about the history of maroon societies. Recently descendants of marooners in the area have been involved in political actions of their own against bauxite mining (see Meyer 2016). Their struggle to be left alone continues.

5.6.1 **Staying Put Circumventions: Zapatistas**

Zapatista, a now famous name in the global social justice world, has three cited beginnings. First, as the original settlers of a valley in Mesoamerica some 7,000 years ago (Carmack 2007). Second, the second decade of the 20th century, during the Mexican Revolution (1910-1920). During which time Emiliano Zapata, a revolutionary leader of landless peasants

[35] Here Edwards is drawing off of Cedric Robinson's (2000) discussion of maroons in his seminal work *Black Marxism*.

fought for land reforms including the expropriation of land held by elites to be governed by ejidos (system of communal land governance). These first ejidos had a contradictory relationship with the state, but in many ways allowed for "decades of experience in organizing via independent peasant organizations, and with experience in life *outside* of the state-regulated structures of government" (emphasis added Grubačić and O'Hearn 2016:120). The most recent beginning, as it were, came with the signing of the 1994 North American Free Trade Agreement, although neoliberal restructuring of government policies date back to the 1968 student movement.

The Zapatista Army of National Liberation, one of many organizations "was composed of armed students and indigenous colonists in exile" (Grubačić and O'Hearn 2016:124). However, membership extended to any who "self-identify with the project of autonomy (Zapatismo)" (Grubačić and O'Hearn 2016:131). One community member described members as "Anyone living here who has *buen pensamient* (good thinking) (Grubačić and O'Hearn 2016:131). This broad identity is "sometimes referred to as the 'Indianization of autonomy,' [and] is built in active opposition to the state-endorsed *mestizaje* ideology" (Grubačić and O'Hearn 2016:133). This refusal to accept a state-based group identity is another example of the off-politics found among circumventors.

The Zapatistas' focus on autonomy arguable has many origins. Such as the "preconquest communal traditions of indigenous[, a] discussion originating with the Indigenous Congress of 1974[, and] a new concept that emerged and matured in practice after 1994" (Grubačić and O'Hearn 2016:127). Regardless of its origins, autonomy is valued among the Zapatista, as seen in the following statement made by a teacher in a Zapatista territory. "Everything you see around

you, we built; we take nothing from the state. We built our own infrastructure, our roads and houses, schools and health systems" (Grubačić and O'Hearn 2016:123-124).

Material structures are only part of the story. Autonomy, like most circumvention-based cases, is a communal affair, thus self-governance structures have to be created. This is done through general assemblies guided by consensus decision making and *mandar obedciendo* (leading by obeying). The latter is a complicated idea, but "the basic premise is that every individual administrative position need to benefit the collective; at the same time, however, every individual administrative position need to be supported by the collective" (Grubačić and O'Hearn 2016:136). I take this as similar to the phrase "public servant".

Moving back to the importance of the nonhuman, exilic societies recognize that "Autonomy is something material, something tangible. For many people, the core meaning of autonomy is the ability to subsist independently. In practice, finding the resources to do so may be the biggest threat to exilic life" (Grubačić and O'Hearn 2016:128). Again, one is confronted with the terraformation of nonhuman and human worlds as the primary struggle for circumventors.

In regard to subsistence economy, looking further back in time there is "evidence [that] strongly indicates that [Zapatistas'] ancient Mesoamerican ancestors domesticated maize from a wild grass" (González 2001:1). Near the contemporary Zapatista controlled areas were the Taleas people. In *Zapotec Science* Roberto González identified several principles of local foodways and knowledge systems of the Taleas. This showed significant corollaries in several cases of circumvention already discussed. The first foodway, *mantenimiento* (maintenance), is a holistic approach to living, which "do not make a sharp distinction between agriculture, food preparation, and consumption" (González 2001:15). I think of it as an indigenous form of

modern full-cost accounting, exemplified in ecovillages. The second is *gozona* or reciprocity understood in the following manner.

> In farming this typically involved helping kin, neighbors, or friends with several days of agricultural work which are then returned upon request. In food preparation, it implies food exchanges and the pooling of labor to cook food, particularly for feasts associated with life-cycle events (González 2001:16).

It is equivalent to the concept of mutual aid, exemplified in the Amish. Third, rituals and myths contain "personification of nonhuman and supernatural actors". González (2001) noted, probably to Latour's delight, that even "Individual crops such as maize are also seen as willful actors" (17). These local knowledge systems recognized the agentic capacity of actants, actor network theorists would surely concur. Lastly, González (2001) remarked on the absolute "normality and inevitability of physical work." Similar to the soft technologies (or hot energies) of 1990's homesteaders (and Canadian off-gridders).

In regard to the more contemporary Zapatistas "The primary goal is self-sufficiency—*active* independence from the state and its social programs" (emphasis in original Grubačić and O'Hearn 2016:140). This is in general a major feature of all circumvention-based politics, but this is not a reclusive project. As "production is not limited to subsistence; commercialization and trade yield a collective surplus. Small-scale production and commerce include cooperatives, coffee shops, artisan shops, bakeries, and various cooperative ventures" (Grubačić and O'Hearn 2016:141). Similar to the Amish selling furniture and other goods there is an attempt to set the level and content of the dependence experienced.

An aspect not yet mentioned is the paramilitary conflicts. In 1994 "Zapatista fighters took over several towns in Chiapas. The government responded with force, and more than four hundred poorly armed rebels were killed in the 'battle of Ocosingo'" (Grubačić and O'Hearn 2016:146). Several rounds of negotiations followed with no real progress. These talks, however,

were useful in circumventing the state and appealing to civil society in Mexico and internationally, a strategy Subcomandante Marcos called the "third shoulder". The attention of the international community and the subsequent military clashes and massacres served to aid the Zapatistas in receiving non-governmental organizations and religious support. This was to such an extent that (despite what some argue) "International organizations, not the base communities, obtained most of the necessary funds to build autonomous community infrastructures" (Grubačić and O'Hearn 2016:156). On face value it would appear autonomy required a level of dependence, albeit outside of the Mexican state.

There are limits to the amount of circumvention that various Zapatista communities can enact at any time.

> The Zapatista economy can hardly 'de-link' from world-capitalism, even though Zapatista society has largely de-linked from the Mexican state. Zapatista economic activities are contradictory substantive practices, anti-capital in certain respects, supportive of capital in others… Even if contradictory substantive practices are more empowering than disempowering on balance, tensions remain (Grubačić and O'Hearn 2016:154 and 171).

Given the Zapatistas' popularity perhaps the impact of their circumvention lies far away from the rainforest of Chiapas. They materialize the imagination of anti-globalization activists that "another world is possible". What I have shown, the simple recognition of contradiction in regard to circumvention must not be elevated to the category of negation. Circumvention is variegated and can be self-contradictory. In this it is simply a dialectic. In this it is like all politics.

5.7.1 **Conclusion**

Circumvention of dominant socio-material assemblages comes in as many forms as the caging takes. In none of the cases of circumvention was there a complete withdrawal. Even in

some of the most violent situations as in maroonage. Here regular contact was made with plantation society ranging from aid to insurgency. In less contentious circumventions the relationship to circumvented society ranged from having little discernable impact to an actual transfer of nonhumans and culture. Inventions in the exilic spaces of communes are seen in every grocery store and it is likely the same process will occur in the "living laboratories" of ecovillages.

Beyond material culture, circumvention has always been an imaginary, a dream. From the Christian tradition to the Zapatistas and from the news articles of back-to-the-landers to the preoccupation of the "simpler times" that the Amish embody. Circumventors inspired millions around the world to see the claim for autonomy as a worthy one. In each case there is a construction of alternative knowledge systems to supplant the ones found in dominant society. This is recurrently seen in ontology, as nonhuman agencies become of paramount importance to the continuance of the circumvention. There is a re-enchantment or at least an acknowledgement of human entanglement with the nonhuman. In these ways and more circumvention-based projects offer important ideational benefits to the greater society. As Scott (1976) concluded the

> symbolic refuge is not simply a source of solace in a precarious life, not simply an escape. It represents an alternative moral universe in embryo-a dissident subculture, an existentially true and just one, which helps unite its members as a human community and as a community of values (240).

As I turn my attention towards the Earthship case study, everything covered up to this point will be utilized to better capture the off-grid phenomena. The critiques of on-grid society, the broad spectrum of interested individuals, the recognition of nonhumans as actors, the actual struggles on terraforming a circumvention assemblage, and the complicated relationship between on and off-grid society are comparable to what these historical cases have courageously provided.

PART THREE

In Part Two I made the bulk of my theoretical argument supported by historical cases. In Part Three I will show how these arguments provide the undergirding to understand the Earthship structure and the humans and nonhumans that build, compose, and live in it. In Chapter Six I explore what the grid is for those seeking an existence off it. Their narratives weave social institutions and nonhuman actors in unique ways. What comes through is a series of dominant socio-material assemblages that Earthshippers desire to circumvent. These are the government, corporations, consumer culture, and market relations more broadly. Additionally, they discuss the outcomes and consequences these grids have on society and the environment.

In Chapter Seven I develop the unique politics of Earthshippers. As stated in Part Two there is a different modality of engagement that is primarily about disengaging. This runs counter (or runs right the edge) to the liberal pluralist and radical presumption of politics. I term the politics practiced by off-gridders "off-politics". Both a play on words, but also an accurate assessment. Through several broad areas I build up the concept. These are identity, diversity, the non-activist, everyday living, and passive example-oriented.

In Chapter Eight I describe the Earthship assemblage itself. Drawing on interviews and how-to books I explain each of five assemblages of the Earthship structure. Beginning with the use of passive solar and thermal heating and cooling, moving to the use of third nature (trash or

garbage) as building materials, and on-site electricity production, storage and distribution. I conclude with the water catchment and recycling system and household food production.

In the final substantive chapter, Chapter Nine, I look at what it takes to live off-grid. I begin with the engagement of nonhumans as a mobilizing act similar to human mobilizations. Here I use the passionate language of the Earthshippers themselves as they express their desires and pleasures. Then I discuss the process of overcoming specialization, the same process that has been at the start of all circumventions. Counterintuitive this process is completed with others, a do-it-with rather than the do-it-yourself activity. I find that disconnecting is a process of forming new connections with both people and nature. Lastly, life off-grid is one of voluntary simplicity, enhanced responsibility, and personal autonomy. I describe what each of these mean to the off-gridder.

Chapter 10 is dedicated to some concluding thoughts. As I construct a broader-than-middle range theory, there are many critiques that can be leveled. I attempt to deal with these in the forms of ethical considerations, problematic implications, and study limitations. I end with gestures towards future research, as I have already begun planning a follow up study.

By the end the reader will come to understand the necessity of, what may have appeared at first as tangents. With the background knowledge of approaches to nonhumans in the social sciences and humanities one can begin to appreciate the neglected role of nonhumans in creating power relations. This, in turn, allows one to grasp the immemorial tradition of circumvention as a politics and its continuation today with all its ontological heterogeneity.

6. THE GRID

"Electrical power systems embody the physical, intellectual, and symbolic resources of the society that constructs them… Power systems reflect and influence the context, but they also develop an internal dynamic".
Thomas P. Hughes 1983

6.1.1 **Introduction**

People joke about going off-grid in conversation. When someone leaves their cell phone at home or set an automatic "out of office" message to their email accounts they say they are off-grid. There is also a common usage in primetime TV crime dramas. Shows regularly depict elusive "perps" or "unsubs" as off-grid. In the first instance, there is an underlining idea of taking time for yourself, a self-care moment. In the latter, there is a presumption of wrongdoing. I believe both get at a truth.

To leave the socio-material cages composed of various IEMP assemblages is to offend the "civilized", which is often be responded to with condemnation. This is what comes through my discussion of the first state-societies and the depictions of modern circumventors given by Merton, Hirschman, and Lawrence-Lightfoot (See Chapter Four). It is as if the off-gridder is a traitor to the unspoken enlightenment, modernist, and progress project. Yet as they are dismissed and demonized on-gridders also identified with the restlessness and anxiety that comes with the

never ceasing complicated (in the Latourian sense) demands of society. There is an impossible dream of, as what Essie an Earthship Biotecture intern told me "stepping outside of the centralized systems that be" (Personal interview 7/24/2014). This is something many on-gridders can sympathize with. But a dream it remains for all but a few. "Reality" sets in and the social cage is discerned in the list of reasons why one could not leave. The mortgage, the student and credit card debt, bills, retirement savings (for those who have one), healthcare, and most immediately the meeting of basic bodily needs of food, shelter, clothing, and community that humans have long been removed from creating themselves from scratch. Far from being a cowardly "retreatism" of a "traitor" or delusion of "psychoneurotics" I come to appreciate the reasoning and level of confidence, strength, and vulnerability it takes one to venture, maybe not completely off the grid, but at least towards an outside.

In this chapter, I focus on the narratives of people off and seeking an off-grid existence. Specifically, I take up their understanding of the grid. Just what do Earthshippers mean by off-grid? What is the grid and what is so wrong with it? For those I spoke with, the grid is a double articulation composed of unequal social relations and material components. It is a symbol of "civilization", "authority", and the "corporate machine" made up of a "mentality", "bills", "debt", "money", "taxes". It is also the actual things, the nonhumans of "electricity lines", "chlorinated (or fluoride) water", "sewage systems", "factory farms", and "natural gas… drilled from Nigeria". It is something people are forced to "plug into", "hook up", "chained to", or "tied up". It is understood through dominant socio-material assemblages of the "government", "corporations", "culture", and the "economy". The perceived consequence of being connected to these infrastructures is one of "dependence" and a lack of "control", "autonomy", "freedom", and "empowerment". The outcomes are innumerable negative externalities broadly understood

as the "destruction of land and wildlife", physical and mental illness, and destruction of communities. There is widespread understanding that the grid is "not working" and "failures" and "shortages" punctuate daily life of grid users. In the end "trust" is eroded in the grid.

In the next chapter, I will look at how the obvious recourse to politics is dismissed. Chapter Eight is dedicated to the nonhuman assemblage that is the Earthship. Finally, in Chapter Nine I take an intimate look at why the choice to go off-grid is made and how being "off" is experienced. Out of these remaining chapters, it may be possible to appreciate that for some off-gridders the real "perps" are those that remain on-grid.

6.2.1 **What is Off-Grid?**

"Off-grid" is an ambiguous term. The first use of the it appeared in 1922[36] in reference to vacuum tubes in radios. In the 1970s the term became used in computer architecture. In the 1980s the term was used in international development literature in reference to rural electrification, often about small-scale hydro-generating electricity systems. Also, during the 1980's the term off-grid was being used in technical journals about the development of photovoltaic technology. It was not until the late 1980s and 1990s when the term took on a social dimension, used interchangeably with "survivalist". This growth in popularity is due to concerns stemming from the US-Soviet arms race and "home grown terrorists" like Ted Kaczynski[37] and

[36] According to an n-gram google search.

[37] Consider the darker side of circumvention. From a 2003 letter by Ted Kaczynski: "I knew what I wanted: To go and live in some wild place. But I didn't know how to do so. . . . I did not know even one person who would have understood why I wanted to do such a thing. So, deep in my heart, I felt convinced that I would never be able to escape from civilization. Because I found modern life absolutely unacceptable, I grew increasingly hopeless until, at the age of 24, I arrived at a kind of crisis: I felt so miserable that I didn't care whether I lived or died. But when I reached that point a sudden change took place: I realized that if I didn't care whether I lived or

Timothy McVeigh. Also, the Y2K hysteria and 9/11 attacks brought with it an increase interest in more self-sufficient lifestyles. However, by the close of the last millennium, there was a more "family friendly use" of off-grid in home improvement magazines and books. Finally, with the rise of social media culture off-grid enters popular usage. It was defined in sources like Urban Dictionary as "a state of being off of the internet, no Facebook, Twitter, Skype, AIM, Gmail chat, Myspace etc… Generally used in cases of drama-overdose".

As I have explained these latest terms and movements are only the latest iteration of a long history of circumvention. But just what is the grid in off-grid? Interestingly, the term mirrors the dual usage as material components and social relations. It is an apolitical technical term for components. And it is a social term for everything in between violent anti-society extremists to teenager discursive hyperbole. However, both provide a dismissive stance to an off-grid option. So, is the grid a bunch of power lines, generator stations, and fuse boxes? Or is it the authority of a tyrannical federal government? Or is it the 24/7 demands from the office and from our culture?

For Earthship builders and dwellers, it can be some or all of the above. For Edgar it is just about everything. "The grid means being tied into the great civilization that we live in, in any form or fashion. It used to be just electrically or just the water, or something like that. But really

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died, then I didn't need to fear the consequences of anything I might do. Therefore I could do anything I wanted. I was free!" (cited in Kingsnorth 2012).
And in a 1987 letter: "The best place, to me, was the largest remnant of this plateau that dates from the Tertiary age. It's kind of rolling country, not flat, and when you get to the edge of it you find these ravines that cut very steeply in to cliff-like drop-offs and there was even a waterfall there. . . . That summer there were too many people around my cabin so I decided I needed some peace. I went back to the plateau and when I got there I found they had put a road right through the middle of it. . . . You just can't imagine how upset I was. It was from that point on I decided that, rather than trying to acquire further wilderness skills, I would work on getting back at the system. Revenge" (cited in Kingsnorth 2012).

it is just everything" (Personal interview 7/22/2015). A frustrating statement for a sociologist trying to create their own scientific "grid" of categories. But Edgar is not alone in this definition. Saul remarked "Well, you know there is the physical, the electricity, the plumbing, and sewage, and all that. But I have seen it differently I guess. In that it is just feeding the corporate beast" (Personal interview 7/17/2015). I will return to Saul in the next chapter to hear his solution. Again, the material definition and social are combined. Liam followed suit.

> I consider it all grey infrastructure something that serves housing. Um electric lines, water lines, um, I mean even more wide spanning than that. Maybe I would consider even agriculture. Just yeah a way of providing basic needs of life. You know food, heat, your gas as well. Um yeah (Personal interview 7/16/2015).

Lastly, Ovidiu repeated this format. "The grid? Well the grid. I guess in the most simple way. I think the grid is basically the electrical systems, the water system, the natural gas, and the water system, the grid. And I think you can even go beyond that. *The Matrix*, the grid can be a lot more" (Personal interview 7/14/2015).

There is an entanglement, which is hard to capture due to the ontologically heterogeneity. Historian of the electricity grid Thomas Hughes (1983) stated as much. "Modern electrical systems have the heterogeneity of form and function that make possible the encompassing complexity" (Hughes 1983:1). Fellow historian David Nye concurred. "Electrification mixed cultural, economic, and technical factors; it was a social construction that emerged through the interaction of many different entities" (Nye 1990:27). The grid is a protean assemblage. It is a series of socio-material relations that off-grid people identify as preventing them from a fulfilled (meaningless work, meaningless consumption), safe (economic insecurity and health concerns), and moral life (human and nonhuman harm through everyday actions). For Earthship dwellers and builders, this assemblage is a cage, one they are seeking to circumvent.

Consider Freddy, whom came to the internship with a more benign concept of the grid, but left with a complex one.

> I supposed my definition of that has definitely changed, for instance now, I guess there are certain things I wouldn't realize unless I talked about them to notice how they changed. Before off grid probably meant to me, or the grid probably meant to me, you know the structure how we live in, in its entirety from what you would call utilities, like water, power, sewage to more casual amenities like food, like not food as in like bread, but as in food like chocolate biscuits and McDonalds, um, and products that are sold to you that you don't necessarily need. And now I come to see there are different layers of the grid. Which can be dissected and your involvement with those different layers can in turn, um. I guess you're involved in those different layers and it dictates the way you live (Personal interview 8/3/2014).

I explained in Chapter Four James Scott (2009) prematurely closed the era of circumvention, but Grubačić and O'Hearn and Hardt and Negri among others provided a more nuanced framework. This allowed for exilic spaces to exist if not completely spatially separate, then at the minimum structurally adjacent. Freddy echoed these exact ideas. The grid is not a uniform on or off assemblage. There are "different layers" that "can be dissected" and "involvement" modified or ceased. This is at the heart of human agency in an entanglement of human and nonhuman assemblages. I return to Jane Bennett's work where she summarized this.

> Perhaps the ethical responsibility of an individual human now resides in one's response to the assemblages in which one finds oneself participating: Do I attempt to extricate myself from assemblages whose trajectory is likely to do harm? Do I enter into the proximity of assemblages whose conglomerate effectivity tends toward the enactment of nobler ends? Agency is, I believe, distributed across a mosaic, but it is also possible to say something about the kind of striving that may be exercised by a human within the assemblage (Bennett 2010:37-38).

Circumvention is the process of extricating, of leaving various relationships with social and non-social entities. But it is more than that. It is also the process of terraforming new assemblages in order to make that extrication lasting. Despite the difficulty "nailing down" specifics of what grids is there are major socio-material assemblages identified by Earthshippers. They are the

government, corporations, consumer culture, and the economy. These overlaps and permeate each other in off-grid discourse.

6.3.1 **The Government**

To the surprise of observers, Earthshippers are least concerned with the government. This may not be true for other contemporary forms of circumvention such as the survivalist, preppers, and others. A quick comparison of EarthshipBiotecture.com and survivalist websites like offgridsurvival.com and offgridweb.com shows these contextual and aesthetic differences. These latter websites have a violent aesthetic, often with ads for knives, guns, and gas masks. This is contrasted to the more colorful and nature vibe of the Earthship website. However, that does not mean that there are not Earthship dwellers that fall into this latter category and have an extreme distrust in the government. As Jackie, a resident of Greater World remarked to me "There's a really big wad of conspiracy theorists here. Which I am not one" (Personal interview 7/19/2015). And Sarah told me of some of these neighbors. She shared a story of one survivalist neighbor.

> I had one this one gall said, she was stocking pilling food, toilet paper, all sorts of stuff. Everything was stockpiled in her house. I said, 'well God, man when the shit hits the fan I know where to go. I'm coming to your house'. And she looked at me as serious as a heart attack and said, 'I have guns'. And I said, 'good to know. I won't be coming to your house' (Personal interview 7/20/2015).

Despite the existence of these strands within the Earthship population, I did not come across any personally. In a convenience sampling method, these would not be the ones eager to meet "the sociologist". This is one of the limits of the study, which will be discussed in the conclusion.

However, among others I believe there was a more moderate level of distrust with the government. For Lachlan "The grid is, pretty much the government" (Personal interview

7/17/2015). Like the others mentioned above he extended the grid to contain a plurality of elements. He immediately continued.

> It's your bills. It's the water you're getting form the government that's chlorinated and not good for health reasons as well. And the power. The power companies making shit loads of money off it as well. Yeah, I'd say trying to control you but I don't mean (pause). Well I suppose they are. Yeah you always have to be working. Yeah everyone's stuck, that's the biggest problem it is. Yeah. Working trying to pay the bills (Personal interview 7/17/2015).

I will consider market relations below, but here the government figures prominently in his definition of the grid. Interestingly, he was not the only one to connect the government to water. Lillian also expressed distrust. "You just can't trust the water that the city gives us. You can't really have much trust in the government in general. So, I would rather have it on my own. Get those essentials my own way" (Personal interview 8/2/2014). Given popular news stories like Flint's lead crisis and Detroit's water shut-offs, Lillian's position starts to have some merit. Although, no one cited the Michigan cities' problems in their interviews. Edgar felt this way as well. "It is your water, your food. You want to keep good clean non-chloride fluorinated water… To trust the government to tell you what is good for you. That's the (chuckles), the hard part" (Personal interview 7/22/2015). For Tricia "The grid is the utilities provided by the government, usually state or city. It is your water, your gas, and your electricity. It's the framework of what day-to-day that most Americans think we need to survive just going throughout our day" (Personal interview 8/5/2014). Tricia is of course right. For most Americans their day stops when there is an interruption in the grid materially (actual stoppage of the flow of electrons or water) or socially (unpaid utility bills).

Omeika best summarized this general identification of the government as a grid and the distrust of it. "We need each other to keep each other in check, but I think it needs to be a more intimate relationship than the central government that doesn't even give a shit about you… Yeah

you're a statistic, a number, a cable box" (Personal interview 7/31/2014). It comes to no shock that circumventors would doubt the authentic care of their governing structures. This is what led many to practice what I term off-politics (see next chapter).

6.3.2 **The Corporation**

As of 2015, of the 100 largest economic entities 69 were corporations and 31 nation states according to data compiled from the CIA World Fact book and Fortune Global 500 (Green 2016). For Earthshippers corporations compose the grid as much as governments. Among the older working and middle class off-gridders there are specific and personal instance of interactions with corporations that lead them to search for a way out. While for younger people specifics are sparse and a general attitude is assumed. In regard to the former, Jackie told me of her Earthship mortgage (which is not an easy thing to get outside of Colorado and New Mexico). She told of her move out of Wells Fargo and into a credit union.

> Well you know I really did want to get out from under Wells Fargo because I really didn't have much of a credit union. My money is not really in a bank. So, one morning I opened up an email. And it says Mortgages 2.67%. So, I thought okay now is the time. So, I contact my credit union said I want you to buy my loan. It was expensive but cut my mortgage in half. So, I went from a 30 year fixed to a 15 year fixed. Now with the money, I was able to get rid of it. And they paid Wells Fargo (Personal interview 7/19/2015).

I asked Jackie why she didn't want to pay Wells Fargo.

> Because it is a big corporate entity. And um you know all these big banks. They are just robber barons. So, I got a letter from them and this was when I was still working. And the letter says, 'we have reviewed your financial situation blah blah blah, and we cannot lower your portfolio mortgage payment at this time'. And I go 'well I never asked you to lower my mortgage payment'. So, I call them up and said 'what is this I never asked you to lower my mortgage payment. Why are you doing this review'? 'Oh, we just do that periodically'. And I thought bullshit. I don't know what you are doing. And I don't like it. I don't want to lower my mortgage payment. In fact, I would like to double it if I only had enough money. Anyway, I don't want my money in the hands of these big corporate entities

(Personal interview 7/19/2015).

In this case extrication was more of a lateral move. Jackie's move was not off of money, as some people have expressed an interest in and has been popularized by David Suelo whom is depicted in *The Man Who Quit Money* (Sundeen 2012). Also, Earthship Biotecture intern Bartholomeus is "moving towards living free" (Personal interview 8/8/2014). But for Jackie, the credit union is a different grid, a grid that is more trustworthy in their operations and goals. This I take as an example of Bennett's (2010) ethic of a distributed agency. I asked Jackie if she always had this distrust of big corporations.

> Did I always feel that way? Only since the 70s. I mean, did I do anything different back in the 70s? I banked with a local bank in the junior college I went to. Which gave them 52% of the funds. So, I never paid. After college I became a nurse. So, I thought well that was a good idea. So, I should go to that bank. And, um I didn't have any other money. So that made no difference to me. I worked at a county hospital and it was bought by one of those big corporations and you know. You can just see the disdain for the employees and bottom line being the only thing. But these are pre-internet days. And you don't really know what these guys are doing. But now we have all this information and it is pretty easy to see how these organizations are in control. Five corporations own all the media. Five corporations own all the food worldwide. And I keep asking the question. I was gone for 25 years (serving overseas in her capacity as a nurse for the government). What happened to the anti-monopoly laws? I mean how is it that these people have amassed. How is it that five people or excuse me five corporations own all of the food? (Personal interview 7/19/2015).

Jackie is a little sparse on details, but she believed that there are these large social entities that can act with disregard to the consequences to the "employees" and laws. This is a common trope among on-gridders, but few actually terraform assemblages to limit their bodily and financial exposure to "The Corporation".

Others repeat this concern. Ivan, for instance believed "There's just too much corporations involved for me". When I asked him what he meant, he told me "Well you're paying for all these things and there are very few people at the top making a lot of money, which I do not like" (Personal interview 8/6/2014). In regard to "basic necessities" Liam said he

"do[esn't] see for there to be a reason for somebody else to provide it for me. That somebody else's corporation that I don't trust that is doing it ethically" (Personal interview 7/16/2015). This distrust repeats itself throughout my discussions with Earthship builders and dwellers. I asked Hazel "You said earlier for the grid you don't want to be connected to all the corporations, why is that"? She quickly responded

> Well I just feel like everything is so corrupt. You know and, and like technically speaking drawing a straight line from oh yeah, I'm on the grid to that, I probably can't. It's more just the way it feels to be independent and not under someone's thumb that I think is, yeah, not looking out for the people's best interest… It's the power and water and personally, I don't. I like to disconnect from the big corporate world and that's kind of the way to do it (Personal interview 8/11/2014).

The thread that links corporations to utilities may be affirmed, but not well defined by my interviewees, nonetheless they may be on to something. Historians of the electricity grid routinely cite the moneyed interests involved with Edison's inventions and the development of centralized generation of electricity. Hughes (1983) wrote of the grid "The intercomponents of technical systems are often centrally controlled, and usually the limits of the system are established by the extent of this control" (5). This control is discussed more directly by Granovetter and McGuire (1998) in their work on the creation of an electricity industry. They claimed that Edison

> strongly argued that electricity should be the primary commodity, and that electric equipment should be built for and sold to central stations rather than to each building owner who would generate his own electricity (in a process similar to systems producing heat for a single building) (Granovetter and McGuire 1998:151).

As Hughes (1998) remarked "Electrical power systems embody the physical, intellectual, and symbolic resources of the society that constructs them" (2). It is not surprising that when the Edison Electric Illuminating Company of New York built the first generation station and distribution network on Pearl Street in 1882, that it would embody the late 19th century corporate

capitalist forms. Perrow (2002) discussed this hierarchical, centralized, and limited liability corporate form, arguing for 1890 as the point of consolidation to this form in many industries (17).

This plays out in the widely recognized "battle of the systems" or "war of the currents" between figures like Edison and Tesla. The battle was over which nonhuman assemblage should be constructed, alternating current (AC) or direct current (DC). AC was superior for long distance transmission, but less efficient at point of use and DC was less efficient for transmission, but more efficient in usage. Given Edison's thousand-plus patents, rise of the corporate form, and relationship to Wall Street investors it can be argued that the design and construction of the electricity grid was an outcome of the economic imperatives of control (and profit) over technical superiority. Granovetter and McGuire (1998) stated as much.

> While Edison had created the basis for central station firms, it was not inevitable that they would survive or become the dominant form of electrical service. Isolated systems (in individual homes and factories) were viable… While economic arguments were mounted on behalf of each service, it appears that isolated systems in a factory or an apartment were at least as viable as other decentralized amenities, including home furnaces, water wells, and personal automobiles, each of which became the norm (Granovetter and McGuire 1998:152).

Langdon Winner (1980) claimed in the theory of technological politics that "the adoption of a given technical system unavoidably brings with it condition for human relationships that have a distinctive political caste" (128). The nonhuman agency of DC was less mobile, which would mean a decentralized system, which would further bring a sort of democratization. AC however, was mobile and could be carried at great lengths losing relatively less energy (there is still a loss of 8-15%). This meant that a centralized generation and distribution infrastructure could be created and with it specific social relations, not unlike the first artificial irrigation assemblages.

In a well-articulated discussion, off-grid enthusiast Evan's definition of the grid made some references to this history and affirms the social mechanism of control that was designed from the beginning and are currently experienced by many who are searching for a way off. When I asked him, what is the grid he told me "a waste". I repeated his answer back to him and he followed up with a monologue on environmental classism.

> Yeah, we see power as super wasteful. I mean have you ever taken florescent lights and stood under high power lines? I mean they will light up. The only reason or motivation is so that you can transport long distance and keep the coal fired power plants away from the rich people. That's why they didn't like DC power. DC power is a lot more efficient and if we were running on DC people would see the nasty power plants and go yeah, we should figure out a better way of doing this. But as long as you keep it where the poor people live the rich people don't have to worry about it. Which we still do… The grid is a waste of money and energy. It's just a way for the power corporations to keep you in their pocket (Personal interview 4/27/2015).

For Even and many others, corporations serve as one target of their anxiety over utility infrastructures. Some Earthshippers have stories about when they realized that their relationship to energy, water, or food mediated by corporations was something they wanted end. Others have a more ambiguous explanation for their lack of trust in corporations, but no less committed to a personal extraction and terraformation project.

6.3.3 **Consumer Culture**

Off-grid individuals and circumventors in general have often practiced a simplified life. By this I mean their use of commodities. Back-to-the-landers and commune members often rejected the urban consumer lifestyle. Interestingly, the development of the electricity grid itself had several parts to play in the rise of a hegemonic consumer culture that many Earthship builders and dwellers are rejecting.

The first part was in the usage of electric lighting. Electric lighting became a way to sell other commodities. Storefronts were some of the first places that were illuminated, drawing passersby to the windows filled with products. Nye (1990) wrote "And merchants immediately discovered that, like moths drawn to the flame, people were attracted to electrically lighted windows" (5). In Muncie Indiana the "leading clothing stores were among the first to be wired, including the New York Clothing Store, the Global Clothing Store, and Boyce, Brundage, and Bender, Clothiers" (Nye 1990:5).

Secondly, once electricity became available to residential sectors, producers needed to market a reason to want/need it over and above the filament bulb, especially to rural areas where people were less "sold" on the need for electricity. "The electric light served as an entering wedge, opening up the home to other electrical devices… [and] the utility sought to increase their use of electricity by selling them appliance" (Nye 1990:17). This was the time of the door-to-door salesmen, hocking their wares of irons, toasters, hotplates, and heating pads to housewives (Nye 1990:17-18). Still today, the wares continue to proliferate in American households (just think about how many "power stripes" are in the average American household), all dependent on one thing, the grid. Edison has succeeded in creating the "primary commodity".

"Mindless consumerism" was built, quite literally, on the electricity grid. The simpler life of circumventors begins with dissecting which electric powered appliances are needed and are not. Michael shared with me how living with less is experienced.

> Um it's definitely more patient, for sure. I learn how to live with less and find what I can live without. Absolutely, it has been a very um, thinning experience, as in that I lose a lot of things that I don't really need, or I find that I don't need. Because when you live in an Earthship priorities change (Personal interview 8/11/2014).

I asked him "What's something that you lost that your absolutely fine with, whereas before you

thought you needed?" Michael answered "With the exception of two nights ago I say a microwave… Well actually I thought I needed a microwave, but I realized that you could just heat up rice by adding more water and boiling" (Personal interview 8/11/2014). The simplicity may seem funny, but millennials grew up with microwaves and basically everywhere they went. It is these little realizations of self-reliance that start to add up in the off-grid life and comprise the self-empowerment that many are looking for.

People feel literally caged in consumer culture. For instance, Lachlan said "It's like a lot of people get stuck in that competition of having the biggest car, the biggest house and whose got the most stuff and it is sad". I asked him why is it sad? "Because people are sick and depressed and unhealthy and yeah, just depression as well. People could be so much happier if they didn't have to worry about money" (Personal interview 7/17/2015). Daryl experienced this.

