

LIFESTYLES OF THE DOWN AND PROSPEROUS: NATURE/CULTURE,
COUNTERCULTURE, AND THE CULTURE OF SUSTAINABILITY

By

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Dedicated to the coyotes and the faeries,
to the dragons and dryads and pixies,
to the street mongrels I have met,
to the feral dogs and stray cats,
who hide within the shadows of
and sneak between the pillars of the city,
who roam and rule the edge of the city,
and who run free in the fields and forests outside the city,
where the fearful humans dare not go.

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Abstract of Dissertation Presented to the Graduate School
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By

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The study explores the role played by nature/culture dualism in the participation, construction, and progression of back-to-the-land communities in the lower Puna district of the Big Island of Hawaii. Current academic theorizing maligns nature/culture dualism as a Western construct implicated in historic and ongoing patterns of environmental degradation; this study takes a less essentialized view of the dichotomy. The extent to which nature/culture dualism is manifest in the beliefs and practices of back-to-the-land practitioners suggests that it may be a useful construct for inspiring, organizing and guiding pro-environmental activity in the grassroots private sphere. It may also prove to be a useful heuristic for estimating the overall environmental impact of an object or practice. However, this same dualism can also lead to conceptual errors that ultimately undermine its effectiveness as a tool for the successful construction of sustainable communities.

Research was focused on communities which utilize permaculture tropes and principles as part of the intentional pursuit of an environmentally low-impact lifestyle. Surveys and interviews show that permaculture participants in lower Puna tend to differ

from the majority culture in the extent to which they emphasize egalitarian worldviews and the extent to which they experience and value mystical sensations associated with the natural environment. These traits underly a basic tendency to venerate and sacralize objects, practices, and symbols associated with the natural world while rejecting and vilifying objects, practices, and symbols associated with the modern techno-industrial world.

As a result, permaculture communities in Puna become a locus of secular pilgrimage for ritualized countercultural nature-based liminal experiences. Difficulties with fulfilling the utopian aspects that become associated with low-impact living in Puna tends to redirect community emphasis towards engendering the liminal nature-based experience itself. This emphasis is maintained and strengthened by an ongoing articulation with existing capitalist techno-industrial markets, which ultimately undermines the effectiveness of efforts towards decreasing lifestyle-based environmental impacts. However, the alternative social networks and associated cultural production processes which grow in strength as a result of this ongoing articulation are shown to have political and market ramifications which may ultimately engender environmentally-beneficient changes in the majority culture.

CHAPTER 1 INTRODUCTION PART ONE

Introducing the Question

Nature Girls and the Nature/Culture Paradox

Ellie Harris loves climbing trees. She's from England, went to college at Oxford, and obtained two Master's degrees—one from Stanford and one from Berkeley—before ditching her Berkeley doctoral dissertation for a back-to-the-land lifestyle in the rainforests of Hawai'i¹. A hardcore raw vegan, she drinks concoctions of ginger and aloe each morning mixed with bananas and coconut cream. “Organic is good, local is better, and raw is essential”—that's her credo. She drinks the neighbor's home-made cherry wine, but refuses beer from the local grocery store. She puts honey on her staphe infections and turns down my antibiotic ointment. She likes drum circles, but not rock concerts. She likes weeding but hates the mower. She also avoids commercial soaps and shampoos; instead, every few days when the jungle dirt becomes too much, Ellie stands naked under the spout of the water catchment and scrubs her hair and body with the fermented fruit of the noni tree.

Ellie and a handful of others lived for awhile on a piece of property belonging to a middle-aged woman named Ana. Ana bought her property years ago when land was still cheap in Hawai'i, and she is now dedicated to low-impact living. Ana is originally from California and has a PhD. in biology. Cheerful, fit, and attractive, she maintains a constant local cadre of admirers. She no longer owns a car. She poops in a pit and

¹ From here on out, the Big Island of Hawaii will be referred to as Hawai'i, which is the designated official name of the island. The island of Hawai'i comprises one of the five counties of the state of Hawaii (the other four counties are Oahu, Kauai, Maui, and Molokai—each of which is also the name of the main island of that county).

covers it with soil and compost. Once a month, the pit gets buried and a new one is dug nearby. In a few months, the buried pit will become the home of a nut or fruit sapling. Ana has been doing this for years and now gets nearly all of her food from the trees, vines, and vegetables she tends on her property. The detailed list she gives me of the 100-plus food items she grows or gathers on a regular basis shows coconut, eggs, breadfruit, avocado, banana, and papaya to be her top six food sources.

Ana's property borders a native forest reserve, and on a regular basis she heads into the reserve to extract and kill invasive species that have become intermixed with the indigenous plants and trees. Pigs and mongoose—non-native to the island, as she points out—are forever wandering out of the forest into her backyard cornucopia, where they become fertilizer for her for food crops. She used to bury them when they died, but not anymore; she says it is unnecessary effort compared to just leaving them in the open where they've fallen and letting nature do the work. When I ask how the animals die, Ana just smiles and says, "I facilitate that process."

For all practical purposes, Ellie and Ana are model “nature girls” whose back-to-the-land lifestyles might be an inspiration for many in an era increasingly concerned with fashioning a “culture of sustainability”. They were two of a handful of individuals who served as key informants at my dissertation research sites in the lower Puna District of Hawai’i. My initial dissertation plan was to use quantitative environmental accounting techniques to measure the total sustainability of their lifestyles; I was betting that Ellie and Ana's environmental performance—in terms of life-cycle carbon emissions per month and eMergy efficiency ratios—would dwarf similar measurements of locals in nearby neighborhoods who lived more recognizable lives of car payments, air

conditioning, and 9 to 5 jobs with medical coverage. In the end, the sheer amount of data needed for a comprehensive quantitative comparison of lifestyle sustainability proved far beyond the scope of the dissertation; indeed, the lack of any example of such an effort in the academic literature to date suggests that such a meticulously difficult measurement, despite its obvious empirical value, has yet to be performed.

What I am left trying to understand is how and why Ellie and Ana's worldviews might be different than those local 9 to 5'ers in the nearby neighborhoods. Ellie and Ana sure seem connected, concerned, and integrated with nature—in ways that symbolize the ideals of “sustainable living” and “harmony with nature” that are emerging in local, regional, national, and transnational contexts around the world. Indeed, the two and others like them are highly admired by the throngs of young adults who arrive from the mainland each year to experience “natural” living for a few months at the various permaculture farms in the area. But what emerges as most interesting to me is that Ellie and Ana seem to have achieved these ideals in a way that contradicts the academic message being pushed these days by many spiritual ecologists and environmental ethicists—for they have done so by accentuating the profundity of the nature/culture dichotomy.

Current academic theorizing in Western thought seeks ways to frame a universal discourse of the environment. The current trend denounces dualism and seeks a coherent non-dual approach that supposedly resembles non-Western thought by breaking down notions of nature/culture duality. But Ellie and Ana haven't transcended or erased the nature-culture distinction—they've accentuated it, and made a run towards the “natural” end of things. They have constructed “nature” as something which

stands in desirable contrast to various things associated with techno-industrial “culture”. And in turning away from “culture” and running towards “nature”, they have ended up living lives that symbolize the evasive environmental ideals of nature-culture harmony.

Without collecting tremendous amounts of detailed data, it proves difficult to determine just how sustainable Ellie and Ana are being. Indeed, debates continue to rage within the scientific numbers-crunching community about the validity of various studies which make quantitative claims regarding the contributions made by bio-diesel engines, solar panel arrays, organic agriculture, or water-saver shower heads to overall environmental sustainability. Regarding the relative environmental sustainability of any particular individual, based upon some cumulative quantitative sum of the many choices they make as part of their particular lifestyle, not a single scientist or database in the world has such information readily available—and neither do Ellie and Ana. Instead, as part of their process of making choices intended to bring them as close as possible to their environmental ideals, Ellie and Ana are constantly forced to make "judgments under uncertainty". This is where nature/culture dichotomization comes into play. Simple heuristic devices—such as categorization principles based on nature/culture dichotomization—aid them in their judgments. These heuristic devices help them to create the biases which allow them to differentially evaluate various objects and actions available to them and which subsequently steer their lifestyle choices.

So, is Nature/Culture Good to Think? De-essentializing Postmodernism’s Outcast Dyad

How do people assess the probability of an uncertain event or the value of an uncertain quantity? . . . People rely on a limited number of heuristic principles which reduce the complex tasks of assessing probabilities and predicting values to simpler judgmental operations. In general, these heuristics are quite useful, but sometimes they lead to severe and systematic errors. (Tversky and Kahneman, 1982, pg. 3)

So, what role does nature/culture dualism actually play in the Western pursuit² of environmental sustainability? The growing concern over increased rates of environmental change has been accompanied by social critiques and academic prescriptions that have the intent of altering personal and cultural worldviews as a means of engendering environmentally sustainable decision-making processes. A popular academic trend along these lines critiques Western forms of nature/culture dualism as a root cause of environmental problems. Use of the dichotomy is variously considered to be either particularly Western (Glacken, 1967; Horigan, 1988; Latour, 1993; Oelschlaeger, 1993; Shiva, 1994) or at least particularly pronounced in Western culture (Croll and Parkin, 1992; Descola and Palsson, 1996; Ellen and Fukui, 1996; Selin, 2003) and is attributed a central role in the emergence and persistence of various social and environmental problems due variously to its role in Western environmental conquest (Grove, 1995; Nash, 1967; Spence, 1999), its use to justify simultaneously unparallel power relationships between genders and between species (Ortner, 1974; Merchant, 1980; MacCormack and Strathern, 1980; Haraway, 1989; Ruether, 1995; Latour 2004) and its basic misrepresentation of human-ecological relationships (White, 1967; Winterhalder, 1994; Balee, 2006). Recent contributions to this line of inquiry offer suggestions for overcoming nature/culture dualism as part a prescribed solution to such problems (Haraway, 1991; Cronon, 1995; Escobar, 1999; Ingold, 2000; Plumwood, 2002; Descola, 2006; Proctor, 2009). The trend includes prescriptive approaches which

² I have footnoted the word "pursuit" to highlight the distinction I am making here between some actual empirically measurable significantly low-impact lifestyle and the intentional pursuit of this ideal.

offer ways to transcend Western nature/culture dualism as part of a path towards environmental amelioration (e.g., Cronon, 1995; Descola, 2006).

But the ultimate value of these critiques and prescriptions is encumbered by a number of problems. One problem is that empirical research supporting nature/culture critiques and prescriptions focuses mainly on the socio-political dramas surrounding the conception and implementation of past and present scientific and environmental policies (Nash, 1967; Latour, 1988; Brosius, 1999; Spence, 1999; Peder, 2001). These studies essentialize Western nature/culture dualism as environmentally destructive without considering the role the dichotomy might be playing within the Western private sphere, specifically in regards to individual consumption habits. This is important when considering that private consumption is the endpoint of the production processes that account for the majority of resource exploitation and subsequent environmental impact (Francis, 2004; Carlsson-Kanyama et al., 2005; Peters and Hertwich, 2006) and is increasingly viewed as the locus of control through which modern capitalism steers overall economic processes (e.g., Baudrillard, 1998), as opposed to the traditional Marxist focus on the control of the production processes themselves.

Studies which do consider the consumption factor tend to focus on non-Western cultures which have traditionally been associated with low-impact lifestyles; they note within these cultures the relative reduction or lack of nature-culture dualism (e.g., Strathern, 1980; Arhem, 1996; Balee, 2003). An easily resulting assumption, popular in current theorizing (e.g., Devall and Sessions, 1985; Shiva, 1992, 1994; Bender, 2003), is that a Western move toward reduced environmental impact might require or benefit from a reduction or transcendence of nature/culture dualism.

Contrary to this assumption, this dissertation suggests that those Western individuals most actively pursuing environmentally low-impact lifestyles rely heavily on nature/culture dichotomization when categorizing, moralizing, and otherwise assessing the value of various objects, institutions, and practices. In this case, nature/culture, as a cognitive model, morally guides and pragmatically informs individuals' lifestyle choices in ways that is expressly meant to reduce the contributions of individual consumption patterns to overall environmental impact.

In other words, while the logic of currently popular nature/culture critique suggests that transcending nature/culture dualism may be a step towards reducing environmental impact, studies of Westerners who intentionally pursue environmentally low-impact lifestyles suggest that nature/culture dualism may be a key conceptual metaphor guiding their pro-environmental behavior (Gould, 1997, 2005; Jacob, 1997). In these cases, "nature" acquires a morally benevolent, sacred status in contrast to malevolent, profane elements of mainstream "culture" (Albanese, 1991; Taylor, 2001a, 2001b). Since the extent of Western "cultural" technologies seems play a primary role in the relative ability of individuals to harness and degrade energy resources (Odum, 2007), the ranking of objects and practices along a nature/culture continuum may be "good to think" (Levi-Strauss, 1963) from an environmental perspective.

Put another way, in the terms used by modern behavioral economists, nature/culture categorizing may be effective as a "fast and frugal" heuristic tool (Gigerenzer et al., 1999; Goldstein and Gigerenzer, 2004) for both assessing the environmental impact of an object or practice and morally guiding subsequent lifestyle choices in a complex world where the constant computations that would be necessary

for calculating the efficiency of each behavioral choice would ultimately prove far too slow and cumbersome for everyday decision making. Given these bounded conditions of everyday human rationality, cognition, and information accessibility (Simon, 1955; Gigerenzer and Selten, 2002), nature/culture dualism may sometimes be a simple yet effective model for environmental choice management. This deessentialization of nature/culture dualism's environmental influence is plausible given the observations of researchers who note that conceptual metaphors are often reworked and reinterpreted for different purposes (Lakoff and Johnson, 1980; Lakoff, 1987), especially in relation to environmental action and moralizing (Tucker and Grim, 1997; Taylor, 2004).

Yet, as I will show, this same principle of nature/culture dualism can be used to showcase the pitfalls which eventually undermine the ability of back-to-the-land social models such as permaculture, which focus on small-scale community-based production and reduced individual consumption patterns, to become a significant part of a long-term viable solution to modern environmental problems. These pitfalls assume a character somewhat different than those expounded upon by current theorists focused on the effect of nature/culture dualism at the public policy level. I use home-made phrases such as "reverse cargo-cultism" and "the commodification of ecotopia", along with more familiar phrases such as "sacred canopy", "simulacra", and the "spectacle", when showcasing these pitfalls and describing how they result from the same underlying principles of nature/culture dichotomization that guide participation in back-to-the-land movements in the first place.

The pitfalls I will describe reoccurred time and time again in the various permaculture attempts in the Puna district that I have studied, participated in, or

otherwise followed over the last twelve years. To some degree, the significance and full extent of these pitfalls goes unseen by the typical back-to-the-land participant who trades human labor for room and/or board and often stays for only a short (liminal) period of time. Moreover, when spending time "on the scene" around individuals dedicated to the back-to-the-land approach, a researcher does not necessarily get a lot of mileage out of attempts to engage in critical discussions of the events, experiences, and processes associated with these pitfalls. To get critical inside perspectives on such things required tracking down or otherwise bumping into individuals who had been part of the back-to-the-land scene and left the scene but were still hanging out in Puna. Not a lot of individuals fit this profile; to find them, it was necessary to spend a lot of time in Puna outside of its back-to-the-land scene. At the same time, to see Puna's back-to-the-land community patterns unfold over time and reoccur in multiple instances, it was best to be directly engaged in Puna's back-to-the-land scene for a long period of time.

Reflexive Anthropology and the Culture of Sustainability, Or, How I Stopped Worrying About and Learned to Love the Nature/Culture Dichotomy

“So, you’re doing an autobiography.”

That was Sanjay Hayward's response the first time I described to him my dissertation research. This research is my attempt to answer questions regarding (a) the scope, (b) the purpose, and (c) the viability of current first-world efforts to intentionally construct back-to-the-land communities which are environmentally “sustainable”. Specifically: (a) who participates in these efforts?; (b) what motivates participation?; and (c) do the ensuing lifestyle choices result in meaningful differences in environmental “sustainability” compared to typical Western lifestyles?

While my ability to provide a rigorous quantitative response to the final question (c) proved beyond the scope of the dissertation, my attempt to provide answers to the first two questions (a and b) resulted in an analysis of the Western “nature/culture” constructs that seem to inspire, guide, and otherwise structure the various lifestyle choices that comprise such efforts.

Such schemas, I will argue, lead the communities at my field location towards predictable and ultimately unsustainable patterns of human labor relations and human-environmental relations through a process I will describe as "the construction and commodification of ecotopia". The social relations which allow this pattern to occur are dependent, at least in part, on the participation of individuals whose behaviors and value judgements follow a pattern which I describe as "reverse cargo cultism", which itself results from a countercultural approach to nature/culture dualism. This pattern of "reverse cargo cultism" has a meaningful family resemblance to the types of "systematic errors" mentioned by Tversky and Kahneman (1982) in their description of the pitfalls that tend to characterize judgments made as a result of dependence on heuristic devices.

The research upon which this dissertation is based comes from twelve years on-and-off participation in and observation of communal back-to-the-land living experiments in the East Kilauea Rift Zone of the Puna district on the Big Island of Hawaii . Sanjay Hayward, quoted above, had been my yoga teacher as well as a guru of sorts for me during the first five of these years, prior to graduate school, and had witnessed my transition from nature-mystified seeker to academic participant-observer over the last seven. Indeed, I am not just a scholar of back-to-the-land nature

mysticism; I am also a past client. Thus, my personal story is somewhat reversed from the typical “anthropologist-as-seeker” myth, by which Clifford Geertz (1988) referred to Levi-Strauss’s (1955) image in “Tristes Tropiques” of the Western ethnographer-hero who professionally journeys outside the Colony on a personal quest to experience and embody the Other. In many ways, my graduate career ended up being a long and winding process of return and reacclimatization from a journey already made.

In any case, this myth of the "seeker", though a longstanding tradition of anthropological fieldwork, has broken down within contemporary anthropology. The University of Florida’s social science scene in particular exemplifies this change, filled as it is with Peruvians studying Peruvian culture, Mayans focused upon Mayan communities, Brazilians researching Brazilian happenings, and African-Americans explaining the African diaspora. In each case it is hard to dismiss the implicit assumption that these individuals’ backgrounds give them special aptitude as liaisons for their specific arena of study. Given this, what could be more appropriate than a white suburban middle-class back-to-the-land tree-hugging critic of Western culture studying a subculture composed primarily of white suburban middle-class back-to-the-land tree-huggers critical of Western culture?

Nonetheless, that I seemed to be more than just casually affiliated with the same group I intended to study made me and my motives somewhat suspect when I first arrived at the University of Florida as an anthropologist-to-be. Moreover, it gave my study topic an initial air of unprofessionalism—certainly this patchouli-wearing anthropologist, thumbing his nose at what remained of anthropology’s cloak of

objectivity, would weave his way through the ivory tower with yarns of tree-hugger diatribe spun from threads of the latest environmental anthropological discourse.

In truth, those looking for such a diatribe will be disappointed: the tree-hugger has all but died while the roots of the critic remain. The result is a critical stance, but not one directed against the effects of modernity, as so many anthropological critiques tend to be³. Instead, it is a critique of the lived critique of modernity that is practiced by contemporary back-to-the-land nature mystics in the Puna district of Hawai'i. That I am a somewhat disillusioned past client should be a red flag for anyone reading the dissertation in hopes for a feel-good analysis demonstrating how back-to-the-land movements such as permaculture hold the key to humankind's future sustainable relationship with the Earth. Readers making it to the end of ethnography and theory section (chapters 1 through 6) will instead find themselves left with a sober account of how the Empire Strikes Back with a lesson of its own. In short, "the enemy is us"—not our technology, nor any particularly oppressive social arrangement—but instead our own inherent "processes of survival and pleasure"⁴. Only in the last few chapters (7 through 9) do I present some promising examples of how these subcultural enclaves, as liminal spaces, provide breeding grounds and social support networks for individuals whose economic and political actions spur incremental changes within the "system"—a veritable Return of the Jedi faced with the task of protecting ourselves from ourselves.

³ This is pointed out by Levi-Strauss (1955) in "Tristes Tropiques", and more recently in Marcus and Fischer's (1999) "Anthropology as Cultural Critique".

⁴ I have extracted these quotes from the phrase "the enemy is us, not merely by invasion, but by our own processes of survival and pleasure", which itself is a paraphrase by Starr (1998, pg. 23) of Haraway's (1991) work on cyborg theory.

In any case, as I tell a tale of subcultures in which cow meat and even pig meat are often eaten raw, open wounds are nursed with honey, human feces and menstrual discharges are used as fertilizer, fermenting plants are rubbed on the body in ecstasy, and perfectly intelligent people carry forth such behavior amidst an ongoing milieu of staph infections, rat-lungworm disease, leptospirosis, trichinosis, salmonella, and other un-First-Worldly abominations, it becomes apparent that, in some ways and places, the Western countercultural attempt at the alternative ecological society has indeed succeeded, in appearances at least, in becoming something quite Other than its Western roots. In the end, my most intense dissertation field experiences have left me feeling much more awkwardly removed and ontologically disturbed than any Peace Corps experience or successfully awry Third World adventure ever has. This is particularly fascinating when one considers that the nature/culture ideologies which (I will claim) give rise to these societies and their practices are indeed quite urban and Western in origin.

Also interesting is that reactions by students at the University of Florida (and more recently at Hawaii Community College) to my classroom descriptions of my field subjects typically evoke an array of unforgiving comments (“those people seem scary and crazy”; “they’re just lazy and parasitical”; “their children should be taken away by child protective services”) that in the past found their targets in Mexicans, African Americans, homosexuals, and various other designated outcast groups. That American anthropology in particular has, since Boas (1911), historically assigned itself an ongoing moral task of vindicating and validating such Others—demonstrating through eye-witness, fact, and argument that such groups are intelligent human beings, deserving of

rights, and behaving rationally given time, place, and circumstance⁵—is reason enough to declare a niche within anthropology for the study of the Western subcultural Other.

With this traditional task of debunking Western ethnocentricities, American anthropology has developed a countercultural flavor of its own that takes the form of a strongly sympathetic approach towards that which counters Western convention. In its standard format, anthropology critiques Western concepts of race (Boas, 1911), gender (Rosaldo and Lamphere, 1974), nature (Latour, 2004; Descola and Palsson 1996; Ingold 2000), science (Latour and Woolgar, 1979) technology (Shepard, 1998), sex (Mead, 1928; Foucault, 1976), work (Sahlins, 1972; Lee, 1979), economic rationality (Bohannon, 1962; Dalton, 1967; Godelier, 1972), and other cultural forms through an ethnographic portrayal of the exotic lifeways and worldviews of the non-modern Other. In these portrayals, authoritative empirical detail is polished with moving prose that showcases the way of the Other as being not only viable and rational but also as having something which the modern West lacks (time in the case of the work critics; harmony in the case of the nature critics; freedom in the case of the sex critics).

This is moral anthropology, and the effectiveness by which it monkeywrenches conventional Western thought makes it a dependable tool within the ethnographer's bag of tricks. Its unwritten manifesto claims (a) that the strange habits of the Other actually harbor secrets to the fountain of youth, health, social equality, ecological harmony, etc.,

⁵ From Boas (1911, pg. 278): "I hope that the discussions outlined in these pages have shown that the data of anthropology teach us a greater tolerance of forms of civilization different than our own, that we should learn to look on foreign races with greater sympathy and with a conviction that, as all races have contributed in the past to cultural progress in one way or another, so will they be capable of advancing the interests of mankind if we are only willing to give them a fair opportunity"

(b) that all this anthropological adventuring and questing will thus help solve Western social problems and vindicate the Other along the way, and (c) that the route to such glory is the writing of an inspiring ethnography. As the student of anthropology is consistently bombarded with these lessons of the legitimacy, viability, and potential benefits of alternative ways of being, he/she is by consequence increasingly made aware of the hegemonic aspects of Western convention, and thus comes to question the wisdom of dominant Western cultural forms. This in turn helps to train the ethnographer's gaze towards the potential feasibility of alternatives to dominant Western cultural forms, especially in cases where the alternative holds the promise of capturing something lost or lacking in Western culture (as anti-modern and/or revitalization movements typically do). With this history, it is no surprise that most ethnographic texts based on participant observation of Western communitarian, countercultural, and back-to-the-land movements tend to focus upon and uphold their potential progressive value (e.g., Gould, 2005; Lockyer, 2007).

Meanwhile, my personal experience within anthropology of the critique against Western communitarian, countercultural, and back-to-the-land movements is that it is often expressed only in passing scoff, as if to indicate the obvious misguidedness of such efforts (often through authoritative critique of the counterculture's misinterpretation of the Other) and thereby reinforce the frivolity and superfluity of any studious exploration of the subculture that emerges from such sentiments (surely, wouldn't my ethnographic time would be better off spent studying—and doesn't my future academic anthropological career hinge upon the championing of—some subaltern brown man?)

That said I can only hope that the methods, arguments, and premises of this dissertation, if unconventional within an anthropology framework, might be appreciated as contemporary anthropology—and with any luck, even insightful. I am at once a client and a scholar, past member and current critic, of a cultural subset of Western modernity that venerates and emulates the imagined processes of Nature and the subaltern Other as a means of progressing towards some Other, improved way of life. This is a study of the difficulties of managing that transition. I will attempt to balance my personal biases with an approach that neither dismisses such movements as “cultural flotsam”⁶ nor champions them as panacean solutions to contemporary problems. I take this non-partisan approach in hope that my arguments might be considered by both opponents and proponents of such movements, with the risk of finding an audience in neither.

If the deconstructionists have taught us anything, it is that the first thing the savvy reader should want to know is the background of the researcher. Indeed, it is undeniable to me that much of my conviction about the relevance and validity of the theoretical mechanisms I will describe comes from the fact that these theories seem so much, in retrospect, to squarely peg me, my journey, and my eventual disillusionment as typical and predictable given my socio-cultural background. I was a twenty/thirty-something middle-class educated urbanized egalitarian-minded white Westerner with postmaterialist spiritual-religious convictions looking to the harmony-in-Nature experience as the answer to environmental, social, and personal strife. My needs were promised to be met by the offerings of various tropical ecotopian communities, for whom

⁶ This term is used by Albanese (1991) to describe how various members of Western academics and the Western cultural majority view and value such movements.

I found myself more than willing to work like a horse. Yet each time, I found my ability to remain in this space thwarted by financial problems, power conflicts, and a sense of malaise resulting from unfulfilled ideals.

These experiences meant that the dream of nature harmony, for me, never seemed to arrive. Thus the basic question I had when I first entered the UF anthropology graduate department was this: why did the environmental-living experiments that I had been a part of, and in which I had placed so much faith, talk so much about "escaping Babylon" to sustainably "live off the land", yet were so consistently unable to meet this agenda in practice? Given that the community goal of environmental sustainability was never reached (instead, those communities with the most longevity appear to me to become less environmentally sustainable over time), my goal was to look for possible ulterior driving factors that might be responsible for these repeated and ongoing attempts at sustainable back-to-the-land community living that took place, the common and ongoing rhetoric of environmental harmony and sustainability that accompanied them, and the alternative ecotourism economy that seemed so consistently to pop up within and thrive upon this scene without ever necessarily developing any viable solution to Westernkind's basic problem of environmental unsustainability.

Introducing the Arguments by Explaining the Title

Alternate Titles—"Sustainability: Scientific and Utopian", or, "The Trouble with Permaculture"

Angel is driving me crazy. He is a 20-something haole from urban middle-class New Mexico who arrived in Hawai'i with the belief that he wouldn't need much money since it would be easy to grow his own food. Now he's waiting for his parents to wire

him money for a plane flight home. I should have suspected something was amiss from the manner in which he was so graciously and unceremoniously bid farewell by the folks at La'akea Permaculture Community. Angel had been disappointed with La'akea, noting that he had to pay \$360 a month for room and board while working for them 28 hours each week. His next stint at Josanna's Organic Garden had promised him as much food from the land as he could eat, but he wasn't satisfied with the sparse raw diet that the promise entailed—"a lot of things just aren't in season right now"—nor for the workload that came along with growing food in paradise. Now he's looking out the window of my car at a green expanse of ferns and Ohia trees and trying to convince me that a few acres of this land has everything you need to survive, "if only we knew how to use the jungle like the original Hawaiians did." I try to convince him that no traditional Hawaiian in his right mind with a choice would ever try to grow crops on the soilless lava rubble from which Puna's ohia-fern forests sprout, and that as far as anyone knows such areas were only ever used for hunting or the gathering of non-food ornamentals and construction materials⁷. But Angel remains unconvinced. Vacant land here sells for cheap, and he wishes he could convince his parents to lend him the money to buy a small plot of ohia-fern rainforest. Then, he says with conviction, he could start his own permaculture community in which the food would be free to anyone willing to work.

An alternate title for this dissertation could have been "Sustainability: Scientific and Utopian". This would have been a play on the title of the Frederic Engels' (1880)

⁷ One of the scandals of the Hawaiian Homestead Act, which tried to return to Hawaiians some of the land lost to sugar corporations following the Great Mahele, was that Hawaiians were placed on unarable land parcels such as those located in the ohia-fern forest, while the arable portions of Hawai'i continued to be reserved for the sugar cane corporations.

book “Socialism: Scientific and Utopian”. Engels’ book deals with intentional attempts to develop socialist systems that improve upon the problems of uneven labor and resource distribution that result from capitalist modes of production. Engels showed how these attempts ran aground as practitioners charged forward with visions of the alternative system as an emancipating panacea, rather than taking into account the careful timing, planning, and calculation that must occur to successfully implement an alternative system, the likelihood for new and unforeseen obstacles and tradeoffs to emerge from the new system, and the ultimate difficulties and hard work necessary to maintain control, equality, and productivity in any system, alternative or conventional.

Such a title would have been appropriate since this dissertation addresses cultural and cognitive constraints that undermine the drive to create social systems which intend to improve in some way on the dominant system in place. As with historical attempts at socialism, the history of attempts to intentionally construct nonconventional communities that are sustainable, environmentally and/or socially, is for the most part a history of downfalls due in part to the utopian ideals held by those who turn to them.

Utopian imaginations of sustainability—in this case a general desire to “live off the land” by “tapping into the abundance of Nature”—are at the heart of current panacean systems such as permaculture. I will show that such desires have their roots in nature/culture dichotomizing tendencies, and that furthermore, such panacean thinking tends to seed processual errors of the “cargo cult” variety (referring here to those practices of Pacific Island “cargo cult” groups which were undertaken with the intent to procure the abundance of the Western Other). As in Engels’ utopian socialisms, and as documented by Pitzer (1997) in his history of alternative intentional attempts at

community building in the West, panacean imaginations can be easily dashed by stubborn environmental realities. In the case of Puna's permaculture communities, such realities tend over time to dissuade the original drive to develop communities in which resources are procured through human-designed systems of communally shared labor at the same rate as they are renewed by environmental energy sources.

Confronted by such dissuasion but faced with considerable investments already made in time, labor, property purchases, and existential-spiritual identity commitments, these communities can easily slip into a pattern in which resources are increasingly funneled toward the construction and maintenance of ecotopian spectacles⁸ (which I will analyze as postmodern environmental simulacra⁹) under whose sacred canopies¹⁰ of nature spirituality one finds systems of social relations and resource extraction that bear an uncanny resemblance to those same social systems of the majority culture¹¹ that

⁸ I am referring here to Debord's (1967) use of the term "spectacle", in which "all that was once directly lived has become mere representation" (pg. 12). For Debord, the spectacle signifies the "historical moment at which the commodity completes its colonization of social life" (pg. 19).

⁹ I am referring here to Baudrillard's (1981) use of term "simulacra", in particular a "third order" simulacra in which concerns about the faithfulness to which an image (in this case an image of environmental sustainability) simulates something original or actual (in this case some original or actual ecologically sustainable community) has been lost to the interests of reproducing and consuming the image itself.

¹⁰ I am referring here to Berger's (1967) use of the term "sacred canopy", in which social structures appeal to ontological insecurities by constructing ideologies that become accepted on faith as objective truths.