> Yeah and I found that, it was a number of years ago I discovered after every year I got a raised and what not. I found that the more money I made the more money I spent and as a result the more money I need to make, and it was like this is not a good situation. And so, I've been trying to curb my spending and paying attention to the power that I use and the garbage that I create and the things that I produce. There was one year when we were still living in the city I had a house with backyard and ripped out all the grass and planted a big vegetable garden and I started, at the meal, I'd ask okay what percent of this meal did we produce ourselves. Did we raise the chickens, grow the tomatoes? And at that point I could say there was a certain percentage that we did generate ourselves (Personal interview 3/28/2015).

It seems like a catch-22. No matter how much money one makes, they are still dependent. The solution for Daryl and Lachlan is to circumvent. Instead of increasing the money they have, they attempt to decrease their need for it through direct engagement with the nonhuman world.

For some this is expressed as a rejection of throwaway culture. Besides building a home with 40% reused materials, many try to reuse items in their everyday life. The following dialog with Ovidiu attested to this and more.

> Ryan: So why are you trying to consume differently?
> Ovidiu: Yeah, yeah, I am like that. I try to consume a lot less. I'm trying to buy whatever I buy. I try to buy less, and whatever I buy, I try to buy used. In the present.
> Ryan: Why?
> Ovidiu: Because I feel like it is the way you consume, it is just so many things that people just throw away. Or that give to thrift stores that are still perfectly fine. Why create new things if there are resources that we can still use.
> Ryan: So other than buying less do you have other ways that you try to change the?
> Ovidiu: Yeah, I try to think of what is sustainable and what is not sustainable. And also getting involved with these Earthships. That is a big step I am taking. Towards sustainability. And also trying to free up myself from the dependence of the system and these economic cycles.
> Ryan: How does it feel, consuming less? Like how do you feel?
> Ovidiu: It feels great. It does, it is. I adopted it in the last five months in South America. The people consume a lot less. And I lived off of lot less for five months. Then I realized that I am not less happy at all. I am just as happy as when I was buying things. If anything, I was more happy then when I was buying things. Because I know that I am not harming the environment. I don't have to work and buy things or pay off things (Personal interview 7/14/2015).

Ovidiu got at several things at once. He affirmed the old adage of "less is more", a common experience among others involved with Earthships (I will explore this voluntary simplicity in detail in Chapter Nine). He clearly stated how this is connected to his desire to self-extricate, to "free himself from the dependence of the system and economic cycles" (Personal interview 7/14/2015). He concluded with an environmental ethic that is common.

Erika wondered out loud on why someone would not be interested in an Earthship. She essentially told the same story as Ovidiu only in the inverse.

> So, a lot of people have this idea of a house you know a big house in the suburbs, two car garage, all that. So, they are more tied up to this idea and they have their level of comfort, the way they grew up so it's hard for them to get out of that cycle or what they're used to in their lives (Personal interview 7/24/2014).

Palestinian PhD architecture student Manahil followed this line of thinking. I asked her why someone would be opposed to living an Earthship.

> Maybe they think it's kind of primitive, I don't know, that's my guess… Primitive that they're living very simple life. A lot of people now like, think of, I don't

> know they have this idea of what the ideal home is. You know having driveways for two cars, a garage. Which you could have here I guess. But I don't know it would be like yeah, living a more simple life (Personal interview 7/31/2014).

Reducing consumption is not made easy for on-grid life. Jacob discussed how he tried to be less wasteful. "I try not to be [wasteful], but the grid kind of encourages that. Makes it seem like you're never going to run out of water or you can just flip on a switch and it comes on and you don't have to think about it" (Personal interview 4/27/2015). Jacob contrasted on-grid life with living in an Earthship.

> Um, knowing that I'm not stressing the systems and I'm not fucking with anybody else's shit by drinking this water by listening to this music. It feels good. Every song isn't one more step towards the apocalypse because of me. Not burning coal. Taking money out of the hands of the fracking industry, I like that (Personal interview 4/27/2015).

For Jacob his mundane everyday actions have a real consequence. Whether it is enriching corporations or poisoning water. Jacob comes from an economically depressed area of West Virginia (he once remarked that everyone he went to high school with are either dead or on drugs) and knows firsthand about environmental hazards caused by the coal industry such as water contamination. So, it is understandable that he connected the consumption of a song by a device powered by electricity to water contamination. Hannah also connected resource extraction to consumer culture.

> Oh fracking (chuckle). Do I need to say more? And just you know this treadmill of consumption really needs to be addressed. It's our whole economic system, it is. We do live in a finite environment. And this consumption, consumption, consumption is just not sustainable (Personal interview 7/16/2015).

Bartholomeus added to this a military aspect not often mentioned. "The rate at which we consume is just too great and will lead to war basically. If it hasn't already" (Personal interview 8/8/2014).

Shannon came to these realizations while living in an Earthship and working at Earthship

Biotecture.

> I choose appliances based on electric consumption. What I thought about when I was on the grid, it was less important. You can either pay more money. Yeah cause you just pay more money. I think there is a thing about living on the grid where basically everything feels unlimited. But they are not. So it is sort of fine tuning to the degree in which I use my stuff (Personal interview 7/24/2015).

Sociologist Andrew Pickering (1995) would approve of this usage of "tuning". I asked her "is it about consequences?"

> Right which is another thing that I think is smart. Another thing that I love about introducing people into these concepts. You know because of the direct effect consequence. Instead of being a monster or something and instead of it affecting someone in China it effects the person next door to me. So, you know I think it as more closer to home. In a sizeable way. You know we all affect each other here in a very direct way. It is important to change (Personal interview 7/24/2015).

Getting off of the utility grid is only part of it for most Earthship builders and dwellers. The homes are designed with little storage space. The general attitude is that one is also going to reduce their entanglement in consumer goods as well. Voluntary simplicity is a key part to any circumvention-based project.

As I showed above, Michael found out while living in an Earthship that he had to redefine what his consumption needs and wants were. Ralph alluded to this deconstruction of needs and wants.

> I feel that first a person must want something in order to need it. And then you know, I don't need this cell phone that I have glued to my head right now. And I don't need a big four-wheel drive that takes me anywhere I want. And just because I get tired sometimes, you know, I'm not going to rent a hotel for 30 minutes just so I can take a nap (Personal interview 3/30/2015).

While not the clearest discussion, I take his concluding sentence as representative of the general critique of consumer culture. The idea of renting a hotel for a 30-minute nap is a metaphor for on-grid consumer practices. Why not rest under a tree… for free?

These illustrations are not to be seen in an extremist light. Earthshippers are not practicing extreme asceticism. Rather, there is a dissecting of the grid and then a reevaluation of personal participation. For many the idea of filling their home with plastic goods shipped from across the globe only to be disposed of and replaced is not one that brings happiness nor security.

I turn now to Theo, a father of three. He reiterated many of the discussion so far, but showed how in practice the critique of consumption is performed.

> Yeah, I mean, when you look at those even positive, quote unquote positive ads, the goal is to create dissatisfaction. They set up this ideal that you aren't. So now I'm dissatisfied with my life and I got to go buy whatever, the latest brand of jeans or. Um sure. But does that make sense? And so when you begin to see that for what it is then you start making decisions. Wait a minute I'm a limited, you know, I'm not omnipotent right, I'm a limited person and so if I want to live the fullest life I can, I have to actually begin to set boundaries on myself. Because only then can I focus my energy onto the things that are most important and when you begin to make those decisions right then your behavior changes. And so for me a lot of those, as I realized that I can't do everything that I want to do, right? I said 'well what are the most important things and what do I really want to do'? And then so you start limiting yourself, focusing on, focusing on those things (Personal interview 7/13/2015).

I probe Theo for examples.

> Um, media, like as one of them. I mean we don't have you know cable, we don't watch TV at our, you know we don't watch TV at our house. We don't buy new cars. If I can't afford to pay cash for a car I don't get it. That's why I have a 1993 Blazer, that I paid 2,400 bucks four years ago and I'm still driving it and I intent to drive it for a long long time. And it's not that I couldn't afford something else, it's that I rather use my resources you know use my resources another way (Personal interview 7/13/2015).

Given the consumer culture that children are exposed to I asked him if "it is difficult with children, limiting these things?"

> Um, well that is actually where we spend a lot of our resources is, giving our kids, like allowing our kids to do, you know creative stuff. So, our kids do, you know, gymnastics, and cello, and you know whatever it is that they are interested in doing. But, but they're actually at that point they are engaged and learning, not consuming, right.? And so, where our family spends its money it's not on stuff, but experiences. Right and so that is where we end up spending our resources. Those resources are spent buying experiences, you know and participating in

> things rather than just passively absorbing (Personal interview 7/13/2015).

The redefinition of needs is broken down into dichotomies of consuming or experiencing. Even with limited money credit provides the momentary illusion of limitless, just as the electricity grid provides the experience of endless resources. For Theo and others both are not real. The supply of money is not stable and the environment is becoming more volatile. By setting limits is how Theo and his family find meaning.

Omeika is also concerned about her future children growing up in a world like her own. She said "I don't want my children to live with the stresses I live with, I don't want that" (Personal interview 7/31/2014). I again probed further for examples.

> College, money, you know. It's like… They would obviously learn about the home that we live in. Reading, writing, arithmetic, that might be it. The basics, you know I want them to develop their own idea about their reality and existence. I don't want them to go a systemic school. It didn't hurt me none, but. And if they wanted to I would let them. But I would like their, the beginnings of their life, just like the beginning of my life. My, thank God, my parents, I was never never immunized, very clean living, you know… So anyway I don't know, I feel like, I don't yet know what I would teach my children. But I just know that it would be Earthships first and my girls math (Personal interview 7/31/2014).

Several others mentioned how their desire to live off-grid was directly tied to their children. They mentioned intergenerational ethics. That they could not live like on-grid people then look their children in the eye when they grow up in a destroyed environment. Others felt like their children learned values that their on-grid peers do not, such as conservation. In general, they chose (or plan to) disentangle from some assemblage (consumer culture and the school system) and reengaging at other points. Some products are bought and brought home and some connections are maintained, such as the internet. However, others are divorced from and reassembled differently, notably the basics of water, food, energy, warmth, and waste. For off-gridders this changed the reverberations of their lives (in keeping with Bennett's distributed agency ethic). They believed they are creating more personal freedom and doing less harm.

6.4.4 **Market Relations**

At this point, the entanglement of various grids is clearly weaved in the off-gridders' narratives. The government is not to be trusted since it is seen as primarily creating corporate control through consumer culture. Throughout all of these narratives, market relations are implicitly critiqued. Bills, debt, money, taxes, and work all peppered the interviews with Earthshippers. I now turn to some of the more direct ways this is expressed.

In a no nonsense way Fae summarized many Earthshippers' attitudes towards the economic system. "I just want to say that I want to get out of any financial situation ever. So, get rid of the financial system and everything that is around it. So, whether I'm in a current bad situation I want to get rid of this dependence of currency and all that bullshit" (Personal interview 4/23/2015). Essie echoed this stance as a millennial looking for alternative ways to live "outside the centralized systems that be" and takes an almost innocent approach to housing.

> So, every human need shelter. That is a basic need. We're talking needs, not wants. We are talking like necessities. You need to be sheltered from the cold, somewhere to sleep and eat. And having to rely on present housing system, which you either own. Just owning a land and house that is a very weird concept for me, because it does feel like it belongs to everyone. And then paying rent, which I think the majority of people do. They kind of rent places and jump around (Personal interview 7/24/2014).

Echoing humanitarian ideals reflected in organizations like the United Nations, Essie began to look earnestly at the current provisioning of necessities on grid. She continued to summarize the 'ways of the world' in such a simple way that for years I continue to come back to her words. She astutely told me

> Like your spending all your time working somewhere to earn like points basically in this system in order to use your points just to survive, have somewhere to sleep. It just doesn't make any sense (Personal interview 7/24/2014).

"It doesn't make sense" is a common phrase among Earthshippers. Although she may lack sophistication, can one really disagree with her? Is not the grid (broadly defined) a system upon which participation is mandatory and based off of quantitative measures? But what option is there? A convivial life is her answer.

> And like you know having a piece of shelter that works with the Earth and just, it's kind of is part of the Earth, it's natural and regenerates itself and all of its systems just kind of go and to live with it. It's just really beautiful… It just seems like the future. It seems like what is going to save everyone. It is going to stop conflict, its gonna stop like. Yeah is gonna create surplus and create surplus time for people to yeah. You know to explore whatever cool endeavors they want to. So, they are not stuck in a fast-food job their entire lives. It just seems like so logical to me. To work with this beautiful planet that we are on and not against it in every day. Which is kind of how we're doing it as a global society, yeah (Personal interview 7/24/2014).

To the middle age onlooker, her idealism must come off as youthful naivety. She is after all a 21 year-old who worked at a café and a grocery store in a small city in the Midwest and is learning how to build an Earthship with her partner. Perhaps they would be right. But I would like to restrain the dismissive attitude for a while and listen to some others. Besides, what is the option for Essie? Further entanglement into student debt and participation in environmental degradation? Her point is clear though; terraforming local assemblages to provide for her seemed more logical than the on-grid option of earning points.

Coletta Day, also 21 years old was on the same page as Essie. For her off-grid is a means off of financial worry. Over a sandwich away from the rest of the interns she shared her philosophy.

> Personally, I don't like the idea of bills and I don't like the idea of debt and I don't like the idea of money. Um the actuality of money, the idea of money is just trading and that's fine. But what it's used for I don't think that's okay and um it can definitely be abused. So not having to worry about becoming 60 and 70 not knowing if I can retire is a problem for me. And wondering where my food is going to one from and where is my water going to come from and I might get kicked out of my house type thing, because I'm not paying my bills. I think that's

> really missed up, just to be blunt. Like it shouldn't be like that. So personally, that's why I want to live off the grid (Personal interview 7/31/2014).

Coletta's generation are told routinely that there will be no social security when they retire. Independent if this is true or mere political rhetoric, Coletta was worried about of her future and ability to survive through participation in the market. Investing in a retirement fund (whatever form it takes) is about as palpable as eating a hamburger for this vegan driver of a vegetable-oil-powered van. And the idea of a social safety net is nowhere to be found in her comments.

Consider Manahil reflected on her mother's current issue with utility bills. "I know my mom like can pay 300 dollars just for heating a month, when the weather is really cold in [a Midwest City], which is really ridiculous if you're a student or a group of students or if you don't have a large income. So that's a huge issue right there" (Personal interview 7/31/2014). For Coletta and Manahil, along with most off-grid individual builders and dwellers, there is a normative component expressed as "it shouldn't be like that".

Canadian Liam, a proponent of psychedelic drug induced trips that rejected an on-grid life for similar reasons as Essie and others. He directly stated "I'm not money driven" (Personal interview 7/16/2015). When I asked him why he raps a bit on his a new-age spirituality wrapped up in critiques of the compulsory education system, 9-5 work structure, debt, and (in keeping with the entanglement of human and nonhuman) natural resource extraction. "So what does motive you?" I asked.

> I don't know that's a good question. Yeah I mean just living in the mystery. I had a pretty serious bout with depression while I was in school. When I was studying environmental governments, I didn't know what I wanted to do. Uh, I just felt lost. I felt like I was pushed into school. I didn't know what I was doing. Then I had a couple psychedelic trips and they really changed me. I just was put in the presence of the mystery of it all. And I started reading, and I don't know I never really seriously read before that. It's hilarious. It got me so excited. It gave me a place in my life. I just started to look for solutions. I was thinking about the situation that I am in. I don't want to be in more debt with school. Have some

> corporate job that I hate. Fuck. You know. I don't want some natural gas that's drilled from god knows where. That's drilled from Nigeria. Like this is ridiculous it's too much. So yeah. I guess that's my motivation. To free myself from that. I guess to become free (Personal interview 7/16/2015).

Liam was sitting in his makeshift foyer to his single-person tent, consisting of a tarp and sticks and rocks scavenged nearby as he heated up soup on a small biomass kettle. His words are given an authenticity and weight in this setting. Not yet living in an Earthship, his open and unrushed demeanor reflected his search to free himself from world of institutions, one that came off convincing.

Moving from a Canadian to European, is 28-year-old Istvan who living in the United Kingdom and working as a software engineer. Originally from Hungary he was looking for ways to live off-grid in Europe and work for himself. He told me his friends have a hard time understanding his off-grid desire. He explained to me their worldview, which for him represented on-grid life.

> Because like they, they are just living in the current like financial age. Just okay this is your job, you need to get a job, then you need to pay for housing. So, they are living in, living in a way that that it's pretty normal for them to pay for rent, for example. And getting mortgages and pay for rent and they pay for utilities and everything, so this is normal to them. And I want to get out of these things (Personal interview 6/21/2015).

I asked why he wanted to get out of these things.

> Because like, I just kind of feel like I don't want to work for somebody else. I don't want to like constantly make money… So, get electricity, you got everything that you want for living and then you're not depending on the government. And you're not depending. If you want, you don't have to have a job. Then like you can grow your own veggies, if you make the proper structure for it… I have this idea of how I should live. So, like it's always in the background of my head. I should be living in this way. And also, sometimes I get really bored at my work, or sometime frustrated and I don't really think this is the kind of work I want to do for a long time. So, that is why I started looking for their alternative structures, like Earthship which is gonna sustain me without constantly getting money from somewhere else (Personal interview 6/21/2015).

Who has not felt bored or frustrated at their job or trapped by their monthly bills? Reducing costs here and there is hardly novel, but the degree to which off-grid people attempt to make market exchange an minimum part of their daily life, well that is rare.

What awaits the circumventor in these self-created spaces? I will tackle this in more detail in Chapter Nine, but at this point there is a seamless connection between bills, money, and work to freedom. Many times, people I met recalled a scene the documentary Garbage Warrior where Reynolds claimed to have had an epiphany and realized that with the completion of the first fully functional Earthship he did not have to work, he was free. Many would-be off-gridders connected to this. Larry told me "But yeah it's, there are a lot of freedoms that would come with not having to pay bills or worry about rent once you build your house". I asked him if this was a "major allure". Larry answered "Yeah, if you don't have to pay bills and you don't have to pay housing costs then there is less of a need to work as much and more free time. That's more time you can pursue whatever you want to whatever comes to mind" (Personal interview 8/5/2014). Aussie, Lachlan Williams said the same thing. "Yeah just doing recycled materials and building a house where you can grow your own food. People don't have to work so hard to pay their bills, to pay for their food and stuff" (Personal interview 7/17/2015). With a little more empathy expressed, he continued in his answer to my question "Do you think people work too hard now?"

> I think so yeah. People work way too much. There's so many problems in life. People get stressed, the pressure and then people use medication and stuff and it's just. It all comes down to the lifestyle and you know working is like 80 percent of your life. Can be yeah (Personal interview 7/17/2015).

His comments seem to touch on something deep and so I asked "Is that how you felt?" He answered "Yeah, massively, yeah". "Just working, paying bills?" I confirmed. "Exactly yeah. It felt like just a constant circle of life, to just working to pay the bills, do the same thing, week in and week out. And you never really get anywhere". The reason people do this, he told me is out

of fear. “Security. I think security is the biggest thing. They don’t want to have nothing. A lot of people have fear in them… Fear of not having money. Not having a house. Not having a job” (Personal interview 7/17/2015). The discussion naturally turned to why this shy and smiling person was not afraid.

> Because, the people before us, the aboriginals, they’re fine. They can go out into the bush and hunt food and I got a few friends that used to do fishing and catch food and you’ll always be fine. You’ll always be looked after and there are always other people around. If you spread good positive messages and love. There’s always going to be good people around to look after you when times get rough (Personal interview 7/17/2015).

It took this sociologist happenstance and tremendous scholarly effort to uncover the prehistorical reality that Lachlan knows to be true. He must not have got the memo from Hobbes. Prior to coming to the US to build Earthships, Lachlan told me he slowly gave away or sold all of his possessions, with the exception of two surf boards. He chose to live what most would consider a destitute life.

But do people off-grid have less financial constraints? I turn to part-time Earthship Biotecture employee Trey. Trey was an early adopter of the Earthship. Him and his wife were both professional college athletes. As their careers were ending they saw a Los Angeles Times article in the late 1990s about Earthships. As is common they ordered the how-to-books and eventually came out to New Mexico to learn more. 18 years later they have two teenage sons who have grown up in an Earthship. Trey shared “We don’t really have utilities bills. And you know we don’t spend extravagantly. We have a pretty low-key financial demand on us” (Personal interview 7/21/2015). Now a modern Global Model Earthship, they began building a single circular room they call the “hut”. Trey’s wife worked at Earthship Biotecture and Trey as a public school teacher for a time. As they saved up money living in the hut they slowly built their current home. Not divorced completely from the labor market, they have sought to lessen

their dependence on it.

6.4.5 **Conclusion to Socio-Material Grids**

There is an urge to cast norm breakers as very different than norm keepers. That can take the form of romaticization, demonization, or dismissal. Individual traits are put forth as explanations, maybe their childhood holds the answer. But if anything comes through the words of Earthship builders and dwellers it is that their concerns are not uncommon. Who is not concerned about the government, corporations, the environment, and bills? The off-gridders I met were not extraordinary in this regard. Perhaps their optimism seems peculiar and ideals a bit far-fetched, but these are people who in varying degrees have found a way out, or at least a trail outward. They are preparing themselves for the trip. They have decided to leave, that part is over. All that is left is the excitement of the new beginning that Lawrence-Lightfoot (2012) described. They are learning how terraform a life for themselves. By recognizing this mindset their positivity "makes sense", as I was told over and over.

6.5.1 **Consequences and Outcomes**

As positive as they may be, there are also negative themed discussions. The on-grid life has its mortal flaws and off-gridders come to understand it in a wide variety of ways. The social cage "infantilizes" people, as Shane told me. People on the grid are "caught in the illusion and fantasy" (Personal interview 3/16/2015). This is penetrated for them as things break down, which is followed by an experience of disempowerment and dependence. Beyond this, the on-grid life inflicts negative externalities to the non-human and increasingly human world.

The personal consequences of an on-grid life for Earthshippers range in their severity. Some see "the system" as akin to slavery. As Jacob said "The grid is an interconnected system that makes people dependent on the powers that be. You get your food and your power and your water through money, so you have to work. It's all a system of enslavement" (Personal interview 4/27/2015). Lucy contrasted the views of mainstream society as concluding the "grid has more to do with using the electricity from, I guess your area". But "people here see it more being part of the system" (Personal interview 8/7/2014). This "system" is encompassing and violating at a personal level for Lucy.

> I think that on the grid means that they are just doing everything that, I guess looking at it as a whole, everything that the government wants them to do. So, they are living this lifestyle that somebody else wants them to live basically. Which is scary to think of… Because it's not, I mean it's not your life. It's, somebody is controlling you. You're not making your own decisions necessarily. It becomes, I don't see the excitement in having to do the same thing repetitively just because you have to. Well, that doesn't sound right, but. Just conforming to this idea that you have to be someone you might not even want to be (Personal interview 8/7/2014).

For most of the Earthship builders and dwellers I met this was a key theme—control. The grid reduced individual autonomy at both a higher level of self-actualization, but also at a primal level of bodily sustenance.

Furthermore, this state is accompanied with what has been described as an illusion. Not only are the social relations obscured, but so too are relations with the natural world. Shane described this.

> Earthship people seem to be, they seem to actually be dealing with the reality. Whereas other people are very caught in the illusion and fantasy… Because it's like the life we live is like, we live, like our strategy and our ritual is basically constant wastefulness. We just throw shit away, we completely waste power, complete waste resources, we're completely infantilized and that's just how we are (Personal interview 3/16/2015).

This is the first of many uses of infantilized in my interview with Shane. The "lifestyle that

somebody else wants them to live" that Lucy mentioned is one of composed of "illusion and fantasy", which ultimately reduced people to the level of dependence of an infant. Shane continued.

> And you know I don't think people want to be like that. But uh, I think our economy, and such is structured in such a way that it just seems to enable and in kind of incentives this kind of like, you know, a lot of inattention and delusional thinking… Like I think most people are kind of infantilized by how we do things. That's how I felt and continue to feel, you know. One of the reasons I'm so interested in Earthships and just homesteading in general is because I feel like most of us are just infantilized because we don't really know much, you know (Personal interview 3/16/2015).

I was taken by surprised by this repeated use of the word infantilized. It is a very specific and uncommon term. I asked Shane "What do you mean by infantilized?"

> I mean to say like you know people lack the skill sets to directly interact with the Earth and perhaps leverage their knowledge in order to survive. For instance, like this is a perfect example. Like the Earthship community is, like technology. Like okay. Like the way you think about how all the Earthships are south facing. So that is like a very basic simple concept that maybe, I think it's fair enough to say that maybe, um, communities of people may have used before when were less dependent upon, like installation, the kind heating strategies that we employed early in the industrial age. I think that we have kind of become over dependent on like very faulty high energy intensive strategy, but also strategies that kind of take. Like okay I think in terms of things that make you more hyper specialized and less able to do things that are just, how would I say it, able to survival on your own. Able to be self-reliant. Like I'm not, I don't have any fantasies. I mean I do have fantasies, but. I try to be realistically about this stuff. I know you can't just go out there and survive. You need people, you need a team, you know what I mean? You need community and all that. But I think people can do way more to create their own livelihood. Earthship is one of the strategy (Personal interview 3/16/2015).

Shane challenged the usual image of an off-grid person as a recluse hermit. Rather he put forth a connection to others by connecting to himself through engagement with the natural world. As long as people are separated from their nonhuman world they remain in a dependent state. I take this use of infantilize seriously. An infant can do little by way of manipulating their environment to secure nourishment, similarly to people on-grid. The solution for Shane and others is to grow

up and learn how to make things they need.

This dependence is widely recognized as Freddy discussed his native United Kingdom. "In England the way that power companies specifically, electric companies have been hiking up prices and sort of preying vulnerable old people is both a really popular media trope and also very real problem". For him the off-grid movement is "empowering, in a world that perhaps you feel increasingly disempowered" (Personal interview 8/3/2014).

At a second level the consequence of the grid for Earthship builders and dwellers is the harm to nonhumans and environs. Picking up on the dependence that the grid fosters, Michael weaved the environmental ethic that is widespread for off-gridders. "I don't want to have to depend on somebody else to give me my water or electricity or anything. If that means that I can't live beyond my means well than fine. I'll live modestly. I'll make it work" (Personal interview 8/11/2014). I asked him "What's so wrong with depending on the grid or others?"

> I mean, one of the big problems is that you take it for granted, you know. Same with our food. Some dude hands it to you, you don't know where it came from. The electricity, you plug it, when's the latest time you, you not living in an Earthship, plug something in and said thinks man? Never, it's just there. And then it went out you got pissed, you know. Because you couldn't, when you have all these resources just given to you, then you start piling on more things you can do with them and then you have this whole huge, elaborate set up, you know. Computer, television, electronic cookware, you know everything, you start basing your life on this principle that this will be around forever and therefore you build on to it. But then it goes out as we know it does, water goes out, your electricity goes out, things like that go out and then you have nothing, you know. You're living at the mercy of a, a, yeah, a whacky means for providing energy. I don't know for me it's just common sense (Personal interview 8/11/2014).

Michael expressed the same thing that Shane did above; the illusion-based relationship many people have to the natural world and the corresponding social ontology of individualism and culture of consumption. For many there is a writing on the wall that they cannot ignore. Sooner

or later, there will be a "resurgence of the real".[38] This dependence fostered by enrolling nonhumans through extractive or other unsustainable activities into assemblage is called into question. As Liam told me "Yeah because of the dependence and I don't trust the way that they are getting it. I really dislike the idea of factory farms. And really the process of farming and crops and all that stuff. It just, it fucks with nature" (Personal interview 7/16/2015).

Michael also shared frustrations with the negative externality that come with economic "development". He told me that the environment was important to him because he grew up in a rural area.

> And my best friend was the woods where I grew up. And I had about four acres behind me and up until I was about 14 years old that was my playground, that was where I went, that was my little sanctuary when I as a kid. And then the housing development committee came in and tore it all down and put up a subdivision. That's still to this day is not finished (Personal interview 8/11/2014).

He then confessed a potential reason for its unfinished state. "Um, probably because my 14 year old ass sabotaged it by stealing lumber. Because I thought that would stop them from building houses". He enlisted his friends to help because "They were pissed too" (Personal interview 8/11/2014).

> But nature has always been there and nature, if you really step back and look at it, I mean what do we really have to rely on? We need the environment, we need these things, we thrive on this, we can't keep destroying and combating nature. It has to be one. We have to be symbiotic with it, if we're ever going to survive. And that's the honest truth. Because there cannot be a way we that we are going to go on living like this. We're gonna run out of resources, we're going to run out of means. We're just going to run ourselves into the ground and we gotta like take a step back and preserve these precious resources, these natural sanctuaries that are fragile, you know. We need to be tenders of the Earth, not competitors with it (Personal interview 8/11/2014).

[38] Which is the titled of a popular book by eco-feminist and co-founder of the Green Party Charlene Spretnak (1997).

Not trained in sociology or STS, Michael nonetheless gave a narrative that fits within basic ANT framework. Social institutions have enrolled nonhumans into an assemblage. The black box of this process is expressed in the "illusions" that Earthship builders and dwellers discussed above.

Scott also did not like having to rely on companies to provide basic needs. I asked him why? "Well, they can do whatever they want, and they have been doing whatever they want as far as the environment". While living in an Earthship for a month Scott and his partner "had this feeling of not being tied down. Of just being free". And when they build their own Earthship, "at that point we would be setting ourselves free". I asked him what they would be free from. "From relying on these companies… And we obviously do not want to rely on these companies to have reigning power to destroy the nature" (Personal interview 7/12/2015).

Lastly Coletta, a generally more vocal environmentally-minded Earthshipper exemplified how she had opened the black box. She told me that she "still thinks that it is important to know what is going on in the rain forest" (Personal interview 7/31/2014). She described herself as having "a very holistic sense" and that even if things are happening on the other side of the world it still affects people in the US. Examples given included China's smog pollution, oil drilling in the Arctic, and the boreal forest in Alberta Canada. She believed her "plugging" into Earthships is a positive solution to these problems.

6.6.1 **Conclusion**

The people I spoke to in their Earthships and on the building sites of future Earthships did not strike me as irrational nor fundamentalist. Their concerns were hardly unique. Was the off-gridder really so normal? Sure, they may be a little out there at times, building a house out of garbage requires a certain amount of quirkiness. But were they not on to something or was I

going native? It is hard to say for certain. I did find myself starring at sunsets to stimulate my penal glad and open my "third eye" that was ossified from the fluoride that the state put into public water; or so I was told. But given so many recent (and old) disclosures of state (in)action could I easily dismiss it? It was true that I felt the decisions of my municipal utilities were out of my hands. I do waste a lot of electricity and water every day. Surely there must be some consequence to that. After payday, when all the bills and debts are (partially) paid it does feel like I am stuck. I am no closer to security nor autonomy. Without selling my labor, I really do not know how to take care of myself. Infantilization begins to have some resonance.

Far from the loony and smelly person living in a forest with an animal skin draped over their body and a crazy look in their eyes, the people I interviewed and worked next to were carrying on the circumvention tradition. Just as historical cases showed, these groups and individuals are quite civilized in their variegated rejection of civilization. Their desire to take some control away from the hierarchical and centralized grids they interacted with and against everyday was understandable. But surely there must have been a way to do this without learning the skills necessary for extrication and terraformation. We live in a democracy after all. Why not use it?

7. POLITICAL GRIDS AND OFF-POLITICS

"Entweder: man lebt "für" die Politik, – oder aber: "von" der Politik".
["Either one lives 'for' politics or one lives 'off' politics"].
Max Weber 1991

7.1.1 **Introduction**

In this chapter I argue that the Earthship movement and the off-grid movement at large (dis)engages in traditional and radical politics in a particular way. From Chapter Six I explored just how multidimensional a view off-grid people take to the socio-material infrastructure, from consumer culture and bills to the negative environmental externalities caused by constantly supplying homes with fuel. This overlaps with the "political infrastructures" of society. As Mann (1986) remarked "*Societies are constituted of multiple overlapping and intersecting sociospatial networks of power*" (emphasis in original 1). For the person living (or seeking to live) off-grid their desire bleeds from one social and material assemblage to another, taking lines of flight.

Most off-gridders' attempted to circumvent the ideational nodes of contemporary political discourse. I call the aggregate of these tactics off-politics. Off-politics (here being used in a diametrically different way than Weber's [1991] in *Politics as Vocation*) is a specific attitude of refusal to be caged into a political party, ideology, identity, or paths of actions. Similar to the early back-to-the-landers, who felt that capitalism, fascism, and communism were

all centralizing power, off-politics is a search for "a way out" of representative-based politics, not a search for justice. It is important to understand that political representation (just as scientific representation) is a performance. Political scientists Michael Saward (2010) concluded this in his book *The Representative Claim*. "Representing is performing, is action by actors, and the performance contains or adds up to a claim that someone is or can be represented" (Saward 2010:66). What if one does not desire to be contained or added up in the act of representation, but rather wish to avoid the whole performance? I now explore how this is articulated among Earthshippers and conclude with some thoughts on the off-politics concept.

Builders and dwellers of Earthships come from various political backgrounds. They ranged from what would be considered the radical left to the far right. But the majority of people I spoke with articulated a type of political non-identity. An extremely common answer to questions of their politics was "I have none". Beyond this, recognizable political labels are used interchangeably leading to, what I call a liminal usage. This allows for particular language to be invoked while maintaining a certain level of freedom from being confined to any one category. They recognized this ambiguous and diverse stance among each other; however, saw no incompatibility or conflict with this ambiguity.

As far as political actions, it is not surprising to find that most Earthshipers were not politically active in either formal politics or social movement organizations. There were some important exceptions of socially minded builders engaged with different social movement organizations, such as the Canadian intentional community Valhalla. But on the whole, they eschewed formal representative and state-based politics. Many did mention how they saw their own daily choices and actions as an expression of their politics. This is consistent with other works on new social movements. However, the focus was on material throughput, whereas most

new social movements case studies focus on social relations between members. Builders not yet regularly living in an Earthship discussed their conservation efforts and many articulated how their experiences in an Earthship have energized their efforts to live simply. Lastly, everyone I interviewed thought that Earthships were going to spread, but they had a specific idea how this was to be achieved. Specifically, many discussed how Earthships Biotecture and individual people should take a passive approach as oppose to evangelical or agitational. It was reminiscent of the movie *Field of Dreams* (Robinson 1989)—"If you build it, they will come". Builders and dwellers saw example-oriented form of activism to be ideal and sufficient, while other traditional aggressive approaches were viewed as counterproductive.

7.2.1 **Off-Politics Theoretical Expositions**

The *modus operandi* of contemporary politics is one of representation, of challenging invisibility and misrepresentation. This is based on a liberal social contract paradigm, which presumes that the state is a neutral actor and is (neo)pluralistic in essence (see MacFarland 2004). Circumventors from all eras challenge this presumption. By extricating (takings lines of flight) they hope to "escape the trap of identification" (Smith et al. 2018:3). I conceptualize off-politics as an analytical subset of the larger politics of circumvention, which pertains to the forms of representational politics. Off-politics is at odds, though not necessarily antagonistic, with liberal politics based on being represented or being represented better.

This exposition and the following empirical investigation should not be thought of as negating civil rights, feminist politics, immigrant rights movements or any other state-based and inclusion-based politics. Rather they should be thought of as adjacent to them, sometimes preceding them, as collective escape can become the grounds for further expansion of socio-

physical territory of the state. As Papadopoulos and colleagues (2008) stated in their book *Escape Routes: Control and Subversion in the 21st Century*, escape "does not necessarily differ from or oppose other prevalent forms of politics, such as state-oriented politics, micropolitics, identity politics, cultural and gender politics, civil rights movements, etc" (75). This is made concrete in scholar/activists Azzellini and Sitrin's (2014) work. In their comparison of popular movements in the US (Occupy), Greece, Spain, Argentina, and Venezuela they found the mass refusal to be represented. They provided a set of popular slogans; they can't represent us, they can't even imagine us (Russia), *Kefaya, enough (Egypt), ya basta,* enough is enough (Greece), *eles não nos representam* (Brazil) (Azzellini and Sitrin's 2014:5). These movements are not seen as a counter to progressive movements for inclusion, but rather truly a radical expression of them. While off-grid phenomena may share a similar context as these larger movements against representation, off-gridders drastically differ in that their rejection is an engaged withdrawal, rather than a sustained challenge. This is an important point to understand.

The off-politics of the off-grid movement is understood through priorities of the on-grid population. At an everyday level is this not what privacy issues are based on? The desire to remain unseen. From the search history on computers, GPS data on phones, and police drones outside a person's home windows to our criminal records when applying for a job and chemicals in the body's bloodstream that indicate past chemical usage behavior. In these ways power is in not being "seen", as James Scott would put it.[39] None of these desires individually or collectively amount to a critique of the long history of being "misrecognized" (see Taylor 1992). In this section, I push these ideas further, again not to provide an alternative to the dominant mode of

[39] For decades elites have been difficult for sociologists to study precisely because of the power that is maintained by not being "seen", commonly referred to difficulty studying up (see Aguiar and Schneider 2012).

political engagement, but rather to widen the view of the political landscape in order to accurately understand the off-grid individual and other forms of circumvention-based politics. In this way one could say I too function as a state agent trying to make visible those who would care not to be. Luckily, the attitude of those I interviewed is one of more indifference than protectionist.

Papadopoulos et al. (2008) traced the modern nation state as primarily an attempt at territorializing (or caging) peasants that were freed from feudal relations.[40] These "roaming mobs" would come to be known as vagabonds. In response to those whom refused work a series of laws (such as the Vagrancy Act of 1744) were put in place to control this mobility and create a disciple citizenry and work force. Poorhouses, workhouses, monasteries, galleys and armies "would be charged with solving the problem of the mobile classes, the mob" (Papadopoulos et al. 2008:46). These would to an extent solve the "problem", with a few groups such as the Roma maintaining their distance to these socio-material cages.

As such, it is now possible to view the option of circumvention as having the same pertinence as it did in the early classical state formation covered in Chapter Four. Unfortunately, as has been already explored, circumvention has been dismissed as "quietism or passivity" (Smith et al. 2015:16) rather than a legitimate political expression. Italian political theorist Paolo Virno (2005) traced this dismissal to Hirschman's (1970) *Exit, Voice, and Loyalty* which contributed to a situation where "the Left has not seen that the exit-option… was becoming

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[40] This confirms to Deleuze's conceptualization of society. "A Marxist can be quickly recognized when he says that a society contradicts itself, is defined by its contradictions, and in particular by its class contradictions. We would rather say that, in a society, everything flees and that a society is defined by its lines of flight which affect masses of all kinds (here again, 'mass' is a molecular notion). A society, but also a collective assemblage, is defined first by its points of deterritorialization, its fluxes of deterritorialization. (Deleuze and Parnet 2007:135). I thank Kevin Suemnicht for pointing this out.

prevalent over the voice-option" (20). He continued "Disobedience and flight are not in any case a negative gesture that exempts one from actions and responsibility. On the contrary, to desert means to modify the conditions within which the conflict is played instead of submitting to them" (Virno 2005:20). The assumption of conventional state-based politics is "that misrecognition and non-recognition are pathologies which emancipation will eradicate because visibility means being seen, being heard, Invisibility is a problem, and needs to be addressed" (Smith et al. 2015:6). The off-politics of circumventors complicate this understanding from the Amish's non-involvement with electoral politics to the maroonage societies leaving plantations generally intact and unmolested. Below I review this stance as expressed by the builders and dwellers of Earthships. It is with hope that the preceding brief remarks will prime the reader to enter into the political world of the off-gridder with an open mind. And one needs to remember they rarely are making prognostic claims for others, simply themselves.

7.3.1 **Identity**

Given the desire to live off of utility grids and the pluralistic understanding of the grid, it is not surprising that people would also want to live off of political grids—as always, at least to some extent. This approach represents the heterogeneous assemblage framework that builders and dwellers take. They seek freedom and security beyond the technical and physical to include the social and political. I draw a similarity with the hill people of Zomia that James Scott wrote about (see Chapter Four). He found that "Hybrid identities, movement, and the social fluidity that characterizes many frontier societies are common" (Scott 2009:18). Furthermore, the hill people "actively resist incorporation into the framework of the classical state, the colonial state, and the independent nation-state" (Scott 2009:19). This is also seen in the creation of the

Zapatismo identity as an "active opposition to the state-endorsed *mestizaje* ideology" (Grubačić and O'Hearn 2016:133). The extrication process gives more room for individuals to resist the dominant representational grid of political discourse. And since there is less of a proscriptive politics for others the lack of state-directed action lessens the need for any specific and stable ideational developments including collective identity. I now look at how this is expressed among Earthshippers, which is my shorthand term, not an actual identity articulated in the field.

Very early on in my interviews one common theme was acutely noticeable. When I asked about politics more often than not I would get an answer that was a rejection of the question itself. Fae Lacerte answered "I unfortunately don't believe in politics" (Personal interview 4/23/2015), Mia Burnett responded "I believe in divinity, I don't really believe in politics" (Personal interview 8/8/2014), Amarina Smith simply said "I am apolitical" (Personal interview 7/22/2015), and Heather told me "I don't really like to involve myself totally in politics" (Personal interview 7/27/2014). This aversion to labels was also found in what has been referred to as identity politics. Coletta told me "I am a lesbian. I don't even refer to myself as that often, because I don't really like labels" (Personal interview 7/31/2014). For Kari she said "I stay as far away from labels as possible" (Personal interview 7/16/2015).

I realized that for some they were thinking of politics as the formal US two-party system. Others made this clearer. Henri Costa told me "I don't identify myself with any party" (Personal interview 4/23/2015). Ovidiu explained why she disagreed with politics. "I feel like politician's interests is really different from the peoples' interests. So, I don't really care whether it is democrat or republican. I don't feel like these two parties represent or is for the people" (Personal interview 7/14/2015). Lynda added "I don't really believe in like one or the other, like

it's kind of controlled opposition. So, I just have a common morality I go by" (Personal interview 7/27/2014).

The common reason given for why politics is not an interest nor valid is the connection to moneyed interests. When I asked Kari why she stayed away from politics she answered

> Politics cause me great amounts of irritation and anger. So, I just stay away. I don't listen. I don't pay attention. Yes, I know there is a presidential election next year. I don't know anybody running for it and I don't really care (Personal interview 7/16/2015).

She told me of a story when she was 17 and was excited to vote the following year. But she saw in Colorado (where she lived at the time) there was a vote giving "special rights for gay people". The vote failed, which was responded to by Hollywood calling for a boycott. She felt like it "doesn't matter we voted and it was done so [blow raspberries]". But a revote was held (which also failed). She described this as "formative". She concluded "it's like okay and so if you yell loud enough you can override previous voted on things. You know the one with the most money wins. It's like okay screw this. What's the point?" (Personal interview 7/16/2015).

Scott Clemons confessed he "mostly don't care [about politics]", because in "the political system [there] is so much corruption and money involved" (Personal interview 7/12/2015). Shannon Donovan reflected on how as a woman she should be more involved given American history of the suffrage movement. A similar critique has been leveled at African American parents that homeschool their children, as if their choice "effectively amounts to an attack on the very values and legacy" of movements and court cases like *Brown v Board of Education* (Anderson 2018). Nevertheless, Shannon is opting out, as she told me "politics as a whole system, I don't believe in it. There is too much money and it fucks it all up" (Personal interview 7/24/2015).

Journalist Emma Green (2017) found a similar sensibility among the community members of Cambia (an intentional community in Virginia). She found that the 2016 election "strengthened their conviction that they shouldn't be involved in politics" and quoted a co-founder of the community as saying "I'm embarrassed to say that I felt like I had to vote… I don't believe in democracy, so I should have abstained. But I felt like it was really critical… Well that didn't do any good" (Green 2017). Apparently referring to Donald Trump's election.

Another journalist, Nick Rosen (2010) described the "non-identity" of off-gridders, albeit it in slightly different ways. He stated that the non-identity of off-gridders showed that there are "models for successful life in the twilight zone, away from the full glare of official recognition and databases" (261). And environmentalist writer Keith Farnish (2013) provided what could be taken as an example of the off-gridders' off-politics. He described an exercise titled "Don't Expect, Don't Register, Don't Vote". The main idea is that

> By refusing the mandate to be 'represented,' you take the mandate away from politicians to represent you. They become powerless to claim they are anything but a bunch of toadying, corporate-loving elitists. And the best thing of all is you don't even have to do anything to achieve this (Farnish 2013:180).

There is a general rejection of claiming a place within the cageworks of representative politics, as most identifications for circumventors are problematic. There was not even an "Earthshipper" label applied among builders and dwellers. However, other interviewees' narratives were peppered with more traditional political terms, but the ways they are used invoked a form of liminality. After exploring their self-descriptions, I will return briefly to the idea of liminality in this context.

Earthship builders and dwellers used familiar political terms and identities. In fact, it was the litany of terms that made me question how they were being used. By and large though there was a leftist majority (although for non-Earthship off-grid examples this may not be true). Jackie

Goodman cited her San Francisco origins as accounting for her "left of liberal" stance (Personal interview 7/19/2014). Evan Chaney answered similarly "As liberal as you can get… Socialist, communists, anarchists. I haven't really got a label for it, but Obama is not leftwing enough" (Personal interview 4/27/2015). Ralph Bailey really exemplified this, as our dialog can attest to.

> Ralph: Oh, I guess I would be a communist at this point. Although I don't know exactly what that means. Well I rather live in a commune than a big city… Um, you know I just believe that people have a stronger relationship with the land than corporations. So maybe anti-neocolonialist. That's probably better than communists. Cause, you know, were Native Americans communists in your mind?
> Ryan: Uh, I think technically yeah, since the means of production were owned collectively, yeah.
> Ralph: Yeah okay, then technically I would be a Native American communist anti-neocolonialists (Personal interview 3/30/2015).

I provide this discussion not to show the lack of political knowledge or sophistication that comes with sustained study and engagement with the secular left, but to exemplify the lack of stability and specificity in which traditional labels are understood and used. As Liam Roy told me, he was "very against having to pick one ideology" (Personal interview 7/16/2015). Additionally, there was a lack of membership in any formal or informal political organization, which further led to this synonymous usage of labels.

There was a general anarchist theme, although none of the people I spoke to seemed to be a part of any specific anarchist collective. Hannah McKinney led with "progressive" and followed up with "I believe in taking care of people. You know, I believe in social safety nets. Feminist in the cooperative business, flat non-hierarchable organizations" (Personal interview 7/16/2015). This non-hierarchy was a common anarchistic theme (often in contradistinction to the centralized material infrastructures), but was problematized by another anarchist-minded individual. René Martin was an anarchist, but he struggled with his anarchism. "I've lived in so many communities and these communities, many hippies, they don't want structures. 'We don't

want roles. We don't want that'. That's bullshit. You need an instructor, you need roles, you know, so everything runs okay" (Personal interview 3/31/2015). This exposes a tension of caging and circumventing. Perhaps even a dialectic, where circumvention requires a level of terraformation, however one must be attentive to the assemblage created, as it too could constitute an unwanted level of caging.[41] Nevertheless, the meaning of anarchism is used in a fluid manner, with no references to specific political lineages.

Among the more conservative builders and dwellers there were two who identified as libertarian. Jacob Stark responded to questions about his politics with "um, shit, anarcho-capitalist libertarian". When I questioned him further about why anarcho-capitalist libertarian he responded "I like to make money. It makes things go around. It makes things possible. Everyone is free, but fuck the government". His reasons for not liking the government ranged from taxes and regulations to rules and cops. For him they are all trying to "isolate and control [us]" (Personal interview 4/27/2015). He stood out as his "pro-business" stance was the only example from my interviews.

Dennis Lawrence, now retired from the air force, called himself a "libertarian". I asked him what that meant. He told me "Well neither party really has it right. I lean a little bit to the right, but for example, I think that all drugs should be legalized… I just don't like the steady eroding of the guaranteed freedoms in the constitution". Interestingly, when I asked him if his involvement with Earthships was connected to this he said "I don't think so. I just like the idea of being totally independent in case the government does breakdown I can survive for a while and

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[41] Recent cultural theorist Byung-Chul Han (2017) grappled with this tension in a fatalistic, yet provocative way. "Freedom will prove to have merely been an interlude. Freedom is felt when passing from one way of living to another-until this too turns out to be a form of coercion. Then liberation gives way to renewed subjection. Such is the destiny of the *subject*; literally, the 'one who has been cast down'" (Han 2017:1).

won't have an immediate horrible end" (Personal interview 8/5/2014). Dennis was what popular culture constructs as the off-gridder, the survivalist, or prepper. But the 53 other people I interviewed (and the dozen others I interacted with) did not quite fit this mold. There are general concerns about the ability for corporations and the governments to continue make the same decisions of the last century, but rarely are the articulated with such cataclysmic imagination.

Other more conservative elements were present. Such as Theo Alston who identified as a "crunch con". "I'm very conservative in my, like ethics and religious views, that kind of thing. But at the same time, I'm very committed to the environment and that ends up being a kind of weird juxtaposition. Crunchy as in hippy. Hippy conservative" (Personal interview 7/13/2015). Rob Dreher (2006) wrote a book on *Crunchy Cons*. In fitting with off-politics, he wrote that "crunchy conservatism is a cultural sensibility, not an ideology. You're not going to find a set of crunchy-con policy prescriptions" (Dreher 2006:232). Interestingly Dreher's manifesto (irony not withstanding) for crunchy-cons concluded with how "Politics and economics will not save us. If we are to be saved at all, it will be through living faithfully by the Permanent Things, preserving these ancient truths in the choices we make everyday life" (Dreher 2006:2). Dreher was referencing conservative political theorist Russell Kirk's statement on "permanent things", as conservative understanding of the family as "the most essential to conserve" and not actual nonhuman durable things. One can see here a moving towards an older social form, kinship, in the face of the proliferated cages found in globalized neoliberal capitalist society. Despite being a minor trend, this conservative position can be found among some Earthshippers. However, most have a more leftist lean, but even this vague similarity should not be grouped into on-grid political discourse of republican or democrat.

I argue that these two articulations of off-politics (nonidentity and a liminal use of traditional categories) are both tactics to prevent caging. In reference to liminality, I am very much reminded of the usage of the term by anthropologist Victor Turner.

> The attributes of liminality or of liminal *personae* ('threshold people') are necessarily ambiguous, since this condition and these persons elude or slip through the network of classifications that normally locate states and positions in cultural space. Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremonial (Turner 1991:95).

The lack of concern for a specified political position stems from the lack of any concern for being included in the game of politics. As such, off-grid people can engage in a form of play, using words interchangeable, mixing and mingling, or just refusing to participate in the game. This leads to a greater plurality and fluidity of political identities co-existing at any moment.

7.4.1 **Diversity**

One would think that this plurality of non-identity and liminality would lead to some confusing moments and conflict. During my internship, I only observed one moment of tension from this situation. It was quite minimal, but nonetheless multiple political worlds met each other. Bobby Hughes was with a few more leftist-minded people. They were talking about how Walmart is evil and Bobby interrupted. He truly was unaware of this generally accept view of Walmart as a negative actor. And so, he asked. Tricia was taken back as this taken for granted assumption was exposed. She struggled at first to find her argumentative beginning point. She was then able to describe the small business destroyer, low-wage, and tax evasive nature of Walmart as she knows it. Bobby was receptive, but made sure Tricia did not make any leaps of logic. This minor political background diversity-based conflict was the only one I observed.

Interviewees also mentioned the wide range of politics that was found among Earthship enthusiasts and described this as a positive thing. For instance, Danny McCarthy described himself as "not the average Earthshipper". He saw himself as more independent, whereas others were more liberal; something he "didn't really gravitate towards" (Personal interview 3/16/2015). This came through in the various ways other academy students plan to use their Earthship knowledge.

> I think we all had vastly different ideas. You know I think some were just on an exploratory journey and part of their life. Others, I think there was a few of us that were more business oriented towards it… Some just wanted to go and take the ideas, like the German guy who wanted to just take it to Australia and start working [on an Earthship] (Personal interview 3/16/2015)

Beyond their various approaches and future plans with Earthships there was a variety of political discourses. Danny again reflected on this variety.

> But you know that was one of the really great parts about the whole experience… I know we got into a lot about oil and drilling and fracking and um… [O]ne guy was really into the chem trails left by jets. That was always a good conversation to have with him. But yeah, I just thought that was great learning, just understanding there are more perspectives than yours out there. Just kind of where people come from (Personal interview 3/16/2015).

There appeared to be less conflict than may be found in traditional organized collective action. Since there is no serious large collective identity or scarce resource allocation process differences can be more than tolerated, they can be valued. In some ways Earthship builders and dwellers do not have to worry about protecting boundaries, since they are self-positioned (or are seeking to) in a sort of out-of-bounds area. Who are they to constrain someone else to their views, they would ask.

René offered a useful way to make sense of the differences within builders and dwellers. Jokingly he confirmed some level of commonality by saying that "No one conventional goes to build a house with garbage". But beyond that "Everyone is really interesting, but you could see

from different places for Earthships". He spoke of people who wanted to build schools in poorer nations, couples wanting to build for themselves, activists wanting to build education centers. "It was a bit of different backgrounds, but thinking with a kind of, I don't want to say politics, but values. Let's go and say values. And aware that this climate is a mess and we have to do something and more" (Personal interview 3/31/2015). This was similar to Dreher's (2006) definition of crunchy-con, not as politics but rather a "cultural sensibility". What served as a uniting principle may be a sort of circumvention value, attitude, and aspiration. This is a stance that does not easily map onto the traditional political ideational world (as even libertarians engage with the state [i.e. the Libertarian *party*], albeit for a smaller state).

Fae supported this observation of diversity as he reflected on his fellow Earthship builders. "All coming from different backgrounds, different countries, different cultures. But definitely like the same ambition, the same vision, the same need for change" (Personal interview 4/23/2015). Jacob furthered these points. "Lots of independent thinkers, interesting people. A lot to say, lots of ideas. Lots of plans. And um, they usually have the motivation to back it up. Like they actually do the things they talk about. They're not just talking" (Personal interview 4/27/2015). Doing, as in actually constructing assemblages is put in contrast to the on-grid political structure of discursive politics. This value of building over the argumentation of discursive-centric projects is interesting given the proliferating in the on-grid/online world of "Slacktivism" (see Earl and Kimport 2011) in a post-industrial "informational society" (see Manuel Castells 1996). Perhaps there is a reaction away from the never ending and greater ephemeral onslaught of meanings and a turn towards viscerallity and durability of things. This was further supported by multiple references to the satisfaction of the physical building of things over office or school work that Earthship (see Chapter Nine).

Returning to the diversity of interviewees, there was a commonality that co-existed with these wide differences. “It’s nice to be around like-minded people and not feel crazy” Liam told me. But then he affirmed that academy students were

> very varied. I mean we had the common theme of Earthships. We all wanted independence, just an autonomy of life. But you know some people were there getting credit for school. People just interested in things. And other people, a few like me, saying yes, we’re building and yes, we’re doing this [for ourselves]. It was varied I found in terms of why people were there. But at the same time, I found people were very like-minded (Personal interview 7/16/2015).

Among dwellers of the Great World Earthship community, this non-issue of diversity was also present. Trey described his Earthship neighborhood as containing seemingly polemic elements without any conflicts.

> We get the proper tea party element because it’s the left and the right that are so far apart and they come together here. You know the hippie wants to be left alone and have a self-contained house and so does the tea party gun freak. They both want the same thing. We actually mingle pretty well with that (Personal interview 7/21/2015).

In the absence of mechanisms, logics, or imperatives to create a homophily situation, there is a truly motley crew (“composed of diverse often incongruous elements”[42]), which defied the coordinates of contemporary political life. Amarina cited this non-exclusivity as a reason she liked Earthships. “I like that it is just people of all walks of life. Yeah, I guess which is the whole point… That this is not an exclusive thing” (Personal interview 7/22/2015).

7.5.1 **The Non-Activist**

An off-politics is expressed with a rejection of formal representative state-centric activities, but this should not be confused with a revolutionary party or anarchist collective.

[42] http://www.merriam-webster.com/dictionary/motley

These approaches and ideologies themselves require a significant engagement with the state, even if that engagement is disavowment. Rather, the majority of Earthship builders and dwellers practice a kind of rejection without engagement. But off-politics is not the same as the wider non-voting public. Off-politics is positioned between the apathetic polis and the revolutionary dissenters, although aspects of both can be found. Builders and dwellers neither organize for the overthrow or capture of state institutions, nor are they placid in their positionality of *repräsentiert-Dasein* (being represented).

To begin, I will start with the exceptions, as circumventors have an inherently wider standard deviation when it comes to most social dimensions. Danny McCarthy has voted for independents or conservatives and he "used to work for the US House of Representatives for a brief time in college". But that has changed. "I'd say I was pretty political when I was younger. Not so much anymore" (Personal interview 3/16/2015). Now Danny practiced what he called "plant activism", where he plants palm trees in parks and bike trials. This is the only example he provided for his political life. Jacob Stark was also an individual who did some activism in the past. "I went to a few marches against Monsanto. That's about it" he said. But now Jacob is "not overtly political" (Personal interview 4/27/2015). Similarly, I asked Liam Roy if he is politically active. He responds by describing his voting behavior, "I do. Sometimes I don't and sometimes I do. Last time I voted I declined to vote. So, it's a counted vote" (Personal interview 7/16/2015).

Ricky reflected on his time with social movements and some of the things that rubbed him the wrong way.

> After a while you are kind following, idolizing. And you are doing that kind of doing that kind of thing. And with Occupy, the they started doing these hand signals, they would have these sit-ins and it was just the way it was managed, and it was leaderless. There were no leaders and so but yeah, they couldn't really do much without having certain people to step up and take the reins. It was just discombobulated. It was discombobulated. And I think it ended up being a poor

> showing within the media. Because the media then of course twisted it around. And really showed that off and how, how, its fringed element and turned them into these crazies and just focused on the anarchist and all that kind of stuff. Honestly, I just didn't want to be around that kind of environment and it didn't seem like we were making too huge of a headway at a certain point. I was never really an Occupy person (Personal interview 4/6/2015).

Ricky tried to be involved. The fluid nature of the organization combined with the lack of concrete progressive outcomes lead him to the conclusion that this was not the way. Rather, Ricky became more attentive the natural world. He told me "We are surrounded by the Earth and we're having conversations with, with basically our plants and are teaching us on how to maintain and self-sustain ourselves" (Personal interview 4/6/2015). What does that mean for Ricky?

> We don't need to suck the nipple of that one source. We can now harness the elements in a more individualistic way so that, and it's not to be separate from, it is more or less to be connected to and also to be able to manage it yourself (Personal interview 4/6/2015).

Shane Anderson had a similar experience. "When I was younger I definitely, I mean yeah, I was kind of like interested in protesting and all that kind of stuff… [L]ike anti-war protest, the second Iraq war and what not". As covered earlier, he mentioned several times, how society infantilizes people. He clarified "I mean to say, like, you know, people lack the skill sets to directly interact with the Earth and perhaps leverage their knowledge in order to survive" (Personal interview 3/16/2015). Shane moved effortless from traditional politics to basic survival skills and their relationship.

Again, I take a cue from Rosa Luxemburg. She and many others (such as Silvia Federici [2012]) have noted the extreme separation of the self from subsistence as a process of caging individuals so they must capitulate to the ways of the world. Put another way, "When freedom retreats an inch, there is a hundredfold increase in the weight of the order of things" (Vaneigem 2001:4). These "order of things" are the IEMP assemblages described in Chapter Four, the long

commodity chains provided by enrolling nonhumans and the corresponding emerging social ontologies. The result is a greater level of dependence and this dependence is seen as an obstacle to freedom for circumventors. To circumvent "the order of things" Shane and his buddy are looking at alternative living arrangements. He said they wanted to learn from "these groups that do intentional communities and stuff. So, we are going to go look at them and see what the process is and learn from them" (Personal interview 3/16/2015). The goal is to bring things (literally and figuratively) closer, under their ability to manipulate.

These are the exceptional cases of political involvement and as one can see even they are quite minimal and often non-existent in the present. Instead, attention and energy are directed to the terraformation process of circumvention. By and large, the majority of the people I interviewed were not involved in politics and claim to never have been. I asked Lachlan Williams to describe his politics. His answer is emblematic of Earthship builders and dwellers' off-politics. "That's something I don't really get into much… I just don't watch TV and I don't really, I don't really vote or anything like that. I am not really into the whole politics thing" (Personal interview 7/17/2015). Michael Arnold "do[esn't] really have any faith in either party or any politics or anything". He also "do[esn't] watch the news anymore" (Personal interview 8/11/2014). And Daryl Clark living in a trailer as he builds an off-grid home in Canada, stayed out of politics. I asked him if he has ever been involved in any political issues. "Not really. I'm, I, I don't read the paper, I don't watch TV and I don't listen to the radio" (Personal interview 3/28/2015). He continued.

> So, I'm pretty disconnected as it were. And I have to say just having eliminated all that stuff sort of from your life it also relieves a whole lot of stress. Cause you know it's almost like ignorance is bless if you want to call it that. You know I can concentrate on what I'm doing (Personal interview 3/28/2015).

"Concentrate on what I'm doing", similar to Shane and others. The focus is on the localized power of the individual terraformation process over the tenuous transmission of agency through concentric and federated representative structures. This is the self-empowerment of do-it-yourself or do-it-with as Vannini and Taggart (2015) made clear (see Chapter Nine). Distancing oneself from the current affairs depicted in media is a choice that some, but not all made.

There are builders and dwellers that do follow the news. Larry Clayton for example. "I'm not really politically involved, but I try to stay informed about what's going on" (Personal interview 8/5/2014). Also, in the summer of 2015 I talked with Saul Newton who was following the Tans-Pacific Partnership. "And this trade deal. This TPP trade deal. Very disappointed in that. I just don't think that's good economically. I don't think it's good environmentally" (Personal interview 7/17/2015). As in most characteristics of Earthship builders and dwellers, there is a wide variety of keeping informed with current events. But even with this there is a pattern of keeping active involvement to a minimal, while instead focusing on the physical aspects of extricating and terraforming.

In general, I argue that Earthship builders and dwellers eschew formal politics, but as Daryl hinted at, the extrication is coupled with the terraformation of another politics. Omeika Bello represented this clearly. Omeika confessed that she does not plan on voting. I asked her why and her answer combines the off-politics with the do-it-yourself attitude found among circumventors.

> Because I don't believe in the political system. I think it just continues to fail us and that people need to wake up and realize the power is in their who hands and not in the hands of people who have money. So yeah, I don't believe in politics (Personal interview 7/31/2014).

Her reference to hands is not just symbolic. She goes on to describe her financial situation as not having a rich background and all the money she makes is with her bare hands. "Well first of all

making money is not important to me. But using my hands is important to me. It's important to me because when I do something I know I'm passionate about it" (Personal interview 7/31/2014). When probed for examples of her hands-on focus she responded,

> Well, I'm a massage therapist so I make money mostly doing that, using my hands. I like to do, wash dishes a lot. I like tools. I like to play in the sand a lot when I'm at the beach and use my hands a lot. So, I don't know. I like to use my hands in whatever capacity, I enjoy it (Personal interview 7/31/2014).

Omeika later talked more about how she liked to use tools. I asked her for more examples.

> Um, well for massage that would be like towels, I like to use towels a lot. I think to use sponges. I guess I'm just a very tactile learner. I like hammer and chisel, I like a shovel. I like to pick foods, like fruit. I like to pick corn. I like to go apple picking. So yeah, I just feel like I experience life a lot or reality a lot using my hands. And it's fun (Personal interview 7/31/2014).

Omeika is not alone in her elevation of manual labor, often appearing in relation to questions of political involvement. Many of the individuals I interviewed came from occupations that are more physical and some did both manual and white-collar jobs such as Saul who was a part-time screenwriter and a handyman. However, there was also many interns and academy students that had basically no building skills. In general, the turn away from discourse-based representationalism is also a turn towards physical-based terraformationalism.

7.6.1 **Everyday Living as Politics**

Although most off-gridders are not involved with formal politics or social movement organizations they are nonetheless political. Off-politics is itself still a politics. And here one finds similarity with recent movements. As the new social movements approach has made clear (following in feminists' footsteps), the personal is political. Earthship builders and dwellers as well as other activists are locating their everyday as sites of political struggle. Among builders and dwellers, I find several themes of how everyday life is itself a political platform. These

themes include conservation of resources, buying less and local, and connecting everyday household action to global environmental systems. They all have to do with the flows of materials into and out of their local orbit.

I asked Erika Fernandez if she was involved in any political movements. "Let me think" she said. "No, I just act, like through daily acts. I try to be conscientious about my consumption". I asked her for example. "I try to ride my bike, and walk as much as I can instead of driving". For Erika she rearranged her daily life in a way to reduce her carbon footprint. "Yeah just try to not eat a lot of meat, to just be a lot of vegetable diet, cause that also increases your carbon footprint. And things like here, like begin conscientious about water, about energy use" (Personal interview 7/24/2014). For Erika, as she figured out her plans for building an Earthship she nonetheless attempted forms of *petite* circumvention where she happened to be.

Bobby Hughes also viewed his daily actions as consequential and political. He "generally… abstain from voting, but… [has] voted a few times for ineligible candidates" (Personal interview 8/3/2014). For him the more legitimate action is in his every day.

> I think I live my life in a way that is a practice of activism, or I try. That's the way I intentionally approach it, is. I, I don't need to go out there and chain myself to a tree. I just need to live my life and hopefully inspire others (Personal interview 8/3/2014).

Again, I asked for examples of this practice of activism.

> Well I tend to be very conservative, not financially necessarily, nor politically, but in *my use of things*. Whether it be some resource of some material or energy or anything like that I try to avoid excess. I mean especially unnecessary excess. Sometimes there might be a place for excess, but in general I think it's just laziness that brings about excess and comfort that we've been accustomed to that results in excess. And I consciously try to identify those excess and avoid them in my daily life (emphasis added Personal interview 8/3/2014).

I will visit Bobby again in the next section, but here he distanced himself from traditional social movement actions, like direct action. Instead, he located his everyday interactions with things and people as the core space for his politics.

In modifying material flows in and out of the body and household, many saw this as a relationship with economic assemblages and as the point of political action. Manahil Ali already conserved on electricity and after spending time in the Earthship internship she vowed to pay more attention to her water usage. Beyond that, her role as a consumer is also a place to practice simplicity. "I'm really careful with all of my items. I don't buy excessive, you know I know a lot of girls who have tons of shoes. I got like four pairs" (Personal interview 7/31/2014). Again, there is the critique of consumer culture and useless excess. Similarly, Lillian Gray had "always been an advocate for not wasting anything at all". She was "always trying to reuse and recycles". She claimed it is due to her Nashville upbringing where "everyone tried to buy local". She continued "The direction I should go is to buy more local more often and spend my money in good places where people are very deserving rather than corporations, that kind of thing" (Personal interview 8/2/2014). This serves as a reminder that circumvention is not a complete and total move outside, but rather an attempt at self-directed and variegated motion outward.

Ovidiu Vasile also discussed using and buying less in response to a question of his political activities. "I am trying to support like changing my own lifestyle. And like when it comes to the environment, being a lot more, using a lot less resources… I try to buy less and whatever I buy, I try to buy used". He rhetorically asked me "Why create new things if there are resources that we can still use?" (Personal interview 7/14/2015). A perfect question for someone who builds homes out the "third nature" of tires, bottles, and cans. Ovidiu would fit in perfectly with the Taos' Glam Trash Fashion Show (see Chapter Eight).

Some Earthshippers more directly related their everyday activities to the future of the planet. Lucy Strafford said "we don't have four worlds, we have only one. We have to be smart about how we use that" (Personal interview 8/7/2014). I asked her what she meant.

> I'm thinking back to the ecological footprint. Cause I found out if everyone lived the same way I did we would need like 2.8 worlds or something ridiculous like that and that's scary to think about too, cause I try to bike everywhere (Personal interview 8/7/2014).

For Lucy and just about all the other Earthship builders and dwellers "it's the little things that make the difference" (Personal interview 8/7/2014).

Moving beyond where Lucy ends, others Earthshippers' everyday politics is not just about causing less harm, but actually creating something better. Lachlan Williams was "pretty conscious about everything, the planet", but also was "supporting tree planting [and] almost anything that's going to bring a brighter future". In a simple, but no less correct way he explained why he supported tree planting. "Because if we didn't, the world would just be a mess. Trees give us oxygen, we would be dead without them. And I don't want to see the world filled with rubbish, and it's going that way already" (Personal interview 7/17/2015).

Moving from Lachlan's native Australia to Danny McCarthy's Texas, the same action of trying to create a tree filled world is occurring. Danny had an herb garden and a normal size garden. He just started planting palm trees in his yard. Beyond this, as I show above, he practiced "plant activism".

The idea of studying everyday life has been a staple of sociology and was renewed by the works of de Certeau (2011) and Lefebvre (1991). In the 1990's it became popularized within social movement literature as new social movements. Even as it was popularly being said that people are "bowling alone" (Putnam 2000), there was nevertheless a growth in research which unpacked social movement members' micro-actions among each other. Circumvention is a

continuous political act. The campaign is never finished or easily partitioned. In new social movements social intercourse has often crowded out the material flows ever present in the entanglement. This is the innovative aspect of circumvention, off-gridders, and Earthshippers. I show this by taking an Object-Friendly Sociological approach.