¹¹ I will use the term "majority culture" to indicate those members of given population who, when viewed as a single group, are representative of normative cultural values and practices of that population. The term is meant to be a replacement for more inherently biased terms such as "dominant", "mainstream" or "conventional". The group to which term "majority culture" refers is idealized, liquid in composition, and dependent upon the specific value or practice: while the majority of a population's individuals will

were meant to be escaped, and bear the same basic problems as these original systems (think George Orwell's "Animal Farm"). This is the pattern I have seen repeated in various permaculture attempts in the lower Puna district of Hawai'i over the last twelve years (and have had reiterated to me by various informants and long-time residents), and it is this story that I will attempt to relate through the ethnography. The message here is that same social wheel is simply recreated when history, and science, is ignored. I will attempt to show that sustainability in its utopian form, much like socialism in its utopian form, ultimately misjudges the human problem of the will to power, which prevents the successful implementation of such systems among common persons trying to negotiate better lives for themselves in the world—in short, "the enemy is us . . . by our own processes of survival and pleasure"¹² .

Another possible title for the dissertation might have been "The Trouble with Permaculture." This would have been a play on the title of William Cronon's introductory chapter "The Trouble with Wilderness" in his compilation "Uncommon Ground" (Cronon, 1995). Here, too, similarities abound, foremost being the issue of how nature/culture dichotomization, and subsequently the Western interpretation of what constitutes wilderness, nature, the wild, and the natural, influences environmental decisions. As with governmental forms of environmentality, and so with local

supposedly be represented by this category for any single normative value or practice, the number of individuals in a population subscribing to the entire range of that population's normative values and practices is likely to be much less than the majority.

¹² Starr (1998, pg. 23) paraphrasing Haraway's (1983) work on cyborg theory. Note that survival and pleasure, in this case, can best be interpreted as drives associated with Darwinian-based mechanisms for self-preservation as well as drives associated with a Nietzschean "will to power". Some of these drives will overlap, while others may not and may even be incompatible.

sustainability design systems such as permaculture, the apparent goals of implemented environmental decisions—at regional and national levels in Cronon’s text, and at the personal and household level in this dissertation—can be ultimately undermined by power issues masquerading as environmental discourse.

In Cronon’s text, the preservation of wilderness becomes a moral guise for a class-based control of property that creates and perpetuates an uneven access to resources and marginalizes those with (predominantly) lower and indigenous class statuses who have had previous histories of control and access rights to such resources. In this dissertation, nature and sustainability discourse becomes a moral guise for class-based visions (think “taste” a la Bourdieu 1987) of property development that serve as effective social mechanisms for bohemian status creation and maintenance (e.g., elements of social and cultural capital; Bourdieu, 1972) that serve identity and power needs of an otherwise socially-immobile Western middle class. These mechanisms marginalize and devalue the status of beliefs and practices (“tastes”) of majority culture members (including contemporary individuals identifying with lower and indigenous classes) as “unnatural” and/or “unsustainable”, yet do not themselves necessarily result in meaningful advances in environmental sustainability compared to conventional systems. What occurs instead is the acquisition and buildup of property-based resource capital by the alternative system’s land-owners, who benefit from the free labor of work-trade volunteers contributing time and often money to such systems based on their belief in the environmental, social, and subsequently moral, superiority of such systems over current, conventional systems.

Underlying this belief is a countercultural form of nature/culture dichotomization in which objects and practices deemed “natural” tend to be categorized as good, desirable, healthy, sustainable, at risk, and ultimately, spiritual. Such objects and practices are classified in opposition to a conventional techno-industrial “culture” category in which associated objects and practices tend to be deemed bad/wrong, nondesirable, unhealthy, unsustainable, risky, and ultimately vilified as nonspiritual and profane or even evil. A considerable portion of the ethnography will be spent discussing the origins of such thinking and the repercussions of it as demonstrated on the permaculture scene in the lower Puna district of Hawai’i, especially in regards to patterns of thinking heavily influenced by the religious dimensions of nature/culture dichotomization. I will also spend time demonstrating and discussing the results of surveys meant to empirically assess the extent to which this thinking is prevalent among Puna’s permaculture participants and the extent to which such individuals differ in both belief and socioeconomic background from control groups representing majority culture.

The Actual Title—“Lifestyles of the Down and Prosperous”

The actual title of the dissertation alludes to H.T. Odum’s (2001) book “A Prosperous Way Down”. H.T. Odum was the brother of well-known biology godfather Eugene Odum, and was famed and respected in slightly smaller circles for his role in the development of systems ecology modeling techniques and the associated environmental accounting method known as eMergy analysis¹³ (Odum, 1983; Odum,

¹³ The word “eMergy” is an alternate spelling of the word “emergy”; capitalizing the letter “M” is one recent common spelling technique which allows the word to be easily distinguished from a typographical error of the word “energy”. I will use the spelling “eMergy” throughout this dissertation.

1996). “A Prosperous Way Down” was Dr. Odum’s last book, written shortly before his death. Richly embedded with millenarian discourse, it identified the earth as a homeostatic yet ultimately fragile living system of which humans were a part, and subsequently outlined a method of lifestyle change necessary to escape the coming disaster that would eventually result from the decline of oil. The mix of science and practical morality with which H.T. demonstrated his method of environmental accounting and delivered its consequential message of environmental alarm, infused with hints of nature spirituality, made him a key inspiration for the founding figures of the “permaculture” movement, Bill Mollison and David Holmgren¹⁴.

Roughly 35 years have passed since the publication of the first permaculture text (Mollison and Holmgren, 1978); in that time, “permaculture” has gained increasing momentum as a hot trope among the counterculture’s back-to-the-land movement. Its use implies a practical morality of care towards non-human life—“nature”—that is imbued with spiritual significance. At the heart of this spirituality, as I will attempt to make evident, is a cognitive dichotomization of nature and culture. In hot pursuit of an alternative to the perceived psychological, social, and environmental detriments of Western “culture”, the drive to develop a more “natural” style of living often takes on deeper spiritual and ontological meaning. In this pursuit, a promised land of psychological, social, and environmental “abundance” is deemed achievable through “good works” in which a purposively simplified lifestyle (living “down”), in contrast to

¹⁴ Holmgren dedicated his 2002 book "Permaculture: Principles and Pathways Beyond Sustainability" to H.T. Odum; see Fenderson (2004) for an interview in which Holmgren discusses extensively the influence of H.T. Odum on the development of the permaculture concept.

immoral and unfulfilling patterns of conspicuous consumption, will result in a newfound sense of peace, purpose, happiness, and harmony (“prosperity”) unobtainable by those chasing the dried-up fruits of the conventional Western dream.

It is worth noting that “permaculture” is but one trope among a large and growing ideoscape of terms and ideas used to signify the beliefs and practices associated with a back-to-the-land philosophy and lifestyle; other tropes with highly overlapping beliefs and practices include “homesteading”, “organic farming”, and the “ecovillage” concept. Furthermore, the back-to-the-land approach itself is but one of a number of approaches being taken by first-world individuals and groups out of serious concern for environmental sustainability; “voluntary simplicity”, “radical environmentalism”, “environmental education”, and active involvement in environmental policy might be considered as other approaches which share a concern for environmental sustainability yet do not necessarily include a back-to-the-land lifestyle. Finally, all these tropes, ideas, and practices are utilized and employed by different individuals and groups to different degrees and extremes, including partial use by “majority culture” members leading otherwise ordinary lives.

Of these various tropes, ideas, and practices, “permaculture” was particularly appropriate as a subject of focus for this dissertation. For one, when the topic of discussion turns to committed communitarian forms of back-to-the-land living, the term “permaculture” gets heavy use among the individuals and groups comprising the cultic milieu¹⁵ of the lower Puna district. Second, among the various reasons for engaging in

¹⁵ The term “cultic milieu” was a term originating in the work of sociologist Colin Campbell and reintroduced to the literature by Kaplan and Loowe (2002). It is used as

back-to-the-land lifestyles, use of the term "permaculture" implies a specific focus on concerns of environmental sustainability. Third, focusing specifically on "permaculture" communities provided a method of singling out for study purposes a particular target audience from the cultic milieu of alternative lifestyle communities and individuals that are found in the lower Puna district.

Finally, and perhaps most compelling of all, permaculture's historic affiliation with H.T. Odum's methods and philosophy makes permaculture practitioners a particularly appealing group against which to apply a rudimentary version of H.T. Odum's diagramming methods of environmental sustainability measurement ("eMergy analysis"). In such diagrams, one shows the inputs entering a system from renewable, slow-renewable, and non-renewable sources along with the total amount of renewable, slow-renewable, and non-renewable energy leaving the system. The goal in this case is to diagrammatically demonstrate the permaculture ideal and then compare it to actual patterns of inputs and outputs associated with the typical permaculture project in Puna, in order to show the sustainability problems hidden in the typical phases of progression.

Hopefully the preceding pages have provided the reader with a general synopsis of the concerns of this dissertation. In the next few sections, I will elaborate upon the phrases in the dissertation's subtitle as a way to further introduce the topics of the dissertation and show how they relate to one another.

an umbrella term to signify all the various subcultures that share, if nothing else, as a single common thread the primary identification of being in general opposition to the dominant culture. Varying degrees of ideological and behavioral overlap, religious or otherwise, characterize the various subcultures of the cultic milieu.

CHAPTER 2 INTRODUCTION PART TWO

Furthering the Arguments by Explaining the Subtitles

Nature/Culture—Another Look at the Role of Postmodernism’s Outcast Dyad

Willow is rolling her eyes at the voice on the radio. It’s a public radio announcement reminding everyone to wear sunscreen, since the sun’s rays are harmful and can result in skin cancer after prolonged exposure. “Don’t they understand that UV and the sun are natural? There’s nothing wrong with sunshine!” I could take that statement as representative of an entire mentality that runs through every organic farm, health retreat, and permaculture community I’ve worked at here in Hawai’i. Vilifying concepts associated with modern techno-industrial “culture” while glorifying “nature” is certainly the most consistent ideological pattern I’ve seen running through these various alternative living experiments. In this utopian countercultural ideology, anything is possible and commonly held rules about who and what to trust as an authoritative source of knowledge become reversed—breatharianism becomes possible while sunscreen protection becomes a lie promoted by corporate government for reasons of economic and ideological. Inside everything naturally stinky, gross, and unthinkable—wheatgrass enemas, fermented noni juice, consuming dirt; drinking your urine—is an untapped emancipating epiphany waiting to trend. If an indigenous tradition exists somewhere in the world that can back up that trend, then it becomes bonafide tried and true knowledge, the sorcerer’s stone, a panacean path of escape from the closet of mainstream lies, and one step closer to the truth, happiness, and freedom that exists on that greener Other side of the dystopian techno-industrial illusion.

Nature/culture dichotomization, widely acknowledged as a tradition of Western cultural thinking (Glacken, 1967; McCormack and Strathern, 1980), is at the same time roundly vilified in contemporary academic circles as environmentally dysfunctional (Nash, 1967; Descola, 2006). I will argue in this dissertation that in order to more accurately assess the structure and function of a Western mental model, one must move from a meta-model of Western culture to a middle-range model. In other words, one must (a) acknowledge there are plural forms of Western culture, (b) expect differences in the way nature/culture is utilized by different Western cultural subsets, and (c) target specific cultural subsets for study. Furthermore, I will argue that, rather than altogether maligning nature/culture's environmental effects, a renewed look at nature/culture dichotomization presents a less essentialized picture that reveals both drawbacks and but also some important benefits regarding the impact of dichotomous thinking on our ability to make choices that might lead to reductions in ongoing patterns of environmental degradation. As part of this argument, I will argue that nature/culture's environmental influence may be different in different Western cultural subsets.

In taking a middle-range approach to nature/culture dichotomization, I will argue that the permaculture practitioners who were the subject of this research exhibit the characteristics of a particular subset of Western culture (Cultural Theory's "egalitarian" subset¹) that in turn is typified by a specific set of values, beliefs, and worldviews that, on average, distinguishes them from majority culture. Furthermore, it is the members of

¹ "Cultural Theory" was introduced by Mary Douglas (1970) and later labeled and expanded by others; it distinguishes among four general strategic approaches to the world based on risk perception and subsequent decisionmaking; see later sections of this dissertation for further description.

this cultural subset who tend, more so than other Western subsets, to show a pattern of nature/culture dichotomization in their thinking. In the case of Puna's permaculture participants, I will show that they use this dichotomy differently than members of other subsets; specifically, they tend to demonstrate a cognitive pattern which upholds and even glorifies the "natural" while maligning key components of techno-industrial conventional "culture". This simple dichotomizing pattern of glorifying the natural and maligning modern culture is key to understanding the worldview of back-to-the-land subculture, as well as the insights and successes, and the difficulties and stumbling blocks, that characterize the "permaculture" form of back-to-the-land movements as they pursue environmental sustainability.

However, in addition to the difficulties and stumbling blocks resulting from nature/culture concepts, I will argue that there may be benefits to maintaining a simple strategy for environmental decisionmaking which dichotomizes objects and practices according to a nature/culture construct. H.T. Odum's method of environmental accounting makes for a convincing demonstration of the basic nonrenewable origins of the vast majority of contemporary Western technologies, since the creation and maintenance of such technologies are predominantly dependent on the extraction and burning of petroleum-based fossil fuel, a high-energy yet non-renewable and quickly dissipating resource. As such, Odum provides strong support for the existence of a scientifically measurable parallel between the ultimate sustainability of an object/practice and its placement along a nature/culture continuum in which "culture" represents objects and practices associated with modern human technology.

I use this logic, along with evidence from in-depth interviews and ethnographic data obtained through participant-observation, as the basis for my concluding summary argument that although misguided cognitive and behavioral patterns can result from strict conceptualization of the world according to a nature/culture dichotomy, the dichotomy may nonetheless prove useful as a basic heuristic device and starting point around which to fashion a cultural pattern of environmental behavior which moves, scientifically (and prosperously), towards the presently elusive goal of a sustainable human-environmental system. Furthermore, I will show that it is more accurate to talk of the Western nature/culture construct as a continuum rather than a dichotomy, but one in which many objects and practices tend to have a polarized placement along this continuum, whereas other objects and practices are placed in between. Following arguments from Douglas (1966) and Latour (1993), I will argue that it is those “hybrid” objects and practices, problematically located more towards the middle of this continuum and thus less likely to be classified as either purely natural or purely cultural/technological, that tend to be both the most contested, the most promising, the most maligned, and certainly the most discussed, of the various objects and practices brought up in conversation during moments of environmental discourse.

In sum, from an applied perspective, nature/culture mental models may be potentially functional for larger society because of their ease of use as a way of distinguishing lower consumptive practices from higher consumptive practices (upcoming sections will demonstrate why personal consumption rates are a good indicator of sustainability). Moreover, nature/culture dichotomization is certainly functional for a particular subset of culture, both due to its use as a heuristic guide to an

idealized way of life, and because of its practical effects on actual permaculture systems which allow these systems to produce, maintain, as well as maintain the market interests of, a desired product (“ecotopia”). Addressing broader theoretical interests in anthropology, I will argue from this that a mental model which may be dysfunctional within certain social settings and for certain social sectors can nonetheless persist in that society due to its relative functionality within other social settings and sectors.

The Culture of Sustainability—Sustainability as a Question of Consumption and Why the Intentional Pursuit of Sustainability is an Anthropological Topic

What people do about their ecology depends on what they think about themselves in relation to things around them. (White, 1969, pg. 42)

Environmental concerns occupy an increasingly prominent place in both academic and non-academic discourse as consensus grows regarding the role of human behavior in worldwide environmental shifts (Banerjee, 2002; Lorey, 2003; OECD, 2002; ESI, 2005; MEA, 2005), and perceptions of risk associated with these shifts have resulted in environmental policy discourse taking greater prominence on regional, national, and international political stages (Commoner, 1990; Christie and White, 1997; Luke, 1999; Bulkeley and Betsill, 2003; Levy and Newell, 2005; Biermann and Bauer, 2005; Agrawal, 2005; United Nations, 2007) as well as academic stages (Escobar, 1999; Brosius, 1999; Kates et al., 2001; Haen and Wilk, 2006).

As Ropke (2005) notes, the relationship between consumption and environmental impact is a key component of this discourse. In 1987, the Brundtland Report defined the principle of sustainable development and stated that critical global environmental problems were primarily the result of non-sustainable patterns of consumption and production in developed countries (WCED, 1987). In 1992, the Earth Summit in Rio de Janeiro recognized the need for developing nations to lower their environmental impact;

the role of consumption in this impact was outlined in Chapter 4 of Agenda 21 (UNCED, 1992). In subsequent action, the 1997 Kyoto Protocol called for the lowering of specific emissions as an approach to addressing these environmental problems (United Nations, 1998). Since emissions production is controlled in part by the demand for items and services whose production and delivery results in emissions production, control of emissions can be considered a consumption-based issue as well.

Documents and declarations arising from this international discourse, especially as part of the 2002 Johannesburg Earth Summit, have helped popularized the notion of a "culture of sustainability" (WSSD, 2002; Cortese, 2003; Gadotti, 2003; UNESCO, 2005). That the engendering of a "culture of sustainability" is conceived as being dependent upon education (Davis et al., 2005; Worts, 2006) acknowledges the role that culture and ideology are assumed to play in the ultimate control of consumption practices (also noted by Cohen et al., 2005, and Davies and Brown, 2006). This "cultural" side of sustainability is recognized widely in various schools of popular and academic environmental thought. Systems ecology authors with an eye toward environmental sustainability, such as Odum and Odum (2001), as well as permaculture founding authors Holmgren (2002) and Mollison (1990), acknowledge that sustainable living is about more than just developing a well-designed system; they assert the importance of catalyzing the "change in mentality" that will be required by most citizens in order to inspire their intentional participation in such systems. Key to this mentality change are the conceptual models that one uses to view the world (e.g., "worldview"), and various writings by deep ecologists (Devall and Sessions, 1985; Bender, 2003), academics (Sponsel et al., 2001; Berkes, 1999; Tucker and Grim, 1994) and various prominent

literary figures (Muir, 1911; Leopold, 1949; Berry, 2006) have focused on the need to infuse majority culture with belief systems which will inspire, accommodate, and perpetuate environmentally sensitive practices (e.g., environmentally-sensitive cultural “epistemes”).

A common assumption being made here is that ideology can be a controlling factor for behavior. This immediately runs into ancient and sticky question of the social sciences: how much influence does ideology actually have on behavior? Ideological change is here considered to be an influential precursor with the power to modify behavior to an extent that will in turn significantly alter the rate at which we extract environmental resources and create environmental metabolites (such as carbon dioxide). The question is, how much are other structures (biologic, social, economic, environmental) influencing environmental behavior, and how much does the influence of these other structures override the capability of ideological initiatives to engender changes in the environmental behavior of an entire society, much less an environmentally-dedicated social subset such as the back-to-the-land permaculturists? It is the role played by a particular culture-based construct—conceptual models of nature/culture, in this case—in engendering environmentally sustainable behavior that is of interest here, and it is this focus on the cultural side of sustainability that makes this dissertation anthropological in its base.

Returning to discussion of the possibility that a specific Western subset may both utilize the nature/culture dichotomy more than others and also pursues the goal of environmental sustainability more intentionally than others, the next question is whether or not all this purposive ideology and intentional human behavior among modern

Western subcultures can indeed lead to practices that in sum will significantly minimize or reverse the unwanted environmental effects that arise as a result of institutionalized consumption patterns.

The need to empirically examine this question is emphasized by preliminary evidence from (a) ecological footprint analyses, (b) life-cycle analyses, and (c) eMergy analyses. Studies using these methods suggest that the lifestyle change necessary for a first world citizen to significantly reduce (a) the total land area, (b) the total amount of polluting emissions, and (c) total amount and ratio of renewable and non-renewable energy necessary for the upkeep of the average first world lifestyle is quite substantial and would necessitate the curtailing of many behaviors normally associated with a first-world quality of life (Rees et al, 1998; Brown & Ulgiati, 1999; Noorman et al., 1999). Keyfitz (1998) shows that even with projected technological improvements, typical American middle class lifestyles will be highly unsustainable if implemented at the world population level. In comparison, many of the least developed nations use 20 times less energy per capita² than developed nations (World Resources Institute, 2005).

Consequently, ideal goals of reduced consumption continue to remain out of reach for the majority of first-world citizens. Although levels of environmental concern grow among first-world populations (Inglehart et al., 2004; Inglehart, 2003; HERI, 2005, Kempton et al., 1995), the growth rate is matched by increasing levels of environmental impact per capita (ESI, 2005; MEA, 2005). Studies of household consumption patterns

² An interesting sidenote here is to consider studies of happiness and subjective well-being; in at least one study, survey results indicated that members of certain least developed nations demonstrated average levels of subjective well-being comparable to or even exceeding those of many developed Western nations, despite maintaining much lower consumption rates (see Deiner et al., 1995).

in developed nations typically show significant differences between the heaviest and lightest consumer groups, but nothing on the order of magnitude necessary to offset current unsustainable trends (Ropke, 2005; Noorman et al., 1999). Whether or not first-world citizens have the capacity for significant changes in lifestyle necessary for a dramatic environmental impact reduction remains under debate (Shove, 2004), with the anthropological evidence suggesting that human societies have rarely if ever successfully followed agendas that intentionally conserved their environmental resources (Smith and Wishnie, 2000). In light of this bad track record, some (Trainer, 2001; Mulder et al., 2006) have suggested that the next avenue of research needs to turn away from the trends of various cultural majorities and look instead at trends and demographics of cultural subsets (in this case, Western first-world citizens) who have intentionally and significantly lowered their per capita environmental impact.

Counterculture—Why the Culture of Sustainability Has a Countercultural Flavor, and Why Anthropologists Should Study Western Counterculture

When pursuing such research avenues, an interesting phenomenon occurs. Although the concern about environmental sustainability is very much a conventional topic of discourse within academic, local public, and national/international political circles, the mood of conventionality shifts when one enters communities that have dedicated themselves to the behavioral pursuit of environmentally sustainable livelihoods. Specifically, the mood becomes decidedly nonconventional, or more accurately, countercultural. Tie-dyes appear, as do various esoteric, offbeat, and marginalized practices, apparently due to the perception of environmentally sustainable practices as being inherently similar in their non-normative alignment. Indeed, many analyses of Western culture have concluded that any envisioned “culture of

sustainability” will likely require a substantial departure from the traditional Western cultural norms that dictate consumption patterns (O’Connor, 1988; O’Riordan, 1989; Holt, 1998), so perhaps it is no surprise that contemporary attempts to fashion a culture of sustainability turn out to be highly countercultural in practice.

In any case, putting aside arguments concerning whether or not a serious engagement with environmentally sustainable practices requires a non-normative alignment, the observation I make here is simply that (at least in the Puna district) there is a “cultural packaging” effect occurring with Western environmental sustainability practices in that those who identify with various non-normative, alternative, and countercultural practices tend to be heavily exposed to individuals, ideas, and practices associated with the environmental sustainability movement, while individuals interested in environmental sustainability (such as permaculture practitioners) tend to be heavily exposed to, and often become attracted to, various countercultural individuals, ideas and practices not directly concerned with environmental sustainability. The result is a high degree of interactive sharing and reciprocal engagement occurring between individuals identifying themselves with various alternative ideas and practices³. This in turn leads to a particular sense of solidarity and brotherhood among the vast cultic milieu of individuals, beliefs, and practices. It is built around the singular quality of being non-normative, and exists despite the vast differences and conflicts that may otherwise exist among such individuals, beliefs, and practices. This is the “counter” culture, and

³ Taylor (2001a; 2001b) gives a particularly in-depth description of the various overlaps of, as well as distinctions between, various ideas, practices, and prominent figures within the cultic milieu that are associated with some form of nature-based spirituality.

the theme of "environmental sustainability" tends to be a strong unifying symbol within it.

Currently, the most common beast against which various segments of the counterculture tend to unite is a conceptual enemy known as corporate capitalism. Likewise, the various contemporary back-to-the-land community forms concerned with sustainable living tend to share, first and foremost, a desire to construct (for reasons of both personal/social and environmental health) social relations and modes of production that evade industrialized capitalist characterizations. Returning again to similarities between the interests of back-to-the-land counterculture and the domain of the anthropological gaze, anthropology itself has historically maintained an academic focus on and sympathy towards non-industrialized societies that are non-capitalist, transitioning to capitalism, or resisting capitalism. It has focused consistently on the way that "pre-capitalist" societies and less-industrialized groups are affected when exposed to global market systems, and how this articulation leads to an increased degree of incorporation of capitalist structures and ideologies (Polanyi, 1944; Bohannon & Dalton, 1962; Dupre & Rey, 1973; Scott, 1990). Many of these studies result in and/or derive from anti-capitalist sentiments, noting the ill-perceived changes to community structure brought on by exposure to the global market system (Thompson, 1963; Gunder-Frank, 1967) or focusing on the merits and legitimatization of "pre-capitalist societies" (e.g., Lee, 1979; Sahlins, 1972; Shepard, 1998).

This research gaze has had the unintended side effect of reinforcing a unilinear conceptualization of social evolution that continues to trap social science research within its framework: given the prevalence of anti-capitalist sentiment within

anthropology, it is surprising that almost no focus is given to groups within industrialized capitalist society attempting radical transitions away from capitalism towards non-capitalist economies. Instead of being viewed as progressive, the anachronist and/or primitivist characterizations of such attempts are considered synonymous with impracticality and viewed as futile engagements that hinder effective and beneficial social change by tying up the contributions of otherwise valuable members of society (Lewis, 1992). Meanwhile, the classic anti-capitalist discourse remains as stuck as ever in armchair arguments over whether the domination of capitalism is a final and impassable roadblock for human culture (e.g., Weber, 1922; Fukuyama, 1992) or whether new structures can evolve out of capitalism (e.g. Marx, 1867; Etzioni, 1993). Hope, of course, lies along the latter vein, and the rest of academics has a history of rigorous inquiry into alternatives to the capitalist consumption paradigm, from justification for steady-state economics (Daly, 1977) and feasibility studies into dematerialization economies (Odum & Odum, 2001; Rodrigues et al, 2005) to cries for egalitarian initiatives (Bookchin, 1982) and rationalization for spiritual ecologies (Devall & Sessions, 1985; Sponsel et al., 2001). Interestingly, most visions of economies beyond capitalism suggest that they will be achieved through decentralized community-based structures resembling pre-capitalist and/or domestic modes of production (Marx, 1867; Chayanov, 1966; Bookchin, 1982; Etzioni, 1993; Shepard, 1996).

At this point in the argument it certainly seems hard to dismiss the appropriateness of anthropological research agenda that addresses the viability of such visions of hope through a field analysis of the trials and errors of First-world groups attempting to implement such decentralized community-based structures from the grassroots level (as

opposed to studies of state-based attempts at socialism such as Soviet Russia or Cuba, or studies of the effects of socialized state-based programs and actions within industrialized capitalist nations such as in Venezuela, Sweden, or the United States). Various studies in other social science disciplines have done this (Pitzer, 1997; McKibben, 1995 ; Harvey, 2000; Peterson, 2005), yet again, little direct fieldwork in anthropology has been performed on first-world communities which intentionally attempt to adopt viable systems of living based on such alternative paradigms. In addition to the conceptualization problems already mentioned, there are two main reasons for this.

The first reason is that Western alternative living experiments have historically been perceived as examples of cultural deviance (Schehr, 1997), while anthropology's traditional ethnographic goal has been to answer questions regarding the dominant patterns and structures of a culture. This was noted by Edgerton (1976) in his look at deviance studies within anthropology. He is here paraphrased by Freilich et al. (1991):

Anthropologists' searches for patterns and regularities have inhibited an active concern with those individuals and groups whose behavior depart from the normative and is not easily integrated into social and cultural generalizations. (Freilich et al., 1991, pg. 72)

Edgerton (1976) responded to this lack of anthropological studies dealing with social deviance by compiling cross-cultural examples of deviance to support his assertion that the existence and emergence of deviant groups and individuals is a universal cultural phenomenon worthy of investigation within traditional anthropology. (Note that the field of studies described as global or world anthropology has maintained a trail of studies that focus on similarities in various forms of anti-capitalist and environmental protest that cross class, race, and cultural boundaries—see Kearney, 1995; Guha and Martinez-Alier, 1997; Escobar, 2005).

The second reason has to do with anthropology's tendency to focus on the exotic Other—foreign cultures, especially those which are marginalized or otherwise downtrodden (Anderson, 1974)—rather than the Other within one's own culture. This trend exemplifies the previously mentioned traditional path of the anthropologist-as-seeker; because of this, studies of Western culture, assumed neither foreign nor subaltern, have instead been considered to be the historic territory of sociology and other nationally-focused social science offshoots (e.g., American studies).

For these given reasons, an anthropology dissertation focused on a segment of Western counterculture may be uncommon yet it is quite justifiable and timely, and by those qualities may perhaps also be seen as contemporary and progressive. The individuals and communities who are the subjects of this dissertation exemplify an effort by Westerners to develop and authenticate, via community-based and lifestyle-based forms of praxis, an alternative to the environmentally unsustainable character of the Western cultural complex. Majority culture tends to perceive such groups as radical and deviant in ideology and behavior ("counterculture") despite the fact that their demographic profiles tend to be dominated by citizens of industrialized countries with non-marginalized ethnicities and middle class backgrounds. Though not necessarily successful in practice, communitarian counterculture attempts to engage in lifestyle behaviors which, if engaged at a mass scale, would theoretically thwart the negative social and environmental effects associated with dominant Western socio-cultural forms. Communitarian counterculture's lived critique of Western culture is thus a progressive (e.g., "modernist" and utopian) lifestyle/praxis-based mirror of the written cultural critiques prevalent within the academic discipline of anthropology, which

expresses a similarly critical agenda through its analyses and critiques of the capitalist mode of production (Marx, 1867; James O'Connor, 1988, 1991), neo-liberal capitalist culture (Jameson, 1991; Comaroff and Comaroff, 2001), and the exploitative capacities of the globalized liberal market (Wallerstein, 1987; Gunder-Frank, 1967; Appadurai, 1996), as well as its interest in the possibility of alternatives to these cultural forms (Marx, 1867; Martin O'Connor, 1994; Etzioni, 1988, 1993; Bookchin, 1997).

When analyzing the back-to-the-land groups as examples of capitalist resistance, such groups can be noted to resemble the rationalities, worldviews, and production behaviors of many traditional pre-capitalist or non-capitalist sectors of the "foreign" and "subaltern". While many of these similarities are the result of an intentional modernist attempt to copy (e.g., examples of "simulacra"; Baudrillard, 1981) past beliefs and practices deemed to be more "original" or "natural" behavior for humans, there is no rule stating that the "simulacra", though inherently less ideal in form than the original, cannot be altogether more effective in the function it symbolically represented by the original form (e.g., environmental and social harmony, in the case of back-to-the-land cultures). Furthermore, though back-to-the-land subculture intends some degree of simulation of past non-capitalist cultures, there may also be some truth to the idea that modern capitalism brings with it a singularly distinct and unique worldview (an idea originally posed by the Marxists), in which case apparent family resemblances among worldviews resulting from non-capitalist approaches to social and economic relations—whether pre-capitalist or post-capitalist in origin—may indeed be valid evidence of some degree of "psychic unity" that can be identified among the structures and superstructures associated with non-capitalist modes of production.

Regarding the degree of veracity of such psychic unity, I will let the ethnography presented here speak for itself along those lines. What I will do is show how the discourse used by Puna's permaculture communities does show interesting parallels to beliefs commonly assumed to be trademarks of indigenous peoples living in "traditional" non-capitalist societies, especially regarding ideas of what constitutes rational economic behavior. What I believe is that Western anthropology can indeed shed light on communitarian movements within its own culture by looking at the rational, ecological, and economic dimensions of this post-capitalist form of cultural "resistance". I will also show the similarities that do exist between this form of resistance and ongoing patterns of resistance in the past in both Western and non-Western cultures.

Furthermore, I will argue that there are legitimate reasons why such groups, in an attempt to resist the "lifeworld-colonizing"⁴ effects of capitalism, must develop ideologies parallel to non-capitalist cultures and foreign, subaltern groups dominated by capitalism. I will use concepts derived from Mary Douglas's cultural theory to show that the communitarian cultural form of resistance exemplifies a "border" or "egalitarian" tradition that is a constant and perhaps necessary part of any human society demonstrating complex patterns of divisions of labor and wishing to inspire progressive social change. I will demonstrate why some of the relatively extreme beliefs and practices of Puna's communitarian permaculture reflects as much an environmental sustainability agenda as it does an anti-capitalist agenda, and how these back-to-the-land lifestyles, while anachronist and primitivist in many instances, nonetheless exemplify some very progressive cultural attempts to resist colonization of the lifeworld, escape the effects of

⁴ referring to Habermas's (1981) concept of "colonization of the lifeworld"

transcarceration, and develop forms of communicative rationality, to name some ideas and methods described by various progressive social philosophers as key to negotiating the cultural pitfalls of the modern world (Habermas, 1981; Foucault, 1975; Lowman et al., 1987).

Following this, I will argue that the most functional role played by back-to-the-land subculture in modern Western culture may be as a liminal space within which to resist and escape both the ideological effects of capitalism and its mode of production. This serves as an experimental space within which to attempt pragmatic applications of various alternative ideas and practices, as free as possible from the various obstacles posed by majority cultural biases. The bulk of Puna's permaculture participants return to the mainland within a year of arriving. They have made a hadj of sorts, an environmentalist pilgrimage to a place of anti-structure, *communitas*, and possibility. With their eventual return home, they bring with them accounts of successes, failures, disillusionments, and inspirations that are ultimately woven into ongoing discourses and decisions regarding how to successfully engineer a modern Western culture of sustainability. Furthermore, these same class backgrounds that ultimately make their "taste" for the imagined "simple life" of the "other" more of a passing hobby than a lifelong immersion, also leave them ideally placed to spread moral directives within mainstream workplaces.

Finally, what is perhaps most interesting about the countercultural attempt to resist capitalism and develop non-capitalist economies and relations is the degree to which, in the case of Puna's frontier back-to-the-land permaculture communities, a most vicious, liberal, and mystified brand of capitalism seems so often to develop right under the

noses of those most attempting to escape it. It is this particular brand of capitalist processes occurring in Puna's back-to-the-land communities, which I will describe as a "construction and commodification of ecotopia", that is ultimately undermining the success of the drive towards environmental sustainability among Puna's permaculture communities. In its basic form, permaculture's "ecotopia" attempts to forge a localized domestic mode of production as an alternative to modern capitalism; however, the same communication forms that are intended to forge a domestic yet egalitarian social relationship among permaculture participants develop into double-edged swords which serve a simultaneous role as a ritual discourse form that masks the exploitation of domestic labor. This exploitation allows permaculture landowners a cheap way to build capital and thereby become increasingly competitive on the growing Western market of alternative tourism. I will spend a considerable portion of this dissertation giving an historical description of the uncaptialized frontier setting that sets the stage for the emergence and persistence of communitarian back-to-the-land counterculture in the Puna District of the Big Island of Hawai'i. The persistence of Puna's communitarian counterculture will then be considered in light of its articulation with and maintenance of the ongoing colonizing processes of capitalism, and the role played by the maintenance of non-market rationalities as a sacred canopy that mystifies the development of these same capitalist relations. Finally, the role these communities play, intended and unintended, in the processes of social change and the ongoing ecological critique of capitalism will be discussed.

At this point, I will elaborate upon a term that did not make it into the dissertation's subtitle, yet has already been introduced, is implied in the main title, and is a key

subject of the dissertation as well as a way to partition a specific group from the cultic milieu of back-to-the-land experiments which continue to arise in Puna and other locations around the world.

Permaculture—Anti-Capitalist Culture and Ecological Simulacra

As mentioned, academics has a history of theoretical inquiries into alternatives to the neoclassical consumption paradigm—yet little fieldwork is performed on contemporary first-world communities which have intentionally attempted to adopt viable systems of living based on such alternative paradigms. Certainly the basic processes of intentional culture have been in place since the earliest moments in human history when one disgruntled group of hominids broke away from the main group, deciding: “we think we can do better for ourselves over here rather than over there”. Furthermore, certainly the historic human record demonstrates—and the prehistoric record can be interpreted to demonstrate—an ongoing pattern of human social change based on intentional physical separation accompanied by both intended and unintended consequential changes in ideology and practice. Modern intentional culture is in many respects not much different in intent and basic separation tactics—the primary importance of spatial relocation and territorial redefinition will be discussed. However, the rate, scope and methods have changed enormously in the high-mobility, information-intensive era of modernity, which in general has enabled a great increase in the opportunity for humans to intentionally try out something new with much less risk regarding the likelihood of failure due to making a break (permanent or temporary) from traditional practice patterns and/or social relations.

Within Western modernity’s increasingly secure setting for social experimentation, the alternative community model has been supported as an arena of study for

assessing the feasibility of transitioning first-world citizens to more ecologically sustainable lifestyles (Mulder et al, 2006; Trainer, 2001; Grindheim & Kennedy, 1999; Schwarz & Schwarz, 1998). While multiple themes characterize groups associated with Western alternative communities (Brown, 2002; Pike, 2004), environmental concern and sustainable living are dominant themes (Magliocco, 2004; Princen et al., 2002; Kozeny, 1996), and certain lifestyle choices associated with alternative living are generally assumed to have the potential for substantially reducing environmental impact. Recent resurgence of interest in studies of alternative intentional communities (e.g., Cannan, 2000; Miller, 2000; Baumann, 2001; Sargisson & Sargent, 2004; Hildur & Svenson, 2002; Brown, 2002; Dawson & Lucas, 2006) can be partially attributed to this interest in the potential environmental lessons to be learned from the alternative, low-impact lifestyles signified by alternative community models.

Within this arena of study, “organic farming” models (Rigby and Caceres, 1997; Reganold et al., 2001; Pimentel et al., 2005), especially as practiced by the Amish (Craumer, 1977; Johnson et al., 1977; Stinner et al., 1989; Yoder, 1990; Lapping, 1997), represent the single largest area of sustainability research into alternative community models. More recently, the “ecovillage” model has been examined for its various utilities (Kirby, 2003; Georg, 1999; Fotopoulous, 2000). The proposed study examines alternative lifestyle arrangements based upon the “permaculture” model, which has only recently begun to be investigated within the literature (Lockyer, 2007; Veteto and Lockyer, 2008).

As mentioned, permaculture turns out to be an ironically apt form of community ideal towards which to apply the techniques of environmental accounting when one

considers that the godfather of environmental accounting—H.T. Odum—was a main inspirational figure for the founding figures of permaculture. The application of environmental accounting techniques to permaculture systems in particular has not been previously performed. However, rudimentary energy analyses have been used in the past to evaluate systems that appear or are assumed to have a low environmental impact; examples include amish farming (Johnson et al, 1977) and chinese agricultural systems (Fluck, 1979). Two major differences between these systems and permaculture systems is that such previously studied systems tended to be historical social systems which (1) were not pursuing the goal of low environmental impact by direct intention and/or (2) do not have a current pattern of recruiting new participants, especially Western participants. In other words, while certain permaculture practitioners may admire and incorporate certain Amish practices of gardening and/or social conflict resolution, the overall Amish model, neither as a trope nor as a particular package of practices and ideologies associated with the trope, does not seem to be experiencing a high degree of human recruitment or ideological replication/spread within the Western landscape of alternative environmental ideas and practices.

The package of practices and beliefs dubbed “permaculture”, on the other hand, is not only intentionally low-impact, but is also experiencing high recruitment from citizens of first-world nations. (In addition, there are signs of increasing recruitment from members of non-First World nations.⁵) This is important for the interests of intentionally

⁵ See Wikipedia entry "List of permaculture projects" for an online list and description of communitarian experiments in non-Western countries using “permaculture” as part of their self-description (last viewed April 2012):
http://en.wikipedia.org/wiki/List_of_permaculture_projects

engendering a culture of sustainability—the eventual alternative of which may likely be a situation of unintended and externally enforced low-impact behavior brought about as the result of an unplanned and precipitous decline in the availability of resources. This precipitous decline is referred to by Odum as a “steep slope of desperation” as opposed to a gradually sloping decline in resource availability made possible by intentional measures to reduce environmental impact while still fulfilling human needs—the “prosperous way down” according to Odum (2001).

It is important to note that although tropes such as “organic farming”, “permaculture”, and “ecovillage” each entail specific and distinct ideals of social commitment and planning prioritization, in practice the meaning of these tropes merge as they become utilized as parallel signifiers for a vast cultic milieu of alternative living ideologies and practices which share the intent of minimizing environmental impact while maximizing livelihood through the employment of methodologies which counter dominant, Western, and/or capitalist ideals. The increasingly flexible and global use of these tropes as signifiers of alternative lifestyles is representative of the hope that is being placed in the new social movements, the growing transnational civil society, and the concomitant changes in information flow and social mobility that have all accompanied the rise of globalization and which have rearranged conceptions of the relationship of the individual to culture (Escobar 2005; Harvey, 2000; Melucci, 1996). Hope lies within this rearranged relationship, which places agency for social change within the hands of the individual (Touraine, 1988) rather than at the mercy of historically influential structures. In this conception, culture and choice is less controlled by race, geography, and tradition and more controlled by class, information,

and individual contingency, allowing the informal, cross-boundary social networks which form the basis for “permaculture” subculture to find a place within anthropological studies of culture and social change.

As part of an approach to answering this dissertation’s central question of the viability of permaculture subculture as a low-impact environmental solution for Western first-world citizens, I ask a related question regarding whether permaculture communities represent viable alternatives to capitalism. This research question is the flip side of a traditional anthropological research question that stems from studies of indigenous movements resisting the transition to capitalism: instead of asking whether or not it is possible for pre-capitalist societies to successfully resist capitalism and maintain some sort of ecological/social integrity, this paper asks whether it is possible for a community to intentionally separate itself from capitalist modes of productions and ideologies and thereby achieve and maintain some degree of ecological/social integrity. This question was central to Etzione (1988) who considered the analysis of anti-capitalism and anti-consumerism movements to be central to the exploration of a new economic system.

As part of an answer to this question, it is ironic to note that those very same forces of modernity, modern technology, and globalization which enable and maintain Puna’s permaculture scene and which are by nature interdependent on capitalist processes, also serve as its main obstacles. In other words, while modernity and globalization offer renewed vigor and hope to grassroots solutions such as permaculture, they also limit its effectiveness as a low-impact environmental solution. This limitation is demonstrated in this dissertation by an environmental accounting

analysis that locates the actual origins and amounts of the various energy sources responsible for the maintenance of Puna's permaculture processes.

As an additional demonstration of permaculture's ties to capitalist processes, I will show how the various degrees of nature spirituality and nature/culture dichotomization that drive Puna's various brands of permaculture demonstrate the common characteristic of a mystified, non-egalitarian, Marxist brand of capitalist labor relations. Like all brands of capitalism, the smooth functioning of this system ultimately requires permaculture to attract individuals willing to subscribe to various non-egalitarian viewpoints (in this case, cultural theory's three other ideological viewpoints of fatalism, hierarchism, and individualism). With this pattern of mystified manner of capitalist labor relations, Puna's permaculture maintains itself and thus maintains its symbolic role on the Western alternative ideoscape as a symbol of social change for transnational civil society and the new social movements.

However, permaculture's limitations go beyond problems regarding the roots of its current energy sources and its mystified articulation with capitalist processes. One of permaculture's biggest limitations is that it pushes an approach to sustainability whose tenets are in line with a "border" or "egalitarian" worldview, which in the Western world is heavily tied to a class-based morality, specifically of the middle class. This moral basis for environmental impact reduction that forms the ideological cornerstone of the permaculture approach ("care for the earth"⁶) is an egalitarian approach that, in the end, is but one of a number of approaches to sustainability. Other approaches which are accepted by other viewpoints or that have been accepted in the past include

⁶ see Mollison, 1997, pg. 2

approaches which increase capital investment and human labor in the high-technology arena with the goal of maintaining and/or increasing current energy extraction rates (including coal, solar, wind, and nuclear technologies, as well as CO2 reduction technologies), as well as approaches based on physical and symbolic coercion (including war, slave labor, and various other forms of dominance) which increase the rate of labor output of animals and/or humans while minimizing their energy usages/inputs, with the net energy savings benefiting the lifestyles of those who coerce. Back-to-the-land processes such as permaculture represent attempts to carry forth the ideals of the egalitarian subset of Western culture to their eventual logical (extreme) endpoint, while the other two mentioned approaches to sustainability, in cultural theory terms, represent "individualist" and "hierarchist" approaches currently in place among Western majority culture.

In practice, inherent conflicts between these three approaches prevent any single approach from being successfully taken to its extreme eventual ideological endpoint. Following cultural theory, the argument is that all three approaches (as well as a fourth, atheoretical, yet necessary, fatalistic approach taken by a large portion of Western citizens whose recruitment by one of the other viewpoints forms the ongoing battle to win majority opinion) are carried forth simultaneously within any complex, pluralist cultural system. The dominance of any single approach is self-limited by both its internal contradictions as well as an organic system of checks and balances that occurs between all four approaches; this provides natural barriers to the success of any single cultural solution to environmental sustainability.

Synopsis

Having introduced the questions and arguments of this dissertation, I provide here a short "in a nutshell" synopsis of the typical trajectory of back-to-the-land movements in Puna as discerned through research on the region's permaculture communities. I follow this with a reference list of the basic questions, answers, and propositions laid forth in this dissertation as a result of this research.

In a Nutshell: The Trajectory of Community Permaculture in Puna

(1) The historical lack of a market value of the lower Puna district to the capitalist market system provides a space unstructured and unmanaged by the capitalist system, into which which mainland members of the cultic milieu can "escape from the system" and attempt to flourish through alternative means.

(2) The cultic milieu arrives with postmaterial values and anti-capitalist egalitarian sentiments; they seek to acquire sacred values of "community" and "nature" which are considered scarce in the capitalist culture within which they were previously embedded.

(3) "Community" and "nature" do not exist in Puna's lava fields and ohia-fern forests, so they must be constructed. In the counterculture, these values and the products associated with them tend to be similarly imagined as values and products that are in dialectic opposition to the values and products of capitalist culture, and take on sacred meaning in the process of their attempted construction within a ritualized antistructural space.

(4) The "permaculture" paradigm guides labor towards the creation of "ecotopia" as a final product, which combines values of "community" and "nature". Ecotopia is a non-material, socially-constructed product, and the labor involved in producing

"ecotopia" has spiritual dimensions and can be analyzed as a form of religious production.

(5) Local self-sufficiency in food and materials production is a crucial aspect of permaculture's "ecotopia". Ecotopia is thus a product of a domestic mode of production embedded in non-market values directed towards household use. From a market perspective, permaculture work-traders are domestic laborers working for free to produce a valued product.

(6) Successful permaculturalists in Puna create a product called ecotopia that becomes valuable to others. People are willing to exchange money in order to experience ecotopia and do so in the form of ecotourism and agricultural tourism. Ecotopia now has exchange value and enters the capitalist market as a product. Permaculture's domestic mode of production provides a cheap source of labor that becomes engaged in the production of ecotopia for the capitalist market.

(7) From a political perspective, ecotopia hinders true resistance by transforming resistance into spectacle, simulacra, symbol, and commodity for sale.

(8) From a market perspective, the capitalist system has completed an encroachment cycle. A product ("ecotopia") that is scarce in the market has been created and made available for exchange. Value has been created in a space (Puna's lava fields) that previously had no value. The intense amounts of material capital invested into the "postmaterial" counterculturalists who "leave the system" has now been returned to the system in the form of free labor towards the creation of a product with exchange value.

(9) Articulation with modern Western markets through commoditization processes prevents permaculture's idealized transition to an economy characterized by ecological sustainability; however, it maintains itself as a source for ideological dissemination and the formation of alternative social networks, which through the forces of market articulation may allow the nature/culture dualism that drives Puna's back-to-the-land movements to become a factor in greater social change.

In a Nutshell: The Main Questions and Their Answers

In order to show how basic questions regarding environmental sustainability lead to concerns with Western trends of nature/culture dichotomization, I will start with an ordered series of basic questions, followed by the tentative answers reached in this dissertation, which stem from the main general inquiry: "is the 'back-to-the-land' approach a viable solution to the problem of environmental sustainability?"

Question #1: Specifically, does Puna's communitarian permaculture approach offer Western culture a solution to the problem of environmental sustainability? Answer #1(a): No. Only a specific and minority subset of Western culture tends to become attracted to this approach as an intentional and deliberate solution (see chapter 4—"The Actors"). Answer #1(b): No. In its current typical form, the pattern of resource input/output in the typical permaculture community in Puna relies on a steady supply of labor, materials, and pre-existing financial resources sourced from nonrenewable energy inputs. Answer #1(c): Yes and no. Puna's communitarian permaculture systems could provide an indirect contribution to effective environmental solutions if it could be shown that individuals who temporarily engage in communitarian permaculture and then later become engaged in environmental policy efforts consider their time spent in permaculture communities to be significantly influential in their subsequent

involvement in national/state/regional/local environmental decision-making processes.

Answer #1(d): Yes and no. Puna's communitarian permaculture systems could provide an indirect contribution to effective environmental solutions if it could be shown that individuals involved in significant national/state/regional/local environmental decision-making processes view individuals and/or communities involved in permaculture as morally/ethically upright and/or otherwise inspirational.

Question #2: What types of people are attracted to the communitarian permaculture approach? Answer #2: Survey results reveal that permaculture participants in Puna tend to be egalitarian post-materialists among whom mystical experiences, especially those associated with nature, are common. Survey results indicated that this combination of characteristics was significantly less prevalent among those representing "majority culture".

Question #3: If the goal is environmental sustainability, why aren't Puna's permaculture participants engaging in patterns of resource use that reflect environmentally sustainable lifestyle practices? Answer #3: In Puna, the pursuit of a communitarian permaculture lifestyle serves more purposes than simply being a route to environmental sustainability; sustainability is but one of a number of goals for which permaculture becomes the methodological vehicle; the overarching goal is to construct a more fulfilling way of life than that offered by majority culture lifestyles.

Question #4: What factors drive the desire to participate in communitarian back-to-the-land forms of permaculture? Answer #4: One influential organizing script is the cognitive dichotomization of nature/culture, in which the "natural" category is glorified as part of the pursuit of post-materialist, egalitarian, and spiritual/mystical ideals.

Question #5: What factors drive lifestyle choices once individuals participate in communitarian back-to-the-land forms of permaculture? Answer #5: Same as answer #4.

Question #6: What inhibits the technical feasibility of environmental sustainability in Puna's permaculture communities? Answer #6: Same as answer #4.

Question #7: So, is nature/culture dichotomization beneficial or malevolent regarding its effect on environmental sustainability in Puna's permaculture communities? Answer #7: Nature/culture dichotomization should not be essentialized; it has both good and bad effects on the goal of environmental sustainability in Puna's permaculture communities.

In A Nutshell: The Resulting Propositions

Next I present a list of the broader theoretical propositions regarding nature/culture dichotomization that are being presented in this dissertation as part of an the analysis of the worldview and practices of back-to-the-land permaculture subculture in the Puna district of Hawaii:

Proposition #1: Nature/culture dichotomization is a “middle-range” cognitive model: its influence on thinking, practices, and decision-making is particularly pronounced among certain Western cultural subsets (e.g., post-materialist egalitarians) as well as within certain culturally prescribed geographic locations and ritual spaces (e.g., locations such as the Kilauea East Rift Zone of Hawai'i).

Proposition #2: Westerners prescribing to post-materialist egalitarian cultural ideals utilize nature/culture dichotomization more than other members of Western society.

Proposition #3: Puna's permaculture practitioners utilize "nature/culture" dichotomization as a general guide for simultaneously assessing the level of risk, sustainability, healthiness, desirability, and overall positive spirituality associated with an object or practice.

Proposition #4: Nature/culture categorizing can be effective as a "fast and frugal" heuristic tool for assessing the environmental impact of an object or practice and for morally guiding subsequent lifestyle choices. This makes nature/culture dichotomization an aid to environmentally sustainable lifestyle choices.

Proposition #5: Nature/culture categorization is more accurately depicted as a continuum rather than a dichotomy; however, it is a continuum in which most objects and practices tend to be categorized towards either extreme end, while those objects and practices categorized more toward the middle tend to be the most contested and discussed during moments of environmental discourse.

Proposition #6: Nature/culture dichotomization structures and drives the mystifying processes of capitalist relations that maintain Puna's permaculture communities (e.g., the construction and commoditization of "ecotopia").

Proposition #7: The mystified capitalist relations that maintain Puna's permaculture communities (e.g., the construction and commoditization of "ecotopia") are a major hindrance to the technical ability of these communities to become environmentally sustainable; since nature/culture dichotomization underlies this mystification process, nature/culture dichotomization hinders the technical ability of these communities to become environmentally sustainable.

Proposition #8: Puna's permaculture communities function as a liminal space for simulating egalitarian environmental ideals. Since mystified capitalist processes maintain this space, and since nature/culture dichotomization underlies this mystification, nature/culture dichotomization may serve a beneficial performative function for the environmental movement if this indirect function of permaculture communities can be shown to have an indirect but significant impact on the environmental decision-making processes taking place in policy-making circles in Western majority culture.

Proposition #9: Puna's permaculture communities tend to colonize undeveloped frontier regions, and tend to increase rather than decrease the region's degree of articulation with capitalist processes over time. Since the mystification of capitalist relations enables this pattern of incorporation among individuals otherwise opposed to capitalist processes, and since nature/culture dichotomization underlies this mystification, nature/culture dichotomization serves to enable ongoing processes of capitalist expansion and the subsequent spread of unsustainable resource extraction rates into previously un-colonized regions.

CHAPTER 3
THE STAGE: RESEARCH SITE AND SOCIAL SYSTEM

Site: Lower Puna District, Big Island, Hawaii

A Short History of the Lower Puna District

No other place in America combines a deep spiritual connection to the land with such a hot real estate market. (Brown, 2005)

The district of Puna is Hawaii's wildest outpost with a reputation for free spirits, hippies and other nonconformists. ("Pull Over And Park It", 2007)

Pakalolo (marijuana) farms, FBI fugitives and the un-bathed. (Thompson, 2003)

Thus go descriptions of the Puna district, one of nine districts of the Big Island of Hawaii. At 499 square miles, the Puna district is nearly the size of Oahu, Hawaii's main island and home to the capital of Honolulu. But the contrast between Puna and Oahu is dramatic: while Oahu is a wealthy, white-sandy-beach, cosmopolitan island of over one million, Puna remains a black-sand jungle frontier of 20,000 living on the side of an active volcano.

Puna has been covered by lava at least once in the past 400 years. There is no reason to believe that the frequency or size of eruptions in the next 400 years will be any different from those of the past 400 years. (USGS, 1997)

The Big Island of Hawaii is home to Mauna Loa and Kilauea, the two most steadily active volcanoes on earth. The single magma tunnel that brings lava to the two volcanoes from the earth's mantle is responsible for adding 30 acres of new land to the Big Island every year (USGS, 2005), in the form of black basalt, the hardened result of cooled lava. Mauna Loa last flowed in 1984; a menacing tongue of lava crept within four miles of the major port town of Hilo before pressure subsided in Mauna Loa's inner magma chamber and ended the advance (USGS, 2004). Kilauea began its recent

episodes of eruption in 1983; since then, Kilauea has been flowing steadily either from its summit or from fissures along the East Rift Zone (USGS, 2007).

The Kilauea East Rift Zone is track of underground lava fissures that runs east of the Kilauea summit through the lower half of the Puna district, separating the district geologically into two informal sections: upper Puna and lower Puna. Throughout the Big Island, from Hilo to Kona, residents are periodically awakened by earthquakes originating from shifting magma deep within the volcanoes. Sometimes, in lower Puna, the tremors reported by residents have their origins directly under the subdivisions in which they live (Thomas et al., 1991).

What have been the consequences of this lava for development in the region?

The lava results in black sand beaches. The look attracts visitors to places like Kehena Beach, near Opihikao. Kehena was not a beach at all until 1955, when new lava flows changed shoreline contours and allowed the buildup of black sand in the area (USGS, 2000). Such beaches are by nature babies in geologic time, and this affects shoreline contours, wave action, as well as vegetation type. Vegetation type and "resort atmosphere" is further affected by oft-overcast skies and rainforest precipitation patterns that are indebted to Puna's windward location on the island. For many, the overall effect is a raw, prehistoric vignette of nature that confounds the white sand visions of paradise. As residents are oft to quote, "Puna is not for everyone". People who come for the beaches either love it or hate it, and many flee to Kona, located on the leeward, sunnier, drier side of the Big Island, where older geologic structures have allowed a number of white sand beaches.

Nonetheless, large scale resorts have been proposed in the past in the Kaimu-Kalapana, Kapoho, Pohoiki, and Opihikao areas of lower Puna. However, like the rest of lower Puna, these areas are subject to volcanic activity, subsidence, and tsunami inundation. There are few building codes to restrict what and where people may build, but insurance rates for property in Rift Zones 1 and 2—the most active lava designations and the designations of most property in lower Puna—are twice what they are elsewhere, and such insurance covers destruction by fire but not by lava (Brown 2005). Thus, entrepreneurs have been few over the years, and many of the braver speculators scared off by the knowledge that the only property in lower Puna to be successfully rezoned as a resort was covered by the 1990 lava flow in Kalapana (USGS, 2001).

Kalapana before 1990 was a beautiful historic Hawaiian homesite popular both for surfing, cultural heritage, and for being the single designated resort destination in Puna. Locals and old-timers in the area lament the loss of Kalapana, as well as Kapoho, an ancient Hawaiian village that was altogether destroyed by lava flows in 1960 (USGS, 1997). But many also acknowledge the importance of lava in keeping out unwanted development—across the Hawaiian islands, there are constant discussions about and efforts towards keeping local sections of Hawaii from "becoming another Honolulu or Maui". Residents murmur with varying amounts of seriousness and sincerity about "Pele's curse", the belief that Pele, the Hawaiian goddess of fire who lives in and embodies the Big Island's volcanoes, does her part to keep away problematic development in the Rift Zone.

"She teaches you respect for the land," they say, "Pele reminds you that nothing is permanent, and that nobody really owns the land." Land purchases by locals and mainlanders alike are often preceded by small fees paid to Hawaiian spiritual chiefs—kahunas—who walk properties in an assessment of the area's positive and negative cosmic energies—mana—before giving advice on whether or not to buy, where to build, and whether or not Pele will protect or destroy the land parcel in question in the immediate or near future. Given the incalculable risk of lava, even Puna's most secular-minded realtors are quick to provide contact information for obtaining a local kahuna blessing.

In any case, for good or for worse, the danger of lava is real. Since 1983, 189 houses have been subsumed by lava in the Puna district (Brown, 2005). Formerly zoned residential areas like Royal Gardens subdivisions were completely covered by lava flows in the early '80's. All of Puna's 60,000 zoned property lots lie in areas of likely rift zone activity, but those areas of the lower Puna district, sitting directly on Zone 1 and 2 areas of the Kilauea Rift, are the most at risk. The areas also lack basic infrastructural improvements necessary for development. 75% of houses in Puna in 2000 got their water supply from personal rainwater catchments ("Rainwater Catchment In Puna", 2007).

With these conditions, development is a difficult road to take in Puna, and so far, the prospects for payoff do not add up when compared to the prospects of lava. One of the few sectors of development conducive to rift zones is geothermal energy. The first geothermal well in Hawaii, tapping volcanic steam for electrical energy, was drilled in Puna in 1976. Since then, geothermal development has expanded. Currently, the

Puna Geothermal Venture delivers an average of 25 to 30 megawatts of electrical energy on a continuous basis, supplying approximately 20 percent of the total electricity needs of the Big Island ("Geothermal in Hawaii", 2007). But geothermal suffered a serious setback in Puna in 1991 when an accident at the PGV plant released a cloud of hydrogen sulfide that settled onto the Puna countryside, killing numerous small pets and animals and setting off a rash of respiratory disorders among residents which still linger among some today. Thus, a strong anti-geothermal community presence has helped to thwart further industry despite acknowledgements that geothermal potential may be as much as 500–700 megawatts (Thomas, 1987). This, combined with potential permitting and regulating nightmares for new geothermal plans, has kept geothermal expansion plans on the blackboard (Boyd, 2002).

Currently, agriculture and tourism are the two biggest sectors of the economy in Puna, with ecotourism and agricultural tourism on the rise. But the original industry was wood, and then sugar. Paho'a's history is a typical frontier boom-bust cycle that started with a sawmill industry. But it was the sugar industry, which began in 1876 when U.S. government permitted the tax-free export of sugar, that gave Puna its real start ("Paho'a, Hawaii County", 2007).

Puna's sugar scene was experimental and radical from the beginning and in many ways reflects the beginning of the spirit of the district that has carried into modern times. Sugar in Puna began with boom-time entrepreneurship in 1899 when a group of investors pooled their resources and started what they believed would become Hawaii's largest and most prosperous sugar plantation. The company, Olaa Sugar Mill, began with a commitment to exploring new and innovative agricultural methods, and set

precedents that are still in effect in the sugar industry today. A vintage railroad built to transport sugar and sugar products to Hilo for export was "a structure once considered to be the most exorbitant and ambitious railway ever constructed." The original economic design of the company was collective and community oriented. It envisioned a home-owning class of small farmers who would grow cane for the mill. This was based on a belief that Hawaii's prosperity in the long run would depend on the production of crops by small independent farmers who owned or leased the land they cultivated. This was a radical departure from the ideas of the old plantation system, which opposed both independent cane growers and diversification. In essence, the Puna district was radical from the beginning ("Puna Sugar Company", 2004).

Sugar in Puna went through ups and downs. At its high point, plantation fields extended for ten miles along both sides of the Hilo-Volcano highway, as well as into the Pahoia and Kapoho areas of the Puna District. Olaa Sugar Mill changed its name to Puna Sugar Company in 1960 following a slump, and resurfaced with strength following internal changes. In 1969, Puna Sugar Company became a subsidiary of American Factors (AMFAC) in a buyout of minority shareholders. Then, in the 1980's, high fructose corn syrup and artificial sweeteners began to erode the sugar market. Shutdown of the Puna Sugar Company began in 1982. AMFAC's severance package, which included a gift of five acres of land for each employee and a donation of \$2 million towards improvement costs of the land, is considered a source of the high Filipino concentration in Puna (Filipinos, Pacific Islanders, and off-island Hawaiians were originally recruited from abroad as sugar workers). The last worker was gone by 1984.

The entire sugar mill was sold to Fiji Sugar Corporation, Ltd. in 1988 and Hawaiian Electric Light Company took over the power plant ("Puna Sugar Company", 2004).

Former Puna Sugar Company supervisor Hiroo Sato, who wrote a history called "Pahoa Yesterday," said the biggest change in the town's history was the closing of Puna Sugar in 1984 (Thompson, 2003). Pahoa, though its population has never gone much beyond 1,000, was and is the urban center of lower Puna. Pahoa had been a "company town", and workers lost more than a job when it closed. In classic paternal business form, the sugar company had built housing, sponsored sports leagues, paid for medical care, and through these efforts underwritten the town's character and cohesiveness (Thompson, 2003). Also, union efforts beginning in the 1930's had made Puna's sugar workers some of the most highly-paid farmworkers in the world (Bacon, 1995). With sugar becoming less economically viable and the loss of affluence a concern, Pahoa's burgeoning marijuana industry began filling the gap (Thompson, 2003).

Rise of the Puna Counterculture

Punatic: A deadbeat person living in Puna (An area in Hawaii). Often living on welfare and stoned into oblivion. Most punatics are unemployed Caucasian jungle dwellers with open relationships. ("Punatic", 2008)

Puna's reputation as a hippy haven had started with a slow trickle of alternative types beginning in the 1970's (Thompson, 2003). Sugar interests at that time had reached the edge of lower Puna but gone no further—the lava rock of the Kilauea East Rift Zone is ultimately a rich source of nutrients and cation exchange for the building of soils, but it takes about 1000 years for this process to begin (Thomas, 1987), so most of the flows on the rift zone in lower Puna were of no use to sugar farmers. Because of this, the lava fields of lower Puna are something of a final frontier on U.S. soil, with no

apparent economic use for capitalism. Subdivisions had been created in the 60's and early 70's when sugar was at its peak, but without infrastructure, nearby employment opportunities, or the attraction of dry, sunny weather and white sandy beaches, migration to lower Puna was scant outside the changing populations of sugar workers.

Enter the counterculture. Dirt cheap land in the tropics with little policing, zoning laws, or other interference from mainstream corporate America was a flower-power paradise for a fair share of offbeat adventurers hoping to settle into an alternative "good life". Land prices, already low, hit rock bottom in the mid-eighties with the fall of sugar and the renewed flowing of lava from Kilauea. As former sugar workers sold their land and left, the hippies bought it up. Land prices and capital development interests in Puna would sink even further in 1990's following the destruction of the village of Kalapana by the same, continuing lava flow from Kilauea that had begun in 1983. Thus, Puna held the necessary prerequisites of availability of open land, lack of rigid social limitations, and other historical peculiarities noted by authors such as Hicks (2001) and Edgerton (1977) to be typical attractions for communitarian imaginations.