7.7.1 **"If you Build It"**

Earthship builders and dwellers focus on their personal relationships with material flows, but that does not altogether preclude their more traditional mobilization aspirations. Most believed that the Earthship movement will grow in the coming years. This growth is approached through an example-oriented politics as opposed to a more agitational or an evangelical one. Michael Reynolds articulated this stance.

> I'm not going to argue with them like I'm not going to argue with the people dancing on the top level of the Titanic before the iceberg crash. It people don't see disaster on their horizon you can't convince people of that. They are going to have to see it on their own. And I'm just making life rafts right and left (Lichtman and Wells 2016).

Earthship Biotecture, as well as some private homes served as information and educational centers (similar to eco-villages). A couple in Ohio regularly gave tours of their Earthship and other projects around their farm (Blue Rock Station). Reynolds himself said he did not want to force people to live this way. He just wanted to show them that it is possible (Garbage Warrior 2013). Some that participated in the Earthship Biotecture academy want to build an Earthship to serve as a visitor center in their hometowns. In the summer of 2013, I spoke to a professor of engineering from Michigan who was volunteering at the Earthship Biotecture visitor center. His plans were to build a visitor and educational center in Michigan. And Istvan said his friends "can follow me if they want. But other than that. I'm not like an evangelist for it" (Personal interview

6/21/2015). The assumption is if you build it, they will come… and then maybe they will build an Earthship for themselves. Heather Bryant articulated this passive example-oriented politics. I asked her if she thinks Earthships will spread.

> Definitely think so. Because now that we have at least 30 people who know how cool they are and how, you know, how to build them, how we all have the knowledge, I mean there's just no way that we that like we're not going to spread that knowledge to someone else. I mean maybe there not going to go out and build one themselves and spread it and be like hey this is really neat, this is what's going on. And then maybe someone else will become interested in them, maybe they'll come to the Earthship and do the academy. Maybe they'll be really spontaneous and buy a plot of land and start building something small even without experience. I don't know I think that this is just the start, but I think that more people are realizing that it's very important and it's going to be very beneficial to our future (Personal interview 7/24/2014).

Earthship growth appears to rest on bystanders realizing the "common sense" of the assemblages Earthships participate in. All that builders and dwellers believe they can do is acquaint people with the technology and lifestyle and the bystander can take it or leave it. Their support or neglect is neither here nor there for the off-gridder.

Kari expressed this attitude in regard to her family who did not understand her desire to live off grid.

> My aunt for example. She just thinks I'm freaking nuts for doing this. Why on Earth would I want to do this? I tried explain it. I tried explaining it, but it just doesn't work for her. She wants her cozy apartment with her gas range and electricity that turns on her stuff. It's like okay, you do what is best for you. I'll be over here doing what I feel is best for me (Personal interview 7/16/2015).

We should not think of Kari as uncaring for others. In defiance of the archetype of the reclusive retreatist, Kari does care about her community members. She shortly follows up the above passage with "If the neighbors have a power outage or there's a major snow storm. I'm going to be just fine. And the neighbors will come over and hang out with me and that's fine too. I can take care of them" (Personal interview 7/16/2015). This stand is stark contrast to Sarah's neighbors whom made the comment of her gun ownership in the context of "shit hitting the fan".

For the majority of Earthship builders and dwellers I spoke with there was a desire to share the Earthship, but there was a surprising *laissez faire* approach.

However, this does not mean that off-gridders remain completely silent, rather there is what I consider a passive engagement. Omeika invoked a biological metaphor to this process. "I think the more you say Earthships to people, the more it will plant a seed and start to grow. So, I think it's just a way to get a thought out into the world and materialized, with words" (Personal interview 7/31/2014). Seemingly in contradiction to her earlier comments on using her hands, Omeika illustrated the Deleuzian double articulation of assemblages—semiotic and pragmatic. The focus on materials or words are not exhaustive and mutually exclusive.

Dennis further articulated this idea. "Earthships has no marketing department from what I can see. It's just strictly word of mouth and they primarily cater to the vernacular tree hugger you know" (Personal interview 8/5/2014). The visitor center plays a large role in this spread of information. However, the durable and functional Earthship as the referent itself takes an enlarged status. In regard to the visitor center, *it sees* an average of 100 visitors a day. Larry Clayton noticed the amount of foot traffic.

> I noticed when I was working outside the visitor center yesterday. How many people came it, just to take a look around. [They] were very impressed. I think there are a lot of good ideas that are becoming more and more relevant. People are starting to take notice of (Personal interview 8/5/2014).

Builders and dwellers are not dependent on a large mobilization effort as other movements for recognition are. This can be seen in their tempered aspirations for others. Ivan showed this. "Even if people don't, aren't completely sold, then at least they know it exists and there's another option" (Personal interview 8/6/2014). And Fae's friend, his "trucker friend" isn't in to Earthships. So, Fae takes a more passive approach.

> I think that you need to create a spark in order for them to do their own research and be there for them if they have more questions. Because if you try to like regurgitate what you know about Earthships it's going to be a mess and it might turn them off (Personal interview 4/23/2015).

In an interview Bobby Hughes, a civil engineer PhD student who took the internship program and has worked on Earthships around the country followed Fae's lead and described how the spreading of Earthships should and should not occur.

> I shouldn't try to change them [Earthship bystanders], necessarily. Probably not forcefully, maybe not even actively. I think a more passive approach in the long run is more effective and also helps me have a better life, because if I'm very active and forcefully trying to instill values that we've discussed into other people, they're just going to hate me. And I've seen that, I've experienced that and so I don't see the point in that. Because then I, one, I lose a friend, or don't make a friend or make an enemy, and two, I don't really affect any sort of change. In fact, I probably negatively affect this, the goal of getting people to be more mindful of their actions (Personal interview 8/3/2014).

This off-politics is seen in individuals' attempt to sidestep the form and content of on-politics, represented by the traditional right/left binary and traditional social movement activities of confrontation, mobilization, and agitation. Rather the would-be off-gridder is to be "naturally drawn" by the nonhuman's mere presence and function. This is why such a variety of individuals involved themselves for one reason or another. There is no gatekeeper to keep the "gun freaks", "business oriented", "anarchist", "hippy", "Crunchy-con", or "Native American communist anti-neocolonialist" out or to demand their allegiance, conformity, and sacrifice.

7.8.1 **Conclusion**

Off-politics is not the absence of politics. Just as when the temperature is zero degrees outside there is not the absence of temperature. Rather, off-politics is a concept meant to articulate a specific (dis)engagement with political life. The outright dismissal of formal political categories and the liminal use of them both lead to particular form of politics that is found in the

circumvention process. Sure, there is a non-active population of eligible voters, but their inaction does not contain the dual processes of extrication and terraformation, bringing into reality an assemblage that better fits the original off-politic stance. In fact, a portion of non-voting public is not a circumvention of electoral politics, rather it constitutes the ground work for a greater interpellation of the nation-state. It constructs the patriot via the unpatriotic. In a recent vote for president in Egypt abstentious were so high that state authorities said a "failure to vote was 'to disobey the nation'" (Fick and Kalin 2014). Were abstentions to continue, the state would face a crisis and if a socio-material terraforming process were to follow, theoretically individuals could live in a non-state society as humans once did (obviously this is an oversimplification). However, without coupled with a terraforming project, non-participation can reify the original cage.

Moreover, as shown in Chapter One, circumvention is not synonymous with exclusion. Populations unable to vote due to restrictions of civil liberties are not the same as persons who extricate from a generally acknowledged privileged position. The former leads to more engagement with the state for greater inclusion (voting rights movements), thus reifying the assemblage further. However, opting out and construction a life in a way that makes the option more consistent can actually constitute a threat. This is what Hirschman and others leads one to realize and why escape is so uncritically demonized by all on the political spectrum. For instance, in *City of Refuge: Separatists and Utopian Town Planning* Michael Lewis reflected on what happens when groups of people leave a society.

> Something odd happened to those separatist societies who came to build their own cities of refuge. The further they retreated into the wilderness, the more they were noticed and scrutinized. The less the cared about the world, they more the world cared about them (Lewis 2016:12).

It seems quite impossible to "be left alone". Nonetheless the movement away is hard to miss if one looks in the right place.

To conclude with off-politics I take a lead from other cases of circumvention. First the Amish. In the 2016 elections Al Jazeera interviewed “Sam, an Amish craftsman from Lancaster County”. He told the reporter "I don't vote; I'm just not interested" (Sarhan 2016). Another member of an Amish community, Sandy said “It's not in our religion. We [Amish] just don't vote" (Sarhan 2016). It matters little to the Amish which politician is in office. With their self-subsistence strategies, they are buffered (of course not completely) from the larger political world.

Maroonage offers another example of the utility in an off-politics practice. One observes that the “extrapolitical aesthetic practices of maroonage, [as] a way to be in worlds but not of them, a way to respond to needs as a critique of the institutional structures that create such need in the first place” (ashoncrawley 2012). Furthermore,

> while it is true that abstention from electoral politics does not, of necessity, protect, attending to another ancestry, the history of maroonage, perhaps presents us with other ways to think abstention-as-protection, where protection was not about the participation in, nor the replication of, the spaces from which enslaved folks escaped, but was about the desire to be left alone, to organize and care for one another without the imposition of the state (ashoncrawley 2012).

Caution should be taken when comparing episodes of off-politics. Religious persecution and brutal chattel slavery are not situations that the contemporary off-grid population are circumvention. Nonetheless, the comparison allows for a more robust conceptual development of off-politics. Surely these (dis)engagements stand as outliers, nevertheless they are outliers that allow for a reflection of the insiders.

With problems so capillary as the grids described in Chapter Six and recourse to formal and informal politics generally eschewed what option is left? For circumventors it is the intransitive, immanent, and prefigurative powers of nature and nonhuman things. I now turn to the terraformation of life through the creation of the off-grid assemblage—the Earthship.

8. TERRAFORMATION: THE EARTHSHIP ASSEMBLAGE

"If you want to fly, you must learn about riding on the wind – not harnessing the wind – not capturing the wind, but riding the wind. If we want to sail on the seas of tomorrow, we must learn about riding the Earth – not harnessing the Earth – not capturing or exploiting the Earth, but riding the Earth".
Michael Reynolds 1993b:12

8.1.1 **Introduction**

In this chapter, I follow the assemblages that make up an Earthship. The building of an off-grid movement is predominantly the physical building of the structure. Discourse matters a great deal at all stages of circumvention, but given the intellectual propensity to start and end the discussion at discourse I find necessary to forcible make the case of the nonrepresentational aspects of circumvention.

Building a home made out of car tires in the mesa, far away from city hall and television reporters is a political act. An act that is inherently about creating the necessary conditions to extricate the self from the assemblages of the gird that off-gridders find dangerous, insecure, and harmful. Bent over a pile of tires and dirt, sledgehammer in hand and only few people around are a performative politics. This political form is less dependent on state and public recognition to the extent that traditional social movements are. If the Earthship assemblage did not perform in

ways that human dwellers required (both informationally as well as the materially [see Lemonnier 1986]), then there would be no circumvention act. Remember the reasons why there are few if any Amish communities in New Mexico (See Chapter Five). With this in mind, this chapter proceeds in a somewhat more technical manner, describing how the Earthship assemblage deterritorializes some entities and codes them into a new territorial assemblage.

When discussing the actants and the assemblage of the Earthship I draw off Reynolds' how-to books. These books provide abstract examples, cultural commentary, and practical procedures that I draw from. I begin with how the assemblages of comfort (warmth and coolness) are attained without electricity/gas infrastructure or devices like furnaces or air conditioners. Second, I follow how trash is taken out of circulation of the landfill assemblage of modernity and utilized in the building, both pragmatically and aesthetically. Third, I discuss the use of renewable energy from photovoltaic sources and discuss how nonhumans and assemblages have an inherent politics. Next, I discuss how water is harvested and sewage is treated on site, which provides a nice heuristic of a fluid nature that is missing from the other more solid examples. Lastly, I will investigate how food production is created within an Earthship assemblage and the various modifications to this assemblage that are developed, such as enrolling "good" bugs.

8.2.1 **What is an Earthship?**

Michael Reynolds' first how to book, titled *Earthships Volume One: How to Build your Own*, begins with the biblical story of Noah and the great flood. For Reynolds this fable represents our current state. Humanity is about to be "'flooded' with survival emergencies, on many levels" (Reynolds 1993a:i), he wrote. For Reynolds the clouds are on the horizon and "Just

as Noah needed a life supporting ship that would float independently without access to land, we are in need of life supporting ships that will 'float' independently without access to various archaic self-destructive systems which we have grown dependent" (1993a:i).

In another parable, this one created by Reynolds, he told a tale of aliens from the sun Alcyone,[43] who were sent to Earth. These beings wrote a report on three types of life they found on Earth. "One type was rooted to the ground… Without moving from place to place it took what it needed from the air, the sun, and the ground to sustain a very long and low stress life" (Reynolds 1993a:2). Observations from the report also claimed that this life form dropped its byproducts on the ground, recycled them, and when they die become food for its children. "[I]t had totally interfaced with its host planet" (emphasis in original 1993a:2). The second type of life described was animal life, which move around but still interfaced like the trees. Lastly, in Reynolds fictional report, he described humans.

> The last kind of creature was not very well adapted to this planet. As a matter of fact, this creature may have been an alien. It took from both of the other creatures as well as the planet, and gave nothing back except by-products which made it difficult for itself and others to continue living. It seemed to be taking over the planet like some kind of malignant growth. These creatures prolifically multiply, fight each other, ruthlessly slaughter the other two types of creatures, and ruthlessly abuse the host planet. They do not seem to understand their environment, their chemistry, or themselves. Possibly, they should be contained in some intergalactic corral to keep them harming other creatures and planets, as well as themselves. In general, this planet was very beautiful and serene until this third creature began multiplying into such numbers that its effects has become a serious threat to the planet itself (1993a:2).

The story concluded with the Alcyone beings entered humans to show them how they too could interface with the planet. Reynolds often uses metaphors to express his ideas. These two different genres come together to give his critique of modernity, as well as his proposed way forward.

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[43] Alcyone is a real star about 440 light years away. It is the brightest star in the constellation of Taurus.

Among Earthship builders and dwellers, the Earthship is described in its actions, relationship to nature, and outcome for occupants. For instance, Shane said "what I like about the Earthship is it's pragmatic. *Like, let the technology speak for itself*" (emphasis added (Personal interview 3/16/2015)). Indeed, this is the project of the various intellectual traditions grouped under new materialism.[44] Rather than assume that only humans "speak", these theorists argue that there are other modalities of accessing and interacting beyond discourse. Returning to a builder of Earthships, Lachlan described an Earthship as "a house that doesn't need any heating or cooling. It collects its own water, it collects its own power, it uses recycled or used materials" (Personal interview 7/17/2015). Take note of the one doing the acting. Dennis defined Earthships as "totally self-sufficient. It gathers rainwater in cisterns It reuses water in grey water systems and septic leach fields for growing shade trees" (Personal interview 8/5/2014). The technology speaks through its ability to collect, use, gather, and reuse.

Others take creative leeway while describing the Earthship. Danny told me "I say it's like a home that's living. It's like an organism that you kind of take care of" (Personal interview 3/16/2015). And Hannah said it is a "beautiful home that works in symbiotic relationship with the environment, the surroundings, and I think with the people" (Personal interview 7/16/2015). Heather was in agreement, "it's kind of like your living within a system. Like, just like you're living within the Earth" (Personal interview 7/24/2014). And for Nathan, "It just uses systems and it's in tune with the environment at the same time" (Personal interview 7/30/2014).

Many defined the Earthship in political ways. Jacob believed "An Earthship is, it is off the grid passive solar house, passive thermal solar house that can lead to and make possible

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[44] Object-Oriented Ontologist claim the difficulty of a subject understanding an object (as it speaks) is in essence no different than two subjects absolutely understanding each other and for that matter two objects understanding one another (see Harman 2011).

independence more than a normal house" (Personal interview 4/27/2015). Ovidiu recounted the systems of an Earthship and concluded with "It just fills you up. And then you become a lot more independent off the economic system" (Personal interview 7/14/2015). In a similar tone, Amarina defined the Earthship as "Like it's freedom. Yeah so you know, you are not relying on the government at all" (Personal interview 7/22/2015). Lastly, Michael believed "the purpose of Earthships is to spread the ability to empower people to build their own homes, no matter what their situation" (Personal interview 8/11/2014).

This is the hope of all circumventors; that their terraforming projects allow them to continue to stay outside the orbit of assemblages they find confining, dangerous, or just unappealing. Having identified the cause of their malaise as the overlapping socio-material assemblage of the grid and having dismissed normal political avenues for address their problems they now begin the long process of actualizing their dreams of being off-grid. The first step is learning about the assemblages that the Earthship participates in.

8.3.1 **Comfort: "House as Battery"**[45]

Reynolds referred to the Earthship functioning with its surrounding as *interfacing*. Interfacing is the construction of a socio-material assemblage that attempts to create the least amount of resistance or refusal from actants. In a Latourian sense, it is the least abrasive process of translation or Pickering's process of tuning. Reynolds provided simple examples of interfacing. For instance, he gave the example of jump rope game. Children interface with the motion of the jump rope. "It doesn't take a child long to learn that the rhythm of the rope prevails if you want to be good at jump rope. The child learns that it must become part of the system"

[45] Reynolds 1993a:11.

(emphasis in original 1996:2). Similarly, a person pushing someone in a swing "aligns with the pendulum motion of the swing. You apply your force as an integral part of the system" (emphasis in original 1996:2). Gender and cultural studies professor Elspeth Probyn (2016) came to the same conclusion in her book *Eating the Ocean*. After exploring the assemblages of humanity's relationship to the ocean (often showing the cataclysmic nature of them), she concluded with the same logic as Reynolds. Simply, she wrote "Try to eat the ocean better. Try to *eat with* the ocean" (emphasis added 163).

These simple examples make up the basic Earthship design philosophy, to be "part of the systems" that humans encounter. Contrast this with modernity in general and capitalism in particular, the latter being described as treating nonhumans (and humanity for that matter) as "grey goo". Consider Timothy Morton's description below.

> [I]ndustrial capitalism has turned the Earth into a dangerous desert. It doesn't really care what comes through the factory door, just as long as it generates more capital… Nature is the featureless remainder at either end of the process of production. Either it's exploitable stuff, or value-added stuff. Whatever it is, it's basically featureless, abstract, grey (Morton 2013:112).

Nature as featureless is akin to a process of de-naturalizing nature, like dehumanizing humans. The result is a global post-industrial society that has constructed large seas, islands, and mountains of garbage, leading Reynolds (2008) to claim that "we are drowning in our garbage right now" (17). The option that circumventors take is to error on the side of "mystical thinking", by attributing a level of agency and respect to the nonhuman systems that humans encounter.

The beginning step to create an Earthship that interfaces with the "natural" systems is to consider the structure's relation to the sun and its placement on the surface of the Earth. The first actants are the celestial bodies themselves, the orbit of the Earth, its axis, and tilt. Earthship builders also consider the azimuth (seasonal arc of the sun in the sky). "In northern New Mexico,

the summer azimuth is about 240° while the winter azimuth angle is about 120°. This means that the winter sun rises 60° east of south and sets 60° west of south" (Reynolds 1993a:32). By slanting the south facing windows more sunlight can enter, while the same angle reflects sunrays when the sun is higher in the sky. This requirement of access to the sun also means that there cannot be large and continuous obstructions in front of the Earthship that would cast a shadow over the windows. This is among the many reasons why Earthships are predominantly a rural phenomenon, although there are experimental designs for dense urban areas (see Rosenberg 2014).

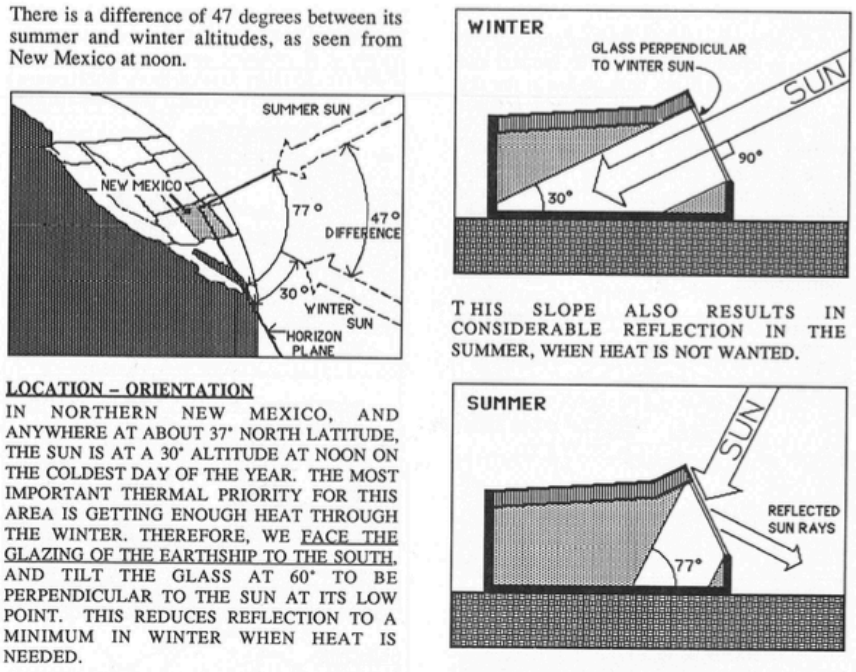


Figure 9. Location and orientation of Earthship (Reynolds 1993a:31).

The use of the movement of the sun has been at the center of shelter design for as long as humans have been constructing an indoors. However, this modern usage has its origins with architect Fred Keck's House of Tomorrow, which was constructed for the 1933 World's Fair. The House of Tomorrow made use of what is termed solar gain. The idea of solar gain came to Keck as "he 'discovered' solar heating when he found workers inside the house wearing only

short sleeves on a frigid winter day" (Denzer 2013). The house had its problem, such as becoming too hot in the summer. This led Keck to continue to experiment with solar gain, as well as shade. Professor of architecture Daniel Berber connected Keck's innovation and popularity to wartime rationing of fuels. A time when many were "worried that wartime oil rationing and materials restrictions were an indication of things to come" (Berber 2014:15). Despite their popularity, post-war housing construction largely ignored these more innovative and ecological approaches. With cheaper oil (for US consumers), state-financed housing loans (for some), and the application of the large-scale production methods; the solar house was to remain only an interest to the academy. Levitt towns were to populate the suburban spaces, replete with the electrical consumer goods that came to define the middle class.

Returning to the construction of the Earthship assemblage, the second step is to tap into the geothermal energy of the Earth. "At even the outermost layers of the earth [geothermal] heat can be felt. Just four feet below the surface, the ground temperatures remain remarkably constant… the temperature is usually between 55° and 60° degrees F" (Reynolds 1993a:38). By building the Earthship into the ground, as oppose to on top of it, the Earthship can become part of the geothermal assemblage. This assemblage is made of magma of radioactive materials decaying, like uranium and thorium. The energy from this nonhuman process seeps through the various layers of the planet and is captured in the Earthship as heat.

Once the Earthship structure is completed, dirt is rammed behind and along the side to enhance the thermodynamic properties of the structure. The choice of building materials (densely packed car tires) also participate in this assemblage of capturing and maintaining solar and geothermal energy. These simple designs allow the house to function as a battery. Energy from

solar and geothermal sources is captured in the assemblage, allowing for circumvention of commodified heating and cooling devices and infrastructures.

To aid in the cooling of the living space, air temperature and pressure is harnessed to create a convection system. By inserting a cooling tube in the north side of the building near the floor and an operable skylight in the greenhouse area on the south side of the building cool air is pulled into the house and hot air pushed out.

> For ventilation, a raised opening facing away from the wind will draw air out of the house as wind blows over the opening… If warmer air at the top of a space is allowed to escape, cooler air will be pull in (Reynolds 1993a:43).

By these simple assemblages, air conditioners become obsolete for the dweller.

While staying in an Earthship, I would open the small cover of the cooling pipe and feel the cold air rush in. It felt as if the air was propelled by a fan and cooled by a compressor, condenser, and evaporator. However, as I looked in the pipe there was no machinery to be found. There was simply a buried pipe with a grate at the end to prevent animals from entering. In an interview with Jackie Goodman, an Earthship dweller, she mentioned how it was nice to not have the constant sounds of forced air that she lived with on-grid.

> Jackie: I don't like about normal housing is forced air and forced heating. They dry out my nose and to me it's a waste that you build your house so cheap that you have to rely on outside sources of heating and cooling. And I don't like it the on, off, on.
> Ryan: So, you feel healthier here?
> Jackie: Oh, definitely and I don't have any chemicals permeating my air (Personal interview 7/19/2015).

These design features are not new. Pre-modern societies around the world have been practicing what is called vernacular architecture. Tracing the etymology of vernacular architectures, historian of architecture Paul Oliver (2006) defined it as "native science of building" (4). Elsewhere he described it as "the architecture of the people, and by the people, but not for the people" (Oliver 2003:15). This is to be contrasted with building as a specialization out

of reach to all those who do not have formal training and certification. This division of labor, as already discussed, constitutes a serious cage for off-gridders to circumvent. As Phillip, an Earthship dweller and builder remarked after work while interns lingered in the shell of an Earthship; "I don't think anyone should be afraid to build their own house" He recounted how he learned to build his own Earthship by getting books such as *Electricity for Dummies* in order to wire his home.

Beyond the self-reliance aspect, vernacular architecture also focuses on the various socio-natural systems of place. Just as Reynolds understood that you had to be part of the jump rope system. This means sourcing materials that are present and making use of passive design principles in order to maintain a more sustainable relationship between humans and nonhuman. If bamboo is present, use it. If redwood is, use it. If garbage is… use it?

8.4.1 **Garbage "Indigenous all over the world"**[46]

Reynolds' impetus for the Earthship was the reduction of trash. As I recounted in the Introduction Reynolds' impetus for the Earthship was a news story about landfills that was followed by one about homelessness. Reynolds continued to defend the use of steel belted rubber automobile tire packed with dirt. He cited his over 40 years of experience as never finding a better material. Traveling around the world building Earthships, at times in high poverty areas and natural disasters, Reynolds noticed that used tires were found everywhere. Now he refers to the automobile tire as an indigenous resource. These negative externalities of capitalist production are reworked as building materials. Estimates of the number

[46] Reynolds 1993a:77.

of tires used in Earthships range from 650 for a two bedroom (Healy2010) to 1,400 in a three bedroom (Blue Rock Station 2018).

On the other side of the planet a similar building technique is being used, although under very different conditions. In Khan Al-Ahmar, a Palestinian Bedouin village in the West Bank, a primary school and other buildings were constructed using car tires filled with earth. It is claimed that the tires were used "in order to respect the Israeli military regulations that prohibit the construction of non-temporary artifacts in the area C of the West Bank" (Vento di Terra 2009) and "as a way to circumvent Israeli rules preventing building with cement" (Holmes 2018). The physical properties of the tries in addition to the Israeli military and political occupation combine to create a situation where tire homes become a reality. As of July 2018 security forces demolished the village.

Figure 10. Tire construction in Palestine (Clarno 2012).

Other than availability, the pounded tire also is a technology generally available to all able bodies. The physically intensive, yet low technology of pounding a tire with dirt requires no formal education and tools are only a shovel and a sledgehammer. Reynolds reflected on this. "Over the past fifteen years many people of all shapes and sizes have been taught to 'pound

tires'… Within one or two hours the average human can be an expert" (Reynolds 1993a:78). I found this to be the case as I worked with overweight and lean individuals, senior citizens and teenagers, and men and women. By keeping skill at a general (rather than specialist level) circumvention is available to more people. This contributed to the process of overcoming specialization (see Chapter Nine).

Another property of this "dense brick" is the overall durability (As one may recall ANT privilege the character of durability). "A buried tire will last virtually forever. The only thing that deteriorates rubber tires is sunlight and fires. Since they are filled with earth and ultimately covered with earth they never see sunlight" (Reynolds 1993a:78). Although formal experimental data is lacking, Reynolds claimed that the Earthship is more flame retardant than traditional houses. "Tires only burn when surrounded by air" (Reynolds 1993a:78). Since the tires are bermed and eventually plastered, or adobe is applied, they are not exposed to air.

Figure 11. Interior tire wall (Personal Photo July 2014 Taos, NM).

For non-load bearing walls, Earthships maintain Reynolds' first architectural innovation, using trash. His first projects were made with "can bricks". Cans were wired together to create rectangles and then mortared together. Some early structures from the 1970's are still standing

and are occupied. To reiterate cans and bottles are used for interior walls. These walls are constructed by laying cans in a concrete mixture. The can is crimped on the bottom where it meets the mixture. A space of about two fingers is left around the can and then an additional can is placed. This is repeated layer by layer, checking the level as the builder goes along. The can wall is then plastered, or abode is applied over it. This building practice takes these items out of the landfill assemblage. Reynolds (2008) wrote "Garbage did not exist until there were humans. Everything in nature easily goes back into the earth. Humanity needs to learn to re-consume. Garbage could cease to exist again" (22).

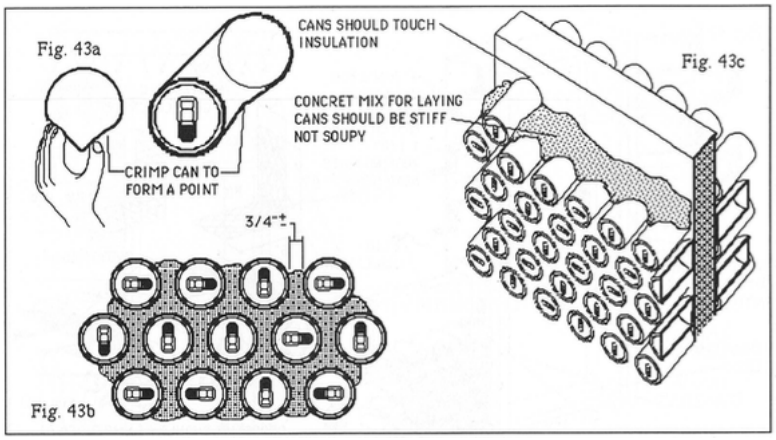


Figure 12. Diagram of call wall construction (Reynolds 1993a:158).

In addition to pragmatic and ethical concerns are aesthetics. Glass bottles are used in a similar manner as aluminum cans. The glass bottles are cut in half, cleaned, and two bottoms are taped together making a cylinder with flat ends. The bottle brick is then placed in concrete mixtures like the cans. This creates walls that filter light through colored glass, creating a mosaic. Old bottles become like "jewels".

Figure 13. Construction of Can Wall (Personal Photo July 2014 Taos, NM).

This approach to garbage as something beautiful is seen in an Earthship dwellers' small business in Taos called Seconds Eco Store. The store sells clothing, toys, and trinkets made with garbage that harnesses solar power. Just outside the store a "Glam Trash Fashion Show" was put on in 2015. The emcee of the show Jay Moore explained it as a "time of the year where artists of all ages are encouraged to explore the ideas of recycling, upcycling, and fashion design" (Taos News 2015). Everything from elegant and detailed dresses to simple clothing, all made from garbage, is paraded in front of the crowd. Beyond Taos, while on a study abroad program in Venezuela in 2005 I came across an artisan selling sandals with the sole made out of used car tires cut into the shape of a foot. Again, the negative externality (trash) is repurposed. From the practical demands of an Earthship assemblage to more symbolic and artistic expressions, garbage is taken out of the treadmill of production/consumption/disposal of capitalism that has been popularized critically by Annie Leonard's (2011) book *The Story of Stuff*.

Figure 14. Bottle wall under Construction (Personal Photo July 2014 Taos, NM).

8.5.1 **Energy**

Building off of discussions in Chapter Six I discuss how Earthships generate, store, and distribute electricity, as well as an inherent politics of nonhumans. In a seminal article, Langdon Winner (1980) asked "Do Artifacts Have Politics?" He presented several arguments for relationship between technical objects and power. Is power only to be found in the use of a devise or are there certain inherent political implications emanating from the device itself? The former is the "social determination of technology" argument, in which "What matters is not technology itself, but the social and economic systems in which it is embedded" (Winner 1980:122). The latter, "the theory of technological politics" argued that "the adoption of a given technical system unavoidably brings with it conditions for human relationships that have a

distinctive political cast—for example, centralized or decentralized, egalitarian or inegalitarian, repressive or liberating" (Winner 1980:128).

Echoing Michael Mann's social caging (and the Amish's *Ordnung*), I come again to the question of nonhuman agencies and the resulting changes in social organization. For instance, even Marxist geographer David Harvey recognized that certain technical configurations may demand authoritarian social forms. He remarked in a London School of Economics talk, a nuclear power plant cannot be operated by an anarchist collective (Harvey 2012). In regard to electricity production and distribution, Winner (1980) cited Denis Hayes in saying that "safe reliance upon nuclear power as the principle source of energy may be possible only in a totalitarian state" (121). This is the conclusion of Dominic Boyer, the director of Rice University's Center for Energy and Environmental Research in the Human Sciences. He wrote "The problem is that grids and pipeline systems—products of early 20th century political and industrial concentration enabled in turn by the burning of fossil fuels—have become a chief instrument in the monopolization of political authority" (Boyer 2017:189).[47]

Briefly, and I will return to these points later, the cutting edge of centralized power production can be seen in the rise of smart grid technologies. This allowed for household consumption levels to be measured in real time, accumulating personal data within centralized structures such as public utilities and opening up for more variable pricing of electricity. The idea of greater private knowledge being gathered by centralized institutions in the name of ecology and efficiency does little to woe off-gridders fears. Their concerns may not be unfounded. Sociologists Halpern and Mitchell (2017) discussed the rise of a new form of

[47] This is best understood through Mumford's (2010) discussion of the steam engine and the associated development of monopoly and concentration of power (see *Technics and Civilizations*).

Foucauldian biopower within the rhetoric of "smartness" and the material implementation of a pervasive spread of devices that gather data in many forms in real time.[48] This concern was mentioned by Earthship dweller Mia.

> Mia: I think part of the appeal of people who live in Earthships is the feeling like they're having a little less surveillance and that's just all, a little bit deeper dimension to the independence, the freedom I was talking about.
> Ryan: I could see that.
> Mia: There's no smart meter on it. So, the corporations are not imposing all this cancer causing EMF on me, cause there's no smart meter and there's no meter reader. There is, like nobody keeping tabs on you (Personal interview 8/8/2014).

Contrast this with solar technology, which that can be implemented in a more dispersed manner—arguably providing for more democratic, horizontal, and egalitarian social forms. The socio-material assemblage of off-grid solar (as well as wind and micro-hydro) is agued to embody these values. Winner summarized advocates as believing just this.

> [S]olar energy is decentralizing in both a technical and political sense: technically speaking, it is vastly more reasonable to build solar systems in a disaggregated, widely distributed manner than in large-scale centralized plants; politically speaking, solar energy accommodates the attempts of individuals and local communities to manage their affairs effectively because they are dealing with systems that are more accessible, comprehensible, and controllable than centralized sources (Winner 1980:130).