When the hippies arrived, they found a number of compelling reasons to equate Puna environment and geography with their visions of paradise. For one, islands in general and tropical islands in particular have, in the Western mind, long been associated with the location of paradisiacal "gardens of Eden" – isolated and peripheral refuges harboring the essence of a lost, innocent, pristine "other" which was both dear and fragile while at the same time offered possibilities of environmental abundance and benevolence (Grove, 1995). Simultaneously, the flowing lavas of the Kilauea and Mauna Loa volcano complexes provided the essential raw imagery of an "axis mundi" –

considered by Eliade (1991) to embody characteristics that lent credibility to beliefs that they were centers of sacredness and locations of accessibility to the supernatural world. Such locations provide apt settings for the construction of utopian communities imbued with religious ideologies and images.

Like many community experiments of the 1970's, failures were common as dreams of "living from the land" fell apart in the realities of the rainy rocky fern-forest slopes of the rift zone. But some things were easier to grow and make a living from than others, and by the early 80's, the flow of "Puna butter" was an important source of income for many. At its peak, Hawaii's marijuana business was estimated to be worth one billion dollars annually, Puna butter was supposedly acknowledged by the DEA to be the strongest recreational strain of marijuana grown. ("History, Biology, Geology", 2012). "This town had a boom because of it," notes a long-time Pahoia resident and store-owner. "A lot of businesses that got started, got started on pot money" (Thompson, 2003).

The pot trade also has been attributed to the relaxed atmosphere in Puna regarding relations between locals and "haoles."¹ Hawaii is the only state in the U.S. in which Caucasians are a minority ethnic division, and anti-Caucasian sentiments are known to be strong in many parts of the Hawaiian islands. Asian natives and Pacific Islanders form the largest resident ethnic group in Pahoia, but the role of Puna butter helped to create common ground between locals and the alternative haoles, and Puna

¹ "haole" is a somewhat derogatory term usually intended to refer to Caucasian individuals from the "mainland" (the continental United States) to visit or live in Hawaii ; in many parts of Hawaii, there is active voiced resentment against "haolies" and their connection to the 1893 overthrow of Hawaii by the U.S. government and the subsequent encroachment of "mainland" culture in Hawaii

gained a reputation for being accepting of all lifestyles. Haoles and non-Caucasian locals alike put on their best Hawaiian pidgin accents when proclaiming Paho'a's marijuana pride: "ain't nuttin' bettah than Puna buttah, braddah."

With its hot, humid environment, Puna was perfect growing conditions for high quality pot. Black buckets filled with good dirt and new seedlings hid well against a background of lava rock and ferns. Constant rainfall and a lack of human presence in most parts of Puna ensured little need for maintenance; a grower could walk away from a new seedling and return a few months later to harvest. The native hardwood Ohia trees that sprout amidst the ferns have few side branches and allow large amounts of sunlight through to new growing plants, while the precarious lava rock makes discovery by police foot patrol a near impossibility.

This same quality of the fern-ohia lava forest allowed for the huge success of Hawaii's anti-marijuana program Operation Green Harvest. Helicopters flying over the area have an easy time spying marijuana leaves amidst the monotonous and canopy-less fern-ohia background. When performing this work, helicopters often fly over residential areas at altitudes of less than 50 feet; as a result, community campaigns in Puna and the rest of the Big Island have fought the operations with some success on the grounds of noise pollution and invasion of privacy (Borreca, 2000). Nonetheless, the Operation has done a great deal to undercut the flow of marijuana as an important economic source of Puna (Borreca, 2000)—but as the saying still goes, "everybody knows that everybody grows".

With the downfall of sugar cane, and the curbing of the marijuana industry, the Puna economy took off into agriculture and tourism. Puna became the nation's top

grower of papayas and a world center for Anthurium flowers. Following agriculture, tourism was Puna's biggest product, especially in the form of ecotourism and agricultural tourism. The tourism boom led to a 17.27% job growth rate projection in 2007 ("Big Island: Tourism", 2007). Puna, which literally means "spring", is home to natural hot ponds of water heated by the volcano underneath, as well as numerous volcanic steam vents that serve as natural saunas. So the same volcanic qualities that kept out tourism for so long now make Puna an attraction as the embodiment of an alternative, undiscovered, "old Hawaii"; Pahoia is touted alternately as the most scenic town in the state of Hawaii, and as a place where the 60's never ended ("Pahoia, Hawaii County", 2007). As the communitarians found more and more visitors at their jungle frontier doorsteps, they responded with offerings of work-exchange and vacation stays.

The contemporary result is a dense network of properties committed to community forms of alternative living, including many which utilize the permaculture model or at least the permaculture trope, that have emerged within the last 15 years. These communities exist in various stages of maturity and autonomy alongside a growing number of conventional households. Most permaculture communities offer some combination of room, board, and/or lessons in alternative living in exchange for work and/or cash.

A picture of the uniqueness of the Puna tourism industry can be first assessed by realizing that although bed and breakfast accommodations make up less than 3% of Hawaii's tourism industry, it is the main type of tourism in Puna. Puna's alternative lifestyle network has ingrained itself into this economy, with various low-budget establishments offering room, board, and lessons in alternative living, in exchange for

work and cash. Establishments distinguish themselves from one another through a wide range of ideological and philosophical themes, from "anthropocentric" Christian evangelical-themed conventional lodgings to "ecocentric" pagan raw-food eco-tent lodgings. The more "ecocentric" outfits tend to be central players in the radical environmental community network here.

How strong is this alternative network in Puna? For a 4 year period between 1999 and 2003, after the expansion of the Island Naturals health food store and before the opening of the new Malama Market supermarket, Pahoia was one of the few, if not the only, town in America where the health food store was bigger than the conventional grocery store. The organic farm work exchange scene here is so strong that 22 of Hawaii's 69 organic farm work exchange opportunities listed with WWOOF are based in Puna². Of Hawaii's 24 intentional communities listed with the FIC (the Federation of Intentional Communities), 13 are found in Puna ("Geographic Community List", 2007). Puna's counterculture communities are small in number compared to city-based pockets of counterculture of such as Berkeley, California or Portland, Oregon, or Seattle, Washington—each with 20 to 30 communities ("Geographic Community List, 2007). However, the contrast changes when considered on a per-capita basis. Puna's 13 communities are spread among a population of 20,000 over a land area of 500 square miles at 40 people per square mile; similar land areas in city-based counterculture centers hold half a million or more people in densities from 4000 to 10,000 people per

² WWOOF, which stands for Worldwide Opportunities on Organic Farms, is the dominant global network for the organic farm work exchange scene. Due to its popularity, Hawaii was in recent years the only state listed separately from the rest of the U.S. by WWOOF.

square mile. In other words, the Puna district may very well have the highest per capita concentration of Western counterculture on the planet.

Coinciding with the rise in agriculture and tourism was a slowly building infrastructure, and with it a slow leaking of the secret of Puna's cheap real estate deals. By the turn of the millenium, sugar woes, lava flows, and geothermal blowouts were the worries of a decade passed. In the '90's, a typical acre of lush rainforest in Leilani Estates subdivision ran between \$5000 and \$10000. By 2000, prices had doubled, and by 2004, the word was out. In the beginning of the year, rumours spread that a top business magazine³ had declared the Puna district the last place in the U.S. to make a killing in real estate. In April, Donald Trump appeared on the Oprah Winfrey Show and told viewers that "lower Puna" was the best real estate buy in the nation ("Coconut Wireless", 2005). A summer real estate frenzy ensued, and suddenly Puna was a Hawaii superlative: fastest population growth, fastest rise in real estate prices, fastest growing economy. By the summer of 2006, bottom-end one-acre lots in Leilani were selling for \$35,000, with lush rainforest lots priced at \$60,000 and above. Puna was hot, and everybody, including the communitarians, responded to the rush by raising prices and increasing advertising. When the bubble popped, real estate prices and work-trade prices plunged while the invigorated communitarian back-to-the-land work-trade scene remained and continues to remain stronger than ever.

³ Rumors will name either Forbes or Fortune; while both include Puna and Hilo in various superlative rankings over the last ten years, my own research did not uncover anything for 2004

Utopian Ideology in Puna

Would you like to live as a responsible steward of the Earth while still maintaining a level of material comfort you feel happy with? Would you like to be surrounded by a cooperative culture that shares your joys and sorrows, supports you in all areas of life, and provides day-to-day social intimacy? Would you like to be 100% integrated with Spirit in your daily life? If you are longing for these things, you are not alone. Many, many people are plagued by a gnawing sense that things could be A LOT different. In fact, it's becoming increasingly obvious that they must be if we're going to grow beyond our current ecological and social crises, into a way of living that's life-serving all the way around. But the enormity of what's required to make this shift happen can seem overwhelming. Is there anything one person can do to really make a difference? ("What is Gaia Yoga?", 2007)

These words from Ano Tarletz's website introduce the web surfer or potential tourist to the theme of Ano's 18-acre opus, Gaia Yoga Gardens. A self-described "sustainable lifestyle pioneer", Ano chases this dream while offering vacation stays, internships, work exchange, and classes and workshops in nonviolent communication, biodiesel, healthy lifestyles, and holistic and sustainable living. Ano lists Gaia Yoga Gardens' goals as "living simply, sustainably, and connected-to-nature . . . living a lifestyle that cultivates a healthy self . . . establishing a land-sharing community that's intimate, caring, and feels like family . . . integrating spirituality into our communal life." ("GaiaYoga Gardens", 2011)

Gaia Yoga Gardens is just down the road from Pangaia. Ano began his lifestyle as a Punatic ("we're all here because we're not all there") after fleeing suburban life and joining Pangaia, a nearby permaculture establishment that began in 1991 on three acres of land bought by Manis Martin. Pangaia began as a self-styled utopian experiment:

One day things will be simple, one day they're gonna be fine, one day when we've all learned to live together and live with the land ("Pangaia: The Land", 2007)⁴

These words, from a poem written by an early Pangaist, reflect much of Puna's initial visions of ecotopia. But what began as an optimistic experiment at Pangaia turned into what permaculture pop hero Doug Bullock calls "the best example of a humid tropical permaculture in Hawaii" ("Pangaia: Permaculture", 2007). Pangaia's self-advertisement on their website describes the archetype of Puna-esque "ecotopia", a sacred return to the Garden of Eden:

On retreat at Pangaia you can experience yourself in primal terms—a simple, direct relationship to your body on the nurturing earth, together with a small, local, tribe. Your experience will be greatly served by Pangaia itself—a beautiful, fruitful conscious sustainable permaculture farm and homestead, rich with countless trees and plants bearing all kinds of food, plus our farm animals, wild birds and animals, and Hawaii's powerful nature spirits—earth, air, fire and water. ("Pangaia: Primal Living", 2007)

Pangaia had advantages right from the start. Manis bought his land on the famous Papaya Farms Road, an area of Kapoho that was covered with up to six feet of light volcanic cinder pebbles, flying topsoil, and uprooted vegetation during the 1960 eruption that destroyed Kapoho village ("Puna Eruption at Kapoho", 2009). Thirty years later, the result was unbelievable growing conditions that delighted the original Pangaians when they began planting their paradise. The image of Eden got another powerful boost in 1997 that demonstrated the connection between Puna's back-to-the-land attempts and local indigenous traditions:

⁴ As of 2010, Pangaia is no longer a functioning community and its website is defunct; however you can see the original owner of Pangaia performing the song in 2009 at: <http://www.youtube.com/watch?v=XyEcEqnYlVl>

For years, we were working and living on this parcel, planting trees and increasing the fertility of the soil. Directly behind our land was a large lease lot. The owner of this land, an older Hawaiian man, saw the work we were doing and saw how we respected 'the aina', or the land . . . he offered Pangaia a [free] 100-year lease of his 60 adjoining acres. ("Pangaia: Land", 2007)

Things were never the same again, and the amazing combination of events which allowed Pangaia such an incredible version of "ecotopia" now allows them to charge the highest work-exchange prices in Puna for a taste of their paradise.

Pangaia's version of permaculture demonstrates the highly sacred dimensions that are commonly infused into the permaculture lifestyle:

For us, permaculture is a very organic conversation between people, plants, animals, and the land. It takes deep listening and expression of needs. It involves creativity, persistence, patience, planning, and letting go of plans. At times this conversation becomes a beautiful song or a symphony, yet at other times we find we are not as tuned-in to the land's song as we would like to be. ("Pangaia: Permaculture", 2007)

This role that biocentric spirituality is believed to play in human attempts to harmonize with the environment is a common theme among permaculturalists:

What is vitally important is that we return to right relations with the earth and with the intricate web of life she has created. Permaculture gives us tools we need to proactively address the escalating environmental crisis, but it is much more than a set of tools, it is an expression of mindfulness and reverence for the sacredness of life. ("La'akea Community", 2007)

These words come from the website for La'akea Community. La'akea's 32 acres of land was purchased in 1992 by Dr. Beatrix Pfeleiderer. La'akea's residents are older than most of the rest of Puna's countercultural denizens; comprised of and attracting some of the wisest and most famous within the permaculture circuit, La'akea carries considerable weight within the international permaculture circuit. Decisionmaking at La'akea often takes place in "board meetings" and "finance discussions"—but the connection between community, nature, and spirituality is just as strong.

Not all of Puna's permaculture experiments charge admission fees. In upper Puna, away from the lava soils and warmth, up in the rain and deeper soils, is Malu Aina, the brainchild of Jim Albertini. Malu Aina means "Land of Peace" and Jim Albertini advertises his permaculture farm as a "Center for Non-Violent Education and Action" and as:

We are a spiritual community based on peace, justice, and sustainable organic farming...We work cooperatively, seeking, through aloha 'aina (love for the land), a deeper understanding of non-violence as a way of life...Life on the farm involves physical labor and simple living. ("Malu Aina: About Us", 2012)

This idea that long hours of menial labor can be construed as the "good life" draws from a long history of American protestant homestead laboring (Nearing and Nearing, 1970, 1979), which attempts to turn work into spiritual recreation. Unlike many permaculture communities which remain secular in spirit albeit spiritual in their secularity, Malu Aina openly claims religious roots in Christian faith when describing its vision for utopian hope in the face of current dystopia. Like many here, he mixes Hawaiian words into his spiritual message to show his respect for traditional Hawaiian culture and the topophilic connection to the land that indigenous Hawaiian culture symbolizes:

Together, by the grace of God, we will continue to stand up for justice and peace in the face of war, military occupation, and increasing restrictions on civil liberties...what might help change the course away from global war and destruction? When all is said and done, it comes down to a matter of faith. Faith reminds us that small things can and do make a difference. A large tree grows from a small seed. Our job is to plant seeds, nurture them to the best of our ability, and trust that God—Ke Akua—will do the rest...When we separate and distance ourselves from Ke Akua, from one another and the earth, we become arrogant; we lose our vision, our humanity, our faith, and our very souls...And so we offer this prayer: Ke Akua, please help us find our way back to you, back to the earth we share with one another, and back to all people and life on the planet. ("Malu Aina", 2007)

While Malu Aina is an ecumenical, plural community advocating religious tolerance, Albertini says that the founding core members of Kumu Aina are Catholic Christians who “draw strength from the tradition of the radical Catholic Worker and Gandhian non-violent movements” (“Malu Aina”, 2007). This is significant when considering Albertini’s notoriety as a social activist and anti-capitalist, since Catholic Workers specify a program of manual labor and voluntary poverty as a key to salvation while simultaneously warning against the wrongs brought about by capitalism and the global economy. This ability to tie permaculture to the efforts of an organized Christianity parallels the role of Christian Workers in utopian socialist theologies of liberation in Central and South America (Gutierrez, 1972) and is similar in logic to the way Christian views of millennialism and apocalypticism become tied to various Latin American utopian movements (Graziano, 1999).

System: The Permaculture Approach to Human/Environmental Relations

Overview of Permaculture: The Countercultural Implications of an Ethical Imperative for Sustainable Design

Because they’re crazy! Because they’re freaks! (University of Florida classmate responding to my question of why my research subjects choose to live in the jungle, eat raw meat, and forego Western medicine)

All great truths begin as blasphemies. George Bernard Shaw, as quoted at a permaculture listserv (“Free Energy”, 2006)

In attempting to describe "permaculture", it is useful to note Taylor’s (2000) comments on the substantial difference between "deep ecology" as it is understood by academic theorists and philosophers and "deep ecology" as it is understood by grassroots activists and on-the-ground laypersons. A similar lesson can be applied to permaculture. There is a difference between how permaculture is perceived by its original founders and how it is perceived by on-the-ground permaculture practitioners in

Puna; moreover, the ideals intended to be brought about by the practice of permaculture differ significantly from the scene which results from actual on-the-ground engagement in permaculture practice in the Puna district. What I will attempt to show in this section is how permaculture, conceived as an environmental design model for sustainable consumption, is readily translated into a symbol of and platform for the expression of nature spirituality, utopian and millenarian beliefs, radical environmental politics, and countercultural sentiments in general.

Coined by Bill Mollison in 1972 and initially developed by Mollison along with David Holmgren, permaculture in its basic form is simply a conceptual tool for designing sustainable human-environmental systems:

Permaculture is the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food, energy, shelter, and other material and non-material needs in a sustainable way. (Mollison, 1994, pg. ix)

This description accurately reflects the day-to-day focus on agricultural activity that takes place within the typical permaculture community. The most standardized expression of this agricultural focus on the permaculture scene, which perhaps serves a normative anchor in permaculture's sea of drifting connotations, is the Permaculture Design course and subsequent certificates offered through various groups and institutions. The first course, taught by Mollison in January 1981, paved the way for the institutionalization of permaculture, offering some the opportunity to make a living in the permaculture world through teaching and charging for courses. While versions of the courses certainly vary (well-known New Age author Starhawk offers a certifying course that is known to be heavily laced with earth-based spirituality) the basic form remains committed to a hands-on praxis of sustainable construction, landscaping planting, and

food-growing techniques, along with pragmatic tips and practice sessions for successful community organization and communication.

However, it is important to note that Mollison's overarching directive guiding how permaculture will achieve its end goal turns out not to be a scientific or design principle but an ethical imperative "to take responsibility for our own existence and that of our children" (Mollison, 1990, pg. 1). His tripartate code of permaculture, oft repeated in the literature, is stated as "care for the earth," "care of people," and "setting limits to population and consumption" (Mollison, 1990, pg. 2).

Holmgren's writings expand on the spiritual principles inherent in this ethical code of permaculture and its relationship to the goal of environmental sustainability and sustainable consumption:

Spiritual beliefs about a higher purpose in nature have been universal and defining features of all cultures before scientific rationalism. We ignore this aspect of sustainable cultures at our peril . . . the more we understand the world through the lens of system thinking and ecology, the more we see the wisdom in spiritual perspectives and traditions . . . an organic growth of spirituality from ecological foundations promises more hope for the world than the increasingly strident clashes between religious and scientific fundamentalism. (Mollison, 1990, pgs. 2–3)

In seeking to achieve sustainability through returning to an ancient spiritual orientation to nature, permaculture's steps to sustainability envision a communal solution that see principles of grassroots, bottom-up, human-environmental socialism and communalism as a path not just away from capitalism but specifically back towards man's natural state. This facet of permaculture, in which right action can help bring about an original state of harmony, demonstrates its congruency with utopian and millenarian ideals. It also helps to explain why many envision the practice of permaculture as a radical and meaningful form of political action; indeed, Mollison's

principle of cooperation can be readily seen to overlap with anarcho-communist views of the biological world famously expressed in the past by influential political writers such as Kropotkin (1955):

Cooperation, not competition, is the very basis of existing life systems and of future survival. (Mollison, 1990, pg. 2)

Life forms of very different qualities may interact beneficially with one another and with their physical environment. (Mollison, 1994, pg. 51)

Mollison emphasizes his belief that nature is an ungoverned system of cooperation by quoting Lewis Thomas from *Lives of a Cell*:

“The bacteria . . . live by collaboration, accommodation, exchange, and barter.” (Mollison, 1994, pg. 51)

Earlier he presents his concept of the ultimate goal of dismantled government institutions in human systems:

The policy of responsibility (to relinquish power): the role of beneficial authority is to return function and responsibility to life and to people; if successful, no further authority is needed. (Mollison, 1994, pg. 11)

This anarchist bent overlaps with visions of natural harmony also expressed by representatives of neo-primitivist and radical environmentalist movements. Like these groups, permaculturalists often glorify the natural harmony of earlier cultures, especially pre-industrial cultures, yet also tend to optimistically recognize the possibility for a brighter, non-apocalyptic future which incorporates aspects of present-day knowledge and culture:

When we left our tribal life we left with it all guides to sensible behavior in the natural world, of which we are part and in which we live and die. (Mollison, 1994, pg. 10)

Most indigenous and traditional cultures have come far closer to understanding this art and embodying an integration of the entire matrix than our fragmented culture of today. Indeed, we have much to learn from our cultural ancestors. Yet GaiaYoga is not about 'going back' to what has

been in the past. Why? Because the 'whole' of today encompasses much more than the 'whole' of previous times. We've evolved significantly in many, many aspects of life. . . . The beast that's been created requires an entirely different kind of 'lion-tamer' than has ever existed before. (Tarletz and Kirkel, 2007, pg. 23)

Permaculture's emphasis on cooperation and community, combined with its reverence for traditional indigenous practices and the ontological implications which result use of Lovelock's "Gaia" terminology (described in the next section) to explain the systems view of human-environmental systems, allows it to become closely identified with the blossoming ecovillage models and spiritual-environmental philosophies being actively espoused by many Northern counterculture communitarian groups as well as many Southern indigenous rights movements. These groups and movements find common ground in the anti-capitalist sentiments of permaculture and its ethical imperative to resist the destructive production and consumptive practices associated with dominant Western culture. Through merging qualities of science, spirituality, radical politics, and utopianism into a practical approach that promises liberation from social and environmental degradation, the permaculture trope has thus found popularity as an authoritative reference for legitimizing the role of religiously-inspired utopian, millenarian, and apocalyptic thinking in back-to-the-land, simple living, and indigenous agricultural movements around the world. In each case, the permaculture trope serves as an ethical, utopian binder for various anti-hegemonic factions and ideologies that might otherwise find themselves fragmented. David Holmgren acknowledges in his own writings this decidedly countercultural basis of permaculture:

Permaculture has provided a holistic framework for reorganising the lives and values of a small minority ready for more fundamental change. This has been particularly so for the minority of young people disillusioned with the conservative consumer youth culture of the late twentieth century. . . . This subcultural or countercultural aspect of permaculture has facilitated the

experimentation and pioneering of lifestyle models directed by the ecological imperative. (Holmgren, 2002, pgs. xxi–xxii)

Permaculture's overall reach is international in scope and increasingly extends to highly practical initiatives in the developing world where the availability of food, shelter, and financial security are the critical issues at hand. Thus, in Indonesia, we find the Yayasan IDEP Foundation (IDEP stands for Indonesian Development of Education and Permaculture) working as a tsunami relief agency to rebuild the Aceh Peninsula hit by the 2003 tsunami, and also involved in the development of “micro-credit cooperative programs” (IDEP, 2008). In Brazil, permaculture institutes and communities began appearing in the mid-90’s and recently participated in the 5th World Social Forum in Porto Alegre by building demonstration timber and mud shelters (Williams, 2008). On the Deccan Peninsula a few hours north of Hyderabad, India, Mollison himself worked with local permaculture chapters to develop a “food forest” on land that was once “dry, hard barren wasteland” (Celcias, 2008), while the well-known Sexto Sol project in Chiapas, Mexico, continues to use the permaculture trope when describing its attempt to reconstruct self-sufficient food systems for rural indigenous groups as an answer to the problems associated with mono-crop corn production (Sexto Sol, 2012).

In the industrialized Western world, the permaculture concept is a popular symbol of the urbanite utopian imagination. Permaculture Magazine in Great Britain targets urban and suburban contingents of progressive liberals and DIY (“do-it-yourself”) subculture, and affiliates itself with everything from fair trade gas companies and telephone company cooperatives to Greenpeace and the World Wildlife Federation (“Permaculture”, 2012). The U.S. counterpart magazine, Permaculture Activist, features on its website an “Earth Clock” providing a second-by-second update of the world’s

rising human population, global temperature, CO2 emissions and waste production alongside its plummeting species numbers, forest cover, and oil reserves ("Permaculture Activist", 2012). In general, permaculture's wide umbrella of counter-hegemonic representation may be its most significant and promising feature. In the United States, Australia, and Great Britain it becomes aligned with organic and biodynamic farming initiatives, voluntary simplicity movements, neo-pagan movements, radical environmentalism, and even a few punk versions of DIY subculture. In Hawaii it serves as a social and conceptual bridge which links various communities engaged in social activism, primitivism, the raw food movement, and back-to-the-land homesteading attempts to recreate the "good life" – all of which simultaneously feature the "permaculture" trope in descriptions of their community goals.

Permaculture as a Utopian, Millenarian Form of Nature Spirituality

While both Mollison and Holmgren have expressed belief in the utility of a spiritual approach to nature appreciation, both have been careful to disclaim any religious roots behind their own personal appreciation for nature:

For the present, my own interpretation of the ethical principles of permaculture rests firmly on rational and humanist foundations. (Holmgren, 2002, pg. 3)

Philosopher-gardeners, or farmer-poets, are distinguished by their sense of wonder and real feeling for the environment. When religions cease to obliterate trees in order to build temples or human artifacts, and instead generalize love and respect for all living systems as a witness to the potential of creation, they too will join the many of us now deeply appreciating the complexity and self-sustaining properties of natural systems. (Mollison, 1994, pg. 59)

However, while the founders of permaculture maintain a practical, Apollonian approach to nature parallel in many ways to Aldo Leopold's (1949) land care ethic, it is increasingly evident that permaculture as a trope and meme now flows through the

global ideoscape⁵ as a sign of countercultural endeavors and nature spirituality as much as an environmental systems design. Permaculture's meaning has taken flight past an engineering design principle through online chat groups, websites, international NGO's, magazines, and its ongoing use within the countercultural ecovillage network. In these less authoritative arenas, permaculture discourse spiked with Dionysian nature spirituality often flows freely:

'Gaia' is the name for the living, sentient, conscious Earth, with her own spirit, identity, and destiny as a planet-being. (Tarletz and Kirkel, 2007, pg. 7)

We are of the Earth and cannot separate ourselves from it and everything around us. We seem to forget We (humans) are animals too!!! As PCers [e.g., permaculturalists] we design relationships, connections, and guilds into every part of our homesites. We therefore cannot separate ourselves from Spirit (God/dess, Great Spirit, Creator et al). (Don, 2007, online)

On the ground, the full pursuit of a permaculture lifestyle often blends imperceptibly into the ecovillage format of intentional community. The social network of a permaculture community or individual typically includes strong connections to other eco-spiritual communitarians and communities, who are distinguishable from permaculturalists in trope use but are often otherwise very similar in daily practice, community design, and eco-spiritual tone:

We are also deeply in love with the Earth Mother and her old pagan religion, with the moon and the trees and with all of wild nature, and we worship when the moon is full and sometimes on the old festivals of the sun, too. . . . Our commune is our home and our tribe and the home of the

⁵ Appadurai's (1986) five landscapes of globalization address global cultural flows that occur on complex adaptive landscapes. Ideoscapes are "concatenations of images" that often relate to political ideologies; it is the landscape within which global ideologies compete.

Earth Mother. (Statement from the now-defunct Selene Community of Wales, Great Britain, as quoted in Musgrove, 1974, pgs. 32-33)

Within these social networks, both self-described permaculturalists and non-permaculture brethren practicing eco-spiritual communitarian living may name similar themes of inspiration. In my own interviews of Puna's permaculturalists, three book titles mentioned by more than one interviewee as important sources of personal inspiration were Daniel Quinn's "Ishmael", Riane Eisler's "The Chalice and the Blade", and Dorothy Bryant's "The Kin of Ata Are Waiting for You." These books' common themes of egalitarian eco-spiritual utopia demonstrate a solidarity of vision among those who become inspired by the liberating potential offered through permaculture philosophy and community design.

Millenarian beliefs pervade the typical permaculture community. Permaculturalists may see the possibility of future apocalypse, yet tend to have an optimistic view which recognizes a path of escape through personal will. This tendency was reflected particularly strongly in my own research through in-depth interviews of individuals actively engaged in the permaculture lifestyle; among Puna's permaculture practitioners, the vast majority express optimism regarding the possibility that human choice can play a significant role in the avoidance of a future environmental apocalypse. Mollison expresses this role of human will as a necessary choice and possible hope for impeding an impending dystopia and apocalypse:

We can either ignore the madness of uncontrolled industrial growth and defense spending that is in small bites, or large catastrophes, eroding life forms every day, or take the path to life and survival. (Mollison, 1994, p50)

David Holmgren also expresses an optimistic, anti-apocalyptic view regarding the radical environmental vision of a great future die-off:

I think the die-off scenario and that provocative wake-up call is really useful, and I think it can't be completely discounted. A large and very catastrophic drop in populations, like bigger versions of what happened in Europe with the Black Death, could be likely through infectious diseases. The evidence points to a re-emergence of infectious diseases, both old ones and new ones. So these possibilities are there, but I think they get confabulated. Just a decline in material affluence back to the levels of the 1930s would be seen by many people as the die-off scenario. So, in that sense I think people should expect radical changes and a lot of things that are taken for granted now might just disappear and evaporate. (Holmgren as quoted in Fenderson, 2004).

Holmgren's permaculture philosophy goes so far as to portray humanity's fossil fuel era as being in line with a system of long-term benefits for Gaia:

Given that fossil fuels represent hundreds of millions of years of stored energy—effectively the surplus of the abundance of Gaia as a self organizing organism, the living earth. You could say that now we've dug it all out again, in a way we've done nature's task—humanity's task is now over. We've put it all back into the atmosphere, recycled all the biological elements, and nature will now use that to develop to a higher level of energy. And humans will just be swept away in that. (Holmgren as quoted in Fenderson, 2004)⁶

The anti-capitalist principles underscoring such views can once again be traced back to permaculture's principle founder, Bill Mollison, who describes the benefits of permaculture's focus on autonomous food production as an alternative to the:

The present focus on plugging into the globalised market—turning survival into a commodity many can't afford, planting monoculture crops for long distance export, dismantling local economies and driving droves of rural refugees into urban slums in the process. (Celcias, 2008, paraphrasing Mollison)

Instead, permaculture offers a panacean cornucopia of solutions to the woes of the world:

⁶ Note that systems ecologist Dr. Mark Brown of the University of Florida similarly mentions this role of humans in the long-term benefits of carbon release (in terms of potential future circulating biomass) during his graduate systems ecology lecture courses.