The first step in constructing an alternative to the centralized grid utilities is economic and cultural. Photovoltaic panels and conventional storage can be expensive for the average middle class energy consumption. It is important to keep in mind the cost of on grid electricity itself is far from expressing the economic natural price. This is due to the lack of incorporating negative externalities (pollution) into the price as well as enormous subsidies for fossil fuel corporations. Nevertheless, Earthship dwellers curtail their use of non-essential electronic

[48] See also recent discussion on the "internet of things", which seeks to embed everyday objects with sensors and continuous uploading of data via the wireless internet.

devices as a way to adapt to the cost of solar. This is a point that will be taken up in a Chapter Nine on simplicity. Beyond reducing the number of appliances is the choosing of types that run on DC and devices that are actually off when not in use. These design and lifestyle processes are referred to "designing down".

Once requirements are reduced, an electrical system can be designed and built. First, photovoltaic panels are secured on the front of the Earthship, above the front glass. These panels convert sunlight into electricity, which is stored as 12 or 24 volt DC in a battery bank. The batteries are "ganged together with a series of parallel wiring in order to create one big 12 or 24 volt battery" (Reynolds 1993b:18). Due to potential noxious gases from the batteries they are stored on the roof of the Earthship, in a garage, or some other non-living space. The panels are then wired through a disconnect, a charge controller, and then to the batteries. The charge controller evens out the voltage coming from the panels and if consumption drops below a specified voltage. From the batteries, wires are split between DC and AC wiring. The DC wires are simply sent through a breaker box. For the AC an inverter is place before the AC breaker box. The batteries themselves require occasional maintenance, usually topping off the batteries with distilled water about once a month. Batteries themselves last about 7 years if they are not overcharged or undercharged, so they will have to be replaced. However, residents claimed they last longer.

To return to the lifestyle component of the off-grid energy assemblage, Reynolds encouraged a consciousness of the weather for dwellers. If it is going to be cloudy for several days then plan to use your laptop battery, or turn your refrigerator off during the night if it is cold, or do not use lights during the day.

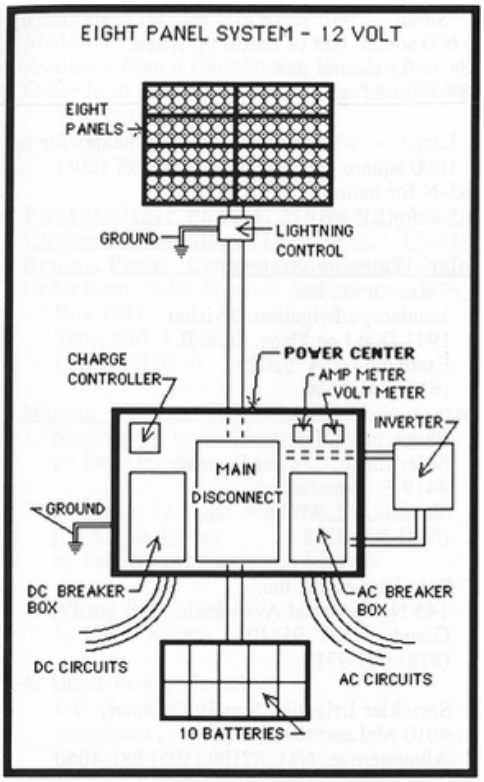


Figure 15. Schematic of Power Organizing Module (Reynolds 1993b:23).

In a move not uncommon to environmental ethics and emerging legal arguments pertaining to global warming.[49] Reynolds invoked intergenerational ethics. Tongue and check he wrote

> Who cares if your kids still have a planet to live on as long as you can do a wash whenever you want and can run the dishwasher, so you don't risk getting dishpan hands? The idea here is to know that you will still live through your children after your body is dead and gone (Reynolds 1993b:21).

He summarized the material culture of the alternative energy assemblage of Earthships in a practical and direct way. "When the sun is out, you use as much electricity as you want. When it is cloudy you watch what you do – or else you fight wars over oil and live with nuclear waste. That is all there is to it" (Reynolds 1993b:21). Like the other assemblages of an Earthship,

[49] See Sutter (2016) coverage of children suing the federal government for inaction on climate change.

responsibility is not absent in the exilic spaces. Arguably, it is heightened as the constraints, involvement, and politics of the assemblage move to the foreground of daily life.

8.6.1 **Rain, A Glass of Water, Pee and Bacterial Encounter**

All living organism known to humans require some amount of water. This is why astronomers built and use the Kepler spacecraft to search for planets that are in the "goldilocks" zone where liquid water should be present. Although Reynolds focus is terrestrial, he understands the importance of water. This is why he authored a book just on the water systems of an Earthship. *Water from the Sky* (2005) provided a detailed overview on how to construct the water assemblage of the Earthship. Taking trees as a model he wrote,

> A tree doesn't need a support system – it is a system. A shelter of the future must be this same way. For a system not to be static, it must be a contribution to the world around it. There must be encounter and exchange between a system and other systems in order to be part of the overall system…the universe (Reynolds 2005:12).

The flow of water in an Earthship assemblage is designed to interface with both human cultural daily practices and agentic capacities of plants. Through treating sewage as fuel for another system, Earthships circumvent municipal waste assemblages.

The first design detail of the water assemblage is the roof. Through various designs ranging from flat roofs with a slight downward angle towards the north to dome structure with a gutter around the circumference, all designs are meant to capture rainwater and melted snow. "The basic concept is just as simple as a dog lying in the shade in the summertime and lying in the sun in the wintertime. Everything is that simple, so that's what this book is about, taking the teacup and turning it right side up" (Reynolds 2005:25). Reynolds believed homes are

constructed like teacups upside down, so that all the water falls on the top, but then is diverted away from the home. This requires water to be piped back from far away distances.

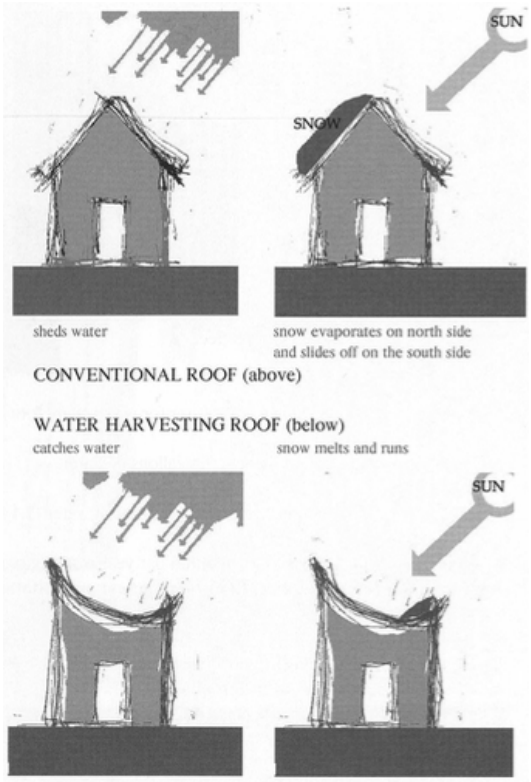


Figure 16. Drawing of rain catchment principle (Reynolds 2005:36).

Dalton Duncan, an Earthship Biotecture intern who I will come back to later summarized this logic, as well as described retrofitting of his current conventional house.

> First of all, we dug a series of swales and berms, a series of ditches and hills that run perpendicular to the slope of the land. Because most conventional homes are designed to have all the rainfall that falls on them and, on the site, diverted into the street and then into the drain and then it gets mixed in with all the poopy water, with the sewage. Then it goes to a treatment plant, which in our town is about eight miles from our house. So, it travels in pipes mixed in with all the poopy water, the rainwater. That's you know really useful for all sorts of things. Not so much for drinking right away, but for agricultural production. It's really useful. But anyway. It all gets mixed in and travels in these underground pipes very far away. So, what we have tried to do is divert that water into food production. So, you know across the front yard, trenches have been dug perpendicular to the slop to catch water and then we build hills down slope of the trenches and that is where we plant our gardens and. At this point they are pretty extensive. There's like twenty fruit trees planted (Personal interview 7/24/2014).

This is exactly how Earthship water assemblage functions. Reynolds calculated that if an area receives 18 inches of rainfall a year and an Earthship has a 2,000 square foot roof, 1 square foot catches 1.5 feet of water per year, which equals about 11.1 gallons of water. Appling this calculation to the entire roof size comes to about 22,200 gallons of water per year. Dividing this by 365 days equals about 60.8 gallons of water a day (Reynolds 2005:35). Putting this into perspective, Reynolds cited a report prepared for Housing and Urban Development by that stated a single person in a conventional home uses 83.9 gallons per day (Reynolds 2005:16). This is beyond the capacity for any geographic area that received 18 inches or less of rainfall. Then how do Earthship dwellers survive in New Mexico, an area that receives an average of 12.33 inches of rainfall a year? I will detail the systems that reduce use considerably, but Reynolds claimed that Earthship can reduce two peoples water usage to 38.6 gallons per day (Reynolds 2005:17-19).

Rain on the roof is funneled into a silt catch then is stored in cisterns buried along the north side or east and west side of the Earthship. The cisterns are set above the pump to make use of gravity feeding. The pump leads into the Water Organizing Module. This is a series of pumps and filters, beginning with a 60-mesh filter, a 500-mesh filter, and then to a DC pressure tank. The pressurized water is split off into a charcoal filter. This water is sent to either a solar water heater or an on demand water heater. The solar water heater is a panel that sits on the roof composed of coils of pipes that are filled with a Glycol and water mixtures. Water is directed near these pipes and a heat transfer occurs. The system can be designed with a backup gas on demand water heater. Until sewage gases (such as methane) can be harvested for energy (a process being investigated by Earthship Biotecture), the water heater makes use of natural gas or propane. This must be acquired from the market. Thus, the amount of on/off-grid is a choice of

the dweller. If they want hot water on demand then it demands an entanglement with the market, but it they find it comfortable waiting for water to heat up from the sun, then they are able to maintain a greater level of extrication.

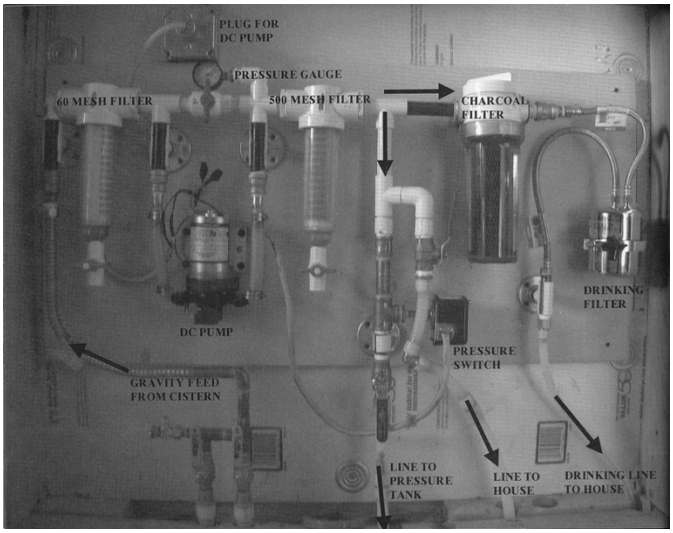
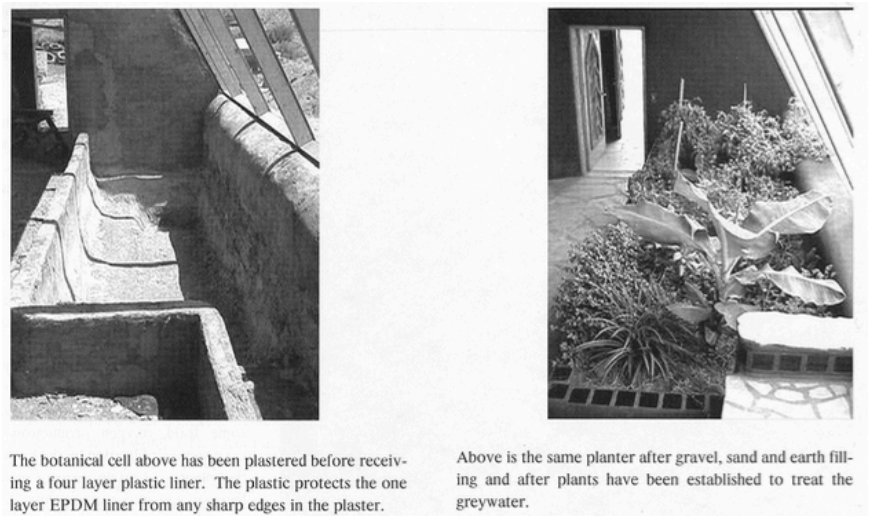


Figure 17. Photo of Water Organizing Module (Reynolds 2005:108).

On grid used water from the sink and shower (grey water) is normally sent to sewage systems along with the toilet water (black water). Instead the Earthship water assemblage directs grey water first to a solar powered digester/grease particle filters. This captures grease and particles that would normally clog the botanical cell inputs and outputs. Once filtered this water is ready for the botanical cells. These are rubber-lined trenches that are filled with gravel, sand, and dirt. Plants are then added to create an interface of a biological and chemical nature. Within the botanical cell four processes occur when grey water is directed to them. First, there is an evaporation of the liquid water into vapor due to the botanical cell being placed along the windowed wall. Second transpiration, the process by which water exits a plant's leaves further reduce the grey water amount. Third, oxygenation takes place whereby the water from the roots is turned into oxygen. Lastly, what Reynolds called bacterial encounter, in which encountering bacteria of the gravel layer of the cell cleans the grey water. The grey water cleaned from the

botanical cells is then used for the toilet. This system means virtually all the water used is reused and when the United Nations University is claiming less than 4 percent of used water in North America is reused this system has the potential to be revolutionary (see Collins 2013).



The botanical cell above has been plastered before receiving a four layer plastic liner. The plastic protects the one layer EPDM liner from any sharp edges in the plaster.

Above is the same planter after gravel, sand and earth filling and after plants have been established to treat the greywater.

Figure 18. Before and after of indoor botanical cell (Reynolds 2005:118).

Used water from the toilet (black water) is directed to an incubator. An incubator is a septic tank with exposure to sunlight. This "enhances the septic tank so that the anaerobic process won't lie dormant in the winter" (Reynolds 2005:179). Then outside botanical cells are dug into the ground, lined, and filled in a similar way as the inside ones. These cells "then contain and treat the effluent with evaporation, transpiration and oxygenation through the use of indigenous moisture loving plants" (Reynolds 2005:181). This whole process protects the ground from coming into direct contact with unprocessed liquid waste. However, this also means that the dweller has to be conscious as to what they are putting into the ground, something Earthship dwellers would claim that everyone should be anyways. The Earthship dweller incorporates water from outside the body and excretes it back out, humans are 67 percent water after all. How this happens is dependent on both cultural factors, but also nonhuman processes. Cultural anthropologists Veronica Strang (2014) best summarized this point.

> As material flows through spatio-temporal and bio-cultural processes, what is considered to be potentially valuable or 'waste' is mediated by cultural ideas and values, but *how* things move is also a fundamentally material business, dependent upon the physical characteristics of the resource in question and on technologies of transport (emphasis in original 142).

By rethinking waste as a resource, the Earthship assemblage is really a practice of biomimicry. The home is modeled after a tree and a tree is continuously embedded within an ecosystem.

8.7.1 **Food Production**

A major attraction for Earthship dwellers and builders is the year round food production. Lynda was interested in Earthships they were "organic looking" and they made you "feel like you are in Jumanji or something" (Personal interview 7/27/2014). And Omeika shared with me, "I've been dreaming of living in a rainforest for a very long time. I don't know when that stated. Maybe when I watched, what's that called? Gorillas in the Mists" and that learning how to build an Earthship would "fulfill a lifelong dream of living in a rainforest" (Personal interview 7/31/2014).

The greenhouse is the front of the Earthship. For multiple rooms, the greenhouse doubles as hallway between each room. In older Earthships, the green house was part of the living spaces but this design contributed to wider fluctuations in temperatures and so it is now framed as a separate room.[50] By framing the greenhouse hallway, as separate creates two glass barriers to the outside. The first set of glass windows (exposed to the exterior) are then followed by the botanical cell, then a walkway, and then another set of glass windows that lead into the living

[50] Reynolds has said numerously that his approach is one of learning through making mistakes. A mistake is only possible if there is nonhuman agencies that resist the intentions of humans.

space. This second barrier can be left open to allow the greenhouse and the living space to equalize or closed and kept separate.

Food is simply planted in the botanical cells. Food that I have seen and/or ate include tomatoes, figs, greens, bananas, papayas, peppers, grapes, broccoli, cucumbers, eggplant, carrots, peas, pineapples, strawberries, and all sorts of herbs and edible flowers. The plants gather nutrients from the grey water system, clean the water, and produce oxygen as detailed above. I have also seen several dwellers that keep chicken coops for eggs.

There can be issues with mice and bugs either destroying the food or just being a nuisance, much like the Amish that attempted to set up colonies in New Mexico. In order to combat this some dwellers choose plants that work well together. Some add a complexity to their assemblage by incorporating animals such as lizards, cats, and dogs to deter or kill pests. In a blog post on Earthship.com, an Earthship Biotecture employee discussed their attempts to find natural ways to reduce unwanted insects.

> We have experienced different host insects such as mealy bug, scale, white flies, aphids and spider mites– just to name a few. In order to help prevent or diminish these populations in the greenhouse we use beneficial predatory insects that naturally help to cure the plants (Earthship Blog 2012).

Still, some choose not to grow any food and instead fill their botanical cell with houseplants. For those that grow their own food, they are able to circumvent the massive supply chains of corporate farming practices, genetically modified organisms, labor conditions of migrants, marketing, pesticides, and other actors and actants.

Figure 19. Banana tree and botanical cell (Personal Photo July 2014).

The food assemblage is far different than historical cases of circumvention discussed in Chapter Five. Horticulture and other more mobile activities are not possible in an Earthship as it is literally part of the Earth. Instead, the structure of the home is designed to generate the conditions for food production itself. Also, not all food consumed is produced in the off-grid home. Just as the previous cases of circumvented showed, people can sometimes choose their level of engagement, and perhaps other times cannot. The important aspect to consider is the movement both away from and towards, rather than the movement only within, which is what much of on-grid life is. As Freddy, the UK student remarked, "there are different layers of the grid. Which can be dissected and your involved with those different layers can in turn, um. I guess you're involved in those different layers it dictates the way you live in" (Personal interview 8/3/2014).

8.9.1 **Conclusion**

The basic impulse of circumvention continues while the techniques change. Through translating actants' agencies in less antagonistic ways (interfacing), the human hubris is challenged. There is a search for balance between assemblages as large as a solar system to as small as an insect. It is never complete, nor ideal. Circumventors are forced to construct a more sustainable relationship between human and nonhuman, as things don't work. This process is vernacular, place-based, and it is innovative; working with what is scattered about. Again, this is not a fundamentalist project, solar panels do not grow on trees after all, but food does, and rain falls on the roof, and feces grows food.

Man-made actants have a degree of inherent politics. They push and pull on human intentions and actions. They acclimate or challenge how social power forms and is maintained. Through directorates of centralization and decentralization, nonhuman agencies express themselves. The imitation of nonhumans provides blueprints for humans. Ecology has no "away" to send "waste" to. There is no ontological U-bend. By observing nonhuman processes, biomimicry can lead to both caging and circumventing.

In pre-state societies artificial flooding conjuncturally gave rise to a cage. Today rooftop collection of rainwater may open lines of flight towards circumvention. This is a dynamic process. Assemblages are never closed. Others can always come in uninvited, like white flies and spider mites. Heuristically, De Landa (2014) wrote about the urban exoskeleton allowing for novel forms of movement while directing and constraining others, "[C]ities arise from the flow of matter-energy, but once a town's mineral infrastructure has emerged, it reacts to those flow, creating a new *set of constraints* that either intensifies or inhibits them" (emphasis in original De

Landa 2014:28). The Earthship reacts to many of the same flows. Seeking a way around the infrastructural constraints, circumventors "tune" their relations with ultraviolent rays and geothermal energy, rain and effluent, Plantae and garbage. The Earthship interfaces to providing a degree of freedom, while also ironically rooting of one into the ground.

This terraforming process is best summarized by Ivan Illich's concept of conviviality as he applied it to tools. Illich argued that society creates tools (both physical and social) that can be either convivial or manipulative. The former "enlarges the range of each person's competence, control and initiative, limited only by other individual's claims to an equal range of power and freedom" (Illich 1973:12). The latter "extinguishes the free use of the natural abilities of society's members, when it isolates people from each other and *locks them into a man-made* shell" (emphasis in original Illich 1973:11). Elsewhere he wrote of conviviality. "[P]eople need new tools to work with rather than tools that 'work' for them" (Illich 1973:23). Again, the theme of "with" is important and is also captured by Reynolds "interfacing". Illich believed that tools (in both senses) undergo two moments, the first is when "new knowledge is applied to the solution or a clearly state problem" (20). The second (manipulative form) is when the

> progress demonstrated in a previous achievement is used as a rationale for the exploitation of a society as a whole in the service of a value which is determined and constantly revised by an element of society, by one of its self-certifying professional élites (Illich 1973:20).

An example Illich (1973) gave is how humans passed from an "era served by motorized vehicles to the era in which society has been reduced to virtual enslavement to the car" (20). Whether one refers to it as the iron cage, the social cage, or the grid the idea is the same. Circumventors believe the grid does not create a living together (convivial), but rather a living against (agonvivial). Their off-grid home is a way of assembling together and living with, however counterintuitive and unfinished it may seem.

9. A CIRCUMVENTED LIFE: LIFE OFF-GRID

"But he who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or a god".
Aristotle (2009:11)

"The end of the human race will be that it will eventually die of civilization".
Ralph Waldo Emerson [51]

9.1.1 **Introduction**

A off-grid life is composed of enhanced self-reliance amounting to feelings of empowerment. This begins with the pleasure of mobilizing non-humans in the terraformation process. This requires overcoming specialization by learning new skills to produce new socio-material assemblages. While most Earthshippers had some moderate level of previous experiences with making things, this was not a universal. Many started with no building skills. The acquiring of these skills is done in a process that has been referred to as do-it-with (DIW) as opposed to the misnomer DIY. Overcoming the cage of labor specialization is counterintuitively a process that is enabled through cooperation with others. Off-grid social networks, however are differentiated from dominate on-grid assemblages by their voluntary, decentralized, and convivial form.

[51] Attributed to Emerson, however remains unsourced.

The pleasure of mobilizing nonhumans brings with it a connection to the nonhuman world. For many terraforming is motivated by concerns of environmental degradation. This concern is performed through their practice of voluntary simplicity. Earthshippers found that a minimalist and conservationist lifestyle is the way that they create the least resistance with the nonhumans in their Earthship assemblage. Many off-gridders also found that living with less or living with limits is preferable to the illusions that support on-grid homes' unending material throughput and minimum consequences. However, this should not be confused with an asceticism, rather a more pragmatic approach is taken.

Lastly and what is at the core of the Earthship movement and the politics of circumvention is the production of autonomy, freedom, and responsibility. Taking some control over one's life in the protean and proliferated world of socio-material cages is a goal for Earthshippers. To extricate in a lasting way is not just about negative freedom (freedom from), rather once "off" they find a host of positive freedoms (freedom to). Principally this is a greater freedom to take care of themselves.

9.2.1 **Mobilizing Nonhumans**

In this opening section I discuss the beginning aspects of extraction and terraformation. I start with the simple pleasure of building. Earthshippers discussed the enjoyment of being physical engaged with their world, often in contrast to more symbolic engagements. This sort of nonrepresentational entanglement works upon physical, emotional, and technical capacity of the builder. Additionally, the act of terraformation is described as taking place outside, a feature that is universally praised. Lastly, mobilizing nonhumans into an off-grid assemblage requires the builder to acquire skills previously partitioned off in the advanced division of labour of modern

society. Overcoming specialization is a process for the avid and experienced, as well as the reluctant and amateur builder.

9.2.2 **The Pleasure of Things**

Whether an activist is mobilizing people or nonhumans there is an associated pleasure. For builders the pleasure was tied to the characteristics of the nonhumans. The simple persistence of the artifact recursively operated on the builder. There was an innate justification of their expenditure of labor in the physicality that stands apart from, yet connected to them. Freddy understood this in a cognitive way. "There's been a kind of recent revival in the idea of working with your hands, which usually manifests itself as a carpenter or something like that". He continued "lots of my friends have fantasies about being able to build stuff. People in the university who are obviously doing quite heavy critical work, who don't get out much. So, it's part of that kind of fantasy aesthetics". His physical engagement with building materials at Earthship Biotecture helped him to question the utility of critical knowledge making practices. Freddy concluded "You kind of learn those often don't really matter, not very important. I think those will stick with me" (Personal interview 8/3/2014). Unsure if I understand what "those" are I asked him what will stick with him?

> When I mention the *idea* of the Earthship for all its problems. It is like an act. It is like a structure. I guess understanding the importance of that and learning to put a stop to theoretical abstractions. Or like, like cycles of theoretical abstractions. That will probably stay with me and develop when I get back to the UK (emphasis in original).

Freddy came from an academic background, currently studying for his exams in English, he spent a lot of his time engaged with critical scholarship. For him this allowed him to see the "recent revival" in discourses, however it is only through physical engagement with building did

he start to learn the limits of critical thought. He began to understand the power of things-in-themselves, their *conatus* as Jane Bennett (and Spinoza) would say.

Similarly, Saul osculated between the world of words and the world of things. As a screenwriter and a self-employed handyman, he was in a unique position to compare the two activities. He contrasted his experiences building with screen writing. “The satisfaction is the opposite of screen writing”. For him screenwriting is this thing you “carry” around with you and “you can't ever feel that you deliver”. He continued “Yeah, construction and carpentry and everything there is a real satisfaction, you know. At the end of the day, at the end of the week you look at what you've done, and you go, wow that's something” (Personal interview 7/17/2015). Mobilizing mind-dependent entities like meanings and words brings with them an ephemerality that can be stressful. For Saul, working with lumber is stable, the wood is viewable, the progress is simply inferred or measured. Beyond this, his own body gave him feedback.

> It feels good to, hey I love the physical work. It makes me feel like suddenly I'm, I feel ten years younger. Like I was telling you. I pick up my ten-year-old sometimes and I'm like oh, my back hurts. But I can do this all day and I feel alright. So yeah, the physicality of it is good. Hands on you know? (Personal interview 7/17/2015).

This is the recursive process, as his body was actually in conversation with the nonhumans. This viscerallity of the nonrepresentational dimension of materiality can be both enjoyable and painful. My bodily experiences building Earthships attest to both.

Hans echoed the sentiment of building as rewarding. “I wanted to build something and then it was a great feeling to be able to say look at it I was able to build something. From an idea to a finish product, object. I could realize that it was not just in my head to think think think” (Personal interview 7/12/2015). Heather confided similarly “I wanted to physically do something about this new interesting way of living, rather than just sit back and watch the movie [Garbage

Warrior] and just listen to other people talk about it". I asked her what she meant. She answered simply "Well, physically build a structure" (Personal interview 7/24/2014).

Bobby serves as another example of this value of materiality. "I think I like the tangible, satisfaction of seeing the tangible outcome of my efforts. For whatever reason that that's satisfying to me, drives me". He continued "So I like to work on things that, you know, have a very direct result and that I can see and that I can see the benefit of" (Personal interview 8/3/2014). Traditional social movements based on transformation of the state take years or decades to succeed and when they do it is often difficult to measure that success (see Gamson 1990). For those building off-grid homes there is a sense of accomplishment with the expenditure of energy that is not the same in mobilizing the masses. It should be kept in mind that off-grid is not a social justice movement, similar to the 19th century back-to-landers it was a search for a way out.

One last example sufficiently exemplifies the pleasure in mobilizing nonhumans. Tricia understood this process in relation to her bachelor education in architecture.

> It's nice that we see how things are actually built instead of like here's a construction textbook and here's how things are theoretically being built. I literally went from having a test about concrete to coming here and actually pouring concrete... I like having a tangible thing, I'm going to go into this and I'm going to come out and there is going to be a thing that I made. And that's really nice even if it takes all day to put up four pieces of wood. That's okay. It's nice that you can see something and it's, you know, creative and it's literally creating something… I think having something like that is a lot more satisfying as opposed to research. Like I've read twenty books today, I know more but it's not as visually satisfying maybe (Personal interview 8/5/2014).

For Saul, Hans, Heather, Bobby, Tricia and others it is the prefigurative politics of doing something now that is valued. Rather than just thinking about or passively learning, it is the physical engagement with nonhumans that gives their actions meaning. This meaning works in discursively, but importantly also in affectual ways. The feeling that an assemblage's mere

existence gives off. At times this affect might have left traces in the builders' own body. Other times it is the observability and functionality of the nonhumans themselves. The proof of the builders' efforts in the end is the mere presence of the thing, which clearly cuts time in half, before the entanglement and after. In their study of off-gridders in Canada Vannini and Taggart (2015) concluded the same value in acting. They wrote in a "world run amok, at least you could feel you were *doing* something about it" (emphasis in original 14). Scott got at the core of this.

> I think that the Earthship movement is really one that is tangible. That you can get involved with on a personal level. Not by doing campaigns or trying to move politicians. Instead you can build your own house and make a change that way. That is what attracted me (Personal interview 7/12/2015).

This personal engagement with the physical world rather than engagement with or against formal social structures is a primary source of pleasure for many off-gridders.

9.2.3 **Taking Place: Outside**

Beyond the pleasure in shaping the physical world around ones' self is the pleasure of where this takes place. The greenhouse component and food production of the Earthship was a big draw in this regard. Erika shared with me "First I really like the rural format. I love that they had plants inside, so this was the first thing. I was like yea plants… Something I really want in my life, just to have a greenhouse and grow plants" (Personal interview 7/27/2014). While visiting the large Earthship named the Phoenix there was a case of an intern overwhelmed with emotion who broke down into tears. She was unable to express the feeling except to ask/state how amazing the greenhouse space was. I could only concur.

Danny summarized a general attitude that I found prevalent. "So, so I guess one of my passions in life are um, just really big into the outdoors. I grew up landscaping. Just really love plants and nature, and being outside and just working outside" (Personal interview 3/16/2015).

Several interns and residents were avid hikers, rock climbers, and campers. In keeping with the comparison of textbook learning (which takes place indoors) Earthship builders discussed the value of the outdoors. Take Evan for instance.

> Yeah, I enjoy working outside… When I was studying for sociology I wanted to do field research, you know. But no one pays you to do that anymore, at least what I've found… I don't know. Office jobs were just boring. I tried a couple and just doing the same thing every day is just too frustrating (Personal interview 4/27/2015).

The rote job tasks occurring in the same setting is frustrating, palpable to being stuck in a cage. Evan is now self-employed contactor in landscaping and construction. He thought about building an Earthship on his grandfather's land, but is now considering getting his own land.

Ivan also reflected on his time in college and said with conviction "being outside is much better than being inside" (Personal interview 8/6/2014). This basic belief lead him to make changes to his college life.

> I just switch my major from engineering to geography in hope that I won't be sitting in an office for the rest of my life, which kind of seem like where I was heading. I did not want that. Being outside is just a lot more relaxing, it's hard work, but its more rewarding I guess. Because you're not sitting at an office typing away at a computer and not really making anything, you know. I like building things with my hands (Personal interview 8/6/2014).

Again, I return to the value of making something and doing it out side. Repeatedly this value of making and the value of the outdoors comes though the narratives of Earthshippers. For instance, Lillian got a taste of office work recently. "So, my job this past year I was sitting at a desk and I never had a desk job before and that like killed me. It was like I can never do this" (Personal interview 8/2/2014). She continued

> I just really like hands on, being outside… The sun feeds my energy definitely. I have a lot more energy when I'm outside… I feel I can be totally happy with feeling the wind, everything's natural, the smells. It all beautiful. Watching the rain. It makes me happy (Personal interview 8/2/2014).

Similar to the back-to-the-land movement, there is a distaste of being cogs in the factory (now in the office or store) and a desire to re-engage with nonhumans that populate the natural world. As Manahil said "So just the whole process of um, just working outside, being physical. Because I've always been spending my whole life in school and in the office. So, *it's just my way out*" (emphasis added Personal interview 7/31/2014).

There is a general, though not necessarily predisposition, to physical and outdoor work. However, it is one thing to enjoy something, but another to know how to do it and do it well. Mobilizing nonhumans requires overcoming the specialization of skills.

9.2.4 **Overcoming Specialization**

As described in Chapter Four, specialization contributed to the caging of individuals. With the formation of artificially irrigated state-societies came an imperative to specialize, which made escape more perilous. Early examples of circumvention described in Chapter Five each went through a process of broadening the repertoire of skills to make escape possible. From the 19th back-to-the-landers relearning the basics of homesteading to the current generation of eco-villagers learning how to build shelter, grow food, and process their own waste. Famous inventor Buckminster Fuller (1981) (highly critical of specialization of modernity) wrote "If nature wanted humans to be specialists, she would, for instance, have given them a microscope on one eye, which is what nature has done with all other living organisms—other than humans" (63). Elsewhere he goes so far as to say "Specialization is in fact only a fancy form of slavery" (Buckminster 1969:9). Notable UK geographer Andy Merrifield has taken up the plight of the non-specialist in his recent book *The Amateur: The Pleasure of Doing What You Love*. For Merrifield (2017) "specialisation, an increasing technical formalism, a loss of sight 'of raw effort

of constructing either art or knowledge… Specialisation also kills you sense of excitement and discovery, your sense of curiosity" (14). For Merrifield and surely Fuller as well the counter to the power of the professional specialist is the amateur. This is a person who "engages for the pleasure of it… [They] uphold ideas that oppose professional authority. They express concerns professionals don't consider, don't care about, often won't acknowledge" (Merrifield 2017:15-16). And given their freedom from institutions the "amateur is more likely to be someone who rocks the boat" (Merrifield 2017:16). Here I look at how Earthshippers from various skill-levels attempted to realize this freedom and overcome specialization.

Earthship builders and dwellers I talked ranged from never building anything more than kindergarten crafts to skilled tradespeople. Most felt like they always were interested in doing little projects around their home, but never considered themselves to be proficient enough to tackle serious and large projects. Despite their low self-evaluations, I found many to be quite experienced makers.

Trey and his partner came to Taos with no building skills. While in college they competed as professional athletes and Trey studied anthropology. He affirmed their lack of building experience. "Yeah none. We just came here and used a lot of common sense and did it". There was of course more to the story. "The thing for us, we weren't very good at. We didn't have building skills. So, we were a little worried trying to pull off an Earthship". For their first building, they built a single circular room (12 feet in diameter) with a loft. "Well we just came here with a head full of steam. With plenty to do... and Mike [Reynolds] painted a picture of how to do a hut for us. We just took it and ran". Trey described it as their "little internship and our independent project". A few years later they started their current Earthship next to the circular building. Interviewing him in the patio area between the two buildings he nostalgically recounted

"it took care of us pretty good for a few years. And still it is a guesthouse and a storage unit". Their approach is not uncommon. As shown below, others like Daryl felt that they should start small and learn the skills iteratively. Trey provided this tip. "I kind of urge people to start small. And then move on and that's what we did" (Personal interview 7/21/2015).