Here we see a 'complete' solution, one that solves several problems in one hit: biodiversity, climate change, food security, food miles and economic vulnerability. The only losers here are the mega-corporations that lose sales on GMO seeds, pesticides, herbicides and heavy machinery (emphasis on losers). (Celcias, 2008)

Thus, permaculture has deep millenarian roots. Through cooperation and hard labor morally motivated by a desire to get one's house in order by returning to the behaviors of a natural past in order to prepare for the future. In the case of permaculture, environment is the godhead, and thus it is nature that will make the changes leading to destruction of the current order while the chosen few toil on in relative glory. The first step is immersion in a world free from the trappings of modernity and capitalism:

Pangaia is a place where you will discover how you feel when your consciousness stops getting a constant dose of automobiles, traffic, cell phones, faxes, interruptions, advertisements and commercial transactions. ("Pangaia: Primal Living", 2007)

This heightened consciousness, free from the confusion of capitalism's technology, is the original "state of nature", a la Rousseau. The anti-capitalist, anti-consumer implications of such sentiments imply that a lost connection to both Earth and Spirit can be refound through engaging in an energetic, hands-on discourse with the land:

Our vision is of unity with Gaia, the Earth mother, and with each other; a full and complete expression of who we are through our work, art, and play. (Pangaia, 2007)

Permaculture's tendency towards religiosity finds much of its roots in the systems ecology concept of the planet Earth as a self-regulating sustainer of life. Both Mollison and Holmgren credit H.T. Odum's (1971) work in systems ecology and energy flow, along with James Lovelock's (1979) Gaia hypothesis of the Earth as self-regulating, as

main inspirations for their permaculture vision of sustainability based on systems thinking⁷. Mollison (1994) describes the Lovelock's Gaia concept as "a philosophy, or insight, which links science and tribal beliefs" (pg. 51), seeing "Earth, and the universe, as a thought process, or as a self-regulating, self-constructed and reactive system" (pg. 51). In this concept, moral responsibility is required to address the possible threat of imbalance which man presents to Gaia: "humanity, however, in its present mindlessness, may be one disturbance that the Earth cannot tolerate" (pg. 52). Lovelock himself presented the Gaia model as an alternative to the model of man versus/subduing nature, as well as an alternative to a scientifically-induced, non-teleological, existential melancholy, and thus infused a countercultural, bohemian sentiment into the theory from the very start:

The Gaia hypothesis is for those who like to walk or simply stand and stare, to wonder about the Earth and the life it bears, and to speculate about the consequences of our own presence here. It is an alternative to that pessimistic view which sees nature as a primitive force to be subdued and conquered. It is also an alternative to that equally depressing picture of our planet as a demented spaceship, forever traveling, driverless and purposeless, around an inner circle of the sun. (J.E. Lovelock, *Gaia: A New Look at Life on Earth*, as quoted in Mollison, 1990, pg. 2)

As with the ecovillage concept, the permaculture concept as seen through the lens of the Gaia theory can be understood to represent an ideological offer of ontological spiritual meaning meant to counter to the lifeworld-colonizing effects of a godless capitalist culture. Use of the term "Gaia" in everyday speech within the permaculture

⁷ Comparing the role of these two influences on Mollison and Holmgren, Mollison's writings place more emphasis on Lovelock and his Gaia hypothesis while Holmgren particularly emphasizes H.T. Odum and his systems energy flow concepts. Both Odum and Lovelock offered views of environmental systems as cybernetic organisms, and Odum directly mentions Lovelock and the Gaia principle in the last few pages of his 1996 book on Environmental Accounting.

community thus usually signifies a countercultural form of ontological understanding, rife with a pattern of spiritual beliefs about nature that erupt as part of an anti-hegemonic movement against mainstream secular and deist culture, in which man is given dominion over nature. Instead, nature is seen to operate at a level above human scale – a higher order of occurrence:

That's at the God level, perhaps. That's for the earth to decide, anyway. We can't do anything about that, we're not God, we're not Gaia, yet we're understanding systems at a scale which are well above our capacity to have any influence over. (Holmgren, as quoted in Fenderson, 2004)

The Earth is our elder, our source. She will be here long after we have dissolved. How can We own Her? We are but a tiny part of Her. ("Permaculture at Pangaia", 2007)

In various permaculture reinterpretations, Gaia gets transformed into a “higher power” that takes on sacred qualities, with the goal of human-environmental engineering becoming a spiritual and harmonious merging of man and nature:

'Yoga' is a Sanskrit word that means *union* or *to unify with*. So, GaiaYoga is a path of unification that honors and celebrates our fullest relationship with Gaia. It's about our evolutionary potential as Earthlings—to be divinely-realized and nature-based beings who cooperate with others in sustainable cultures. (Tarletz and Mercedes, 2007, pg. 7)

Gardener, scientist, philosopher, poet, and adherent of religions, all can join together in admiration of, and reverence for, this Earth. (Mollison, 1994, pg. 59)

We envision unity between Earth mother Gaia and ourselves. We seek a full and complete expression of our being through work, art, and play, as well as our relationships with each other. One of the most fundamental goals at Pangaia is to move toward sustainability and harmony with our environment. (Pangaia, 2007)

Thus, spiritual dimensions of nature can once again be seen to be explicitly accepted and incorporated into the permaculture belief system. However, social researchers note that even among the ecovillage and communitarian crowd, a high

percentage of individuals will classify themselves as nonreligious despite also subscribing to "relatively high levels of a values system with definite religious overtones" (Brinkerhoff and Jacob, 1987, pg. 78).

This debate over whether religiosity is needed or important in the permaculture movement was the hot topic of a 2007 discussion thread at an online permaculture listserv. When one blogger identified permaculture as specifically omitting an interest in beliefs systems and politics and instead to be based purely on science and results, a responding blogger describing himself as a "practicing Nature worshipper and Follower of the Great God Pan" listed the numerous non-fundamental Christian religions which had beliefs that influenced on-the-ground practice of, and showed cohesion and alignment with, the permaculture principle:

Quakers, Anglicans, Unitarian Universalist Fellowship, all the mainstream Protestant churches, and Catholics in the index of approved-for-permaculture Christian religions? What about Holy Rollers, Pentecostals, Mormons, Jehova's Witnesses and Seventh Day Adventists. What about Hindus, Buddhists, followers of Islam, Zoroastrians, Rosicrucians, Ananda Marga & Self Realization Fellowship, followers of Paramahansa Yogananda, followers of Sri Ramakrishna, followers of Meher Baba, the Coptic Church, Wiccans, Pagans, Druids, worshippers of the original Greek religion whorecently practiced their rites at a Greek Temple, Jesuit Catholics, all Anglicans and Catholics who have taken holy orders, Nature worshippers of all sorts and Followers of the Great God Pan. TM and Moonies, Ommmmm. (London, 2007)

The same online writer followed up this religious verbosity by noting that:

Religion or spiritualism or some longing for the unknown and mysterious as a guiding force in one's life is important to many people who teach, practice, research and document permaculture. (London, 2007)

Another acknowledged Mollison's emphatic attempt to maintain a "wall of separation" between permaculture and any specific belief system, but noted:

I've been to plenty of [permaculture] gatherings that are strongly pagan/wiccan/New Age. (full disclosure: I'm pantheist/Buddhist myself, if

I've gotta give a name to it). Starhawk's Earth Activist Training, for example, is a [permaculture] certification course that is strongly imbued with Earth-based spirituality. I don't know of any Christian or Jewish [permaculture design courses]. So why has [permaculture] become linked with New Age beliefs? (Anonymous, 2007a)

One online responder, a well-known permaculture advocate named Toby Hemenway who later began assisting with permaculture design courses at the La'akea Permaculture Community in Puna, noted that New Ager's were attracted to permaculture because it valorized traditional horticultural societies, which:

According to anthropologists, tend to view all of nature as imbued with spirit. For them, God is in the rocks, the water, the plants. In most cases, a different (but ultimately interlinked) spirit is responsible for each place, each element, each plant Permaculture is an attempt to create a contemporary horticultural society . . . although it can appeal to a wide variety of people, it is going to have a large following among people who have a horticulturalist's view of spirit. That means it's going to be difficult to keep that wall of separation up. Horticultural practices and ethics will naturally be drawn to (and may even inspire) a horticulturalist spirituality. (Hemenway, 2007)

A second responder on the connection between permaculture and New Age spirituality noted that permaculturalists find religion through reading the Book of Nature:

Because Permaculture encourages observation and thinking about natural systems and the Natural Sciences in a new way. Eventually permaculturists begin to discover things new to them, new relationships, new connections, new function and the mysteries and marvel of the Universe and Nature begin to unfold and be revealed to them. New Age beliefs dwell in this as do ancient belief systems. (Anonymous, 2007b)

A third responder noted that her reading of Daniel Quinn's "Ishmael" and her own Christianity both meshed in ways that pointed the way towards permaculture practice:

A common thread in my local green/permaculture community is a strong calling from Daniel Quinn's "Ishmael" to enact natural, permaculture, and especially 'old ways'—sustainable ways—of living. In tying this post to the spirituality issue, I took Ishmael as actually emphasizing (or at least reinforcing) Jesus' Christianity (not necessarily the Church's version, though); "Leave all behind and follow me" was a reminder that the natural ways—that 'God' gave us—are the right way. That's even an issue related

to permaculture, are we acting as 'little gods' in our agriculture or should we be practicing even more natural systems, focusing on harvesting wild edibles, etc. (Mykyta, 2007)

In one of the last comments of the thread, Scott Pittman, well-known director of the Permaculture Institute, upheld the non-denominational character of Mollison's original permaculture ethics, but noted that if he were to give his own religious beliefs a name it would be "animism which accepts all of creation as holy, including people" (Pittman, 2007a). In a critique found among many permaculturalists and well as many other countercultural environmentalists, he denounced mainstream religion as:

Creating a culture of self-loathing among those who are resistant to the 'call'. It has been in the name of spirituality that indigenous people are taught to be ashamed of their bodies, to come to believe that they are stupid, and forced to abandon the sustainable practices that have guaranteed their survival for centuries. (Pittman, 2007a)

Permaculture: Lived Nature Spirituality as a Radical Political Praxis

While the potential for eco-spirituality exists in many environmental movements, scholars often note the need to "read between the lines" to discern the spiritual and religious dimensions characterizing environmental movements. Taylor (2001a; 2001b) presents an example of this in his discussion of the religious dimensions of radical environmentalists who, while aggressively outspoken in their politics tend to be passively hushed, dismissive, and even ignorant of any inherent spirituality typifying their beliefs. Many are more likely to denounce any spiritual or religious roots, stepping behind a line that is overtly drawn between nature religiosity and nature appreciation. Permaculture's overt religiosity, on the other hand, stands out to smack you in the face, while its characterization as political in temperament becomes convincing only after some argument. I will attempt to make that argument here.

You never change things by fighting the existing reality. To change things, build a new model that makes the existing model obsolete. (Buckminster Fuller)

When the Buckminster Fuller quote above, representing both permaculture's critique of protest-based politics as well as its vision of progressive action, was entered by a user into an online permaculture listserv, it instigated a long thread of responses which included the following:

The effect of Permaculture worldwide is certainly more profoundly political than Students for a Democratic Society of which I was a proud member for several years. The primary difference being SDS was fighting against something while permaculture is fighting for something. (Tolson, 2007)

The original question the thread had proposed was whether or not permaculture was political. This question is a sensitive one, as permaculture is attacked by protest-based groups for being politically impotent, while the importance of being politically potent is represented in the name of the most popular permaculture journal, "Permaculture Activist."

For some, engaging in permaculture or taking a permaculture design course is seen as a political move:

To my mind the very act of enrolling for a permaculture design course is one of the most political acts most people ever engage in. (Pittman, 2007b)

The very act of reading 'Permaculture—A Design Manual' is extremely radical and political as the information and realizations sink in of the ultimate outcome of following the pc path. The beauty of permaculture has always meant, to me, that I can travel all over the world in some of the most brutal dictatorships espousing a revolutionary system of design and I am considered harmless by the powers that be. (Tolson, 2007)

Another comment by Tolson (2007) shows how permaculture's political stance is rooted in a systems-based eco-spiritual view that opposes the system-destroying

tendencies of mainstream politics and champions a possible role of humans as corrective, homeostatic elements of the Gaia system in which they are embedded:

It seems to me that dominion drives parasitic lifestyles in opposition to Gaia's life cycles. Dominion creates a death cycle, as evidenced by the ecological destruction left in its wake. Lynn Margulis says that humans, in order to join the cycles of life, must live in symbiotic relations within Gaia (the sum total of life on Earth, perhaps in the cosmos). . . . James Lovelock said in a recent Rolling Stone interview that humans are the brains and nervous system of Gaia. . . . The decision to consciously join Gaia's flow seems to me profoundly political, emotional, spiritual, physical, social, and mental. Friere says humans should strive to enhance our humanity Permaculture community offers us the opportunity to grow ourselves to fullness in all of our potentials. (Tolson, 2007)

Such arguments about differences in the spiritual and political character of the different environmental movements, and how that impacts their overall effectiveness, are key issues that can be used to help contrast the more overtly political orientation of many environmental groups with the more ascetic orientation of the typical permaculture devotee. While "permaculture" as a trope and meme has yet to make itself felt on the academic stage, we can showcase its obvious parallels with existing tropes in order to demonstrate how permaculture's political side can be described, differentiated, and categorized according to existing classification schemes. Musgrove (1974), for one, makes a distinction between "political/activist" and "expressive/aesthetic" modes of the counterculture. On a similar vein, Yinger (1982) used Weber's account of prophetic, ascetic, and mystical religious sects to distinguish between:

The radical activist counterculturalist [as] the prophet who 'preaches, creates, or demand new obligations' . . . [and] . . . the communitarian, seen as a type, [as] the ascetic who withdraws into a separated community

where the new values can be lived out with minimum hindrance from an evil society. (Yinger, 1982, pg. 91)⁸

Yinger (1982) showed parallels between his tripartite distinction with the psychological theories of Karen Horney (1937), who notes that neurotics struggle with anxiety by attack, withdrawal, or search for shelter and protection, and Charles S. Johnson (1934), who finds aggression, avoidance, or acceptance as three ways that minority individuals deal with discrimination by the mainstream. Within Yinger's categories, one can thus cast the more overtly political forms of environmentalism as the archetypes of prophetic activism (which are psychological expressions of attack and aggression), while permaculture lifestyles model a communal, utopian expression of withdrawal and avoidance.

That permaculture's countercultural style of nature ethics often finds itself at deviant odds with mainstream culture is what makes permaculture a radical alternative, and through this radicalism, a political gesture—a passive, dismissive, lifestyle-based "weapon of the weak" rife with "hidden transcripts" of resistance to domination (Scott, 1985; 1990), a political "pedagogy of the oppressed" (Friere; 1970) in which grassroots permaculture praxis is the key to freedom. "Radical," according to the Second College Edition of the American Heritage dictionary, is:

1. Arising from or going to a root or source; basic. 2. Carried to the utmost limit; extreme: *radical social change*. 3. Favoring or effecting extreme or revolutionary changes, as in political organization. (American Heritage Dictionary, 1982)

⁸ The third category - the mystic - was described as those who "are searching for the truth and for themselves ... Realization of their values requires, in their view, that they turn inward. They do not so much attack society as disregard it, insofar as they can, and float above it in search of enlightenment" (Yinger, 1982, pg. 91).

This third sense of “radical” encompasses permaculture's utopian principle, which imagines an alternative to existing reality; through movement actions, reflexivity is enhanced throughout the society and a shift is willed to occur (Gusfield, 1994). Brown (2002, pg. 158) notes that the social phenomenon of the intentionally designed community symbolizes and signifies "a common need to adjust to changes in the environment." Zablocki (1980) recognized the reverse: that social change catalyzed the formation of intentional communities. He identified four periods of community building in the U.S.: a colonial period (1620-1776; Plymouth Colony, the Amish, Labadists, The Ephrata Cloister, the Moravian Brethren, and the Shakers), the Shaker influx of 1790-1805, the Utopian Socialist Period 1824-1848 (New Harmony, Brook Farm, Oneida), and the turn of 19-20th century (1890-1915, a period of intense back-to-the-land movements). The fifth period was recognized as the current ongoing period of community building that began during the social upheavals of the 1960's⁹.

Mannheim (1960) said that the relationship between these utopias and the existing order was an ongoing dialectical one:

By this is meant that every age allows to arise (in differently located social groups) those ideas and values in which are contained in condensed form the unrealized and the unfulfilled tendencies which represent the needs of each age. These intellectual elements then become the explosive material for bursting the limits of the existing order. The existing order gives birth to utopias which in turn break the bonds of the existing order, leaving it free to develop in the direction of the next order of existence. (Mannheim, 1960, pg. 179)

⁹This is particularly interesting when noting the various online travel guides which superlatively describe Pahoā, the main town of Lower Puna, as a town that is "lost in the sixties" (www.squidoo.com), "where the sixties never ended" (www.tripadvisor.com), and "with a decidedly '60's feel" (www.lovingthebigisland.com).

That these breaks from the existing social order were often spiritual yet sectarian in nature was recognized by Stark (1967):

"Sects deviate from the prevailing social order in three basic polarities: They can emphasize a glorious past, to be rediscovered and revitalized, or a glorious future, expressed in millenarian or utopian hopes (the present is repudiated). They can adopt an ascetic or a licentious, antinomian morality (moderation is repudiated). And they can deal with the dominant society passively or violently (cooperation and negotiation are repudiated). (Stark, 1967, pg. 8)

Permaculture's call to build spiritually-endowed back-to-the-land communities of "permanent culture" can be seen as embodying some of all of these concepts. It can be seen as a revitalization movement, taking on religious and secular characteristics which both incorporate new and reincorporate traditional beliefs through:

A deliberate, organized, conscious effort by members of a society to construct a more satisfying culture . . . a special kind of culture change phenomenon. (Wallace, 1956, pg. 265)

Permaculture communities can also be seen as part of an ongoing social movement which proposes "intentional, collective efforts to transform social order" (Buechler, 2000, pg. 213). For Habermas (1984) such social movement actions are responses to the invasive, controlling aspects of social life in late modernity, which is characterized as large, anonymous social institutions that have become especially intrusive and invasive in the 'colonization' of the individual's 'lifeworld.' In these new social movements, participants intend to achieve some degree of uniformity and thereby function as a single unit that intends to be in conflict with the colonizing actions of an established adversary; through this challenge, social movements are considered to play a significant role in the making of a new social order (Melucci, 1996).

This is a good place to begin a deeper analysis of the term "ecotopia", which Anderson (1974) utilized to describe the environmentally harmonious visions of such a

new social order. Such visions look with hope towards the promise of a non-apocalyptic future, as exemplified by organizations such as the Network For a New Culture and ZEGG (a German community whose acronym translates to "Center for Experimental Cultural Design), both of which are heavily tied to the global permaculture movement and mentioned in my interviews with Puna permaculture practitioners as sources of inspiration for permaculture participation.

Permaculture is imagined by Kassman (1997) to be part of a "social ecology" ecotopia (the other ecotopia categories being mystical deep ecology and neo-primitivism). Kassman (1997) identifies alternative communities, and specifically Mollison's practice of permanent agriculture, as a radical environmental praxis of social ecology. Citing Bookchin, Kassman (1997) describes the goal of the social ecology community to be radical political transformation through the:

Creation of institutions and participation in activities outside of the dominant political system . . . the theory behind this strategy is based upon the concept of dual revolutionary power, where counterinstitutions are organized to compete with and offer alternatives to official political institutions, economic systems, and cultural traditions. (Kassman, 1997, pg. 39)

Again citing Bookchin, Kassman (1997) notes that:

The eventual goal of these economic praxis strategies is not only freedom from the dominant economic system but the development of a consciousness of community citizenship and mutual obligation Bookchin advocates that these alternative community-based institutions form confederations and begin to challenge the powers and functions of the present governmental system. (Kassman, 1997, pg. 39)

Along these lines, Ernest Callenbach (1982), in *Ecotopia Emerging*, took the progressive step of outlining a strategy for how small communities could empower themselves through autonomy and thus disassociate from the United States.

Callenbach's plan begins with small communities issuing declarations of independence, citing local authority and laws as having legal force above federal and state laws.

Kassman (1997) notes that the County of Hawai'i attempted a version of Callenbach's vision through an official, citizen-sponsored initiative in which the Big Island declared itself a nuclear-free zone. The U.S. government responded to this power play by sending to Hilo Harbor a warship rumoured to be carrying nuclear weapons. The leading advocate of Hawai'i's nuclear-free initiative was avid permaculturalist named Jim Albertini, who jumped into the harbor to protest the ship's arrival. After three minutes swimming in the harbor, he was arrested and sentenced to three years in a federal prison. Note that this is the same Jim Albertini who runs Malu Aina, a work-exchange farm in the upper Puna district that is dedicated to sustainable living and is considered to be an example of permaculture by various permaculture practitioners whom I interviewed at various sites in lower Puna.

Albertini's imprisonment illustrates the difficulties activists, including environmental activists, face when attempting overtly political forms of protest.¹⁰ While this form of active political action is easily recognized and defined, it is worth noting the widespread use and effectiveness of more passive forms of political resistance by the powerless masses. Thum (2002), for instance, describes non-cooperation and self-reliance as Gandhian forms of political activism. Such actions are explored in depth in Friere's (1970) "Pedagogy of the Oppressed." Scott (1985) employs the term "weapons of the

¹⁰ In the United States, organized radical environmental protests of the early '80's and '90's were criminalized and eventually suppressed by government infiltration.

weak" to connote such tactics, which he notes to be effective due to their under-the-radar nature. For some, these tactics offer an emancipatory potential:

It seems to me that Permaculture is a conceptual tool with which to engage a process of praxis which, according to Paulo Friere ('Pedagogy of the Oppressed'), results in liberation. Praxis may, then, liberate us from dominion. Action, reflection, action; driving FOR the liberation of life. (Tolson, 2007)

Buechler (2000, pg. 47) notes that new social movements, such as permaculture, can be considered to utilize such weapons:

Rather than seeking power, control, or economic gain, such movements are more inclined to seek autonomy and democratization (Rucht, 1988). . . . such a focus does make movements less susceptible to traditional forms of social control and cooptation by the conventional political system. (Buechler, 2000, pg. 47)

He further notes:

"If hegemony is an important form of social power, the culturally-oriented, anti-hegemonic politics of many new movements is a valid form of resistance" (Buechler, 2000, pg. 47–8, quoting Nancy Whittier)

The political potential for this resistance is then addressed:

"The ability to envision and symbolically enact new and different ways of organizing social relationships can itself be a potent challenge to dominant social arrangements." (Buechler, 2000, pg. 48, quoting Melucci)

Permaculture's participation in these passive political movements is morally motivated and informally maintained through the processes of modern cultural transmission. Musgrove (1974) describes its political significance in the back-to-the-land movement:

The social scars produced by high and rising rates of economic production are, indeed, deplored by members of the counter culture: and there is a deep awareness of the social costs of high technology. But low consumption is a tactic for attenuating social bonds and reducing dependence on the economic system (both Godwin and Rousseau advocated frugality on these grounds, as a means of enhancing personal freedom and autonomy). It may also be seen as a political weapon, a

means of subverting an economic system which is an instrument of social injustice. (Musgrove, 1974, pg. 17–18)

Yet another means of categorizing permaculture can be found in the writings of Frederic Bender (2003), who identifies four types of radical ecology: social ecology and ecofeminism, which he considers to be wrapped up in anthropogenic, "traditional concerns of the historic Left" (Bender, 2003, pg. 339), and eco-defense and bioregionalism, which he classifies together as both motivated by more ecologically-oriented worldviews and both as forms of deep ecology. Within these divisions, we can understand eco-defense to connote the classic practice of radical environmentalists:

Radical environmentalism most commonly brings to mind the actions of those who break laws in dramatic displays of 'direct action' in defense of nature. (Taylor, 2008, pg. 27)

Permaculture, on the other hand, as a back-to-the-land movement focused on achieving human and environmental harmony, identifies heavily with both social ecology and bioregional principles. The bioregional emphasis on sustainability, community, and spirituality, described by Taylor (2001b), parallels the emphasis of permaculture:

Bioregionalists emphasize creating sustainable lifestyles and communities, one separate from the dominant society. They also tend to be more directly engaged in promoting spiritual consciousness change in various ways, often through over ritual work, and they are often more hopeful that positive change is possible than are most radical environmentalists. (Taylor, 2001b, pg. 225)

This is in opposition to the eco-defense orientation of radical environmental groups such as Earth First!:

Earth First'ers, however, emphasize political action to defend the biotic diversity of the planet . . . they are generally less optimistic than bioregionalists that education and ritualizing can facilitate a dramatic enough change to arrest species extinctions. (Taylor, 2001b, pg. 225)

Thus, bioregionalism and permaculture are very similar philosophies encouraging a very similar on-the-ground application, as seen in this quote from a 2008 Bioregional Congress flyer, which emphasizes an ethic of lifestyle praxis and eco-spirituality, along with an anti-apocalyptic, moral optimism based on the possibility of a spreading trend of willed environmental praxis:

Although this . . . has a solid theoretical and academic foundation on environmental issues, it is primarily the work of several people who speak from living this way. It comes from households of people practicing living ecologically with a religious or spiritual fervor. I'm not exaggerating. The individual efforts to save the environment of the planet, although modest in their global outreach, are nevertheless heroic. As a matter of fact, the sum of all the individual efforts, if adopted by millions, would result in the salvation of the earth. If we take care of the quality of life for our family, we are taking care of the quality of life of the community and, ultimately, for the whole world. We cannot have a global environmental spirit if we don't have it first in our daily, domestic and local life. (2008 Bioregional Congress flyer)

While deep ecology principles can be seen to be embedded in many politically-oriented environmental movements, Scarce (1990) comments that the political and lifestyle implications of bioregionalism are recognized by deep ecologists as:

The ideal organizing theory A bioregion's boundaries can be fixed . . . according to ecological, philosophical, and anthropological criteria like an area's watershed, the shared sense of identification with a place, and the cultural distinctiveness of an area . . . the actual political process deep ecologists envision would be highly decentralized and truly democratic, allowing everyone in a community to have a say in political decisions. (Scarce, 1990, pg. 38)

These characteristics of natural boundaries and decentralized democracy cover both Mollison and Holmgren's permaculture vision. Additionally, permaculture as a model of community living guided by an intuitive spirituality can be seen to have close parallels with deep ecology's on-the-ground ideals. Scarce (1990) notes that Devall

(1988) sees deep ecology's spiritual yearnings as emerging from aimless consumerist culture. He quotes Devall as saying:

The praxis of deep ecology comes from a religious and community basis. I think what is driving that is spiritual yearnings. . . . if our interpretations of deep ecology have been too mystical for this country, it is because this country is so materialistic. (Devall, 1988, pgs. 197–198)

Scarce (1990) and Devall & Sessions (1985) both quote Arne Naess on his insistence that deep ecology praxis must have an essential religious component, and that this religious component must be based on: "fundamental intuitions that everyone must cultivate if he or she is to have a life based on values and not function like a computer" (Devall and Sessions, 1985, pg. 76).

These emphases on non-material, intuitive, value-based rationality rather than material, computer-like, technocratic rationality are at the heart of a deep ecology philosophy that characterizes permaculture belief systems. Writing for an online permaculture forum, Cereghino (2007) noted that such emphases constitute a major difference between permaculture thinking and current scientific thinking in regards to attempts to engineer sustainable human-environmental systems:

Scientific theories and data are useful in specific situations . . . but I would say with confidence that permaculture is not science. . . . permaculture practice leans heavily on an intimate, intuition based relationship to land that is not systematic, replicable, or even transferable. . . . Furthermore I would suggest that permaculture incorporates an ethical system about 'right relationship' between people and land and the limits of technological fixes. (Cereghino, 2007)

From the perspective of permaculture, as well as many other environmentalist viewpoints, such intuitive ethics forms the basis for the blossoming of a deep ecological sense of the sacred. Taylor (2008), for instance, notes that members of radical

environmental groups tend to value immersion in nature as a way to foster this 'right relationship', which:

Can be facilitated in a number of ways, but most importantly, by spending time in nature with a receptive heart, for the central spiritual episteme among radical environmentalists is that people can learn to 'listen to the land' and discern its sacred voices. (Taylor, 2008, pg. 28)

Scott Pittman, director of the Permaculture Institute, describes a similar role of nature immersion for permaculturalists:

There has always been a tacit understanding that one cannot spend much time in [nature] without being affected in a deep and abiding way by the experience. This is the biophilia that is necessary if we are to heal ourselves and the world. Permaculture is very explicit about biologists and implicitly allows each of us to arrive at biophilia on our own. (Pittman, 2007a, online)

Thus, similar to more overtly political environmental movements such as radical environmentalism, action and praxis constitute the core of permaculture's intended expression.

However, the classic actions symbolizing most forms of politically-oriented environmentalism are contained within passing, acute events – from a few minutes of billboard toppling to months of logging road standoffs to periodic petitioning, publishing, and/or sign-waving. Mollison criticizes both environmental activists and conservation biologists on this count, noting:

It is hypocrisy to pretend to save forests, yet to buy daily newspapers and packaged food; to preserve native plants, yet rely on agrochemical production for food; and to adopt a diet which calls for broad-scale food production. (Mollison, 1994, pg. 58)

In comparison, permaculture as praxis is an ongoing everyday event in which the onus of responsibility is placed on the daily moral lifestyle choices of the individual

private citizen—leading to its characterization, along with associated movements such as homesteading, as a “lived religion” (Taylor, 2004; Hall, 1997; Gould, 1997).

This demonstrates another great difference between the permacultural approach to liberation and the approach taken by more traditional politically-oriented environmental movements: whether or not to take a consumer-oriented approach or a producer-oriented approach or a when deciding where to point the finger of blame for environmental imbalance. Street protest behaviors and paper forms of political activism can be understood to be mainly a producer-oriented approach which attacks big industry and the machine of capitalism, while permaculture's focus on lifestyle change is more consumer-oriented. This focus on the responsibility of the consumer is noted by Comaroff and Comaroff (2000) to be an increasing trend of late capitalism's resistance narrative as it moves from the late twentieth century into the new millenium in the form of new social movements and "third sector" civil society—both of which have been used to classify permaculture (Thum, 2002; Doherty, 2002; Carr, 2005).

CHAPTER 4

THE ACTORS: WHO PARTICIPATES IN PUNA'S PERMACULTURE SCENE?

Riox has just returned to the garden. She's a 30-something office professional from Texas who recently left an unfulfilling marriage. She "felt a call" to go to Hawaii, and now she's pulling weeds next to me at a raw vegan permaculture community called Pangaia. She's sensual, she's beautiful, she smells fantastic—and she's absolutely naked. She asks me a few questions about my research, then shifts gears and tells me with a wide-eyed smile how incredible it feels to be pulling weeds without any clothes on—"cleansing" and "liberating" are two of the words she uses. Like many newcomers from the mainland who arrive fresh on Puna's permaculture scene, Riox at the moment seems open to just about anything. Personally I'm feeling very square at the moment, clothed and closed. If I take my clothes off too and go along with Riox's ecstatic flow, will that be part of cultural immersion? I keep my clothes on and work my way over to an isolated corner of the garden, validating my distance on the basis of ensuring sound research that doesn't cross some ethical boundary between researcher and subject. At the same time, I'm thinking that such boundaries are the exact same boundaries that communities like this are trying to break down.

Although she's a few years older than the typical permaculturist who arrives in Puna from the mainland for a few weeks, months, or years of back-to-the-land living, Riox nonetheless fits a certain profile that tends to prevail among the crowd of permaculture participants in Puna: she's Caucasian, well educated, intellectually oriented, left of center in political beliefs, and from an urban/suburban middle-class background. That pattern becomes apparent to anyone who spends a few days or even a few hours at one of Puna's permaculture communities.

However, the majority of Americans fitting this profile aren't rushing off to join permaculture communities. In the end, the most important differences that separate Puna's permaculture participants from the "majority culture" seem to be along the finer lines of a nature-oriented spiritual belief system, coupled with a tendency towards mystical experiences, combined with an open/experimental and altruistic/other-oriented value system. These particular differences became apparent as a result of time spent in participant observation at five permaculture communities, were further supported by the results of in-depth interviews performed on 25 of Puna's permaculture participants spread over six permaculture communities, and were tested statistically through seven surveys administered for the purpose of comparing Puna's permaculture participants to three control groups used to represent "majority culture". In the end, I failed to find or develop a satisfactory survey that directly measured nature/culture dichotomization; instead, I use the results of the interviews and surveys here to build my case for the differences in nature/culture dichotomization between Puna's permaculture participants and "majority culture".¹

Postmaterialism and Egalitarianism as Drivers of Permaculture Participation

Postmaterialist Ideals in a Materialist Pursuit

The community college needs to be very careful because that field trip we went on the homes were not safe to be in, they had no final inspection, and was totally illegal. They could have been a major law suit if someone was injured The La'akea project was worth 4 total extra credit points, but that place was filthy, and would not recommend this to other students. . . . I think the community college needs to take a second look at this instructor who potentially could have put our lives in danger, especially because we

¹ See the Appendices for an explanation of the research methods and results, including more thorough, in-depth analyses of each of the surveys used and their results.

were down in [lower Puna] which is in a lava flow zone. thanks. (HawCC student)

To restate the obvious, not everybody finds themselves enthusiastically inspired by Puna's permaculture communities. Each semester, I offer my Hawaii Community College anthropology classes a chance to participate in an "extra credit" field trip to the La'akea Permaculture Community in lower Puna. The class is comprised largely of young local adults fulfilling course prerequisites for acceptance to the college nursing program. While many experience La'akea's endeavors as positive, healthy, and honorable, others experience the community as something negative, dangerous, and even a little bit foolish.

In attempting to understand the basis for such differences in opinion, we can start with looking at the difference between materialist and postmaterialist worldviews. The quote above (taken from an anonymous end-of-semester course evaluation), expressing physical safety concerns posed by a lack of institutional standards and the presence of natural hazards, presents a typical if extreme example of a materialist worldview. Permaculture participants, on the other hand, are predominantly postmaterialist in outlook. In fact, survey results showed the single most significant difference separating Puna's permaculture participants from the majority culture to be the degree to which Inglehart's (1977) postmaterialism survey demonstrated among Puna's permaculture participants a preoccupation with postmaterialist concerns.

This fact, reflected in Figure 4-1 below, is particularly interesting when considering that the ultimate goal of permaculture system design is long-term material security and autonomy—a materialist concern—while the ethical imperatives that serve as the key means to this end are postmaterialist at heart. Inglehart's theory of postmaterialism

serves as the takeoff point for my discussion of the possible dilemma that this poses for permaculture's ultimate success regarding actions and interactions based on desires for materialist outcomes versus actions and interactions based on desires for “postmaterial” outcomes.

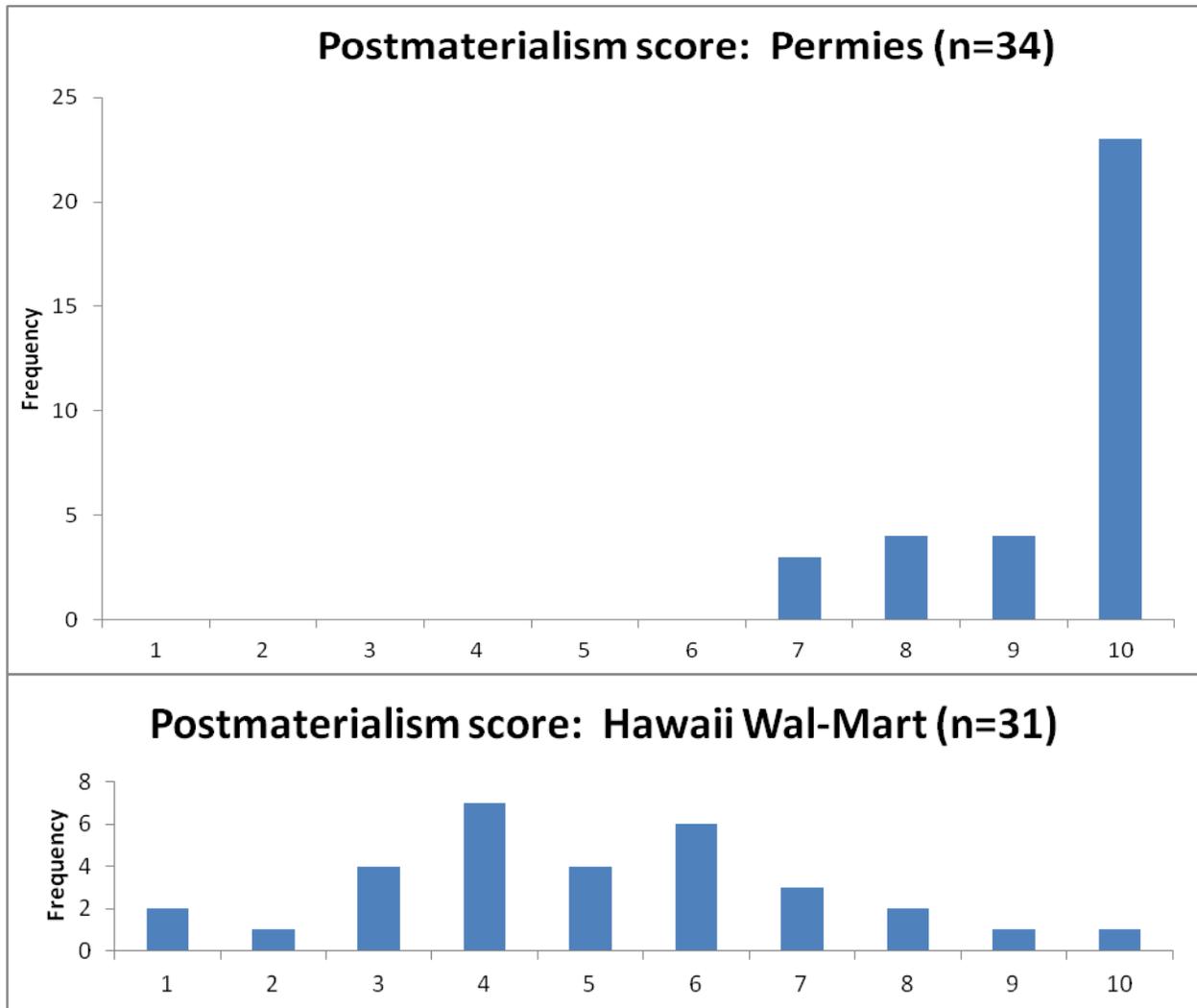


Figure 4-1. Histogram of postmaterialism score results for permaculture participants in Puna, Hawaii (above) vs. Wal-Mart shoppers in Hilo, Hawaii (below). Higher scores reflect a greater degree of postmaterialism. Size differences between the two graphs are necessary in order to keep Y-axis (frequency) scale sizes equal. ($p=6.2E-13$)

Inglehart used the postmaterialism survey on over 16,000 people in 50 countries to test his theory that individuals raised in conditions of insecurity and material want spend their adult lives concerned with matters of material security and wealth, while individuals raised in relative safety and comfort tend to have "postmaterial needs" that focus on non-materialist forms of pleasure-seeking, morals, and aesthetics. Postmaterialists as a result give high priority to values such as non-monetary ideals, community input, and maintaining clean and healthy environments, rather than to values associated with materialist concerns such as economic growth, a strong national defense, and "law and order" (Inglehart et al., 2004).

Inglehart (1977) presents two basic hypotheses about social mechanisms that the postmaterialism view. One is the "scarcity" hypothesis, in which one places subjective value on that which is in the shortest supply. The other is the "socialization" hypothesis, in which one's values are determined by conditions during pre-adult years. According to the "socialization" hypothesis, postmaterialist values are thus attributed to a childhood characterized by material security. The results of in-depth interviews conducted on 25 of the permaculture participants indeed revealed, for the vast majority, middle class upbringings, solid educations which more often than not led to some degree of higher education at the collegiate level, and intact families free of serious physical and emotional violence or criminal incidents. Indeed, such childhood tendencies are the same tendencies often attributed to the counterculture in general (Hostetler et al., 1974; Schehr, 1997).

Inglehart's (1977) theory of postmaterialism sees the novel value changes associated with environmentalism and other substantive concerns as being the result of

having grown up with a sense of material security. As materialist concerns have been met in earlier years through economic and physical security, attention is increasingly focused on aesthetic, relational, and quality of life issues (Inglehart, 1985). In essence, a postmaterialist focus means that, for the typical Puna permaculturist, the overall goal of life does not necessarily begin with, and certainly doesn't stop at, a concern for food, shelter, water, and other forms of needed security. Something else underlies the drive for permaculture participation, and it is this original drive to find something else that leads the permaculture participants to Puna in the first place.

Following Inglehart's (1977) logic, Puna's permaculturists as a group are among those whose focus on material concerns is substantially *less* driving than for most people—they are exactly those who are the least likely to be satisfied with the simple, low impact, pragmatic pursuit of food, shelter, and water that is intended to constitute the prize at the end of the permaculture rainbow. If the postmaterialism survey has any external validity, then the predominantly postmaterialist concerns of Puna's permaculturists certainly helps to shape the utopian character of the permaculture project in Puna, in which the goal of constructing a lifestyle based on long-term material sustainability and autonomy typically gets overshadowed by lifestyle choices based on the immaterial pursuit of a spiritual nature experience and an egalitarian sense of *communitas*.

A related problem, revealed through in-depth interviews of Puna's permaculture participants, regards the fact that the vast majority of those who currently follow such pursuits in Puna experienced as adolescents the relative material security of a conventional middle-class American childhood upbringing. Such an upbringing is

typically characterized by the relatively excessive and ultimately unsustainable access to and use of natural resources. This leads to a dilemma that must ultimately be solved for permaculture to be considered viable: if permaculture is a postmaterialist pursuit, can postmaterialist views be arrived at through childhood circumstances that were both materially secure and environmentally sustainable? This leap must be made for a viable permaculture to self-replicate.

If this conundrum of the postmaterialist pursuit of material sustainability presents a problem for the typical permaculture project in Puna, then its flip-side certainly presents a problem for permaculture as a world-wide solution in general: on a planet with an increasing population, in which most material resources are already being overutilized, one can project that the future may witness an increasing number of individuals born into and growing up in circumstances far less materially secure than the circumstances in which Puna's permaculturists were raised. Such circumstances, according to postmaterialism theory, lead to materialist values, and such values lead to actions which forgo permaculture's postmaterialist concerns with long-term material sustainability and social/environmental equity.

As the survey results in Figure 4-1 show, even the typical resident of Hawai'i², already quite likely to be relatively materially secure compared to the worldwide population, tends toward the materialist end of Inglehart's material/postmaterial spectrum. In doing so, Hawai'i residents mirror the typical worldwide results of the postmaterialism survey, in which postmaterialism is a minority viewpoint, even in the

² See Appendix A for an explanation of why Hilo Wal-mart shoppers were used to represent majority culture in Hawai'i.

most industrialized countries (Inglehart et al., 2004)³. Thus, one of permaculture's greatest obstacles may be that the intentional pursuit of an environmentally sustainable lifestyle, whether successful or not, remains a postmaterialist pursuit, of substantial concern only to a select and relatively privileged minority.

Grid/group Theory and its Relation to Nature/Culture Dualism

Scene one: I'm staring an eraserhead-sized hole on the right thigh of a 12-year-old girl named India. The hole leads to a pus-filled, marble-sized cavern created by a bacterial infection that has been festering for weeks now in the muscle tissue of India's quadricep. India—beautiful, vivacious, and exceedingly precocious—is the eldest daughter of a two-daughter-one-mother trio living here at one of the permaculture communities. The three, guided by the doting mother, are adherents to the medicinal and dietary practices espoused by a charismatic doctor, book author, and diet guru named Dr. Aajonus Vonderplanitz.

A few years ago Aajonus visited lower Puna, staying at a few different communities and giving a number of talks. Before he left he had managed to build a near-cultlike following among many of lower Puna's back-to-the-land practitioners; his ideas remain highly influential on the community scene of the Papaya Farms Road region of lower Puna to this day. One of the communities here was famously comprised primarily of raw vegans and fruitarians; after Aajonus's visit, a switch eventually

³ According to Inglehart et al. (2004), the countries with the highest worldwide percentage of postmaterialists as of the year 2000 were Australia (35%), Austria (30%), Canada (29%), Italy (28%), Argentina (25%), and the United States (25%). From Figure 3-1, using scores from 7 through 10 as the range indicating a postmaterialist worldview, survey results show that 22% of the Hawaii Wal-Mart control group was comprised of postmaterialists (very close to the U.S. average) while 100% of the permaculture test group was comprised of postmaterialists.

occurred in which most members, and the community itself, became famous instead for adherence to the Primal Diet recommended by Aajonus, in which raw meat and other raw animal products are the primary food source and healing source.

It's never made clear to me how India's infection might have started. What is made repeatedly clear through relays of the phone conversations that India's mother has with Aajonus is that the growing cavern of pus is to be interpreted as a sign of detoxification. The logic here is that the processed foods of modern American diets, along with the modern medical establishment's use of vaccines and antibiotics, have made the immune system of the typical modern human weak and led to situation of toxicity for most modern humans along with a psychological and physical dependence on an exceedingly ineffective modern health care paradigm (Vonderplanitz, 1997; Vonderplanitz, 2002). In the interests of allowing the detoxification process to continue, it is clear is that India will not be following a conventional modern method of treatment for the infection. Over the phone, Aajonus helps provide India's mother with the faith and guidance she seems to be looking for: a continued diet of raw meat and a little bit of honey on the wound, he says, will allow the detoxification process to continue and will eventually allow India's immune system to wake up, kick in, and take care of a bacterial infection that her ancestral primitive immune system would have had no problem defeating. Meanwhile, India hasn't been able to walk for a few weeks now, and I can't help but think that a simple round of antibiotics would have nipped this infection in the bud before it got out of control.

Switch scenes: it is my second summer of research-oriented participant-observation in Puna. I am at one of the more famous permaculture communities, sitting

in front of the community's residents at a meeting which has been called together in order to decide whether or not I will be allowed to stay past the first month. I had planned on spending 4 or 5 months at the community. I've been working my butt off performing manual labor and trying to fit into the off-hours community scene despite some hard-to-hide discrepancies between the beliefs of the community members and my own inescapable personal convictions. In the end it comes down to the opinion of one particularly influential community member, who senses that I am a poor fit for the community. I never intended to join the community as a permanent member but now I find myself making a plea for my overall acceptance: I was once much more progressive-minded, I tell them, but I've been immersed in a conventional university setting for many years now and just need a little more time to find myself again and reinstill my sense of conscious empathetic awareness so that I can have a deeper sense of connection to the community.

In the end, I'm ousted. I'm left with the distinct feeling of not being good enough. I am not the first nor am I the last to have gone through such a process, and over the next few years I hold many interesting discussions with others who have left or been asked to leave from this community and others in lower Puna for reasons of similar dissentiment expressed by the community members. It leaves me begging another question: how effective is a utopian society if its members must have utopian qualities to begin with? What, in such a world, is the fate of the ordinary imperfect citizen?

Both scenarios described above exemplify typical patterns that play out in Puna's various permaculture communities. They may not seem ideologically related, yet according to Mary Douglas's grid/group theory, they are: both typify the actions and

beliefs of groups characterized by egalitarian worldviews in that they are similar processes of inner purification—one aimed at keeping the physical body pure, the other aimed at keeping the social body pure. For Douglas, understanding of and meaning attributed to the social body and the physical body tend to be similarly shaped by one's greater cosmological worldview. Egalitarianism is one of four general, idealized cosmological worldviews towards which individuals tend to gravitate, and these worldviews, in turn, are largely shaped by two social factors named "grid" and "group" (Wildavsky et al., 1990). "Group" defines the degree of willful social cooperation, i.e.,

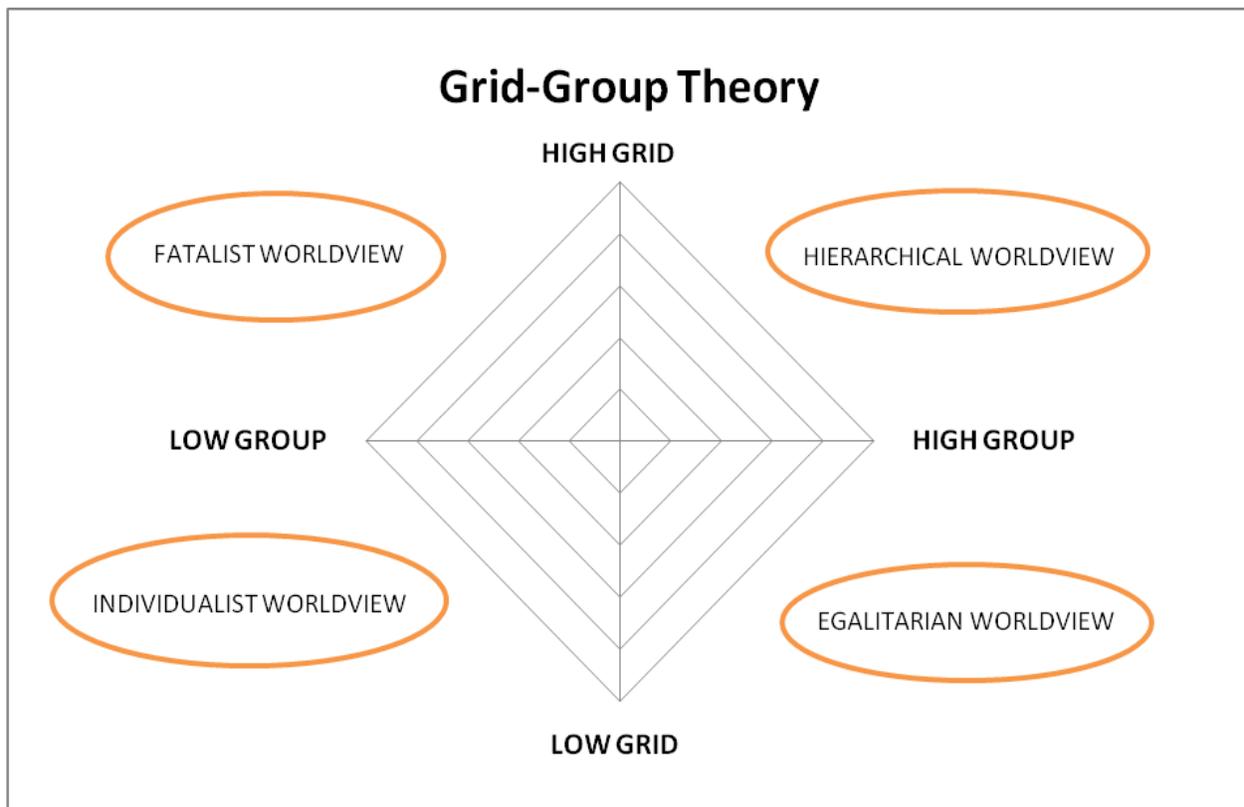


Figure 4-2. Grid-group variables and associated worldviews plotted on a radar chart with the "group" variable on the x-axis and the "grid" variable on the y-axis.

whether individual behavior is controlled/directed by collective needs or whether the individual is self-reliant and self-serving during decision-making processes. "Grid" is the degree of limitations on the individual to actualize various social roles, i.e., the degree of

accepted social stratification and role fixedness ascribed to self as well as the family, tribe, and/or community by social norms (Douglas, 1970; Douglas & Wildavsky, 1983). Giving each factor a one-dimensional range (with "group" on the x-axis and "grid" on the "y-axis"; see Figure 4-2) allows four general worldviews or ethos to emerge through which the individual perceives and idealizes the social group and the physical body, and which influences how one perceives environmental fragility and the risk posed to the individual and the group by environmental changes (Douglas and Wildavsky, 1983; Caulkins, 1999). Individualists (low grid, low group) are self-seeking

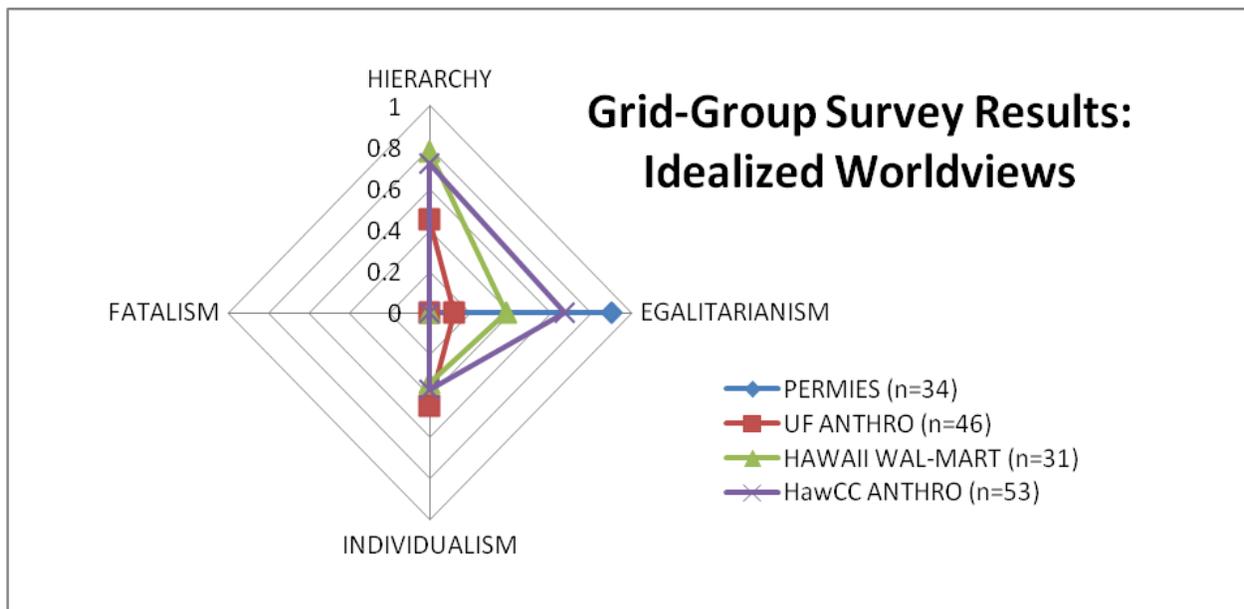


Figure 4-3. Radar chart with positive grid-group worldviews plotted on the x- and y-axes. Shown are the results of Dake's (1991) grid-group survey for which the average group score indicated a positive association with the worldview. Permaculturists as a group show an extreme, unidimensional favor for egalitarian worldviews (reflecting a low grid, high group viewpoint), while each of the three "majority culture" control groups show a more moderate and multidimensional mix of hierarchical, individualist, and egalitarian worldviews.

and perceive both society and nature to be robust and self-balancing; fatalists (high grid, low group) find social life and the natural world to be uncontrollable and unpredictable; hierarchists (high grid, high group) see universal principles controlling the

degree to which innately differentiated social and environmental niches can be manipulated before collapsing; egalitarians (low grid, high group) see balance between the social and natural world as fragile, ephemeral, and easily destroyed by various forms of imbalance (Thompson et al., 1990).

Expanding upon the ethos characterizing the egalitarian ideal, Douglas notes that the ideals of egalitarianism stress the conceptual importance of a boundary between inner and outer social and physical domains. Individuals that are part of a group characterized by an egalitarian worldview thus demonstrate "a similarity in philosophical outlook . . . [that] can be described as a form of metaphysical dualism" (Douglas, 1970, pg. 119) with a "doctrine of two kinds of humanity, one good, the other bad" (Douglas, 1970, pg. 119), a "dual philosophy divided between warring forces of good and evil" (Douglas, 1970, pg. 105) in which group members ""tend to have a black and white vision of the world" (Douglas, 2006a, pg. 5).

In this egalitarian worldview, sin originates on the outside of the conceptual inner/outer boundary:

This limited vision divides the world into two kinds: on one side ourselves, our fellow members, our friends; and on the other side, all the rest, outsiders. In the extreme case, insiders are saints and outsiders shunned as sinners. Inside is white; outside is black. In extreme cases it makes a world of saints and sinners. A wall of virtue keeps the two apart, the saints refuse to have anything to do with the outsiders. (Douglas, 2006b, pg. 2)

Faced with the permeability of this wall, there is an ongoing need to expel pollutants from the social and physical body—a need to keep the group, and the body, pure:

The cosmos . . . is divided between good and bad, inside and outside. . . . it is preoccupied with rituals of cleansing, expulsion Its distinctive therapeutic system is based on the doctrine of the essential goodness of that which belongs inside the body. . . . evil is taken to be a foreign danger, introduced by [the] perverted or defective. (Douglas, 1970, pg. 103)

Caulkins (1999), expanding on this theme in his review of Mary Douglas's grid/group theory, also known as "culture theory", notes the connection between egalitarian worldviews and the simultaneous interest in ecology and community noted in intentional communities. Along similar lines, egalitarianism has been associated with worldviews of the counterculture movement (Douglas and Wildavsky, 1983), social

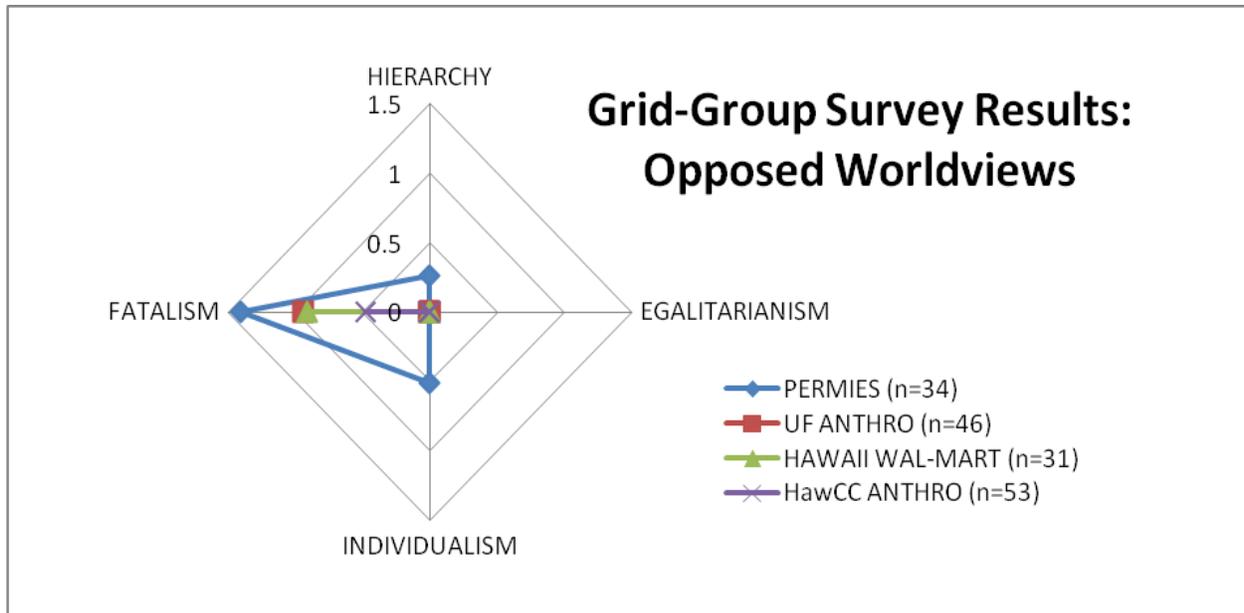


Figure 4-4. Radar chart with negative grid-group worldviews plotted on the x- and y-axes. Shown are results of Dake's (1991) grid-group survey for which the average score indicated a negative association (opposition to) the worldview. All groups show some general degree of opposition to the fatalist worldview; permaculturists' opposition to fatalism is the most extreme. Permaculturists also show some general opposition to the hierarchical and individualist worldviews.

ecology (Bookchin, 1982), and the new environmental movement (Ellis and Thompson, 1997), especially as it relates to perceptions of environmental risk and consequence as a result of human action (Steg and Sievers, 2000; Poortinga et al., 2002). Finally, it is worth noting Douglas's comment on how egalitarianism tends to breed a form of asceticism as a result of "valuing human fellowship above material things" (Douglas,

1970, pg. 143); this fits well with the idealized material asceticism that characterizes the permaculturalist's lifestyle pursuit of sustainability.

So, can grid/group theory's description of the dualism and ascetism inherent in the egalitarian worldview help to explain the dualist nature/culture worldviews and idealized ascetic lifestyles which I ascribe to Puna's permaculturists? I used Dake's (1991) survey of grid-group typologies as a preliminary test to compare permaculture subjects to three separate control groups. Dake was a student of Aaron Wildavsky, one of Mary Douglas's closest lifetime research partners, and designed the survey according to the characteristics ascribed by Douglas to the four basic worldviews.

Dake's survey has been criticized for being multi-dimensional (Kahan, 2008); in other words, the survey can reveal positive orientation towards more than one worldview. Because of this, average group scores for each of the four worldviews were plotted on a radar chart to visually reveal any multi-dimensionality of the results. Figure 4-3 shows a plot of worldview scores which were positive for each test group; Figure 4-4 shows a plot of worldview scores which were negative for each test group. In this case, the multidimensional nature of Dake's survey of grid/group typologies helps to reveal important differences between the permaculturalist group and the three "majority culture" control groups.

As Figure 4-3 shows, whereas each of the three "majority culture" groups had multidimensional results revealing a degree of positive orientation towards three of the four worldviews, the permaculture test group showed a unidimensional positive orientation only towards the egalitarian worldview. This positive orientation of the

permaculture group towards egalitarianism returned the highest overall average score of all positively oriented scores for all four groups on any of the worldviews.

Contrasting this, as Figure 4-4 shows, the average worldview scores for permaculture group showed a multidimensional opposition to all worldviews except egalitarianism. The three "majority culture" control groups, on the other hand, each showed a unidimensional opposition to the fatalist worldview. Nonetheless, of the four test groups, average opposition to fatalism was highest for the permaculture group. Thus, in both their opposition to fatalism and their positive orientation to egalitarianism, the permaculture group values were extreme compared to the "majority culture" control groups.

Note that 2-tailed t-tests revealed significant ($.05 > p > .01$) to highly significant ($p < .01$) differences between the permaculture group scores and the scores of each of the three "majority culture" control groups for all four worldviews except one: differences between the permaculture group and the HawCC ANTH200 group on the measure of egalitarian worldviews was insignificant ($p = 0.17$).

The Schwartz Values Survey and its Relation to Grid/Group Theory

Note that Dake's survey of grid/group typologies does not have a history of being widely utilized by scholars for quantitative testing purposes and many of those wishing to test for worldviews associated with Douglas's grid/group ideals have made alterations to Dake's original test (Peters & Slovic, 1996; Poortinga et al., 2002). Moreover, Dake's survey of grid/group typologies is designed as a direct assessment of subject's adherence to various values claimed by Douglas to typify each of the four basic worldviews; it does not directly test adherence to values associated directly with "grid" or "group" ideals which are purported to lead to these worldviews. These issues,

combined with the mentioned criticisms of multidimensionality (Kahan, 2008), reduce confidence in the overall construct validity of the Dake's original survey. Is Dake's grid/group survey measuring a parameter that fits broader understanding of the meaning of "egalitarianism"? If persons or groups show high scores on Dake's survey for the egalitarian dimension, is it reasonable to assume that they adhere to "high group" and "low grid" ideals?

Administering the Schwartz Values Survey along with Dake's grid/group survey provided a cross-test of the construct validity of the egalitarian dimension shown by Dake's survey to distinguish the permaculture test group from the three "majority culture" control groups. The Schwartz Values Survey has been used on over 60,000 people in 64 nations (Schwartz, 2006) and been subjected to numerous analyses and statistical tests of its reliability and validity. Statistical analyses of the 57 items on the survey has led Schwartz and his colleagues to conclude that peoples and cultures around the world construct their basic life principles, cultural beliefs, and social norms according to their degree of commitment to ten core values: power, achievement, security, benevolence, conformity, hedonism, self-direction, stimulation, tradition, and universalism. According to Schwartz et al., 2001, while different groups show varying degrees of commitment to these ten value constructs, there is a statistical tendency for value scores to become clustered according to two sets of opposed overarching value dimensions (see Figure 4-5): "self-transcendence" (comprised of universalism and benevolence value constructs) versus "self-enhancement" (comprised of power, achievement, and part of the hedonism value construct), and "conservation" (comprised

of conformity, tradition, and security value constructs) versus "openness to change" (comprised of self-direction, stimulation, and part of the hedonism value construct).

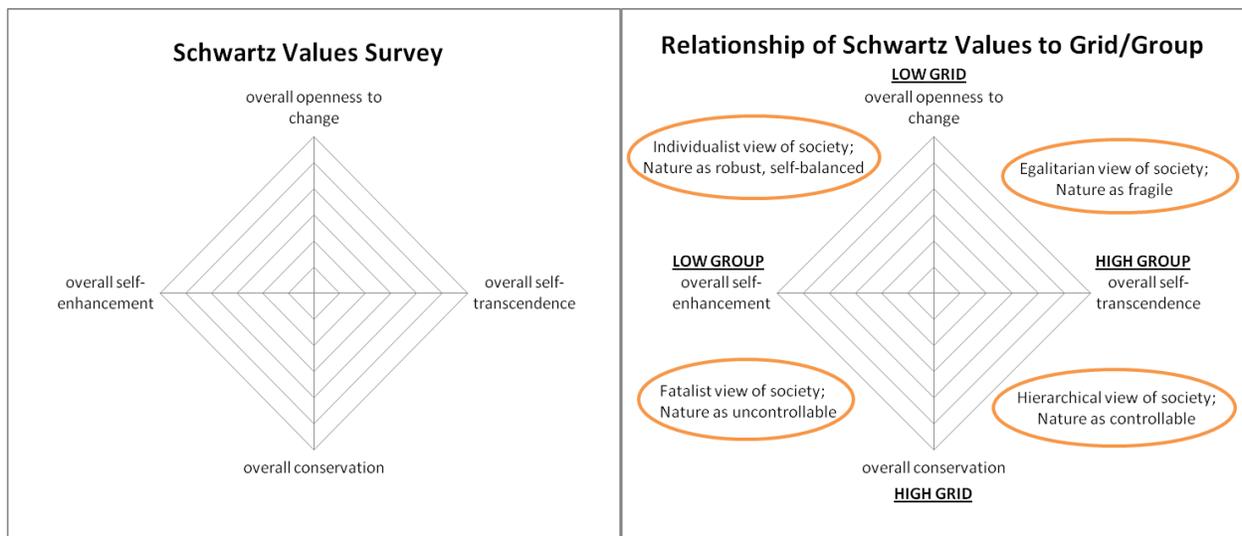


Figure 4-5. Relationship of Schwartz's overarching value dimensions to Douglas's grid/group factors.