I met Amarina, a self-described gypsy outside of the Earthship Biotecture visitor center. Long blond hair, she reminded me of the sister of the main character in the TV show *Wonder Years*. She shared with me she never built anything before, but she was "totally down, down to earth and sort of hardworking". The reasons she gave for her lack of skills was that she "was never brought up with practical skills" and her "dad didn't go 'hey let's go build this'" (Personal interview 7/22/2015). This gave her some anxiety when moving to Taos to learn how to build a whole Earthship.

> So, to me I was quite nervous coming. Feeling like, how am I going to do this? I was pleasantly surprised by um, you look at one house and you go 'oh my god! How do you do that?' You know it's small step by small step. And really small step is literally one or two instructions. You know what I mean? (Personal interview 7/22/2015).

Building an off-grid assemblage to provide basic necessities does seem like an insurmountable task for someone who has barely used hand tools before. But many people that attend the internship and/or the academy found out, it is possible. Amarina continued "I found that really inspiring and uh it changed me in general. In the sense of what I felt capable of. And from there it inspired me to do things" (Personal interview 7/22/2015). She was not yet building her Earthship. She ass camping near a tributary river to the Rio Grande, which she enjoyed. And she was working at the visitor center as she learned the skills of an Earthship builder. But in the meantime, she was applying the basic approach of doing for herself to other areas of her life. She told me "Like I have an old car and instead of taking it to get serviced I Google and I am doing

that stuff myself. And you know I really believe that it was very empowering" (Personal interview 7/22/2015). This self-empowerment is a repeated by many others. But as the critical observe will surly notice, this is made possible by the internet, google, and individual uploaders, which together provide an infrastructure itself.

Some were just as blunt with their lack of experience in building as Amarina was. For instance, Ovidiu answered my question to building experience with "No, no, I wasn't at all. I was really good at financial matters. I wasn't very good at driving tools or fixing anything" (Personal interview 7/14/2015). Able also said "no", but affirmed he was good at building software. And Shane answered, "I'm not so much of a builder, but I'm like artsy, so I make sculptures, and paintings and stuff like that" (Personal interview 3/16/2015). But all three now feel more confident in their building abilities. Ovidiu said "Now I love doing that stuff. I love building things" (Personal interview 7/14/2015). Able is trying to find ways to combine his digital expertise with the Earthship by proposing cheap automated devices to control the sky vents and other systems. And Shane sees how building is a creative process. He continued "But now [Earthships] definitely changing the way I see my creativity because like, I just really just want to work and get these homes going and that's what we [Shane and his partner] are trying to do" (Personal interview 3/16/2015).

Most of the people I talked with had some moderate level of experience in building things. Lydia had never built anything from the ground up, but she recounted "the house I live in currently was my grandpa's old house and my dad and I completely remodeled the whole thing. So, I got a lot of experience doing tiling and plastering and just a lot of labor-intensive stuff". She enjoyed the work, but interjects not so much working with her father.

Returning to Bobby, he had some diverse experiences with making things, but mostly small scale things.

> Um I guess the simplest sense I mean I've had experience with woodworking, I've built nightstands and towel holders and birdhouses and stuff like that when I was a kid. I also had experience with metal shop for several years. I've built lots of things, I've built hammers and did foundry, casting things in different shapes that wasn't really useful, but it was interesting exercise. I've built a basketball hoop. Can crusher. Yeah (Personal interview 8/3/2014).

I consider this a broad repertoire of skills, but Bobby downplayed it in relation to building a home. Lillian too had some minor experiences growing up as her brother "built a whole lot" and she "helped him build bookshelves and random things". In addition to this she helped rebuild roofs that were damaged in hurricane Katrina. But she "never built an Earthship or any other large projects for an extended amount of time really" (Personal interview 8/2/2014).

Fae also was experienced in "home improvement, like basic electricity, plumbing, and you know basic construction, power tools, everything like that". For Fae, she was "100 percent" a do it yourself person. She admitted that she was not afraid to make mistakes and that was something that schooling made people afraid of. "I think that everything should be do it yourself it's just that they, unfortunately our education system that we have frowns upon making mistakes instead of encourage it" (Personal interview 4/23/2015). This has led Fae towards her general attitude.

> So, I think I just have been disrespecting authority, the authority that the school has, and I always wanted to do it my way and look for some answers for myself other than just for them to tell me. So, I guess have an antiauthority attitude (Personal interview 4/23/2015).

Fae understood herself and her social relations via her relationship with nonhumans, with the ability to personally engage in the world and make things, rather than mediated through hierarchical social institutions.

Coletta had some moderate building experience as she built forts and clubhouses, “which was this wooden box, literally. I mean it had this little slant, but my dad helped me build it”. Beyond this she shared with me her invention of “spring shoes”. Spring shoes were wooden flats with springs attached with rubber cement, but unfortunately, they did not work. But these sorts of activities lead her to join the robotics club in high school. “I’ve always been interested in building things” she told me (Personal interview 7/31/2014). Coletta was currently working with an ecovillage, furthering her skill set. In additional to Coletta others with only a minimal amount of experience discussed with me how they built furniture; made rugs, pillows, scarves, sweaters, and socks; and installed windows and hand rails.

Daryl is a little further along on his off-grid journey than others. He is currently living out of a modified trailer in Canada with his partner learning how to do things for themselves. They took the iterative approach that Trey took. Daryl described himself as a novice, who like others grew up doing renovations with their parents. Before moving to the site of his future Earthship Daryl and his partner decided to do some major work on their home before they sold it. It served as a litmus test of sorts. “And we were recently under the impression that okay if we can’t handle the kitchen we have no business trying to build a house” (Personal interview 3/28/2015). They did everything except the electricity and plumbing.

> But you know tearing out all the old cupboards and installing all the new stuff, I did all that myself. Myself and my partner… So, we did that, and we painted some rooms and there were some other things, like there was a sky light in a room in the back that was leaking a lot, so I tore it out and fixed the roof and did the, re-shingles and things like that. Over time I sort of been ramping up a lot more and I’m learning the best way is to do it. Especially if you have someone there to help guide you (Personal interview 3/28/2015).

Later I will discuss in more detail how the off-grid project is a DIW activity, but as Daryl and Trey attested to, going off-grid was a long process that involved not just the terraformation of nonhumans, but of the self as well, what I refer to as a form of recursivity.

Daryl and his partner are still learning new skills. With each passing season they add components to their off-grid trailer assemblage like solar panels, wood stoves, composting toilet, and open-air framed rooms with clear plastic walls (see picture below).

Figure 20. Off-Grid trailer assemblage (photo curtesy of owner).

There were more experienced builders learning the particulars of constructing an Earthship. Ralph for instance was on the construction battalion in the armed forces. He shared "I build things, you know I was in the construction battalion so, it's always going to be in my blood" (Personal interview 3/30/2015). He built super Quonset huts in Bosnia, the stage for the Pacific Games in Guam, rebuilt barns, and did salvage operations. At 35 years-old he was retired and lived off his disability check from post-traumatic stress disorder, but rarely was he at rest.

> I do lots of hands-on, just to keep myself occupied, like I said I'm retired as far as everybody else is concerned. But I have to do things. My heart beats for a reason.

> I wake up for a reason. So being retired does not equate with being dead (Personal interview 3/30/2015).

While he was collecting money from the government he spent it on furthering his abilities to live off grid and with less money. I interviewed Ralph over the phone, but I was able to meet him in person at the Colorado build. When I first met him in person he was sharing bush cherries out of an old large plastic peanut contained that he foraged early in the morning, both the container and the bush cherries. I found him to always be active in building or other activities like foraging.

Ricky was one of the more experienced builders I spoked with. He was in property management in Seattle. He told me he came into his profession through the death of his mother. When he was still a teenager his mother passed, and they found out that their family owned a thousand-year-old house in Germany.

> So as an 18 year old at that time I had no clue how to maintain a building, or even get into what was property management. I didn't understand any of that. And I kind of put it to the side for myself because I didn't know what to do and it wasn't until I was about 25 that we got serious about it, we got to take care of it (Personal interview 4/6/2015).

With his brother, they would travel to Germany to take care of the building. Around the same time he "started getting into carpentry and that kind of stuff". This gave him a dual experience in property management.

> [H]ere I was in my work taking care of a 1920's building that was old and needed to be restored and the synchronicity is that same thing going on in Germany, was so far away. And so I, and this juxtaposition where I'd gather every year, my brother and I, and we kind of mess around over there and then come back here to do my work here and I'm always learning something new about taking care of an older building (Personal interview 4/6/2015).

Becoming proficient in the day to day skills necessary to maintain buildings, he found that he did not really fit in at his job. "I'm also in an industry that that bottom-line is make a profit, you got

to make a profit" (Personal interview 4/6/2015). Finding this shallow, he started reworking his relationship with buildings.

> And so I really, it really challenged me, kind of spirituality in a way to what is the purpose of my life. Why am I transfixed into this property thing, was tied in. But then at the same time I'm not all about making a profit for my boss. There is something more to this and through my political actions and my spiritual path I stumbled onto Earthships (Personal interview 4/6/2015).

Finding that crass economic valuation of property was really missing the big picture it took Ricky "a few years before I just said I need to do something rather than just talk about". Like many others, he found talk was cheap. "It's kind of the old saying be the change you want to see in the world". This lead Ricky to Earthship Biotecture. Learning the new ways of building "spiraled down" and he wanted to share his enthusiasm with his property management co-workers and boss. But after several attempts he found the capitalist bottom line and professional orthodoxy thwarted his attempts. "But that's not going to work here at my job" he told me (Personal interview 4/6/2015). He was currently tinkering with the idea of retrofitting current housing with off-grid assemblages.

The variation of building experiences ranged from growing up with parents that included their children in fixing and building to others who quite literally never used a tool. Some were employed in the trades or had similar levels of skill. These were either self-employed or expressed fundament conflicts in their jobs. In general, everyone was attempting to circumvent some aspects of the "infantilization" that an advanced division of labour, commodity chains, and certification encourage. This is not just about building a home. Rather it is a double articulation, a recursive operation that worked back on to the self and generated confidence and strength. Listen to what Michael told me.

> I mean I've definitely gotten stronger… I learned how to do you know technical things, but I also learned a lot about myself, like what I am capable of doing that I

> never thought I would be able to do… I leaned to have confidence in myself and my ability to figure things out (Personal interview 8/11/2014).

Sociologists are used to finding collective empowerment in their research. The feelings of strength when one becomes part of the many to challenge entrenched power arrangements. Politics of circumvention locates a different aspect of this; what can be understood as self-empowerment. However, as the reader might have noticed, learning carpentry or any other skill was accomplished with others, not in isolation. I turn to this counterintuitive idea, of how learning to disconnect itself builds connections.

9.3.1 **Disconnecting by Connecting**

It continues to surprise observers that the off-grid movement is not about creating a reclusively life void of interactions with people. In my various encounters with off-grid builders and dwellers I found outgoing and active individuals. Of course, some people I interviewed were shy and some were confident extroverts. None were seeking a life of solitude, building an island to watch the end of the world. There was a vibrant and ever changing social world among off-gridders. Each coming from a different place and envisioning a different way of life. But to do this they all found it necessary and desirable to make connections. I discuss this in two forms. First, at each step of the off-grid journey there were people helping others overcome skill specialization. This was true in both learning the technical skills to take care of yourself to emotional support in overcoming personal doubt. I, with others, refer to this as DIW. Second, Earthships were not just about connecting with people differently, they were also about connecting to the nonhuman world differently. To live intentionally and in a convivial manner. By disconnecting with the grid, individuals remake, physically and ideationally, their connection to their environs.

9.3.2 **DIW: Connected with People**

Vannini and Taggart found that DIY was inappropriate for the off-gridders of Canada. "[I]t always took a village to raise a barn, so to speak" they wrote (Vannini and Taggart 2015:126). The image of a DIY person "connotes an individualistic, self-oriented, self-sufficient impetus that does not match actual practice" (Vannini and Taggart 2015:126). They found that "the off-grid home builder did not break away from, or openly contest, greater social forces, but rather articulate with such forces through different associative relations, different 'entanglements'" (Vannini and Taggart 2015:126). I found a similar DIW process at all stages of going off-grid, from becoming aware that another way to live was realistically possible and learning the trades skills required to gaining confidence to building with the help of friends, family, or volunteers.

My sampling procedure was based off Earthship Biotecture's internship and academy programs as well as the Earthship communities located in New Mexico. These served as hubs for those interested in building and living in an Earthship off-grid dwelling. In this regard, there is a sampling bias as I was sampling on the dependent variable. However, today few people possess the skills necessary to survive off of the grids of daily life. As Edgar told me, going off grid is like taking an "IV off their arm". For non-Earthship off-grid populations I posit the process is fundamentally the same. Whether it is in tiny houses, earth bags, cob, or straw bale construction.

The first step in building a circumvented life is seeing it is possible. Almost half of the people I interviewed said they learned about Earthships through the documentary Garbage Warrior. They identified with the people depicted "living free" in the Mesa and actually doing things for themselves and their families. Additionally, the buildings' aesthetics were a draw for

some and a deterrent for others, but their functionality was undeniably powerful for all. It was learning about real people engaging with these assemblages that would begin them on their journey for a way off-grid.

The internet served as another foray into getting connected to the off-grid movement. Earthship Biotecture's website, Earthship.com has between 60,000 and 130,000 views per month[52] (Just under half of the visitors access the website from the United States and the next top four countries are Canada, Australia, Germany, and France. This is reflected in the large number of non-US interns and academy students). Everyone I spoke to had visited the website and many had copies of Reynolds how to books. But as Heather told me, she need to do more than just watch passively and talk about it. Heather and hundreds of others a year make their way to Taos to learn how to build Earthships, but they also learn a host of other important things. In this way the tremendous feat of building an Earthship is hardly a DIY activity. Through an off-grid social network built from face-to-face interaction at various programs and builds that Earthship Biotecture organizes, Facebook groups, meetups, YouTube videos, and personal websites people become connected in their struggle to disconnection.

Shannon worked at Earthship Biotecture and lived in an early prototype Earthship. She heard of Earthships in a conversation and saw them on the internet from time to time, but when she found out about the academy it seemed like something she could do. "I ended up on the Earthship academy and it just felt accessible. So, I signed up for that" she told me (Personal interview 7/24/2015). It is this accessibility that has turned Taos into an even more eclectic "rural cosmopolitan" as a resident described it to me.

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[52] According to SimilarWeb a "digital market intelligence company". Accessed June 7, 2017.

Manahil confirmed she learned quite a few practical life construction skills like "plastering, grouting, pounding tires, things like that". But for her "it was interesting how, like the group we are with together, just learning from people. Just all kinds of stuff really" (Personal interview 7/31/2014). Nathan said the same thing. "Well I learned a lot about basic construction about how to use cement, about how to pour a [cement] floor, how to pound tires. Like basic construction things or things more specific to Earthships too, which I find pretty cool" (Personal interview 7/30/2014). But the time before, in-between, and after acquiring up these skills he "learned a lot about different cultures". I asked him for details.

> For example, if we go into that perspective, I come from Canada, most of the interns are from the United states so I learned a lot about how they live how they view things and everything like that. And our colleagues from Europe too, super cool talking to them.… Just the way their society works I'd have to say. Like from politics to culture to social, to like social interaction in certain ways (Personal interview 7/30/2014).

As I covered in Chapter Seven, there is a motley crew of individuals and given the non-proscriptive politics there is little threat or impetus to build a single narrative or collective action frame generally found among social movements (see Snow et al. 1986).

Unsurprising it was common for people to mix learning physical skills and social commentary. Larry "learned various building skills" like "how to plaster… how to mix cement, how to use different kinds of saws and power equipment". He immediately continued

> But also, it's good to be living in the area like 24 hours with other people who are also interested in the same thing and you can learn things about their interests. What brought them to it and even things like different music you might like, what different places are like around the country and in other countries also (Personal interview 8/5/2014).

They come to learn how to build assemblages which allow them to terraform and extricate, but they become part of an assemblage of terraformers and extricators.

For most, their dreams of going off-grid is only realized through the assistance of others. It is not uncommon to find "tire pounding parties" and workshops organized online to bring volunteers together to help with the structural aspects of an Earthship.[53] Rarely do individuals feel capable of building their own Earthship by themselves and I do not believe that was ever their goal. For example, listen to Able.

> I, now I feel like I can build something. Not an Earthship, but like I feel like I could build this passive solar greenhouse… And I think I understood the systems of the house and I also seen several phases of the building and it brought, this expense brought me more close. I mean, I think it's I feel that it's doable, at least with other people. It's not impossible.

"[W]ith other people, it's not impossible" is a big deal and a necessary step in a circumvention-based political project. Danny echoed this sentiment. "So, I guess I understand the systems more in depth and the kind of the whole process of how it works. Obviously learned how to work on these houses. How to build them to some extent" (Personal interview 3/16/2015). But he confessed

> I'm not comfortable building one entirely by myself, but I feel like at least if I had a crew I would be able to direct it enough and work off those plans I'd be able knock out a big chunk of it (Personal interview 3/16/2015).

At times like this I would half-jokingly tell them I would come help and they assured me they would also help with my build. But all joking aside through social media many interns and academy students stayed connected. At the behest of several interns I took a picture of their hands that showed traces of the terraformation process. When I asked if the interns would stay in

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[53] https://www.facebook.com/events/839296079515913/
https://www.facebook.com/events/696570060408409/
http://earthship.com/blogs/2013/01/prelude-to-an-earthship-philadelphia-tire-pounding-workshop/
https://www.facebook.com/groups/1726228197626597/

touch with the people they met a common answer was “definitely”. Sharing stories and projects lasts years after their initial meeting.

Figure 21. Earthship volunteers show off their hands (Personal Photo August 2015).

Another aspect of the DIW was the self-confidence to go ahead with something that is out of the ordinary. This was composed of both learning trades, but also the self-esteem that was built among individuals overcoming specialization together. Lillian described herself as always “going against norms”. She continued “You believe in something you just need to go full throttle at it” (Personal interview 8/2/2014). I asked her if this was something she learned in Taos. She clarified

> It has just kind of reinforced it here… I go against my family's norms but like I guess being here I have met people that have gone the extra mile. Like making oil infusions and brushing your teeth with four ingredients that can be constructed in your own kitchen. Like that kind of thing (Personal interview 8/2/2014).

I am continually reminded of Shane’s discussion of infantilization (see Chapter Six), how individuals lacked the ability to leverage their knowledge of nature to stave off unwanted

dependence on centralized, hierarchical, and distant socio-material institutions. Lillian, as strong willed as she was, realized how mundane activities are actually audacious and powerful. This has some resonance with James Scott's (1990) weapons of the weak. Despite these being minor actions, nonetheless they represent a form of resistance. Going this extra mile reinforced her commitment to herself, but made possible through interaction with others.

Earthship academy student Scott provided a little more description of the same increase in motivation. He tied it closer to the off-grid life that I conceptualize as politics of circumvention. As is common, he mentioned the technical aspects. "Well all the, as far as the practical knowledge. I mean a very very strong foundation on building your own house. And that there is a lot of information there". But building and living off-grid is more than a technical concern. "And then from the people, I just learned about their life and how they live and how they look at life." He contrasted his fellow Earthship builders and a few dwellers as being the opposite of a "normal… desk life" (Personal interview 7/12/2015). For Scott, his millennial generation was challenging these expectations.

> But when you're in a desk job that you don't enjoy, and you found other ways to live your life that doesn't necessarily mean working all the time, so you can buy a nice house, so you can buy a nice car. You can buy flight tickets to go to fancy islands. I don't think that's for me. I mean I don't mind having nice things. But I also don't think it would be such a big deal if my life wasn't based around those certain incomes... I think talking to the people there was really motivating to go out and do my own thing and do what I want to do. And find the money along the way (Personal interview 7/12/2015).

Scott was at the beginning of his off-grid trek. He may never make it to the end. Many do not. This was similar to the repeated popularity of back-to-the-land literature, which saw many dreamers and few doers (see Brown 2011). But the imaginary of an off-grid life is powerful, the skills are real, and the social networks persist. Seeking a way out brings people (and things) together. As Evan told me "Yeah you're off the grid but you are still part of a community. The

grid doesn't tie you into community at all, it just ties you to corporations" (Personal interview 4/27/2015). Hannah rifted on this point.

> Off the grid is a on the one hand more independent and on the other hand more conducive to a real source of community. Rather than um a yeah floating signifiers. It encourages that face to face. And I love that barn-raising feel. And I am very interested, and I am looking at how do you create the culture that at once honors the needs and creativities of that the community brings but also honors community. And create space for unique individuals (Personal interview 7/16/2015).

Narratives given such as this demonstrate the connection between people often mediated through nonhumans in the process of acquiring skills. I now turn to connections to the nonhuman world directly.

9.3.3 **Connected with Nature**

The value placed on nature was one of companionship. In keeping with Reynolds' idea of interfacing builders and dwellers approach life with conviviality. Rather than agonviviality (see Chapter Eight). As Ricky told me "I loved the mountains, I love nature. I love being out there and caring for capacity of the Earth and just, the cycle of life" (Personal interview 4/6/2015). For Ovidiu "A lot of the people I talk with are interested in living in harmony with nature, as oppose to against it" (Personal interview 7/14/2015). He believed this has in part to do with the inability to reach the goals of "on-grid life".

> I think that people are more interested [in the environment]. In that younger generations, started realizing that you cannot get around in the system. You finish graduating like you don't get a job. Or when you get a job you have a big student loan. You can't get a job with passion about it. Many times, you have to do something to cover your student loan. Like younger generations started realizing that if you are loyal to the company that it doesn't mean anything anymore. Like if the company can make a dollar profit you are out the door. I think all these things just kind of like came together. And people realize that it is not like it used to be 20 years ago. Like the older generations during their entire lifetime they had two or three jobs. That doesn't happen anymore. Now you cannot really on a

> company or rely on the system. You have to sort of just figure it out. And also, a lot more people are more conscious about the environment (Personal interview 7/14/2015).

For Ovidiu the paths that society laid out for young people to reach their goals are cages. In response, him and others are looking for different paths that take them to different places. In this general sense Merton was correct.

Essie added to this line of thought when she told me that she is "dismantling the systems that are keeping us from seeing the simple truth". This truth for her is that it "shouldn't be that hard to keep humans healthy". But "we're feed so much information that keeps us from connecting with the simple, natural solutions just in every sphere, pretty much. It's so sad" (Personal interview 7/24/2014). For her, Earthships are important in demonstrating this simple truth of conviviality.

Essie and Ovidiu were articulating the separation and coming back together of humans from nature. Whether the social world is deemed a dead-end or actually keeping humans sick, Earthship builders and dwellers were seeking a way to connect and live with nature. Michael simply stated that

> We need the environment, we need these things, we thrive on this, we can't keep destroying and combating nature… We have to be symbiotic with it if we're ever going to survive. And that's the honest truth... We need to be tenders of the Earth, not competitors with it (Personal interview 8/11/2014).

I asked Michael how humans have got to this point of competing with the natural world. He asked if I have read a book called Ishmael? (see Quine 1995). Michael summarized the book and his views for me.

> In that book it talks about the givers and the takers. Giver culture was pre-agriculture and taker was post. Pretty much once we started farming, taking control over our own food that's when we dissociated ourselves with nature and took a step above it. We weren't living by nature's rules. We were making our own rules and taking control. And from there we moved on… Things like the industrial revolution, things came in, I don't know why it all happened. But once

> humanity said, started to separate itself from nature and looked at it as resources, not as, you know equal, it just spiraled from there (Personal interview 8/11/2014).

For Michael building and living in Earthships is a way to associate and live with and within the agency of nature. It is this living with, or conviviality, that was a prominent theme among many off-gridders. For instance, Omeika believed that "we need to be more in tune with where nature is going. And I think Earthships help us do that. Make us pay attention daily rainfall, temperature, material, maintenance" (Personal interview 7/31/2014).

Similarly, Amarina was drawn to nature. It was "her thing". She understood this as "spiritual". "Nature is just, just you know, I can totally recharge. I Feel this amazing feeling inside when I am in nature". But she also "enjoyed the cities too from time to time". But if she was there for too long she felt like she was "losing a connection" (Personal interview 7/22/2015).

> And I get quite busy I get disconnected. And when I am in nature I can reconnect So if I am super busy and I am not taking that quiet time out with nature, then I am not practicing gratitude. And before you know it I am complaining about shit and stuff like that. So maybe nature is, just like a beautiful and breathtaking (Personal interview 7/22/2015).

Again, there was this theme of being on-grid as disconnection and being off-grid as a reconnection.

No one I spoke to could describe this connection to nature while in an Earthship better than Mia. Rather than trimming her comments, I find her words have a certain poetry that requires quoting at length and with little editing.

> Okay cause when I come home, when I've been gone, cause no matter where else I'm living like when I come back here somehow this is like really home. Cause it's like my sanctuary, right. It doesn't matter the coldest cold in winter, outside or really unbearably hot outside at nighttime. When I open the door and walk in, cause it's like 78.6 or something like that it's like the thermal mass that's radiating, it's like this being, it's the warmth of it, the thermal mass, it's like this loving being that hugs me when I walk in the door. It's like it's my beloved and I'm its beloved. And this is not the wine because I would tell you this when I've not been drinking. So, there's just something that is just so amazing. I walk in and there's all these plants. And I kind of talk to them and they're all looking

fantastic… And the view and the like the fact that it's this integrated machine that does everything. Like I'm sorry conventional buildings are not like that…

You know these conventional buildings, are like you know these impersonal cracker boxes when you walk in. When I walk into my Earthship cause I'm wrapped with the earth, right, with this geothermal blanket with the temperature anchoring and all the thermal mass that's been captured, cause like Earthships take like three years to heat up and then they have this stabilizing. And so, it doesn't matter if I'm alone, it feels like I'm with somebody, It's like it's a being. It's like it's my friend. It's like you love your cat or your dog, it's kind of like a pet, right. And then because it's literally this living functioning machine, I mean our human body is a machine, it's almost like a being. And so, then when I enter the building it's like I'm in a relationship. I'm in this cooperative, collaborative relationship and I adapt my activities into the nature, whether it's hot or cold outside and I'm adjusting windows and skylights or not to keep the temperature just how I like it. Like I mean it's almost this being that care about me. And I'm sorry conventional are, conventional buildings are not like that.

Oh it' so different, when I'm at the Earthship, cause it faces south and out of the corner of my eye I can see to the east. I can't wait to wake up and see the sun rise. I crack my eye, I on purpose keep the blinds open. I can't wait to see the color and then I'm like, the morning is the most precious time to like see those colors in the sky and they're over really quick. Like if you don't anticipate them you miss them. And then it's the day and all day long you can see the sky with like 140 feet of south facing glass, you see the wind change and the clouds come and go and the lighting changes and maybe it's monsoon season and maybe it snows and then in two hours the weather breaks and it's gone. Granted that's unique to New Mexico, other climates are naturally different and then like oh, you know the day, gee, the light's getting dim and the sun sets any minute and I just want to like to satiate my eyeballs in the orange lavenders of the sunset and then boom it's dark and all of a sudden I can't wait to go asleep. It's seven it's dark and that's barely the right amount of sleep to wake up at like dawn and so just automatically um, you know my body rhythms just set to sunrise, sun set. There's no reason at all that I want to stay up late. I might read a little bit or the internet a little but but I'm like sleep. I'm like falling asleep. I have to… And when I'm in urban California, conventional community I don't see the sun rise, my body rhythms are not in tuned with to the sky. And so that's just one more dimension of, these buildings are a machine that relates to the sky or the seasons so when I'm here I relate to the sky and the 24 hours cycle

And uh. Like there's a qualitative life that's so different, so nurturing. Like even though you're in a building your still in nature and you're interacting with nature and a lot of people who live in conventional buildings are completely disconnected from nature (Personal interview 8/8/2014).

I can attest to Mia's comments on her wine intake. She was sipping her first glass as I interviewed her on the deck in front of the span of glass windows of her Earthship. Regarding bodily attunement, I myself experienced this change. There was an increase awareness of the sun's location. My sleeping habits, which were quite atrocious (perhaps common for a graduate student in a large metropolitan area) became uniform. I would arise with the sun and without an alarm. Mia's intimate description of her relationship with the Earthship and lack of relationship with the "cracker boxes" showed the conviviality lifestyle and the breaking down of inside and outside that occurs for off-gridders. This is expanded to the material culture of the dwellers as they generally do not reproduce on-grid lifestyle in an off-grid home.

Figure 22. Mia's Earthship at sunset (photo by author August 2015).

9.4.1 **Living Off-Grid: Simplicity, Responsibility, and Autonomy**

In this concluding section I discuss some of the prominent features of living off-grid. Earthshippers regularly discussed ideas of living simply. From unplugging from 24-hour news

cycles to selling most of their on-grid possessions. This is explored through the lens of voluntary simplicity. Secondly and contrary to general assumptions, off-gridders do not relinquish their responsibilities to people and the environment at-large. Their sense of connection to social problems is a basis of their efforts to stop contributing to the harms generated by activities of daily life. Conversely, on-gridders are viewed as irresponsible in this regard. Building an Earthship is seen as a way to gain autonomy and freedom. Instead of relying on "somebody else" and the assemblages that encourage dependence; they try to build a life free of "tie downs" and "chains".

9.4.2 **Voluntary Simplicity**

Through the mobilizing of nonhumans, the Earthshippers brought intentionality into mundane activities. Intentionally living is most associated with intentional communities, but does not have to be at the level of a commune. Individuals and families off-grid also perform an intentional life with their engagement with nature and people. This has been studied as voluntary simplicity.[54]

Voluntary Simplicity is a movement of reduced consumer practices. The term was coined by philosopher Richard Gregg (1936) in *The Value of Voluntary Simplicity*. He wrote "We become obsessed by our tools…We think that machinery and technology will save us time and give us more leisure, but really they make life more crowded and hurried" (1936:6). In response Gregg and others argued that people should cultivate an "outwardly simple, inwardly rich" life

[54] It is hard to calculate the number of voluntary simplifiers, but their growth may be inferred by the interest of market-oriented academic journals such as Psychology & Marketing (2006 Vol. 23) and Journal of Consumer Behaviour (2006 vol. 23), Qualitative Market Research (2005 vol. 8), and Journal of Consumer Culture (2014 vol. 14).

(Elgin 1993) and focus on "material simplicity, human scale, self-determination, ecological awareness, and personal growth" (Elgin and Mitchell 1977:8). Fitting well with the off-grid movement, part of voluntary simplicity has been the focus on decentralized modes of production (Gregg 1936:15).

To better understand the voluntary simplicity worldview Elgin and Mitchell (1977) provided a table to contrasts with the prevalent industrialized worldview. The latter included values such as man over nature, competitive self-interests, and rugged individualism. By contrast, voluntary simplicity values were people within nature, enlightened self-interest, and cooperative individualism. Additionally, social characteristics of industry are: large, complex living and working environments, identity defined by consumption, centralization of regulation and control at nation/state levels, specialized work roles, cultural homogeneity, and high pressure rat race existence. The social characteristics for voluntary simplicity are smaller, less complex living and working environments, identity found through inner and interpersonal discovery, greater local self-determination coupled with emerging global institutions, more integrated work roles, cultural heterogeneity, and laid back and relaxed existence (Elgin and Mitchell 1977:28). The affinity with the off-grid movement and circumvention movements at large is uncanny. Some of this has already been discussed. I now turn directly to the invocation of simplicity by off-gridders themselves. Their narratives provide examples of the "voluntary simplicity worldview" that have consistently been written about since 5th century BC of Buddhism and later world religions.

Lachlan, who I have introduced earlier, underwent stages of purging his belongings. He wanted to leave his native Western Australia and come to Taos to learn how to build Earthships. "[B]ut I had a mortgage and a house, a full-time job. I was sort of *stuck in society*" he said

(emphasis added). He slowly started to extricate himself. “The first year I just rented my house out to a friend. Still had to pay a little bit on top of the mortgage”. He told me that “I just ended up selling that, sold my car, sold pretty much everything”. It seemed like a rather large change in his life. I wondered if there was some sort of event that spurred it, what sociologists of social movements call biographical availability (see McAdam 1986). Lachlan recounted “It just came slowly. I was sick of this routine of Monday to Friday working the same job” (Personal interview 7/17/2015). This was more common than I thought it would be. Rather than an abrupt change in their daily life, off-gridder experienced a slow buildup of dissatisfaction with their on-grid existence.

Daryl who was living in his modified trailer made his life simpler when he stopped watching television.

> It’s really like why would I bother watching TV, cause it’s really a time filler and you know everyone these days says oh yeah, I have no time. I’m always in a rush I have to eat quick, I have to drive quick, and I have to get places and do things, blah, blah, blah (Personal interview 3/28/2015).

He seemed to have channeled Richard Gregg. He has filled up his time with caring for himself in ways like “cooking your meals and you know building your own structures and so to taking care of yourself”. He added “it’s like this is what we all used to do”. For Daryl, he viewed the modern life as marketed as simpler, but falling short. “So we tried to make life simpler but what it really means is we given you all this extra time and now you have to figure out what you’re going to fill it with. Well we filled it with things like television and movies and playing video games and you know going to the gym.” This last example was ironic to him. “People never went to the gym. They didn’t need to. But we had lifestyles where you had gone out and did things” he said. On top of this, Daryl complained that “we have made our lives so complex” and to function you have either have to become an expert in several fields or depend on others who are experts.

Rather than continue to stay busy, distracted, try to keep up with the complexity of modern assemblages, or depend on those very same institutions he simplified things and learned how to do through nature, rather than through social bureaucracies (Personal interview 3/28/2015). Merrifield (2017) would approve of this worldview.

Shannon was also living in an off-grid structure, yet not a complete Earthship. She did not have refrigerator, a stove, or running water. She had been living in a shell of an older Earthship for two years. She also had a small solar array which generated enough electricity for a few items. For most on-gridders such a life seems barely above tent camping and might be nice for a weekend at most. For Shannon, she told me "it is just simpler to me. Yeah, I don't know, it doesn't bother me". Later she reaffirmed this by telling me "but again it is generally fine". So, I asked her how she gets by without modern conveniences. Shannon thought to herself and then responded "there is a thing about living on the gird where basically everything feels unlimited. But they are not". For her she "sort of fine tunes the degree in to which I use my stuff". For instance, she "hauls water in and out", was "attentive of how many watts all my appliances use", uses a composting toilet that required maintenance every few days, used a solar powered water tank (6 gallons) for showers that needed refilling every few days, and an "ancient African thing" from Nigeria to keep food cool. But for most of the year it is cold enough at night to let water and other items freeze overnight, then put it in a cooler for the day. In regard to the Nigerian technology, it is a pot inside of another pot with sand filled in it called a zeer pot. I am still amazed at the level of involvement, especially not having a refrigerator. I asked if it this makes life less enjoyable. She answered "No, I don't care" and again it is "simpler" (Personal interview 7/24/2015).

For Shannon, feeling the direct consequences of her actions was a pleasure. “Instead of being a monster or something and instead of [my consumption] effecting someone in China, it effects the person next door to me. So, I think of it as more closer to home in a sizeable way”, she concluded (Personal interview 7/24/2015). Elgin and Mitchell (1977) would refer to this as “human scale”. Through being attentive Shannon lived a life of intention, which led her to feelings of connection and appreciation.

This theme of appreciation came through other interviews. Amarina told me “one of the biggest things I’ve learned about is living with less… it goes back to that gratitude thing again… I am so appreciative”. For Amarina, getting a mortgage and living on-grid was about what she’s “suppose” to do, rather than “following what I feel and what I think”. Living simply brought appreciation, but also allowed her to not “fall into any of those sorts of *traps*” (emphasis added). Lillian also did not want to live the way she’s supposed to. I asked what is this normal way of living? “Spending lots of money on material that you don’t necessarily need. Just being wasteful in general”. For her “people involved with Earthships probably have a simpler way of looking at life and appreciating life” (Personal interview 8/2/2014).

Danny was straightforward when it came to his intentional living arrangements. “Well I guess I strive for simplicity and I try to live a simple life” (Personal interview 3/16/2015). His confidence begged to be probed further, so I asked him why?

> It’s part of like my inner being. I just always had a desire for simplicity. It’s not necessary, um. I mean it makes sense to me, but it’s not necessarily developed out of logic. But more it feels like almost genetic. To strive for simplicity… And I also strive and desire to develop the skills in which I need very little finances (Personal interview 3/16/2015).

For Dalton, simplicity meant “to define my needs in as little terms as possible and strive to eliminate all other things that are not necessary”. This is why he grew his own food, worked on

bicycles, was a yogi, and was learning how to build Earthships. With regards to food, he was a proponent of "food in its simplest form". He cited a few references (*The China Study*) while claiming that humans were not supposed to eat meat as "our teeth are much more similar to herbivores" (Personal interview 7/24/2014). Instead he filled his diet with unprocessed fruits and vegetables.

For many this simplicity was not only inwardly directed. There is an awareness that by living with inattention and an unappreciatively manner people would cause harm to human and nonhuman alike. Some of this has already been attest to. René spoke to this.

> We need to help [poor people] to have the rights to live for the minimum, you know. And the rich countries, the developed countries we have to have to transition to live more simple. We have to live find balance. And the Earthship is really connected with that. And then the activists protecting forest and the environment are similar too, trying to be more responsible with the environment and try to give back to the environment and try to be responsible. And I, like it's all connected, you know (Personal interview 3/31/2015).

An off-grid life is an intentional one and one that is counterintuitive. Off-grid is not about exclusion or isolation. It is not a completely selfish endeavor where individuals stand outside the world with no regard for it. Rather it is through connection that a disconnection is variegatedly constructed. Connection to the nonhumans, the self, and others. Motives for a large section of the Earthship population concerned their own wellbeing and concern for others (human and otherwise).

9.4.3 **Responsibility**

Another surprise from Earthshippers (similar to the disconnection through connection) is that far from concluding that they have no responsibility to others is that they do feel responsible. By being responsible for themselves they perform a practical expression of their general

responsibility to other humans and non-humans of today and in the future. Before focusing on this directly, it is important to establish the prevalence of the responsibility narrative. Daryl found that responsibility was a unifying dimension among his fellow Earthship academy students.

> You know we had Australians and South Africa, and Ireland, and England and India. And just, you know there were a bunch of Canadians too, but there was just a whole slew of people who are really interested in this and you think of all the sort of different cultural backgrounds and interests, personal interests aside form Earthships that people have and what they are bringing into the situation, but then you have this sort of unifying idea of living better and learning about Earthships and just sort of gaining a certain amount of independence so you can be responsible for yourself. That sort of unifies everyone (Personal interview 3/28/2015).

I already discussed the diversity among Earthship builders and dwellers. What Daryl found among this motley crew was the striving for being allowed to be responsible for one's self. This was a personal journey for him. As I mentioned earlier, he confided that "One of the things in my life that changed is that I decide that at some point I needed to take more responsibility for myself" (Personal interview 3/28/2015). He provided some details as to what he meant.

> And generating, in growing my own food, in cooking for myself, in trying to do as much as I can to be aware of what I'm putting in my body and the environment that I am creating for myself, around myself. It's like take as much responsibility for myself as I can. Which leads to another interesting thing. There are areas in your life, once you decide to try to do it, that's where you realize just how little freedom you actually had in certain ways (Personal interview 3/28/2015).

This fit well with Shane's infantilization that I have already covered. What is interesting is this connection between responsibility and freedom. The various assemblages that materially undergird civilization are said to "free" humanity from nature—the Hobbesian thesis. Sociologist Eugene Halton discussed this as the "philosophy of escape from the earth" to be distinguished from the "philosophy of the earth". He wrote "The escape from the earth has always promised liberation, many times attaining it in the short run, only to lose it in the long run that has begun to

come better into focus" (Halton forthcoming) The politics of circumvention flips Hobbes and exemplifies Halton's philosophy of the earth. Rather than freeing humans from nature it cages them into social relations of power. The course of action in some ways reversed. Through nature one can be freed from these asymmetrical social relations. Daryl continued to work through this point.

> You are not allowed to take this responsibly for yourself. Like if you think about seatbelt laws, that's sort of a libertarian idea. Should I have to legislate the idea of having to wear a seatbelt versus having the choice? You know that's taking responsibly for yourself in terms of I have decide that I will wear this or I will not. But they don't let you make that choice. It's similar thing with building codes (Personal interview 3/28/2015).

Daryl and others want this autonomy to decide for themselves. In a lot of ways, the destruction of the New Deal and Great Society state assemblages have left individuals' fate up to their relations within the market—i.e. the neoliberal capitalist subject. What circumventors do is follow this line of flight further, to seek partial extrication from both government relations and dependence on market relations for survival.

The opposite way responsibility was viewed was as the inverse, the irresponsibility of the grid. Bobby, who was less sold on the idea of the grid completely failing did still question the social and natural impacts of the grid, regardless of an impending crisis.

> Another question, is using the grid the most responsible way or is living off the grid the most responsible ways to address this concept we brought up over and over again, how our way of living or how an individuals' way of living will affect other people, besides just ourselves? (Personal interview 8/3/2014).

This has been a key question for Bobby. Rather than practicing proscriptive politics, he focused on his own actions and the affects they may have. "My activities are evolving… I try to have them focus or grounded in a way that promotes environmental responsibility" (Personal interview 8/3/2014). Bobby resumed,

> I think people, a lot of people are lazy, they don't, they just want a switch to flip, like I said, a faucet to turn. They don't want to think about anything other than that. I don't think that is a healthy way to live because it causes you to be disconnected from other things than just that source of your electricity or your water. It disconnects you from your society (Personal interview 8/3/2014).

Astutely, Bobby recognized the double articulation that material infrastructures exhibit, as the disconnect bleeds from raw materials into human society. Despite (or maybe because of) his training in civil engineering he approached this problem with surprising anthropological and sociological sensibility.

> We knew that if we pissed in the well that we're not only going to screw ourselves over, but we're going to screw over everybody else. And we civil engineers and other folks have eliminated those risks or the requirement for people to contemplate those potential risks and I think it's dangerous because now its filtering over into other areas that, that will have pretty negative consequences (Personal interview 8/3/2014).

For Bobby this led to a ripple effect to other areas, which "creates certain stress, from resources, to governance, to security" (Personal interview 8/3/2014).

Jacob, who shared similar concerns with Bobby (but did believe that grid society was heading for crisis) stated matter-of-factly "Being dependent on the grid, if the grid fails us we're fucked" (Personal interview 4/27/2015). Given his reflection of the grid and his desire to live off grid I asked him if it would be easier living off-grid.

> It wouldn't necessarily be easier. I would be responsible for my needs. You know there might still be power outages, but I would have more control over the situation. I'd be growing my own food, collecting my own water. I'd live by myself, instead of some bear trap (Personal interview 4/27/2015).

The options for Jacob was a difficult life filled with responsibility and self-reliance or a socio-material cage; what he colloquially referred to as "some bear trap". The bear trap is presumed to be irresponsible. This is what Essie told me. Using the term "system" to describe the gird and her relation to it. "Yeah I just try to be constantly aware of the ways that I participate in the evils, even in a passive way" (Personal interview 7/24/2014).

> I mean I think that's largely how those kinds of systems maintain themselves. It's not by people who are aware and conscious of all the destruction that are choosing to continue doing it. You feel like you are not responsible and that you are separated from it because the destruction is not right in your face all the time (Personal interview 7/24/2014).

Being on-grid allowed and elicited certain behaviors with the nonhuman world. Creating geographically distributed assemblages relieved users of the knowledge of the effects of their behavior.[55] This lead to irresponsibility for on-gridders actions which are translated via nonhuman components. While not pervasive nor loudly declared this moral condemnation nevertheless came up. Saul took a harder stance than most when he reflected on why people would not want to change the way they live.

> [On-gridders] just want to be comfortable. They don't want to think about, they don't want to worry about their kids. They don't want to worry about the next generation. They don't want to be responsible. They just go, "ok alright I'll just do what everybody else does and somebody else will take care of the problem" (Personal interview 7/17/2015)

Saul viewed his desire to build an Earthship as being responsible for future humans, notably his own children. Since the interview he has moved his family to Washington State and has begun clearing land for his Earthship.

In practice this responsibility is performed at the mundane level of everyday life. Many times, Earthship dwellers told me of their practices to live within the limits of their Earthship system. One women I spoke to said she takes shorter showers to conserve her water, even if she has a full cistern. Sarah spoke of moving her solar panels by hand throughout the day to capture the most amount of sunlight. I asked Amarina what is the hardest thing living in an Earthship.

> Um you have to be responsible. So, you know you always gotta be thinking. And you can make mistakes, you know what I mean. If you know stay up late and

[55] This follows from Marx's concept of commodity fetishism. "[T]he commodity-form… have absolutely no connection with the physical nature of the commodity and the material relations arising out of this" (Marx 1990:165). This is furthered by his and other's work on metabolic rift.

> forget to turn the lights off it can have an effect. Turning the lights off I should say. Or if you don't check that battery and it runs dry you have some responsibility (Personal interview 7/20/2015).

This responsibility lead to the independence from the "bear trap", "systems", or "monsters" as off-grid people have referred to them. As Mia said "Like I'm responsible to keep my Earthship machine running. And so, it's just like all about me and my responsibility and it's not about me badmouthing the jurisdiction of the corporation. I can just like *bypass* all that" (emphasis added Personal interview 8/8/2014).

9.4.4 **Autonomy**

By living simpler and taking more responsibility for their lives the hope is that the off-grid life will bring a freedom unknown to those who lived on-grid. Individual control over basic necessities was valued and seen in contradistinction to the dependence on "somebody else". As Shannon declared "I like having power overall my own shit. I like being in control of it. I like knowing how much is going in and out. I like knowing where it is going. I am really engaged in that whole process and I think that it is really empowering". This was contrasted to people on the grid. She continued "For people to not. You know they are these basic survival skills – not skills, needs. And uh, I think when those basic survival needs are in somebody else's hands there is something inherently wrong about that" (Personal interview 7/24/2015)..

Liam echoed Shannon "I don't see for there to be a reason for somebody else to provide it for me. That somebody else's corporation that I don't trust that is doing it ethically" (Personal interview 7/16/2015). I asked Liam what was wrong with being provided for?

> Well, it's wrong to have a sense of authority over you. Like with the sense of money. Almost like parents, like we're paying for school for you, so we should make the decisions. It's taking your personal autonomy away from you. It's giving it somebody else (Personal interview 7/16/2015).

For Liam, the solution was not to fight against these authorities, but to create more personal autonomy. In keeping with the politics of circumvention he explained to me “You know I really like Taoist philosophy that it is all about woo way. The part about effortless actions rather than fighting against systems” (Personal interview 7/16/2015).

This “somebody else” was a recurring figure. Take for instance Amarina. “So being on the grid is being like you know not independent. Being, needing somebody else. Or some other system or whatever to supply your needs” (Personal interview 7/22/2015). Lillian added “my biggest thing is to be independent not have to rely of somebody else for your needs, your everyday needs" (Personal interview 8/2/2014). For Amarina and Lillian there was little trust on the anonymous somebody else or the ambiguous grid systems. That is what modern society demands populations to do; to trust unknown groups of people and innumerable nonhuman components. For Earthshippers this reduced their freedom and autonomy. Lilian thought once she was living off-grid it would feel “Gratifying”. She continued “It would make me feel free. Feel like I am doing the best for my family. So that I am providing all their basic essential needs” (Personal interview 8/2/2014).

In addition to moving away from a dependence on the grid for basic necessities, off-gridders continually pointed to the financial freedom that an off-grid home provided. Since most off-grid homes are a DIW project and utility bills are reduced to near zero there is a belief that off-grid is synonymous with off-mortgages. Even if financing is required the monthly savings from the onsite production of utilities shorten the duration of the loan when compared to on-grid financing and dwellings.

Liam gave me a bit of an etymology lesson in this regard. “Mortgage is the old French word of death pledge or death god. That lets you pay until you die”. His response? “Fuck that I

don't want to do that. It's easy when you have everything set up in a system and I don't want to do that. I don't think this is the ideal life for me" (Personal interview 7/16/2015). Off-gird is about challenged the *modus operandi* of modernity; not just turning away from the teleological and tautological justifications for civilization and not just terraforming materiality, but of challenging some basic socio-material assemblages such as the universal equivalent—money. Istvan contrasted himself with on-grid people saying

> They are just like living in the current financial age. Just ok, this is your job you need to get a job, then you need to pay for housing. So, they are living in a way that it's pretty normal for them to pay for rent. And getting mortgages and they pay for utilities and everything so this is normal to them (Personal interview 6/21/2015).

But for Istvan "I want to get out of this… I don't want to work for somebody else. I don't want to like constantly make money" (Personal interview 6/21/2015).

Amarina also wanted to limit her relationship to finance and the norms of contemporary society. "I don't want to fall into any of those sort of traps". Which traps I ask her.

> That we need to you know have a mortgage. That we need to um be working all our time. You know those kinds of things. That life has to look a certain way. That we need to be married with children at a certain age. Yeah lots of the basics (Personal interview 7/22/2015).

Through the process of terraforming a home that interfaces directly with nature, off-gridders are searching for the freedom to live how they want. This was similar to downsizing movements like tiny houses and minimalism promises their adherents. This idea was expressed by Jacob. "The grid is an interconnect system that makes people dependent on the powers that be. You get your food and your power and your water through money, so you have to work. It's all a system of enslavement" (Personal interview 4/27/2015). He continued

> Bills are like tie downs. Like outside your means and having to, kind of like enslavement sort of, a new form of enslavement. You get a mortgage, a 40-year mortgage. Then you have to go to work, just to live in your house and pay interest

> to a bunch of people who are just getting rich off your interests (Personal interview 4/27/2015).

Henri came to the same conclusion. “Yeah. So, I was thinking you could own a house and not have any rent or mortgage, once you paid off, but then you have all these utilities and then um, so you’re like chained to the system” (Personal interview 4/23/2015). Even if you are able to repay a home loan there are still basic needs that must be met through market relations. But the hope for an off-gridder like Fae is that

> You don’t need to work just to, to to. You don’t have to pay rent, you don’t have to pay a mortgage, you don’t have to go to the grocery store. You are not subjected to the free market in terms of like, price of energy (Personal interview 4/23/2015).

Despite ideas like this, everyone I met realized that their off-grid life would still be connected to these worlds. As Scott told me “I don’t think we’ll be able to grow all of our own food. We will still be connected, but there is a huge difference between that living and what we are doing. Like going to the grocery store everyday”. I have contended that these limitations should not be understood as contradictions or negations of the circumvention project. When directly asked about the contradiction of off-gird living Scott replied “No, I think it is an evolution” (Personal interview 7/12/2015).

There is a degree of freedom change rather than an absolute freedom attained. Saul understood this, but he was still excited about his future living off-grid. Living in an Earthship during the academy I asked him what he thinks it will be like when he builds his own.

> I think it would be awesome... You've got everything you need. It would be a great feeling of independence and both my wife and I are just kind of jazzed about that. Just like, “yea fuck it. No, I'm sorry, you're not getting our money. I don't need you oil. I don't need your gas. I don't need your propane or your coal”. Just to kind of wash your hands of it and at least have a clear conscience (Personal interview 7/17/2015).

The value and power of extrication came through my discussion with Saul. Scott also felt this way during a short period in Taos during the internship. “We had this feeling of not being tied down. Of just being free”. He continued “Even though we were just renting for a month… I feel like it when we build our own Earthship that feeling will be so much more powerful. Because at the point we would be setting ourselves free” (Personal interview 7/12/2015). Tied and chained, that is how the off-gridder feels and while it is not unique to them, their radical solution surely is exceptional.

Life off-grid is thought of as providing more than just financial freedom and freedom from dependence on socio-material assemblages. I found that several people had given serious thought to the implications for their social relations once off-grid. Dalton (perhaps the most articulate person to be interviewed) had a complex critique of the grid. What impressed me was his intimate ideas surrounding everyday social interactions. He affirmed the Earthship is empowering and “all these other systems that people depend upon um, then become obsolete” (Personal interview 7/24/2014). Through a “paradigm shift, the individual has control of, instead of one person making decisions for many. Which is how the system that provides the basic human needs now functions” (Personal interview 7/24/2014). With this comes a change is companionship for him.

> I think with the basic needs provided, at least the ones necessary for life, not necessarily for happiness, but simply to stay alive, to maintain a heartbeat. If those are provided there is a huge sense of relief that comes over a person that I can’t even really imagine. The sort of relief that one might feel after building an Earthship for one’s self. I think that people would just have more time to be social. And also, would not be so anxious that um, you know, being social, interacting with other humans is such a traumatic experience. I think that it’s the stresses that are put on the planet by, you know, the systems that be. And but he stresses that are put on the individual by having to, you know maneuver through those systems to, to, to sustain one’s heartbeat. To sustain one’s life. Um. You know it creates a less open, yeah a less open environment. And certainly, people have less time in the sort of conventional trying to maintain a, or acquire a

> conventional home, then an Earthship. So, more time, less stress. Or more free time I should say and less stress. I think would create a richer social environment (Personal interview 7/24/2014).

By personally cultivating the assemblages to support himself, Dalton believed this would result in people being more open to others. A bold belief given the propensity of cultural and political commentators incessant worried about "tribalism" forming in the move toward localism. Essie joined in agreeing with the anxiety of interactions. She said, "the different systems we live in today kind of keep us isolated, keep us dependent". Being off-grid would allow her to "spend a lot more time just learning form people, having discussions. Which I think is really the basic way to learn. I think it is better than formal education in a lot of ways" (Personal interview 7/24/2014). They hoped that life off-grid would give them freedom to live not just with nature, but also live in a convivial manner with people.

9.5.1 **Conclusion**

English writer and poet Paul Kingsnorth wrote a popular article in *Orion Magazine* in 2012 titled Dark Ecology.[56] He gave a sketch of the contemporary moment and poses a question.

> The coming decades are likely to challenge much of what we think we know about what progress is, and about who we are in relation to the rest of nature. Advanced technologies will challenge our sense of what it means to be human at the same time as the tide of extinction rolls on. The ongoing collapse of social and economic infrastructures, and of the web of life itself, will kill off much of what we value. In this context, ask yourself: what power do you have to preserve what is of value—creatures, skills, things, places?

[56] Kingsnorth is perhaps most known for his piece "Uncivilization: A Dark Mountain Manifest", co-written with Dougald Hine (2009).

This is a description that I believe many Earthshippers would agree with. He provided a list of answers: withdrawal, preserve nonhuman life, get hands dirty, value nature beyond utility, and build refuges.

In many ways this is what a the current off-grid movement is composed of. A refuge of sorts is attempted. Leaving aside any unique futility and efficacy about a circumvent-based politics as opposed to other traditional forms of politics aside for the moment; the Earthship dwellers and dwellings are engaged in an act of withdrawal—or circumvention. Through mobilizing nonhumans pleasure is located outdoors and within one's own expanding taskscapes (see Ingold 2000). The off-gridders' life is one where they, as Kingsnorth (2012) wrote "Ground [themselves] in things and places, learn or practice human-scale convivial skills". Responding to the complexity of vast socio-material assemblages of the 21st century, from global financial structures to supply chains of nonrenewable resources, a countermovement is made to live simpler. As I have tried to express this simplicity, withdrawal or circumvention is not a dispatching of responsibility. Care for the abstract Other who lives in a resource extraction zones of the planet is invoked, human and otherwise. Personal responsibility for people, places, and things are part and parcel of many off-grid journeys. This responsibility extends inwardly towards the self. This off-grid quest is to make obsolete various unhealthy dependences and to gain the capacity and the freedom to "sustain yourself", as Evan told me.

The epigraphs at the beginning of this chapter pose two seemingly contradictory conclusions. Without society humans are reduced to mere beasts or they are elevated to the status of godhood; in both cases they cease to be humans. The other option is that humanity will be brought to its conclusion by civilization, in which there will cease to be humans. The Earthship off-gridders attempt to chart a way forward between these two frames. As I stated in the Chapter

One, off-grid is a form of counter-conduct where they “escape the dilemma of being either for or against” (Foucault quoted in Death 2010:249). Through an intransitive, interstitial, and prefigurative politics truly alternative alternatives are literally built. However fragile they may turn out to be, they are there to be found.

10. CONCLUSION

"There is nothing heroic about escape. It usually begins with an initial refusal to subscribe to some aspect of the social order that seem to be inescapable and indispensable for governing the practicalities of life. In other words, the very first moment of subversion is the detachment from what may seem essential for holding a situation together and for making sense of that situation. Escape is a mode of social change that is simultaneously elusive and forceful enough to challenge present configuration of control".
Dimitris Papadopoulos, Niamh Stephenson, and Vassilis Tsianos 2008:xiii-xiv

10.1.1 Introduction

In this final chapter I take the opportunity to address a few loose ends. During the course of the previous nine chapters many statements have been made and to the critical reader objections surely arise. While I have attempted to deal with these as I saw fit and provide established literature to support, I nonetheless recognize that more can and should be said. While not attempting to do so in an exhaustive manner, I find a short commentary on issues of ethics and implications is warranted. Beyond such reflections, I add statements pertaining to limitations of this project and conclude with avenues I am pursuing for future research.

Before I turn to these matters I provide key findings from Part Three. I present them below in bullet point and shorthand format.

- The Grid.
    - Understood as socio-material assemblages through the state, corporations, culture, and money.
    - Resulting in:
        - Dependence and Loss of Freedom and Autonomy.
        - Despoliation of nature and destruction of life.
- Off-politics.
    - Resist recognized identities and support for liminal states.
    - Motley crew of participants.
    - Non-activists in traditional sense.
    - Support for activism in everyday life and household material throughput
    - Passive example-oriented growth.
- Terraformation.
    - Interface with "natural" systems.
    - Comfort between the sun and the Earth through orientation and design.
    - Garbage as the new indigenous building resource.
    - Technology matters. Electricity facilitating behaviors and relations.
    - Placing water in the flow of life and life in the flow of water.
    - Food requirements including helpful critters.
- Life Off-Grid
    - Mobilizing more than resources, but nonhuman partners.
        - Not labor adverse, but pleasure.
        - Life is outside, and bringing outside into the home.
    - Overcoming specialization.
    - Disconnect by connecting to people and nature (DIW).
    - Choosing simplicity for the sake of myself and others
    - 'Deciding to take more responsibility for myself'.
    - The goal is to live free and with freedom.

From the narratives of the builders and dwellers of Earthships, my participant observations, and off-grid literature these general findings are identified. While a difficult group to draw a circle around, nonetheless I am confident that the above discoveries are an accurate portrayal of the current Earthship movement. Furthermore, I speculate that what is true for the contemporary off-grid movement has applicability to understanding historical cases of circumvention. With that said, there are remaining qualifications, explanations, and further things to think through.

10.2.1 Ethical Considerations

In Chapter One I wrote that humans are world makers, but are not Gods. They make worlds with each other and nonhumans. Building a life off-grid is about building a world. A world that is made up of different connections between people, nature, and the self—the assemblage. Therefore, I find it fitting to conclude with a figure that I have not lent on much, Donna Haraway. Haraway's work sought to weave and flow through the complexities of life just as those who re-make their life off-grid. Theorist McKenzie Wark (2016) wrote of Haraway's work concluding "there's no end to the slippery copresence of words and things" (314). How true. From the cyborg (Haraway 1991) to her companion species (Haraway 2003) and kin making (Haraway 2016) she continued to push thought and styles of expression towards a true breaking apart of Cartesianism. Haraway's (2016) latest work, *Staying with the Trouble: Making Kin in the Cthulucene* is instructive as I move toward some concluding thoughts.

Haraway's premise (much as Jane Bennett, Anna Tsing, and Elspeth Probyn's) is that of learning a convivial way of life. She called for a multispecies flourishing that operated at a material semiotic level. Following various case studies such as coral reefs, pigeons, literary works of Le Guin, and others; Haraway sustained a challenge to human exceptionalism. "No species, not even our own arrogant one pretending to be good individuals in so-called modern Western scripts, acts alone; assemblages of organic species and of abiotic actors make history, the evolutionary kind and the other kinds too" (Haraway 2016:100). To assist her in this nonanthropocentric project, Haraway developed a framework replete with creative wordings.

Haraway's thesis was simply that humans and nonhumans are in a constant "becoming-with". In other words, entangled. Once recognized this process changes conception of the human from a bounded individual into a companion species "engaged in the old art of terraforming" (Haraway 2017:11). Terraforming, as I covered in Chapter One is "the building of new paths of

interactivity and connectability, coupled with the formation of new elements or identities… It is the creation of alternatives" (Bryant 2011). Surely Haraway would agree. The Earthshippers I met were engaged in creating alternatives toward a convivial life.

The ethics that emerged with Earthship (and Haraway's) terraforming can be understood in three ways. First is the obvious counter to the Human Exceptionalist Paradigm (see Dunlap and Catton 1979a, 1979b). The second is an urgency of action that is not wetted to hierarchical, centralized, and concentrated social organizations. This directly challenges fatalism that is prevalent in the 21st century, primarily when it comes to global warming. Haraway (2016) asked "How can we think in times of urgencies *without* the self-indulgent and self-fulfilling myths of apocalypse?" (emphasis in original 35). Her answer leads to the third ethical takeaway, what she called "response-ability". "We are all responsible to and for shaping conditions for multispecies flourishing in the face of terrible histories, and sometimes joyful histories too" (Haraway 2016:29). This however, is not equal for all and everyone (as the Anthropocene concept has be roundly criticized as omitting the differences of consequences between high energy and low energy lifestyles). Rather than aiming for a return to the ideological world of human domination and erasing the uneven harm done, Haraway recognized that a world of companion species terraforming would be one of com-post, of expanding our kin (other humans) towards critters (non-humans).

> Critters are at stake in each other in every mixing and turning of the terran compost pile. We are compost, not posthuman; we inhabit the humusities, not the humanities. Philosophically and materially, I am a com-postist, not a posthumanist. Critters—human and not—become-with each other, compose and decompose each other, in every scale and register of time and stuff in sympoietic tangling, in ecological evolutionary developmental earthly worlding and unworlding (Haraway 2016:97).

Haraway is instructive for uncovering a general off-grid ethic. Building a home is a prefigurative political project that interfaces materially to create conviviality. Rather than trying to solve the world's problems, off-gridders are trying to solve their problems and in the process reduce how their behavior contributes to others' problems. Earthshippers focus on doing their best given constraints rather than an extremist and fundamentalist approach. There is similar for Haraway (2016) as she calls for a "partial recuperation and getting on together" (10). At the end of the day, both Haraway's words and Earthship homes are expanding kin, changing response-ability, and finding different ways to becoming-with.

10.3.1 Problematic Implications

I acknowledge that in the preceding pages I make some wide (yet always supported) assertions. Some of these will lead the critical reader to arrive at several problematic implications. While I can only anticipate some of these, I do wish to take the time to address a few. The first is the exclusive focus on caging rather than the benefits that socio-material assemblages provide to humans (and potentially to nonhumans). The second is the stubborn conclusion that these people are not really off-grid. This has two parts, first the basic observation that Earthshippers maintain many of the same relationships that on-grid people have. The second is a more serious concern, that going off-grid is a privilege and beyond that a selfish one and ultimately an immoral one

I paint a pretty negative picture of technology at times, especially in my review of prehistorical periods and early state-formation. To successfully study the off-grid movement required to challenge dominant ideas of modern society. Why would one not want to live the amazing life that can be provided by 21st century (or 20th and 19th century for that matter)

technology? I took this as a serious opportunity to rethink the thoughts I think with (as Haraway would say). Modernity is based off a matrix of presumptions. Centrally, is the presumption of humanity's relationship with nature. Influenced by world religions, humans are to dominant nature in either pure instrumentality or as a parental relation of stewardship. It is this default utilitarianism that is based on viewing objects as "black screens for the purposes of (human) project. Often it's done in the mode of showing people they have even more power over nonhumans" wrote philosopher Timothy Morton (2017:52). The result was a cosmological hierarchy. This hierarchy was connected to the development of human societies based on stratification and subsequent subjectivities. Enrolling of nonhumans into social worlds transformed social relations (as I have argued), but that was not all that happened. In the process civilization is physically produced and with it humans have been able to expand their social powers. All of these were not automatically despotic. Abundance, efficiency, knowledge, and comfort (all of which makes typing this conclusion on my laptop in an air-conditioned room, fueled and lit by cheap electricity, drawing on hundreds of years of knowledge, while living in relative good health possible) has become normal to millions because of the same processes that created the first forced labor conditions.

Circumventors are not luddites. They are not extremists. They do not wish to live as anarchist primitivists (see Zerzan 2005). Rather than a wholescale rejection of civilizational development, they wish to develop differently. Additionally, the politics of circumvention concept does not deem all socio-material assemblages as cages and furthermore, that all cages are inherently despotic. This was not my purpose and I believe that I have made many caveats to attest to this.

With that said, I do find that it has been necessary to argue a point of view that takes a serious stand with the highest quality of critical scholarship that exposes the "myth" or teleological view of development (which is an ideology after all). In this way, the first artificial irrigation structures and the North America electricity grid can be both conscribing and freeing. Tying humans into power relations, while also offering new affects and abilities. There is no contradiction. Given my case study and given my responsibility as a critical sociologist I have dedicated my energy on exploring the development of the former (constraining outcomes). This however does not preclude the latter (enabling outcomes).

More concretely classical sociologists are widely known to have discussed the benefits to humanity through the specialization and division of labor (from Marx's surplus value and Durkheim's organic solidarity). It is well understood that there are limits to self-reliance, principally at both ends of life. What if one is too old to pound tires and build their own Earthship? What happens when they no longer can care for themselves? Before answering this, it is important to acknowledge that elderly on-grid do not necessarily have the care that they need. One should understand that "grid society" has not solved this.[57] For off-grid people their Earthship assemblage is not solely material. They terraform their social relations as well. Nick Rosen (2010) provided a perfect example of what an off-gridder does when they lack the ability to sustain their life. Aging off-grid couples invited young people to build an off-grid home on their property for free. The catch is that the younger people would care for the owners as they got older. In this way a face-to-face social safety net is attempted, rather than having faith in bureaucratic structures on-grid.

[57] It is estimated that by 2025 50% of seniors will face food insecurity (Ziliak and Gunderson 2009).

Beyond this, Earthshippers are not out to create a utopia, from the bottom up or from the top down. They do not have all the answers to all the questions. If they need to or wish to they can move into a normal wood-framed house on grid. As James Scott (2009) found, the hill people of southeast Asia would move in and out of state society. The Amish increased their ties to non-Amish world, even to the point of finance. The majority of 1960s commune members returned to society. There is no reason to think contemporary off-gridders are any different.

The second implication is that these people are not really off-grid. The Earthships is probably the most "mainstream" form of off-grid housing. And with the right amount of money, systems could be "designed up" rather than down to facilitate the high-energy diet of a middle-class American family. Still, most Earthships are not designed to such specifications. No one I met desired to disconnection from all aspect of the civil and economic on-grid world. The word "off" has a connotation of absolute. Like when an electronic device is on *or* off. However, off also means "apart from" and this is a better way to understand Earthship movement. They are building a life apart from many relations, yet not all relations. Nick Rosen concluded the same.

> [P]eople who live off the grid, or aspire to… have conveyed that they appreciate the lifestyle not because they want to live like hermits, but because it represents an alternative community to the consumer-driven state that most Western people now live in. They are not alone; they are simply apart, together with other like-minded folks (Rosen 2010:288-289).

I have labored throughout this project to dispel these notions and to paint over the picture of a recluse with the true colors that an ethnography provided.

The final common criticism is that of privilege and selfishness, ultimately causing harming to other. Paolo Virno provides a good response to this position. "Disobedience and flight [or circumvention] are not in any case a negative gesture that exempts one from actions and responsibility. On the contrary, to desert means to modify the conditions within which the

conflicts is played instead of submitting to them" (Virno 2005:20). Indeed, more and more political theorists are seeing the benefits to a diversity of tactics. From analytical Marxists like Erik Olin Wright to post-Marxists theorists like Negri and Hardt a new trend is emerging calling for a tripartite approach to transformative movements. These are broadly captured under the headings of reformist, antagonist, and autonomous. Hardt and Negri go so far as to claim the exodus is a form of class struggle, whereas Virno seen the creation of autonomous spaces as a transitory moment (Lotringer 2004:9). This latter point is perhaps most clearly seen in the strength that maroon communities had towards the subsequent Haitian revolution. At the least, the politics of circumvention interpreted through the lens of distributive agency (Bennett 2009) uncovered the contradiction of traditional movements whose material resources are derived from the very same assemblages that they have targeted for change.[58]

Beyond such theoretical considerations, empirically off-gridders have articulated a sense of responsibility for others. They have found a way to conduct life in a less harmful and abrasive way within their biological and socially constructed needs/wants. Upon reflecting on my experience in the field and reviewing the interview transcripts, I do not come away with a characterization of cold, impassionate, and uncaring group of individuals, nor a sense of freedom at others expense.

10.4.1 Limitations

[58] Arguably this could be extended as a materialist reading of the processed outlined by Horkheimer and Adorno (1997) in *Dialectics of Enlightenment*. Rather than focusing on the nonmaterial power of culture as an inescapable force, here I suggest that the socio-material assemblages that are the infrastructure of cultural industry should be of equal concern as the final commodity that is consumed. As such there is an overcoming of commodity fetishism as understood by Marx..