Despite the similarities in theoretical focus shared by Schwartz's theory of basic human values and Douglas's grid/group theory, no literature was discovered that demonstrated the obvious overlap between Schwartz's four overarching value dimensions and Douglas's "grid" and "group" factors. Figure 4-5 shows the relationship: Douglas's understanding of "high grid" ideals corresponds closely to Schwartz's overall "conservation" dimension; "low grid" ideals correspond to an overall "openness to change"; "high group" ideals correspond to overall "self-transcendence" while "low group" ideals correspond to overall "self-enhancement". Assuming the validity of this correspondence, placing Schwartz's opposing overarching value dimensions on the x- and y-axes of a radar chart allows an indirect measure of Douglas's four worldviews, e.g., scores high in both overall "openness to change"

(corresponding to "low grid") and overall "self-transcendence" (corresponding to "high group") indicate adherence to an egalitarian worldview.

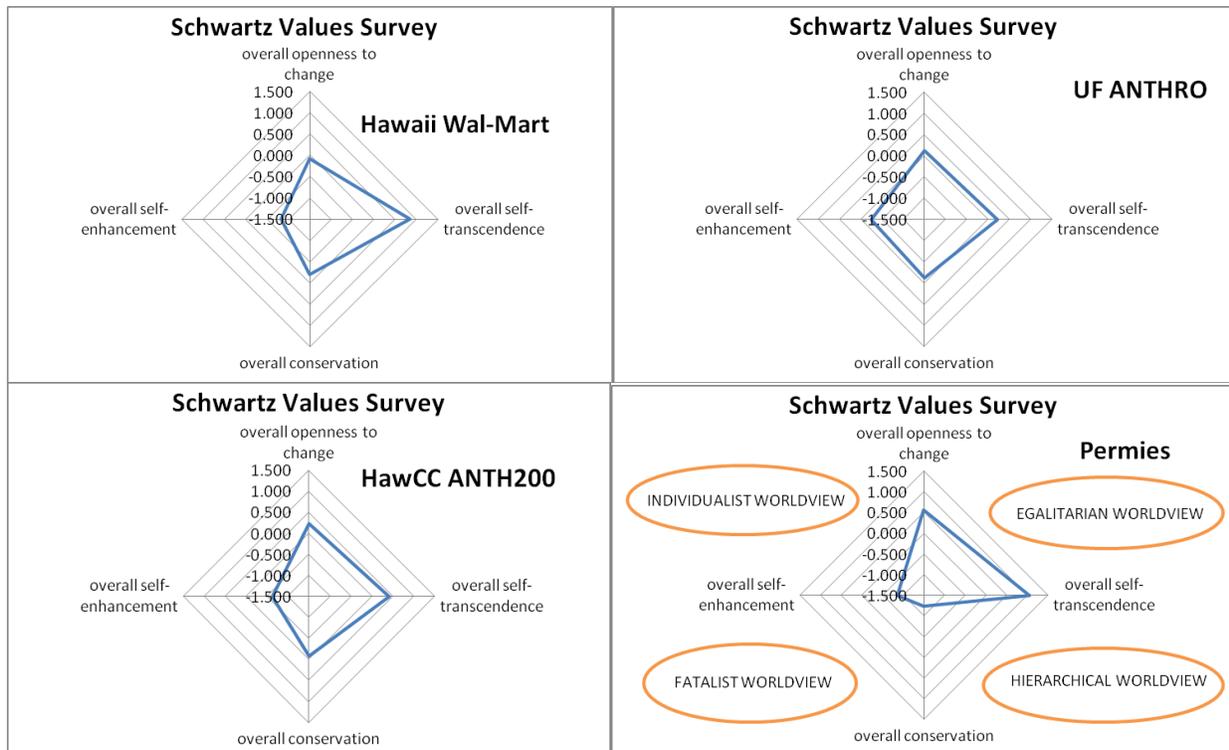


Figure 4-6. Radar chart of average score results on each of the four overarching value dimensions of the Schwartz Values Survey, including both positive and negative score averages. Assuming the validity of the posited overlap between Douglas's grid/group variables and Schwartz's four overarching value dimensions, score results can be interpreted to show that only the permaculture subject group demonstrates a strong unidimensional commitment to the egalitarian worldview.

Radar chart plots of the average score results on the Schwartz Values Survey for each of the four test groups, including both negative and positive scores, are shown in Figure 4-6. High average scores for both the "openness to change" ("low grid") dimension and the "self-transcendence" ("high group") dimension resulted in the permaculture subject group demonstrating a strong unidimensional commitment to the egalitarian worldview compared to the three "majority culture" control groups. These results are similar to the results from Dake's survey of grid/group typologies and help to

support the construct validity of Dake's measure of egalitarianism, as well as provide additional support to hypothesis that a relatively extreme commitment to egalitarian worldviews is one factor distinguishing permaculturists from the majority culture.

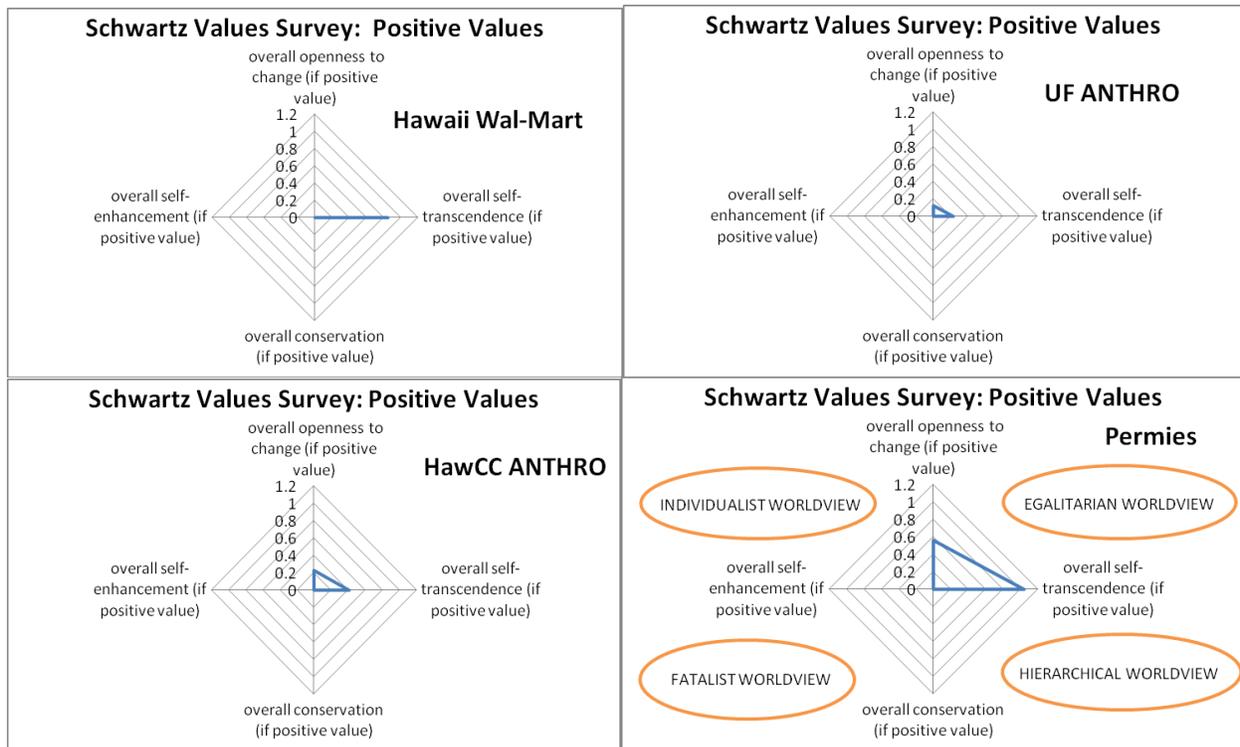


Figure 4-7. Radar chart of the four overarching value dimensions of the Schwartz Values Survey in which only positive group averages were plotted. Two of the three control groups show a slight positive bias towards egalitarianism, while the permaculture group shows a strong bias towards egalitarianism.

The radar chart of score results shown in Figure 4-6 can be difficult to visually interpret since the center point is a negative integer rather than the zero point; this is necessary in order to accommodate for the full range of negative and positive score averages associated with each of the four overarching value dimensions for each of the four test groups. To provide a clearer picture of the results, Figure 4-7 shows a radar chart in which only those value dimensions which resulted in an average positive score were plotted. This provides a direct view of the degree of positive affiliation with each of

the four overarching value dimensions, which in turn provides an indirect assessment of the degree of commitment to each of Douglas's four worldviews.

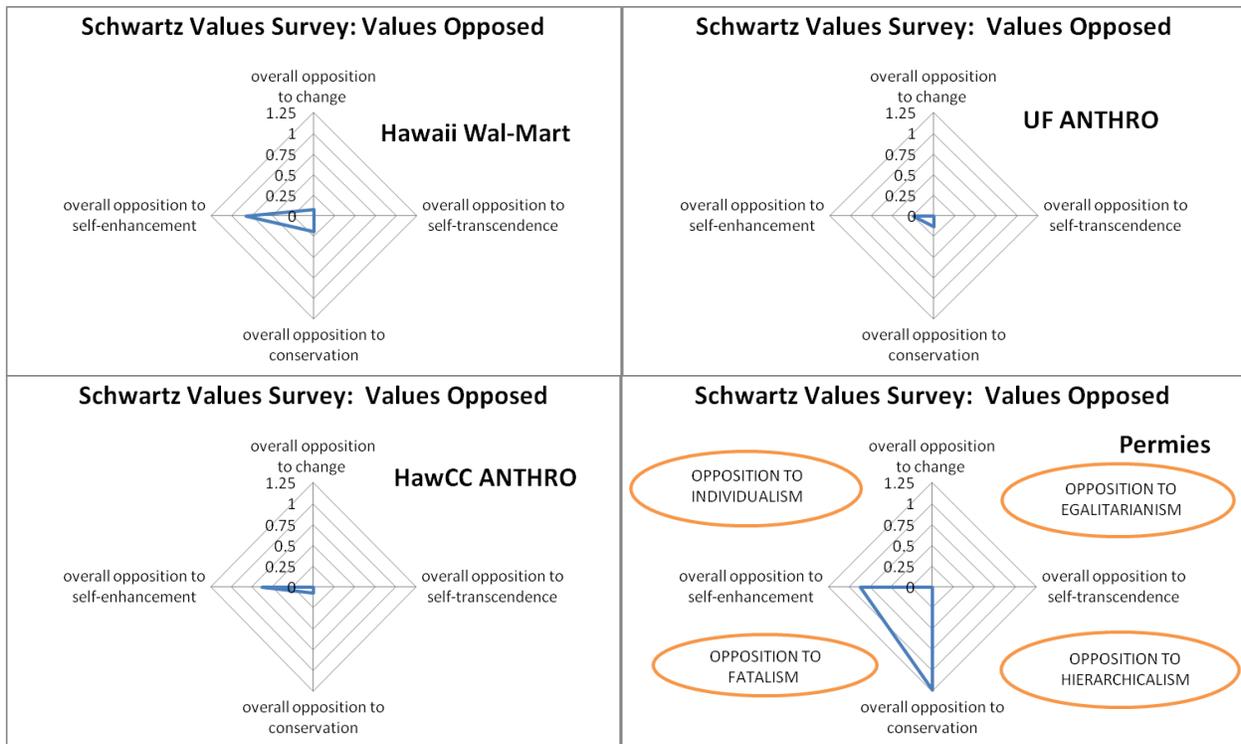


Figure 4-8. Radar chart of the four overarching value dimensions of the Schwartz Values Survey in which only negative group averages were plotted. Each of the three control groups shows a slight oppositional bias against the fatalist worldview, while the permaculture group shows a strong oppositional bias against the fatalist worldview.

As the results show, two of the three control groups show a slight bias towards egalitarianism. In comparison, the permaculturists demonstrate a relatively extreme bias towards egalitarianism as a result of high average scores on the "openness to change" ("low grid") and "self-transcendence" ("high group") value dimensions compared to the control groups. Scores of the permaculture subject group for "openness to change" were significantly different than those of the three control groups ($p=.016$, $p=.014$, and $p=.03$ respectively for the UF ANTHRO, Hawaii Wal-Mart, and HawCC ANTH200 control groups when compared to the permaculture subject group

using a two-tailed t-test) while scores of the permaculture subject group for "self-transcendence" were highly significantly different than two of the three control groups ($p=4.1E-08$, $p=.15$, and $p=5.0E-06$ respectively for the UF ANTHRO, Hawaii Wal-Mart, and HawCC ANTH200 control groups when compared to the permaculture subject group using a two-tailed t-test). These results are similar to the results from Dake's survey of grid/group typologies shown in Figure 4-3 and helps to support the construct validity of Dake's measure of egalitarianism, as well as provide additional support to hypothesis that a strong commitment to egalitarian worldviews is one factor distinguishing permaculturists from the majority culture.

In contrast, Figure 4-8 shows a radar chart in which only those value dimensions which resulted in an average negative score were plotted. This provides a direct view of the degree of opposition to each of the four overarching value dimensions, which in turn provides an indirect assessment of the degree of opposition to each of Douglas's four worldviews. In this case, the three "majority culture" control groups demonstrated a slight opposition to the fatalist worldview, while the permaculture subject group demonstrated a relatively extreme opposition to the fatalist worldview. These results are similar to results from Dake's survey of grid/group typologies shown in Figure 4-5, both of which suggest that a relatively strong degree of opposition to the fatalist worldview may be one factor that distinguishes permaculturists from the majority culture. Scores of the permaculture subject group for "conservation" were highly significantly different than those of all control groups ($p=7.0E-11$, $p=3.4E-7$, and $p=4.8E-12$ respectively for the UF ANTHRO, Hawaii Wal-Mart, and HawCC ANTH200 control groups when compared to the permaculture subject group using a two-tailed t-test).

However, scores of the permaculture subject group for "self-enhancement" were significantly different than only one of the three control groups ($p=1.9E-4$, $p= .80$, and $p=.34$ respectively for the UF ANTHRO, Hawaii Wal-Mart, and HawCC ANTH200 control groups when compared to the permaculture subject group using a two-tailed t-test). Thus, differences between Puna's permaculturists and the majority culture concerning the degree of opposition to fatalism are predominantly being determined by permaculturists' relatively extreme overall opposition to conservative, "high grid" ideals. (See Appendix F for a deeper look at the statistical results of the Schwartz Values Survey and the methods used to administer and analyze the results of the survey).

Mysticism and its Relation to Environmentalism

Hood's Mysticism Survey

The sun is setting on another warm Hawaiian day and I'm riding out of the jungle in the back of Jonah's pickup truck. I'd be dead asleep at this point if it wasn't for the constant jolts from bumpy dirt road and my admitted fascination with my current traveling companions, which happen to be two dozen newly potted plants belonging to the genus *Psychotria*. I say "newly potted" because I've just spent all day on Jonah's property in Kalapana carefully digging the plants out of the ground, transferring them to pots, and then lugging them out of the jungle and into the bed of the pickup for transport to Jonah's new farm on the Hamakua coast. I say "fascinated" because I've never seen up close a member of the plant genus responsible for the notoriously intense effects of the psychedelic drug *ayahuasca*. I've never tried *ayahuasca* but I am well aware that the use of psychedelics is a fairly accepted and important, if only episodic, part of the lifestyle of many of those who participate in Puna's permaculture communities.

In any case, though Jonah has many wide-eyed tales of past *ayahuasca* experiences, he tells me that he isn't transferring the *Psychotria* plants to his new farm in the interests of personal psychedelic consumption. His main concern these days is processing the *Psychotria* leaves into a juice which is used during the production of a soil amendment called "I.M.O." "I.M.O." stands for "indigeneous microorganisms" and refers to the soil microbes believed to play a crucial role in biomass production and biodiversity maintenance in healthy soils and which are found lacking in the soils associated with modern industrial agriculture. Following the Korean "natural farming" method, these microbes are purposefully grown on a mixed substrate comprised of rice chaff, fermented sugar cane juice, and various other additions, then worked into the soil prior to planting or around the base of existing plants. I.M.O. production is the latest rage on Hawaii's permaculture scene and remains more of an art than a science. Jonah is a well-known master of the art, and like a modern-day shaman, he tells me of his intuitive belief that the psychic properties of the *Psychotria* juice, which he adds faithfully to his I.M.O. substrate during the initial stages of production, somehow help the microorganisms to work their wonders on the organic fruits and vegetables he grows. It sounds like a crackpot idea to me but it certainly doesn't seem to hurt—as far as I can tell Jonah's farm is the most productive of all the permaculture communities I've visited.

The psychedelic connection to permaculture and the back-to-the-land scene in general remains an understudied area, but the connection makes sense. The contrast of a beneficent nature with a malevolent human technological culture takes on spiritual proportions for many permaculturists, and it would be interesting to find out the degree to which spiritual experiences arrived at through the use of psychedelics might

contribute to this worldview. Plant-based psychedelics certainly seem to have a special niche in the nature/culture schema as an example of a product of nature with the documented ability to bring about a perceived state of "higher" conscious awareness (Pahnke, 1966). With this awareness comes a reputed newfound sense of union and empathy with the world, especially the natural world (Pahnke, 1966; Winkelman, 2000). During in-depth interviews, many of Puna's permaculturists openly expressed their belief that psychedelic use had "raised their consciousness" and helped steer them towards their current lifestyle choice.

However arrived at, this emphasis on "higher consciousness" suggests that permaculturists as a group may have a relatively heightened preoccupation with the mystical realm and assign relatively high importance to the mystical experience. With this facet of permaculture in mind, Hood's mysticism scale (1975) was administered to test for differences between the mystical experiences of permaculturists and those of the "majority culture" control groups. Hood's mysticism scale uses 32 question items to test subjects' experiences with each of eight categories of mystical experience originally elucidated by Stace (1960): "loss of ego", "unifying", "inner subjective", "noetic", "ineffable", "temporal/spatial", "positive affect", and "religious quality".

As seen in Figure 4-9, differences in the overall mysticism score are noticeably significant. Histograms of score results from the three "majority culture" control groups have similar bell-shaped curves, while the scores of the permaculture test group result in a one-tailed bell which peaks near the score maximum. Breaking these results down further shows highly significant differences in three of these categories ("unifying", "inner subjective", and "temporal/spatial") between permaculturists' scores and the scores of

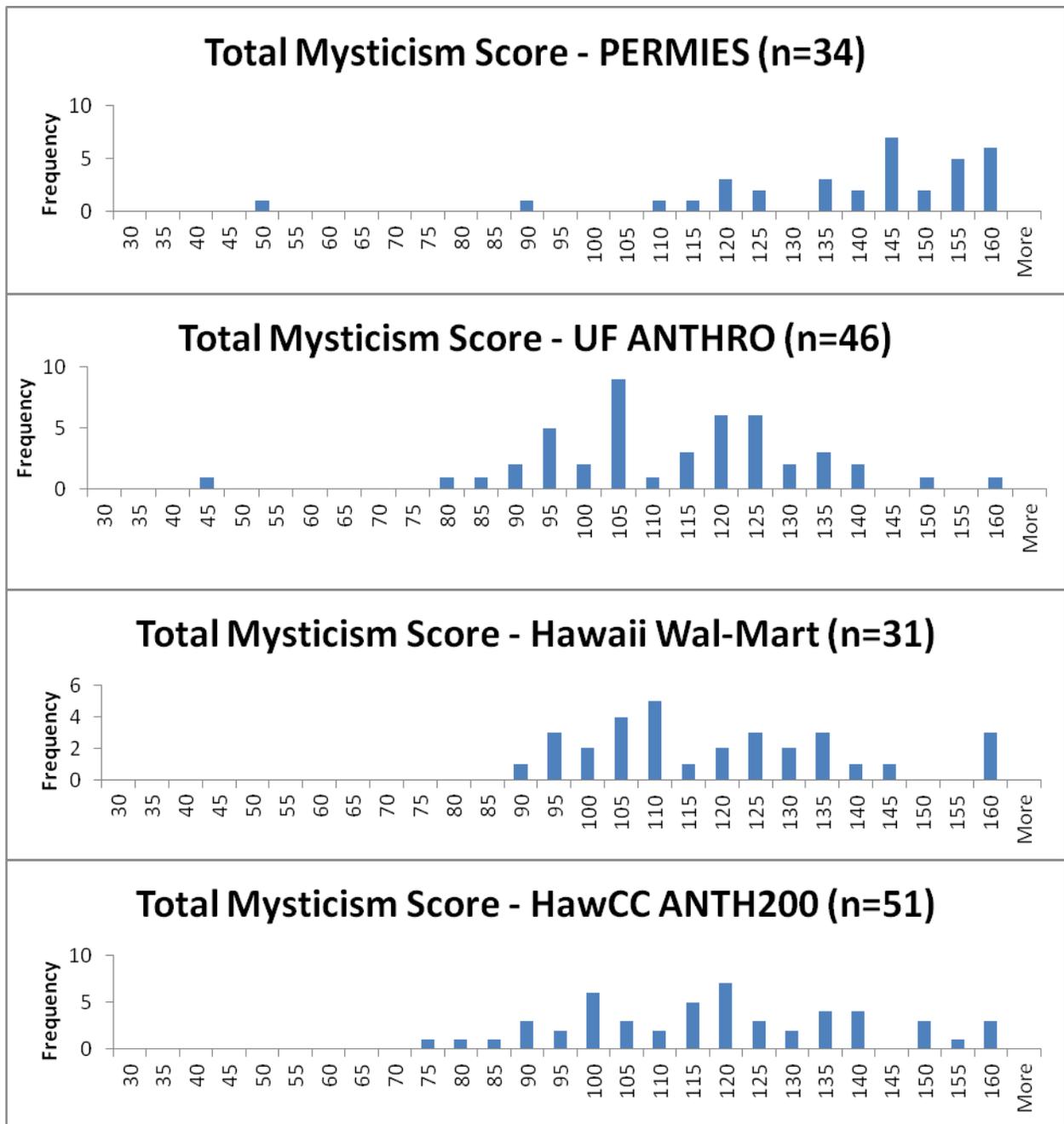


Figure 4-9. Total Mysticism Score on Hood's Mysticism Scale. The reported incidence of mystical experiences among Puna's permaculture participants resulted in a one-tailed bell curve; the more moderate reports of the three control groups used to represent "majority culture" resulted in more typical two-tailed bell curves. Statistical analyses revealed highly significant differences between the permaculture subject group and the three "majority culture" test groups ($p=1.9E-06$, $p=9.8E-04$, and $p=2.6E-04$ when compared to UF ANTHRO, Hawaii Wal-Mart, and HawCC ANTH200 groups respectively).

each of the three "majority culture" control groups. Three more of these categories ("loss of ego"; "positive affect"; "religious quality") showed highly significant differences between permaculturists and at least two of the three "majority culture" control groups. The "ineffable" category showed a moderately significant difference ($.05 > p > .01$) between permaculturists and two of the three "majority culture" control groups, while the "noetic" category showed a moderately significant difference ($p = .03$) between permaculturists and only one of the "majority culture" control groups.⁴ See Appendix G for an in-depth analysis of the score results and differences on Hood's Mysticism scale for each of the eight mystic qualities for each of the four test groups.

Of the categories for which highly significant differences were found between the permaculturist test group and the "majority culture" test groups, it is useful to realize the connection of three of these categories ("loss of ego"; "unifying"; "inner subjective") to the concept of "higher consciousness" as understood from an egalitarian perspective. Hood describes "loss of ego" as "an absorption into something greater than the mere empirical ego" (Hood, 1975, pg. 31); "unifying" refers to "the experience of the multiplicity of objects of perception as nevertheless united—everything is in fact perceived as 'One'" (Hood, 1975, pg. 31); "inner subjective" is "the experience of an inner subjectivity to all things, even those usually experienced in purely material forms" (Hood, 1975, pg. 32).

"Loss of ego" as defined has obvious overlaps with, and can perhaps be seen as prerequisite for, an understanding of the non-self ideals associated with "high group"

⁴ Note that survey participants in all four test groups expressed confusion over the meaning of term "ultimate reality", used on the survey in two of the four questions meant to measure the "noetic" category.

(from Douglas's grid/group typologies) and "self-transcendence" (Schwartz's "high group" parallel in his theory of basic human values). Loss of ego is also understood by Victor Turner (1969) to be a prerequisite for the liminal experience of "communitas".

"Unifying" suggests a breakdown of fixed roles associated with Douglas's "low grid" ideals and here fits Turner's (1969) description of the anti-structural sense of communitas associated with the liminal stage of the ritual process. It also befits the overall cosmological sense of equality espoused by the egalitarian ideal and in this can perhaps be seen as yet another manifestation of the non-self ideals of "high group"/"self-transcendence".

Finally, the survey questions used by Hood to test the "inner subjective" category directly use the words "conscious" and "aware" to describe how immaterial objects are perceived; this predicts the expanded empathetic understanding of the non-human world as measured by the Connectedness To Nature survey described later in this section.

All three terms can thus be understood to be mystical expressions that fit well with the egalitarian ideal, in which an empathetic of sense of identity and belonging is expanded to entities beyond the normal self—an expanded sense of awareness often described as an experience of "higher consciousness". Assuming the validity of this connection between the egalitarian concept of "higher consciousness" and the three mystic categories described above, the survey results suggest that permaculturists are having more "higher consciousness" experiences than the typical member of the majority culture.

The importance placed by permaculturists on "higher consciousness" can be interpreted as a manifestation of the heightened duality of the egalitarian worldview that permeates permaculture. It is one half of an expression of difference between those groups, ideas, and motives representative of "higher" consciousness and those representative of a "lower" consciousness, between those who are "in touch" with themselves and the world and those who need to work on developing their sense of empathy and awareness. The latter describes the state of the mundane majority—the polluted and the polluters, responsible for the material results of the modern technological world, representing that which defiles and which is defiled. The former is a constant goal of permaculture participants, part of the egalitarian concern with and pursuit of inner purity, in which reaching the idealized goal of permaculture represents higher consciousness actualized in the material world—the "good life", in which sustainable harmony with nature is reflective of harmony within oneself and within the group. One of the effects of raising one's consciousness is a heightened awareness of one's body, and of nature, and of the and the importance of is thus reflected in an endless bodily concern with detoxification, cleansing, and healing, of the body, of nature, and of society, in which nature and natural substances represent purity.

Connectedness-To-Nature Survey

Note that while high scores for mystic qualities such as "loss of ego", "unity", and "inner subjectivity" may have ramifications for how an individual perceives the natural environment, no questions on Hood's mysticism survey are meant to be a direct measure of how the natural environment is interpreted or experienced in an egoless, unified, inner subjective, and thereby mystical sense. For these purposes, Mayer and Frantz's (2004) Connectedness To Nature survey was administered in order to provide

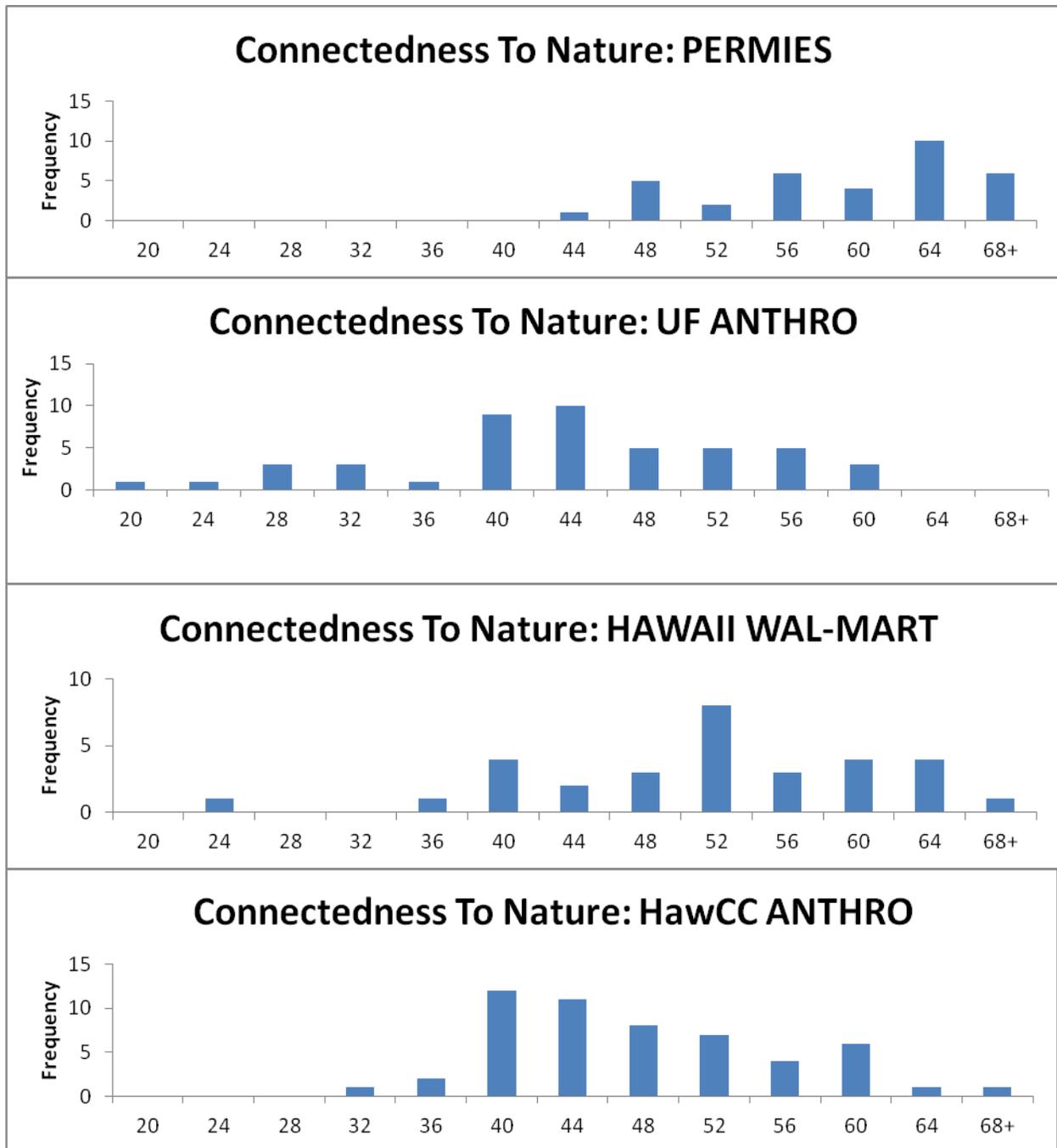


Figure 4-10. Histogram of score results from Mayer and Frantz's (2004) Connectedness to Nature scale. Note that the score ranges of the three "majority culture" control groups produce two-tailed bell curves, while the comparably high score range of the permaculture subject group results in a one-tailed bell curve. Two-tailed t-tests revealed highly significant differences between the permaculture group and all three "majority culture" control groups ($p=6.1E-12$ for UF ANTHRO; $p=8.6E-04$ for Hawaii Wal-Mart; $p=7.8E-10$ for HawCC ANTH200).

an improved measure of a parameter originally described by Schultz (2002) as "the extent to which an individual includes nature within his/her cognitive representation of self" (Schultz, 2002, pg. 67).

Mayer and Frantz (2004) use Schultz's phrase as a description of the parameter measured by their scale, which was thus used in this dissertation research as a way to address the degree to which subjects' mystical experiences of loss of ego, unity, and non-self sense of inner subjectivity (measured by Hood's Mysticism Scale above) translates into a connection between the individual self and the natural world—e.g., unity with nature. Mayer and Frantz directly describe their survey as "a measure designed to tap an individual's affective, experiential connection to nature" (Mayer and Frantz, 2004, pg. 504). They explain the relevance of this connection by paraphrasing Aldo Leopold:

The CNS follows from Leopold's contention that people need to feel they are part of the broader natural world if they are to effectively address environmental issues. For Leopold, this meant understanding the extent to which people experientially view themselves as egalitarian members of the broader natural community; feel a sense of kinship with it; view themselves as belonging to the natural world as much as it belongs to them; and view their welfare as related to the welfare of the natural world. (Mayer and Frantz, 2004, pg. 504–505)

Thus understood, the Connectedness to Nature scale measures a parameter whose domain overlaps, and thus helps demonstrate the connection between, (a) previously measured factors of egalitarianism and mysticism and (b) the realm of nature appreciation, which among Puna's permaculturalists takes on spiritual significance.