This project like all projects has limitations. Some are substantive to the unique case study, while others are concerns for many research projects. The first I comment on below is the lack of characters that are often associated with off-grid movements, the more violent side of off-grid. The second and third are general limitations having to do with the state of the field of off-grid studies and the lack of resources available for this project. While surely there are more limitations, both substantive and general, these seem of broadest and most significant.

The first limitation to cover is the absence of more militant and violent characters of the off-grid movement. As I mentioned in Chapter Six home-grown terrorists like Ted Kaczynski and Timothy McVeigh have played a part in the general story of the contemporary off-grid phenomenon. TV shows like Nation Geographic's *Apocalypse 101* features novice preppers armed with weapons planning for social and natural disasters. This is the general image of the off-gridder. Yet, they are not found in these pages. There are several reasons for their absence.

Principally, I believe they are overrepresented in the media. The exotic and extreme has been important to media, since novels depicting the orient as outlined in work by post-colonial scholars. It is no surprised the "normal" families who build a home off-grid would rarely be among the entertainment diet of Americans. Despite this overrepresentation, the middle-age white working class rural prepper archetype does exist. Some do live in Taos as my respondents reported, but I never crossed paths with them. Here I find a great resonance with Jeffery Jacobs, whose work on homesteaders I discussed in Chapter Five. Jacobs (1997) concluded

> On occasion I have been asked one or another version of the following question: Am I, as a chronicler of back-to-the-country experience, aware of its dark side, the survivalist and Aryan Nation elements?
>
> In my surveys and interviews I did not come across extremists like the survivalist or members of self-styled citizens' militias, who hoard food and weapons in anticipation of the collapse of civil society. Nor did I encounter anything resembling the claims of racial superiority associated with groups like Aryan

> Nation, which often try to establish rural enclaves. As I profile the back-to-the-landers in the pages that follow, I believe it will become evident that they are a generally progressive, well-educated group. Intolerance is not one of their defining characteristics. Consequently, since the survivalist and Aryan Nation movements are preoccupied with issues of conspiracy at the highest levels of government and claims of racial superiority, rather than the pleasures of a simple life in the country, they cannot justifiably be considered part of the back-to-the-land movement They are, then, separate movements with their own distinct agendas (xiii).

I quote Jacobs at length because his words match my experience in the field and subsequent analysis. Having studied nativists movements in prior research and now the Earthship off-grid movement I can say there is little overlap. However, the Earthship structure itself is modular in the sense as used by Tilly (2006) for contemporary repertoires of contention. The Earthships can be used in a host of different contexts, by different people, for different goals. There is little to prevent an Earthship being constructed and used by a white supremacy organization or individual.

Having said all this, where are they? First, Earthships and Taos' culture itself may not attract a large segment of these types. Second, if they do find themselves in one of the four Earthship communities they may be less open about their beliefs and/or keep to themselves. Including them in my sample would be a difficult thing to accomplish. Even though I lack data from the survivalist and prepper, I believe there is no reason that my sample does not accurately represent a large population of the off-grid movement.

A second limitation stems from the understudied state of off-grid movements. As I mentioned in Chapter One there is a dearth of academic studies of off-grid people and their artifacts. With the exception of Vannini and Taggart (2015), Rosen (2010), and Harkness (2009), all of which are in different fields and make no reference to each other's work, I could not find

any social science research.[59] This made scientific understanding of the phenomena difficult as there it was not possibility to build off of case-specific research.

A third limitation stems from the common restriction of resources. As a self-funded research project there were compromises and a self-induced narrowness. While I believe that a sufficient amount of primary empirical data was collected for the present purposes, there is an obvious expanded importance on theoretical development. Given the interim periods between data collection and the lack of other substantive research to consult I was able to expand my theoretical claims, as well as their justifications. I believe this to be of great importance to my overall thought as a future scholar and it has provided solid grounding and nuance to the contemporary off-grid movement as a politics. Nevertheless, there are still basic sociological questions concerning the off-grid movement that were beyond this project's capacities. I turn to some of these now.

10.5.1 Future Research

Beyond the immediate goals of distributing my research in academic and popular venues, I have begun designing a follow-up research project to document the diversity among the off-grid community. With some estimates of 130,000 US households off-grid, little academic work has investigated this phenomenon in a broad way. Far from a single sub-culture of anomic individuals, the off-grid movement has expanded to such an extent that there are several literary and ideological niches like "preppers", "survivalists", "homesteaders", "back- to-the-landers", "Earthships", and "ecovillages". I plan to supplement my theoretically and ethnographical work

[59] Chelsea Schelly's (2017) book *Dwelling in Resistance: Living with Alternative Technologies in America* is an exception. I learned of this book too late to include in this work.

with a second research project to capture the extent, variety, and content of this movement beyond a single case study.

Consisting of two phases, the first will be a content analysis of off-grid literature in magazines and websites. The internet has long since been recognized as a means for mobilization for social movements (see Garrett 2006). However, given off-grid's prefigurative, autonomous focus, and concerned with mobilizing things more than people the role of off-grid literature has proliferated into many niches. Widespread misconceptions are that only the Ted Kaczynski's of the world are interested in living off-grid. A content analysis of the different subgroups' literature will provide a more comprehensive understanding of off-grid people, life, technology, and ideology.

The second phase is a survey of subscribers to off-grid magazines and websites. A similar project was conducted by Jeffrey Jacob's (1997) in his work on the back-to-the-land movement. The survey will include basic demographic and ideological questions common to social science survey research. It will also contain questions that target the materials and material culture of living off-grid. As I develop the protocol, I am planning both phases of the project as cooperative venture by offering undergraduate students methodological experience in basic research.

The goals of this future research are to further establish the off-grid phenomenon as an area of study open to theoretical, methodological, empirical investigation beyond being another subculture. What began as a novelty in the New Mexico mesa, I argue is a form of politics that provides radical insights into ontology and politics. Going forward, questions will concern the extent and variety of this movement.

APPENDICIES

Appendix A:

Philosophical and Sociological Histories of the Human and Nonhuman

My thought begins where many other scholars do, with René Descartes. His work is cited as the beginning of ontologically dividing humans and nonhumans or, in his formation, the mind/body problem. Dreyfus and Taylor (2015) reframe this as the "dualist theory of representation, of knowledge as the inner depiction of outer reality" (10). For them this is a rather recent problem.

> The older, premodern ontologies didn't carve up this way. What we think of as mind and body interpenetrate. For Plato and Aristotle, for instance, the things around us are shaped by Ideas or Forms. Their models were partly living things, and partly artifacts (13).

In *Meditations on First Philosophy*, Descartes argued for the existence of God through his own skeptical methodology. This point aside, his skeptical argumentation questioned that our ideas are connected to our senses. "I once heard, from those who had a leg or arm amputated, that they still seemed to feel pain in the part of their body that was missing" (Descartes 2000:60). This anecdote, combined with several reflections on sensation while dreaming, led Descartes to a separation of the bodily world and the world of the mind.

> I know now that even bodies are not perceived by the senses or the faculty of imagining, but are perceived only by the mind, and that they are not perceived by being touched or seen but only by being understood, and therefore I know clearly that there is nothing that can be perceived by me more easily or more clearly than my own mind" (Descartes 2000:30).

Descartes made other observations of the distinctiveness of the mind and body. "[T]here is a big difference between the mind and the body insofar as the body, by its nature, is always divisible whereas the mind is entirely indivisible" (Descartes 2000:67). The mind is also selective affected by the body, "the mind is not affected immediately by all the parts of the body but only by the

brain, or perhaps, only by one small part of the brain" (Descartes 2000:68). All of this amounts to the mind/body problem or the dualist theory of representation that continues to be debated as realism/constructivism.

Descartes' conclusions and implications were to become a central feature for philosophy and inform basic metaphysical presumptions in the physical and social sciences. For instance, Auguste Comte considered himself to be continuing Descartes' work. Comte wrote of Descartes

> After having instituted a vast mechanical hypothesis upon the fundamental theory of the most simple and universal phenomena, he extended in succession the same philosophical spirit to the different elementary notions relating to the inorganic world ; and finally subordinated to it the study of the chief physical functions of the animal organism. But, when he arrived at the functions of the affections and the intellect, he stopped abruptly, and expressly constituted from them a special study, as an appurtenance of the metaphysico-theological philosophy (1853:458).

It is this metaphysico-theological approach to the mind which was separated from the positivism of the body. Comte felt that the Descartes was limited due to the historical stage of development he lived in, but he was convinced that the basic epistemology of positivism could be applied to the mind and by extension the social world. This was to be Comte's legacy. In the end of *The Positive Philosophy* he wrote "I shall therefore venture to propose the new science of Social Physics, which I have found myself compelled to create, as the necessary complement of the system" (1853:480). This system was the hierarchy of the sciences, which was ranked along increasing complexity and decreasing generality—starting with mathematics, astronomy, physics, chemistry, biology, and concluding with sociology. Importantly, the hierarchy was more porous than is characterized. Although separated from one another the preceding level of the hierarchy informed the following one. He immediately continued "This new science is rooted in biology, as every science is in the one which precedes it" (1853:480). As sociology developed, biology and all "natural" sciences, uprooted from connection to sociology and the dotted lines, as

it were, hardened into walls. The outcomes have been mixed, with obvious benefits such as the repudiation of determinisms like Social Darwinism. However, this also created lingering blind spots that become problematic as human and nonhuman relations change, as is the case of global warming. Additionally, as science develops non-deterministic models and theories the fear of determinism becomes lessened

For the most part, sociology's relationship with the nonhuman has respected Comte's divisions. This has been referred to as the Standard Social Science Model (SSSM), which is similar to the Human Exceptionalist Paradigm (see Chapter Three). This model stated that "Humans evolved like any other animal, but once the brain became sufficiently large to allow for the production and use of culture… the explanation for human behavior and social structures must be understood in non-biological terms" (Turner and Maryanski 2008:1).[60] This is not to reduce the esteemed human will exhibited in regard to social phenomenon to a deterministic unthinking biological process. Rather, only by locating the interplay between ontological differentiated entities and processes is one able to answer certain questions. Below I trace several moments in history of sociology tell a complicated relationship between human and nonhumans.

Early environmental sociologists argued that the discipline has developed a "sociological purity". Dunlap and Catton (1979b) claimed that the origins of this are found in Durkheim's writings, in which he argued "that social facts could only be explained by other social—as opposed to psychological, biological, or physical-facts" (58). This is seen in Durkheim's (1997) argument against geographical, climatic, and other nonhumans as explanatory variables for suicide. Furthermore, in the preface to the second edition to the *Rules of the Sociological*

[60] See Tooby and Cosmides (1992) and Cosmides and Tooby (1992) for original critique of the Standard Social Science Model and the development of the alternative Integrated Causal Model.

Method, Durkheim (1982) stated "we had expressly stated and reiterated in every way possible that social life was made up entirely of representations" (34). Such statements would be interpreted as a strong constructivist, which is held by a minority.

Dunlap and Catton's reading of Durkheim gained traction and to this day sociologists refer to the Durkheimian dictum as "explaining social facts (extra-individual, sociocultural dynamics) through the exclusive invocation of other social facts" (Rice 2013:236). Although, there are dissenting voices of this view, Rosa and Richter (2008) argued that Durkheim's definition of social might have included biology and ecology. Nevertheless, I do not find a comprehensive view of social and natural phenomenon in Durkheim or his followers.

In fact, Gabriel Tarde, his contemporary, found his theories were rejected in favor of Durkheim's. As Latour (2002) noted "Durkheim became the main representant of a scientific discipline of sociology while Tarde had been evacuated in the prestigious but irrelevant position of mere 'precursor'" (2). Deleuze and Guattari (1987) also noted how Tarde "had been quashed by Durkheim" (218). Polemically to Comte and Durkheim, "Tarde conceives of the sciences as existing in parallel to one other rather than organized hierarchically" (Berry and Thrift 2007:511). Tarde may in fact be the "father" of modern transdisciplinarity, although this connection has yet to be made. This approach allowed for a broader ontology, which is seen in Tarde's discussion of the universal processes of repetition, opposition, and adaptation. He argued that these processes were observable in the inorganic, organic, and social. Tarde (1899) surmised "[W]e may believe that all three of these factors work together to effect the expansion of universal variation in its highest, widest, and profoundest individual and personal forms" (99). I take a closer look at these processes in Chapter Three. Importantly, the Cartesian divide gained a foothold as Tarde was dismissed in favor of Durkheim.

In Marx the situation is less clear. Järvikoski (1996) argued "Marx did not want to speak about nature as separate from humans, on the contrary nature interested him mainly as a constituent element of human practice" (76). This seems to be the case. In the *Economic and Philosophical Manuscripts* Marx wrote "That man's physical and spiritual life is linked to nature means simply that nature is linked to itself, for man is a part of nature" (2009:31).

While overlooked, or at least not looked at from the perspective of an object-friendly sociology, Marx's concept of commodities as use-value (among exchange-value and value) is inseparable from the material specificities of the commodity. I.e. the commodity's autonomous qualities, quantities, and property's as they exist in relation to human needs and wants (see Harvey 1999:5).

More pertinently, Knapp and Spector (1997) argued "that Marx believed that there is a material reality which exists outside the total control of willpower and consciousness" (340). This is seen in a popular section of Marx's writing concerns his statements on metabolic rift found at the end of *Capital Volume Three*. Marx saw the increasing concentration of workers in cities and the intensive farming of the countryside leading to a fatal imbalance, as nitrogen in the soil would be depleted. This would constitute a barrier for capital circulation and accumulation, not to mention workers' survival. Marx concluded that this "produces conditions that provoke an irreparable rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself" (Marx 1991:949). James O'Connor (1998) followed Marx in this insight by arguing for a more complicated dialectic than just relations of production and forces of production. He added to this the conditions of production as its own thesis (or anthesis). Thus, there is a tripartite dialectic (or most accurately a trialectic, as developed by Lefebvre) whereby external nature (read nonhuman agency) is active as the conditions of production.

Others, like Fernando Coronil (1997) expanded on a Marxists and World System Theory by incorporating an agentic and external nature in his analysis of global development. A whole branch of Marxism has been active since the late 1990's, where an ecological framework is elaborated from Marx, which recognized an autonomous natural sphere.

Despite this, Marx's historical materialism saw industrialization as a necessary step in order to create the surplus necessary for a socialist society. This has led observers to classify Marx as anthropocentric and essentially in the same category of modernists as the classical political economists, which Marx was arguing against. Eackersley (1992) argued "like Locke, Marx regarded the nonhuman world as no more than the ground of human activity" (25). Rajani Kannepalli Kanth (1997) echoed Eackersley. In *Breaking with the Enlightenment* he wrote

> [W]hile political history has effectively seen to the ideological divarication of the world of Adam Smith from that of Karl Marx, it is highly instructive to understand the shared, modernist, vision of history that linked Marx securely to his 'class-enemies' in the Scottish Enlightenment (90-91).

The level of similarity between Marx and modernists is beyond the scope of this work. What is important to note, however, is that sociologists did not scour Marxist writings in order to create a more ontologically inclusive sociology. That is until the late 1990's and early 2000's (See Burkett 1999; Foster 2000; O'Connor 1998).

Much like Marx, it was not until recently that Weber's ecology was discovered. Foster and Holleman (2012) provided representative quotes of sociologists' reflections on Weber and ecology. For instance: "'the relation between social action and the processes of nature' was something that 'Weber himself did not examine in any detail' (Murphy 1995, p x)"; "'Weber had little to say about the natural environment per se' (Blaut 1993, p. 83)"; and "'Weber's work conducts the most limited engagement with the natural world.' (Benton 1991, p. 12)" (Foster and Holleman (2012:1628). However, the dissenter, Martin Albrow (1990) argued "Weber's

hostility to idealist interpretations of social life was more intense than his rejection of materialism… For Weber *both natural regularities and explicit norms could equally define human relationships*" (emphasis added 257). Albrow continued

> The regulation of human behaviour involved taking possession by self or others of these features which might otherwise be conceived of as simply natural. But it was still a shaping of facticity, the creation of personality from urges, needs and spontaneous reactions. Culture was grounded in, even if not determined by, nature and to take the social out of the realm of natural causality altogether was to confuse the ideal and dogmatic formulations… with empirical reality (257).

Foster and Holleman (2012) provided concrete examples from Weber to support Albrow. They resurrect Weber's comments on energy and society, where he made the distinction between traditional-organic societies (human life guided by natural rhythms) and rational-inorganic (human life as buffered from natural rhythms). Weber considered the latter as the "disenchantment" of the world and resulted in deforestation, among other ecological crises.

More directly, Foster and Holleman showed how Weber's studies of Judaism contained elements that recognized the entanglement of human and nonhuman. When reflecting on why Egyptian culture was not found more in Judaism, Weber "'explained this as mainly due to profound differences in natural environmental conditions' underlying the social orders. 'The Egyptian corvée state, developing out of the necessity of water regulation" (1638). Whereas for Palestine, the rain watered agriculture and husbandry led to less fixed infrastructure and more of a nomadic life. In the dissertation I draw out this point, as I follow Michael Mann's discussion of networks of power and social cages and Wittfogel's thesis. Crucial at this point is that Weber sought to "ascertain 'which specific concrete elements in the particular cultural phenomena are determined by climate or similar geographical factors… and vice versa'" (Foster and Holleman 2012:1634). Despite this openness to non-social facts sociology took little notice in it march toward officialdom within the academy.

This brief consideration of the beginning of sociology is necessary in order to contextualize the ontological issues that continue to impact social science. I find that Descartes mind/body dualism informed Comte, who sought nothing less than the whole creation of a new field, sociology, in order to complete his hierarchy of the sciences. This field was to have the same epistemology as all other sciences. Nonetheless it was to be distinct. This distinctness however was not meant to exclude other sciences. Among classical sociology, I find a mixed bag. Some were open to nonhuman impacts on the social world, but selectively read. Others proclaimed it too loud and were neglected. This anthropocentric canon remained relatively stable until it became more difficult to ignore nonhumans. This is particularly the case in environmental concerns and movements. This short intellectual history ends where Chapter Three begins. In constructing an Object-Friendly Sociology the role of objects in the discipline of sociology is necessary and this appendix endeavors toward that end.

Appendix B:

Permission to Republish Materials

COLLEGE OF LIBERAL ARTS AND SCIENCES

UIC

RYAN ALAN SPORER
University of Illinois at Chicago Department of Sociology
Rspore2@uic.edu 1 (773) 312-2242

March 6, 2018

Earthship Biotecture

I am writing to request permission to reprint material from the following publications: Reynolds, Michael. 1990. *Earthship Volume 1*. Solar Survival Press, Reynolds, Michael 1993. *Earthship Volume 2*. Solar Survival Press, Reynolds, Michael. 2005. *Water From the Sky*. Solar Survival Press in my dissertation thesis.

This material will appear as originally published. On the following pages are the materials I am requesting permission to reprint. Unless you request otherwise, I will use the conventional style of the Graduate College of the University of Illinois at acknowledgement.

Thank you for your consideration of this request. Please contact me if there are any questions.

If this request is approved please sign and date below.

Sincerely,

Ryan Alan Sporer, PhD Candidate
Department of Sociology
University of Illinois at Chicago

The above request is approved.

Approved by Heidi Lahn Date 3/7/18

Department of Sociology
University of Illinois at Chicago
1007 W. Harrison St. (MC 312)

Phone (312) 996-3005
Fax (312) 996-5104
Web soc.uic.edu

COLLEGE OF LIBERAL ARTS AND SCIENCES

UIC

RYAN ALAN SPORER
University of Illinois at Chicago Department of Sociology
Rspore2@uic.edu 1 (773) 312-2242

March 13, 2018

Jacobin Magazine

I am writing to request permission to reprint material from "How to Be an Anticapitalist Today" by Erik Olin Wright 12.02.2015 in my dissertation thesis. Specifically, the table "FOUR STRATEGIC LOGICS OF ANTI-CAPITALISM".

This material will appear as originally published. On the following page is the material I am requesting permission to reprint. Unless you request otherwise, I will use the conventional style of the Graduate College of the University of Illinois as acknowledgement.

Thank you for your consideration of this request. Please contact me if there are any questions.

If this request is approved please sign and date below.

Sincerely,

Ryan Alan Sporer, PhD Candidate
Department of Sociology
University of Illinois at Chicago

The above request is approved.

Approved by _____ Date 3/15/2018
(BHASKAR SUNKARA)

Department of Sociology
University of Illinois at Chicago
1007 W. Harrison St. (MC 312)
Chicago, IL 60607-7140

Phone (312) 996-3005
Fax (312) 996-5104
Web soc.uic.edu

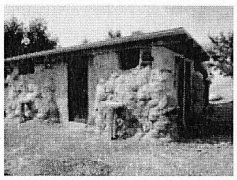
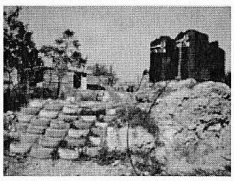
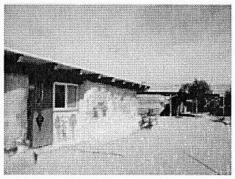
AC

Andy Clarno <aclarno@uic.edu>

Tue 7/26/2016, 8:41 AM

Sporer, Ryan Alan

Reply all

B'Tselem - Acting the ... 3 MB

Bimkom - Prohibited... 5 MB

OCHA - Displacemen... 3 MB

6 attachments (12 MB) Download all Save all to OneDrive - University of Illinois at Chicago

Hi Ryan -

I'm attaching the photos again. They should come through properly this time. Yes, I took the photos and you have my permission to use them in your work. Scarcity of building materials is not an issue in the West Bank - building materials are available but the Israeli military issues military orders determining where Palestinians can and cannot build. I'm attaching three reports that document Israeli planning policies in Area C - where these Bedouin villages are located. Let me know if you need anything else.

Andy

Re: Using photos

[redacted]

Mon 3/20/2017 12:33 PM

Dissertation Proposal

To:Sporer, Ryan Alan <rspore2@uic.edu>;

1 attachments (4 MB)

20170319_140523.jpg;

As the owner and photographer who took this photo, and also being the owner of the property shown as subject in the photo, I
hereby grant Ryan Sporer the right to use this photo in his dissertation.

How was that?

I was reading through your blog about your research and it occurred to me you might be interested in a new community currently
being planned up here in Ontario, Canada. It would fall under the "intentional community" sort.

[redacted] the name of the guy spearheading the new community and if you want to read about it, here is a link to the basic
outline: http://www.talkingtreescommunities.com/off-grid-community

There are also links on his website if you want to call or email him.

Things here are going well. Spring is in the air and the snow is starting to melt. What's not to like? Our building projects
should resume once the snow disappears and we can get back outside.

I hope everything goes well with your research and dissertation.

[redacted]

On 2017/03/20 13:21, Sporer, Ryan Alan wrote:
[redacted]hanks for the quick reply. All is going well with me. One day I
> might actually be finished with school. I am working on my last
> substantive chapter. Right now I am writing on overcoming specialization

> and the acquiring of skills [redacted] story is a great example of
> this process. Right now I am only planning on using the picture under "And
> we have a shot of our humble abode, complete with overflowing compost pile
> in the foreground."
>
> Here is the link:
> [redacted]
>
> I want to show the multiple kinds of construction techniques you are
> learning to use.
>
> A better resolution would be great. Also, when you send it, can you just
> write something simple about allowing me to use it in my dissertation? If
> I use it in any other things in the future I'll ask again for permission.
>
> Thanks again and I hope all is going well!
> Ryan
>
>
>
> On Mon, March 20, 2017 12:09 pm [redacted] wrote:
>> Hi Ryan,
>> I hope all is well with you? I got your message on my blog about using
>> images and I have no problems with you doing so. The
>> vast majority of photos are ones I took myself, but there are a few that I
>> didn't so you may want to let me know which ones you
>> need just so I can verify that they are from my own collection. Also, if
>> you need versions with higher resolutions that what is
>> available from the blog let me know as I have all of the originals.
>>
> [redacted]
>>
>>
>
>

Appendix C:

IRB Approval Documents

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice
Initial Review (Response To Modifications)

July 28, 2014

Ryan Sporer, BA, MA
Sociology
1007 W Harrison St., M/C 312
Chicago, IL 60607
Phone: (773) 312-2242 / Fax: (312) 996-5104

RE: Protocol # 2014-0514
"Politics and Technology of Eco-Housing: The Case of Earthships"

Dear Mr. Sporer:

Your Initial Review (Response To Modifications) was reviewed and approved by Members of IRB #2 by the Expedited review process on July 2, 2014. You may now begin your research

Please note the following information about your approved research protocol:

Protocol Approval Period: July 2, 2014 - July 2, 2015
Approved Subject Enrollment #: 70
Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.
Performance Sites: UIC
Sponsor: None
Research Protocol(s):

a) Politics and Technology of Eco-Housing: The Case of Earthships; Version 1; 05/28/2014

Informed Consent(s):

a) Information Script; Version 2.0 – 6/23/14
b) Politics and Technology of Eco-Housing; Version 2; [6/23/14]
c) Waiver of Informed Consent granted under 45 CFR 46.116(d) for the Snowball

Recruitment

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
05/28/2014	Initial Review	Expedited	06/02/2014	Modifications Required
06/24/2014	Response To Modifications	Expedited	07/02/2014	Approved

Please remember to:

→ Use your **research protocol number** (2014-0514) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"**UIC Investigator Responsibilities, Protection of Human Research Subjects**"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 355-2939. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Jewell Hamilton, MSW
IRB Coordinator, IRB # 2
Office for the Protection of Research Subjects

Enclosure(s):

1. **UIC Investigator Responsibilities, Protection of Human Research Subjects**
2. **Informed Consent Document(s):**

a) Information Script; Version 2.0 - 6/23/14
b) Politics and Technology of Eco-Housing; Version 2; [6/23/14]

cc: Barbara J. Risman, Sociology, M/C 312
William T. Bielby, Faculty Sponsor, Sociology, M/C 312

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice
Continuing Review

Approval Notice
Continuing Review

May 10, 2018

Ryan Sporer, BA, MA
Sociology
Phone: (773) 312-2242 / Fax: (312) 996-5104

RE: Protocol # 2014-0514
"Politics and Technology of Eco-Housing: The Case of Earthships"

Dear Mr. Sporer:

Effective April 16, 2018, OPRS has implemented a new Continuing Review policy that allows an extended approval period of three (3) years for research meeting specific criteria. The IRB has determined that this protocol is eligible for the extended approval period. Please refer to the OPRS policy for additional information: http://research.uic.edu/node/735

Please discontinue submitting outdated IRB-stamped documents as part of the subsequently submitted Continuing Review packets as they are not required and unnecessary.

Please note that the research training for your Faculty Advisor, ***Dr. William Bielby*** **will** expire on **11/1/2018** and he must complete a minimum of two hours of continuing education prior to the expiration date in order to continue to participate in the conduct of the research. You may refer him to the OPRS website, where continuing education offerings are available: **http://research.uic.edu/compliance/irb/education-training**

Your Continuing Review was reviewed and approved by the Expedited review process on May 10, 2018. You may now continue your research.

Please note the following information about your approved research protocol:

Protocol Approval Period: June 1, 2018 - May 31, 2021

Approved Subject Enrollment #: 70 (Limited to data analysis from 54 enrolled subjects).
Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.
Performance Sites: UIC, Earthship Biotecture
Sponsor: None
Research Protocol(s):

a) Politics and Technology of Eco-Housing: The Case of Earthships; Version 3, 02/06/2015

Recruitment Material(s): N/A – Limited to data analysis only.
Informed Consent(s): N/A – Limited to data analysis only.

Your research continues to meet the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
05/07/2018	Continuing Review	Expedited	05/10/2018	Approved

Please remember to:

→ Use your **research protocol number** (2014-0514) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"UIC Investigator Responsibilities, Protection of Human Research Subjects"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 355-2939. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Jewell Hamilton, MSW
IRB Coordinator, IRB # 2
Office for the Protection of Research Subjects

Enclosure(s): None

cc: Maria Krysan, Sociology, M/C 312
William T. Bielby, Faculty Advisor, Sociology, M/C 312

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EDUCATION

2018	PhD Sociology, University of Illinois at Chicago Comprehensive Examinations: Political Sociology and Social Movements
Dissertation Title	The Politics of Circumvention: The Off-Grid Eco-Housing Movement of Earthships
Co-Chairs	Dr. Paul-Brian McInerney and Dr. William T. Bielby
2012	MA Sociology, University of Illinois at Chicago Concentration-Work, Organization, Economy Thesis Title: Nativist Sentiment Pools: Conditions and Outcomes of an Amorphous Social Movement.
2007	BA Sociology, Purdue University of Calumet

RESEARCH AREAS

Environmental Sociology.
Social Movements and Political Sociology
Science, Technology and Society

ACADEMIC POSITIONS

2018-current	Visiting Assistant Professor, Salisbury University
2018	Instructor, Northeastern Illinois University
2017	Instructor, Elmhurst College.
2012-2018	Instructor, University of Illinois at Chicago.
2015	Graduate Research Assistant. National Opinion Research Center (NORC) at University of Chicago.
2010	Researcher, University of Illinois at Chicago
2007	Supplemental Instructor- Sociology 100. Purdue University Calumet.

COURSES TAUGHT AND ASSISTED

Introduction to Sociology, Social Problems, Political Sociology, Sociology of Work, Sociology of Asian Americans and Asian Society, Sociology Senior Research practicum, Black Social Movements, Social Theory.

AWARDS AND GRANTS

2016 Conference Paper Award for the Theory, Culture, and Language Section University of Wisconsin-Milwaukee ASU Anthropology Colloquium.

2016 Cologne Summer School of Interdisciplinary Anthropology "The Phenomenality of Material Things: Praxis – Genesis – Cognition". Travel and Lodging grant- 950 €.

2010 David P. Street Memorial Award for Engaged Sociology 2009-2010. University of Illinois at Chicago Department of Sociology.

2007 Undergraduate Research Grant. Purdue University Calumet- $2,800.

PUBLICATIONS

Sporer, Ryan and Kevin Suemnicht. (Forthcoming Early 2019). "The Prefigurative Politics of Going Off-Grid: Anarchist Political Ecology and Socio-Material Infrastructures". In Springer, Simon (Ed.), *Violence in the Age of Anthropocentrism*. PM Press.

PRESENTATIONS (selected)

2018

"Towards a Sociological Noumenon, or an Object-Friendly Sociology." Why Do Animal Studies?: The Turn to the Quasi-, Post-, Anti-, Non-, Para-. University of Chicago and Northwestern University. April 26-27, 2018.

2017

"An Archeology of Circumvention as Politics." Americans Humanists Sociologists Annual Meeting 2017. Havana, Cuba Dec 1-5, 2017.

"The Global Off-Grid Movement: Finding the Ability to Connect and Disconnect in an Increasingly Globalized World." Midwest Sociological Society. Interpretations and Cultures of Sustainability April 2, 2017.

"Seeing the Grid and Producing Knowledge to Go Off-Grid: The Non-Specialist's Movement to Build Assemblages for Autonomy." University of Illinois Urbana Champaign. Interdisciplinary Encounters: Exploring Knowledge-Making Across Boundaries. March 10-11, 2017.

2016

"Politics of Circumvention: The Off-Grid Housing Movement." University of Cologne, Germany. Interdisciplinary Anthropology: The Phenomenality of Material Things: Genesis. September 21, 2016.

"Building and Living Off-Grid: The Creation of Human and Non-Human Assemblages as a Politics of Circumvention." University of Chicago Social Theory Workshop. April 7, 2016.

"The Material Flows and Social Conventions of Off-Grid Building and Dwelling." Second City Anthropology Conference: March 5, 2016.

2015

"Leaving Dystopian Grids: A Social Movement to Build and Dwell in Off-Grid and Sustainable Eco-Housing." 5th Annual International Studies Conference. DePaul University May 8, 2015.

"Building, Dwelling, and the Politics of Circumvention: Sustainable and Off-Grid Housing." 17th Annual Chicago Ethnography Conference. Loyola University Chicago. March 14, 2015.

2014-2006

"Constructing a Social Movement through Building Buildings." 4th Annual Public Sociology Conference. George Mason University. October 18, 2014.

"Nativist Sentiment and Nativist Social Movements." 15th Annual Chicago Ethnography Conference. University of Chicago, March 2, 2013.

"Women Inside the Far-Right: The Common Thread of Progressive Form and Conservative Content." Gender and Women's Study Graduate Student Brown Bag. University of Illinois at Chicago, October 25, 2012.

"Nativism in New Immigrant Destinations: A New Social Movement Form?"
75th Annual Meeting of the Midwest Sociological Society. Minneapolis, Minnesota. March 29, 2012.

"A Nation of Immigrants: Innumeracy and Distortion Surrounding Estimation of Hispanic/Latino Group Size." Springfield, Jonathan and Ryan Sporer. Annual Meeting of the American Association of Public Opinion Researchers. Phoenix Arizona. May. 2011.

"Black and Brown: Idealist Discourses and the Materialist Challenge." 103rd Annual Meeting of the American Sociological Association. Round table. August 1, 2008.

"Argentina's Recovered Factories: Economic Alternatives." Galvin, Aracely and Ryan Sporer. Second Place. Undergraduate Student Research Competition. Purdue University Calumet. Spring 2007.

"Argentina's Recovered Factories: Economic Alternatives." Galvin, Aracely and Ryan Sporer Undergraduate Student Research Poster Session. Purdue University Calumet. Spring 2007.

"Independent Survey of Rohm and Hass Employees Regarding Mandatory Overtime Notification." Lansing Facility 2006.

PROFESSIONAL SERVICE

2018	Section Head Editor/Reviewer: Interdisciplinary Undergraduate Research Journal UIC.
2018	Chancellor's Committee on Sustainability and Energy (CCSE) UIC.

2017 Reviewer: Routledge-Taylor and Francis.
2016 Conference Organizer. "Paths to the Future: Reflecting on Agency in an Age of Uncertainty." International Studies Programs at DePaul & University of Illinois at Chicago**.** DePaul University.
2013 Conference Organizer. "15th Annual Chicago Ethnography Conference: Cultures and Subcultures." University of Chicago.

PROFESSIONAL TRAINING

2015 Critical Inquiry's Special Seminar on Non-human Theories at the University of Chicago. Taught by Dr. Katherine Hayles.

PROFESSIONAL AFFILIATIONS

2016-2017 St. Leonard's Ministries, Michael Barlow Center. Literacy Tutoring.
2012-present Member, Midwest Sociological Association.
2011-2014, 2017 Member, Association of Humanist Sociologist.
2010-present Member, Graduate Employment Organization.
2010-2011 Department Union Steward, Graduate Employment Organization.
2008-present Member, American Sociological Association.
2004-2007 Member, Social Justice Club, Purdue University Calumet.