Comparing the score results of Puna's permaculturalists to the three "majority culture" control groups (see Figure 4-10) returned the most extreme levels of significant difference compared to all surveys except the postmaterialism survey. If the

Connectedness-To-Nature scale has any external validity, then Puna's permaculturalists can be understood to extend their sense of self to the natural world much more so than the typical member of the majority culture. Following Douglas's interpretation of the egalitarian viewpoint, this means that the metaphorical inner body thus includes the natural environment, which thus needs to be kept pure. Following the principle of nature/culture duality, modern technological society becomes the outer realm of sin and evil which must be purged to maintain the harmony and sanctity of an original nature.

Jacob's Back-To-The-Land Survey

A third survey, Jacob's Back-To-The-Land survey, proved useful as a cross-test of the differences in mystical experience and nature connection between Puna's permaculturalists and the "majority culture" control groups shown by the surveys previously described. Jacob's survey was the only survey discovered in the literature to have been developed expressly for demonstrating the worldviews and opinions of those participating in back-to-the-land lifestyles. The survey is intended to test for a construct called "mindfulness", which Jacob (1997, pg. 84) describes as "a calm, yet focused, engagement with the present, not unlike a meditative experience." Jacob sees a close relationship between mindfulness and the transcendental experiences in nature, which he believes to be an important goal of those engaged in back-to-the-land lifestyles:

At the moment of a foal's birth or the opening and closing of a newly built gate, time, for the smallholders, seems to stand still. The anxieties of the future have space to recede to the background, and the past's residual fears can be replaced by peace of mind. The world for one moment appears whole, and the mind moves toward a stillness. . . . One's being, then, is not seen as separate, apart from a world outside of consciousness; rather, one, if only for an instant, appears to be drawn into the ongoing stream of a perceived universal reality, with the potential for finding tranquility, union, and wholeness. (Jacob, 1997, pg. 84)

This dissertation uses a version of the survey described by Brinkerhoff and Jacob (1999). Eight items are used to test the mindfulness construct; subjects are asked to report their overall tendency to experience "a sense of peace of mind", "a feeling of union with nature", "a feeling of joy", "a feeling of living in the present moment", "a sense of wonder", "a feeling of wholeness", "a sense of being accepted by the universe", and "a sense of time standing still".

A literature review did not reveal any instances in which Jacob's survey has ever been used to test for differences between back-to-the-land groups and the majority culture. Comparisons of the overall score result for Jacob's back-to-the-land survey indicated a significant difference between the permaculture test group and two of the three "majority culture" control groups (see Figure 4-11). However, of the eight survey items, three items ("a feeling of joy", "living in the present moment", and "a sense of wonder") showed no significant differences between the permaculture group and the three "majority culture" control groups, while one item ("a sense of time standing still") showed a significant difference for only one of the control groups. Thus, differences in the overall score Jacob's survey were being determined by the remaining four test items. Of interest is the extent to which three of these remaining four significant test items can be shown to be measures of the "high group/low grid" ideals and associated "connectedness to nature" ideals demonstrated by the previous surveys to describe permaculturists' mysticized and dualized egalitarian worldview.

One item, "a feeling of union with nature", serves as an obvious cross-test of the parameter being measured by Mayer and Frantz's "Connectedness To Nature" survey. Scores for "a feeling of union with nature" were highly correlated with the overall

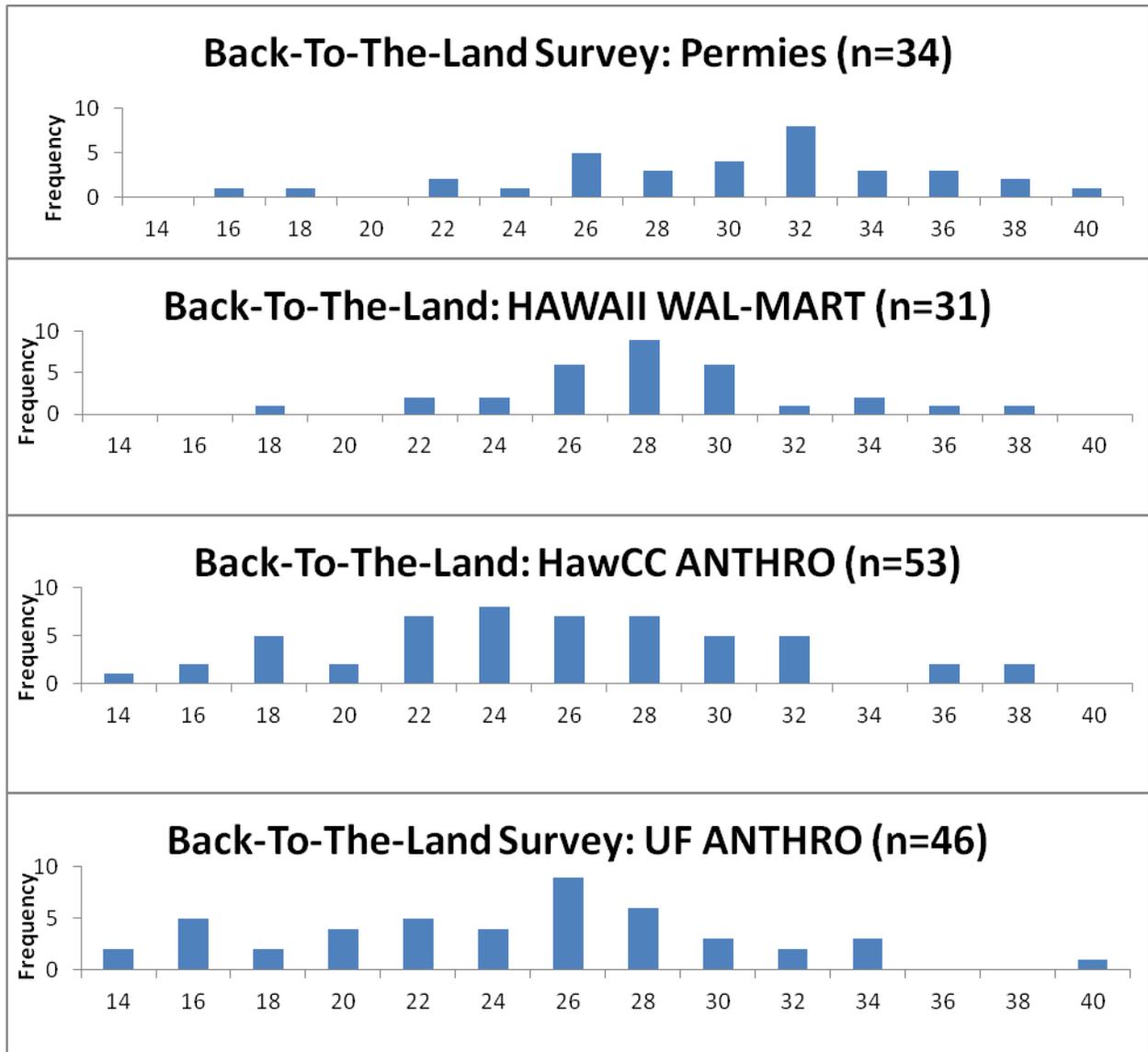


Figure 4-11. Back-To-The-Land Survey. Puna permaculturist scores showed a highly significant degree of difference compared to the HawCC ANTHRO ($p=.0005$) and UF ANTHRO ($p=4.2E-5$) control groups, but were not significantly different than scores of the Hawaii Wal-Mart control group ($p=.10$).

Connectedness-To-Nature score ($r=.72$) when compared across all four test groups.

Score results for the "feeling of union with nature" item showed highly significant differences between the permaculture test group and two of the "majority culture" control groups ($p=1.7E-10$ and $p=1.5E-06$ for UF ANTHRO and HawCC ANTH200

respectively), as well as a moderately significant difference from the third control group ($p=.042$ for Hawaii Wal-Mart).

A second item, "feeling of wholeness", showed highly significant differences between the scores of the permaculture test group and two of the "majority culture" control groups ($p=7.1E-03$ and $p=1.3E-04$ for UF ANTHRO and HawCC ANTH200 respectively). Following Jacob's description of "wholeness" in the quote above, this item can be interpreted as descriptively fitting Hood's mystic sense of unity; "wholeness" here reflects the undifferentiated *communitas* of the "low grid" ideal and can also be considered an expression of the inner purity principle previously described as a key part of the overall egalitarian cosmological ideal. (The antithesis of "unwholeness" in this case would be a sense of separation from the world—feeling apart from, rather than a part of, Jacob's described "ongoing stream" of "universal reality").

A third item, "a sense of being accepted by the universe", once again makes an obvious fit with Hood's mystic sense of unity, the sense of acceptance in this case reflecting the experience of *communitas* associated with a "low grid" ideal. Additionally, as a measure of the degree to which one positively experiences being a part of something greater than the self, it reflects a "high group" ideal. In reflecting both "low grid" and "high group" ideals the item is a measure of the egalitarian construct. Scores of the permaculture test group for this item were highly significantly different than the UF ANTHRO control group ($p=4.2E-04$) and moderately significantly different than the HawCC ANTH200 control group ($p=.045$).

Thus, although Jacob's survey items are intended to measure a construct called mindfulness, three of the four survey items responsible for significant differences

between the permaculture test group and the "majority culture" control groups measure factors that prove to be close descriptive fits of the dualized, mysticized egalitarian construct posited in this chapter to be the basic difference distinguishing permaculturists from the majority culture.

In contrast, the four insignificant items on Jacob's survey ("a feeling of joy", "living in the present moment", "a sense of wonder", and "a sense of time standing still") do *not* provide close descriptive fits with the dualized, mysticized egalitarian construct; they seem instead to be clearer measures of the mindfulness construct only. The fact that scores for these four items were insignificantly different among the four test groups suggests that the experience of mindfulness, as defined by Jacob and as measured by the Jacob's survey, may not be a dimension distinguishing permaculture participants from the majority culture.

Nonetheless, it is worth noting that one item on Jacob's survey, "a sense of peace of mind", did show highly significant differences between the permaculture test group and two of the "majority culture" control groups ($p=2.9E-03$ and $p=2.6E-03$ for UF ANTHRO and HawCC ANTH200 respectively), as well as a moderately significant difference with the third control group ($p=.011$ for Hawaii Wal-Mart). This item is a clear measure of the mindfulness construct and not a clear measure of a dualized, mysticized egalitarianism. Thus there may exist a separate mindfulness dimension distinguishing permaculturists from the majority culture that could be elucidated through improved survey designs in the future. See Appendix I for a more in-depth analysis of the methods and results used with this survey.

Measuring the New Ecological Paradigm

As demonstrated throughout this chapter, although permaculture is essentially a design system meant to insure long-term food and materials security, the motivations that drive individuals to participate in Puna's permaculture scene are likely something more than just a materialist concern with preemptive preparation for long-term food and resource security. Underlying the environmentally-oriented behavior of Puna's permaculturists is a postmaterialist, dualized, mysticized, egalitarian understanding of the physical body, society, and the natural environment. Thus, the decision to participate in a back-to-the-land permaculture lifestyle cannot be explained solely by a consideration of an individual's environmentally-oriented values alone.

This shortcoming of the motivational connection between pro-environmental values and pro-environmental behaviors is an ongoing academic concern. A prominent dilemma faced by environmental researcher is that while worldwide rates of natural resource consumption and environmental destruction continue to increase, studies simultaneously continue to document the growth of environmentally-oriented values, especially in industrialized societies (Dunlap, 2001; Inglehart, 2003; Barr 2004). Noting this shift towards environmental values, scholars have convened around the trope New Environmental Paradigm (NEP) to distinguish this perceived movement from the Dominant Social Paradigm (DSP) (Dunlap et al., 2000; Banerjee, 2002). The NEP embodies concepts such as limits to growth, steady-state economy, natural resource preservation, skepticism of technology, intrinsic moral rights extended to all life-forms, ecocentrism, and the belief that humans are members of the biological community and governed by the same ecological laws that govern other species. In contrast, the

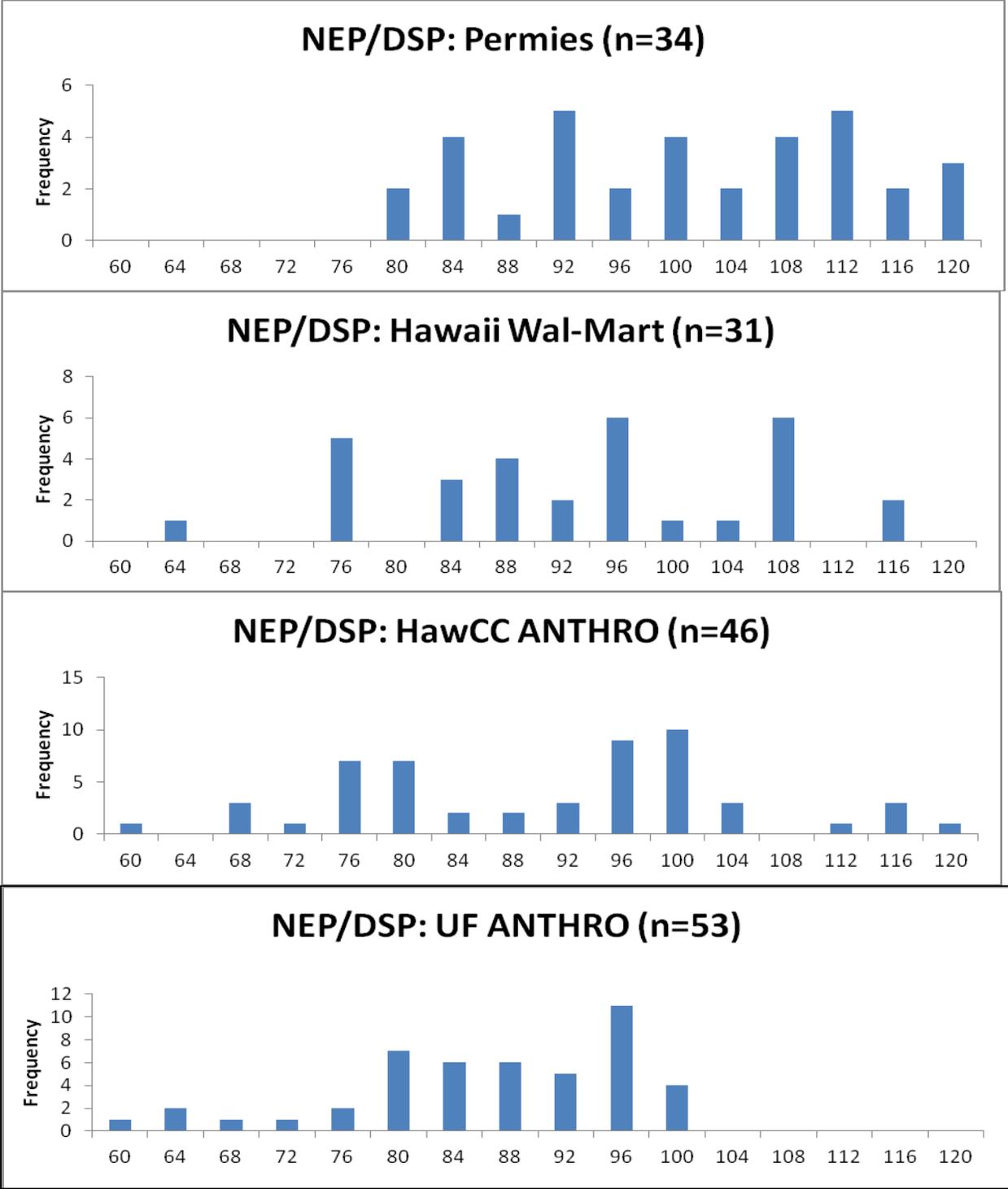


Figure 4-12. La Trobe and Acott's (2000) modified NEP/DSP survey, which tests adherence to the New Environmental Paradigm against adherence to the Dominant Social Paradigm. Puna permaculturist scores showed a highly significant degree of difference compared to the HawCC ANTHRO ($p=.0005$) and UF ANTHRO ($p=8.3E-7$) control groups, and a slightly significant degree of difference than scores of the Hawaii Wal-Mart control group ($p=.025$).

DSP—also called the Human Exception Paradigm (HEP)—assumes infinite resources, limitless progress, faith in science as a tool to ultimately control nature, and human dominion over as opposed to membership within the biological community (Dunlap & Liere, 1978; Marshall, 1993; Brasier, 1995; Dunlap et al., 2000).

The most famous survey used to measure these emerging environmental values is Dunlap and Van Liere's (1978) New Environmental Paradigm scale. Since the development of the original scale, a number of authors have modified the survey to deal with problems of internal consistency and item reliability (Dunlap et al., 2000; La Trobe and Acott, 2000; Ewert and Baker, 2001; Kilbourne et al., 2002). This study administered La Trobe and Acott's (2000) modified version of the original New Environmental Paradigm survey. La Trobe and Acott expanded Dunlap and Van Liere's original 12-item survey into a 48-item survey, then used factor analysis to pare the survey down to 20 items which reliably measure four distinct latent factors which they label "human interference with nature", "equity and development issues", "humans and economy over nature", and "duties to non-humans". As these factors demonstrate, a comprehensive view of the drivers of basic environmental attitudes shows that environmental by beliefs and values that go beyond a strictly practical, materialist, or otherwise utilitarian need. See Appendix J for an in-depth look at the score results.

The largest difference between the permaculture test group and the "majority culture" control groups occurred on survey items associated with the "humans and economy over nature" factor. This factor represents the views of a supposed "Dominant Social Paradigm" (DSP), in which economic growth is considered more important than the natural environment, and in which humans are perceived as having the right to alter,

control, and subdue nature in order to satisfy wants and desires. In fact, all four groups opposed this view; however, the degree of opposition demonstrated by the scores of the permaculture test group was greater to a highly significantly degree compared to all three "majority culture" control groups ($p=1.7E-05$, $p=6.6E-03$, and $p=1.1E-04$ for UF ANTHRO, Hawaii Wal-Mart, and HawCC ANTH200 respectively).

The next most significant factor, "duties to non-humans", represents perhaps the least material factor of the four factors. It represents an ethical imperative based on a belief in intrinsic value, though it showed only moderate correlation with mysticism experiences of "inner subjectivity" ($r=.39$) and "unity" ($r=.38$) to which it could be assumed to be related (other value dimension likely contribute to the factor as well). Differences between permaculture scores and "majority culture" control group scores were highly significant for two of the three control groups ($p=1.2E-07$, $p=1.2E-04$, and $p=0.10$ for UF ANTHRO, HawCC ANTH200, and Hawaii Wal-Mart respectively).

The phrase "permaculture" is considered alternately to be a contraction of either "permanent agriculture" or "permanent culture", and this demonstrates the social values inherent in Mollison and Holmgren's original concerns when developing the permaculture concept. The "social equity and development issues" factor of the modified NEP/DSP scale comes closest to providing a measurement of a person's interest in the "permanent culture" aspect of permaculture. This factor proved to be the least explanatory of the differences in environmental attitude between the permaculture test group and the three "majority culture" control groups; differences between permaculture scores and "majority culture" control group scores were highly significant for one of the control groups and moderately significant for a second control group

($p=2.7E-03$, $p=0.015$, and $p=0.10$ for UF ANTHRO, HawCC ANTH200, and Hawaii Wal-Mart respectively).

As a segue into the next chapter where we begin to consider the effects of making choices through the lens of mystified, dualized, egalitarian understanding of the relationship between the natural world and modern technological society, it is opportune to consider the significance of the "human interference with nature" factor of the modified NEP/DSP scale. Of all factors on all the surveys administered, this factor provides the closest descriptive fit to a direct measure of the degree to which respondents conceptualize a morally problematic and conflicted dichotomization of nature and culture. The eight scale items measuring this factor by make reference to environmental considerations such as whether industrial activity is excessive and upsetting to the natural environment, whether humans are interfering with nature deleteriously, and the manner in which humans should interact with nature. Differences between permaculture scores and "majority culture" control group scores were highly significant for one of the control groups and moderately significant for a second control group ($p=3.9E-05$, $p=0.021$, and $p=0.092$ for the UF ANTHRO, HawCC ANTH200, and Hawaii Wal-Mart control groups respectively).

Figure 4-12 shows the overall scores results for the modified NEP/DSP scale for all four test groups. A highly significant degree of difference separated the test scores of the permaculture test group from the scores of the UF ANTHRO ($p=8.4E-07$) and HawCC ANTH200 ($p=5.1E-04$) control groups, while a moderately significant degree of difference separated the permaculture test group from the Hawaii Wal-Mart control group ($p=0.025$). Despite a lack of strong evidence in the literature for the role played

by environmental attitudes in the initiation of pro-environmental behaviors (Blake, 1999; Kollmuss and Agyeman, 2002), these results suggest a correlation, at least, between the relatively extreme pro-environmental attitudes and the intentionally pro-environmental behavior of Puna's permaculture participants. Whether driven by attitude or mysticism, or whether mysticism underlies environmental attitude, can only be speculated.

Note that for this survey as well as for a number of the other surveys, differences between the permaculture test group and the Hawaii Wal-Mart control group were consistently smaller and less significant than differences between the permaculture test group and the other control groups. Possible reasons for these differences and their significance to an understanding of permaculture are discussed in Appendix A.

CHAPTER 5
THE PERFORMANCE, ACT ONE: NATURE/CULTURE PROCESSES IN THE
CONSTRUCTION OF ECOTOPIA

From Nature/Culture to Sacred/Profane

Nature/Culture Dualism as a Fast and Frugal Heuristic

The sun is setting once again on another warm Hawaiian day and I'm staring at an undeveloped 30' X 40' plot of exposed soil that sits in the middle of Ike and Mandy's oceanside 4-acre property. I've finished the research phase of my dissertation and I'm helping to caretake their land in exchange for a space to begin the writeup phase. Mandy is a fan of permaculture and a few days ago she charged me with the task of transforming this plot into a series of raised-bed keyhole gardens. The keyhole garden is one of the signature design styles associated with permaculture. The permaculture party line says that the curved, circular shapes of keyhole gardens were conceived for purposes of space efficiency based on the premise that nature is efficient—and nature, unlike techno-industrial society, rarely draws straight lines.

The plot I am working is larger than a single typical keyhole garden, so Mandy presents me with a picture of an embedded series of keyhole garden shapes called a "mandala" garden. It looks absolutely beautiful, but transforming the paper idea into an actual shape on land turns out to be a difficult task of measurements—no matter what I do, I'm constantly left with narrow leftover pockets and corners on one hand, and on the other hand, spaces so far from arm's reach from the path that acts of planting, weeding, and picking in these spaces will undoubtedly prove to be user-unfriendly backbreakers. Furthermore, the coconut logs I'm using as the sides of the raised beds must now be carefully measured and cut to fit the planned meandering curves of the mandala. I'm realizing these same curves are going to end up defeating the practical ease of laying a

planned drip irrigation system. But if I don't lay driplines the narrow, single-entry-access circular walking path will make watering by hose a constant headache; I can already see how it will potentially make wheelbarrow use difficult.

In my frustration I finally make a paper plot of the mandala image on graph paper to help me map its layout over the open soil. I end up counting grid squares and realize that, given the same square meters of used space, there isn't much difference in the garden-to-path ratio between a mandala garden plot and a simple plot of straight rows. When I go onto the internet to search for images of actual keyhole gardens, I find pages of aesthetically beautiful circular raised beds sitting in the middle of large manicured grassy lawns and other unused spaces. The contradictions become obvious: concerns of space efficiency are obviously not the issue here. A search for "mandala gardens" takes me to the website of Scott Pittman, founder of the Permaculture Institute, where a description of the utility of the mandala shape is given:

Why Mandala shape? Besides its aesthetic appeal, non-linear gardens have greater productivity due to the fact that there is simply more gardening space when using non-linear geometry. Linear gardens have their origin in division and ownership of land (easier to mark and measure), and in use of mechanical soil cultivation (easier to drive a horse or a tractor down a straight row). Since neither one of these elements applies to our ecological garden, there is absolutely no need to make them straight! Any shape that respects the landform, works with the flow of water and with the way humans move make more sense. (Pittman & Pittman, 2010)

In the end I decided to construct a combination of curved keyhole garden beds and straight planting beds. I independently maintained the beds for three seasons before finally moving to Hilo town to undertake my first full-time teaching gig, and proved an important lesson to myself in the process: what sounded reasonable and even inspirational in print and concept opened up a pandora's box of practical engineering and logistical maintenance difficulties that could have been avoided with a

few simple linear, square, profanely industrial rows that were easy to design, build, plant, weed, water, and ultimately maintain.

The bottom line is that keyhole and mandala garden designs persist in permaculture for reasons that go beyond strict utilitarian efficiency; they are signature examples of a latent postmaterialist form of nature/culture dichotomization that permeates Puna's permaculture scene. The straight-lined garden in this case represents the maligned aspects of modern technological culture—land ownership, mechanical soil cultivation, and linear thinking in general. But the keyhole garden and mandala garden in particular, as circular, represent nature—non-linear, anti-modern, anti-structure, and even sacred. They are aesthetically pleasing totems signifying the counterhegemonic ideology of an agriculturally-minded cultic milieu.

The nature/culture principle runs through nearly every facet of permaculture; once I saw the pattern, I realized that it connected the dots between seemingly unrelated practices and values associated with the permaculture world. Looking back at my interviews I could see the principle running through all major issues. It didn't matter whether the topic was organic agriculture or G.M.O.'s, vegetarianism versus meat-eating, indigeneous microorganisms or invasive species, community farms versus big agri-business, composted humanure or industrial fertilizer, solar energy versus oil energy, fermented foods or processed foods, or raw versus cooked. The former elements, fitting a principle of that which is more "natural", tended to carry overlapping moral and pragmatic meanings that similarly identified these elements as altogether "healthy", "safe", "desirable", morally "good", ultimately more "sustainable" and even more "spiritual". In contrast, the latter elements, associated with modern "technological"

culture, carried overlapping moral and pragmatic meanings that were similarly identified as "unhealthy", "risky", "undesirable", morally "wrong", ultimately less "sustainable" and even less "spiritual".

Thus understood, the contrast between nature and technological culture is a "conceptual metaphor" of the type claimed by Lakoff & Johnson (1980) to be an integral and underlying component of the basic cognitive apparatus necessary for human thought. As Turner (1974) describes it:

The metaphor selects, emphasizes, suppresses, and organizes features of the principle subject by implying statements about it that normally apply to the subsidiary subject. (Turner, 1974, pg. 30)

The use of such conceptual metaphors has already been exemplified in Douglas's interpretation of how people construct parallel metaphorical meanings for the social body, physical body, and the environmental body (the realm of "nature"). For Douglas, the cosmological world of meaning constructed by egalitarians utilizing these parallel metaphors tends to be dualistic. In contrast, majority culture, as a statistically less egalitarian group, will tend to be less black and white in their views of the degree to which things like G.M.O.'s and invasive species are altogether unnatural, unhealthy, risky, immoral, undesirable, unsustainable and anti-spiritual while things like fermented and raw foods are altogether natural, healthy, safe, moral, desirable, sustainable, and spiritually meaningful.

Understood this way, egalitarians dualism may actually help close the documented value-action gap that seems to prevent the average ideologically proenvironmental individual from engaging in proenvironmental behaviors which might otherwise seem like the logical behavioral result of proenvironmental beliefs. Following Medin et al. (2006), the less moral and pragmatic conflict that exists between various the various

mental models associated with any specific object and practice, the more likely it is that the individual will engage in intentional behaviors toward that object/practice. Thus the dualized belief system of the pro-environmental egalitarian, with its clear distinction between good and bad objects and practices, is more likely to lead to actions which utilize objects and practices associated with environmental sustainability. Thus, more permaculture members than majority culture members are likely to be vegetarians or vegans, solar cell users, non-purchasers of G.M.O. foods, etc.

In any lifestyle endless decisions must be made, and discourse among those engaged in the permaculture scene tends to be an ongoing reflexive discussion of the merits of various behaviors. Nonetheless, the amount of information necessary to make a well informed decision for even a single lifestyle choice issue is as dauntingly endless in scope as it is incomplete in availability. At the same time, much information tends to be contradictory and the assurance of the accuracy of any single bit of information is usually elusive. This leads to problems of uncertainty that ultimately bind the ability of any individual to make a fully rational decision. This concept of a "bounded rationality" has made a recent return in economic theory and subsequently repopularized the concept of the utility of "heuristic" devices for the purposes of everyday decisionmaking (Simon, 1955; Tversky & Kahneman, 1982; Gigerenzer & Selten, 2002; Kahneman, 2003). According to the concept, the bind of behavioral indecision that would result from never knowing enough accurate facts to make a fully rational decision is solved by "heuristic" devices in which the individual utilizes a simplified, though often incomplete and inaccurate, system of cues and rules when analyzing a set of information in order to make a decision (Kahneman, 2011).

Nature/culture categorization, as a conceptual totem of the permaculture movement, is an heuristic tool used in Puna's permaculture movement to judge which actions are and which aren't appropriate overall. In behavioral economic terminology, egalitarians such as the permaculturists, as dualistic thinkers, are more likely than the general population to make "attribute substitutions" (Kahneman, 2003). As an example of this on the permaculture scene, the attribute of "natural" tends to become a conceptual substitute for the attribute of "material sustainability"¹—the ultimate goal of permaculture in principle—as well as for attributes such as "safe" and "healthy".

Latour (1993) notes that the trajectory of modern Western culture seems to be a process of drawing up dualities while simultaneously engaging in processes that create hybrids between these dualities. The trajectory of Puna's permaculture communities will be shown to exemplify this process. Drawing the distinction between what is and what isn't natural, permaculturists now have simplified a cosmological journey that involves moving towards the "natural" side of things and leaving modern technological culture behind in the process. However, having started their journey as Western middle-class postmaterialist urbanites raised in the heart of modern technological culture, we will see that this the journey of unification results in hybrids (of which one hybridization process, the commoditization of ecotopia, is of particular importance) that ultimately undermine the goal of sustainability.

¹ I will make an argument in the discussion section that using the concept of "natural" as an attribute substitution for "sustainable" is not necessarily a bad one. Using environmental accounting concepts to present a working definition of "sustainable", I will make a case that "natural" may be an effectively "fast and frugal" (following Gigerenzer & Goldstein's 1996 use of the phrase) substitution heuristic for "sustainable".

Flight from the Profane: Cultic Milieu as Anti-Capitalist and Counterhegemonic

As much as "nature" provides a construct towards which permaculturists can move for purposes of a healthy harmonious body, community, and environment, the need to move *towards* something is likely preceded, among permaculturists born into Western middle-class urban and suburbanite lifestyles, by a sense of a need to move *away from* something—of needing to be healed *from* something. In this, the gardening aspect of permaculture's sustainability endeavor often gets overshadowed by the drum beating, séancing, sweatlodging, tripping, and fasting that takes place as part of the constant quest to rid oneself of the sickness obtained within the contemporary Western world of dates, deadlines, bills, cars, and career imaginations. It is this shamanic, healing element of permaculture that helps it to draw membership from the vast "cultic milieu" of those disinfatuated with modern trends.

The term "cultic milieu", coined by Campbell (1972) and repopularized by Kaplan and Loowe (2002), is used to describe the loose sense of recognition and brotherhood between various groups whose shared sense of opposition to the dominant culture helps to engender a shared openness to certain beliefs and practices, especially if esoteric and/or mystic in character, that are generally opposed in the dominant culture. In general, the different subcultures of the cultic milieu rally less behind a singular solution to the sickness of Western culture than they rally behind a shared sense of the cause. Regarding the cause, a growing consensus of the cultic milieu seems to share a belief that it is the faceless specter of neoliberal capitalism that sends the poison darts responsible for the sickness. Permaculture communities can serve here as a rallying point for healing from the sickness of capitalism. The counterhegemonic, disputed character of many of the solutions encouraged within the permaculture scene—

shamanic experiences, breatharianism, fasts, cleanses, raw food diets, chelation therapy, and other alternative healing forms meant to remove the poison dart of the capitalist specter—seem to contribute to its acceptance among the cultic milieu as they resist the philistine paradigm in search of something to run towards in pursuit of a healthier, purer, higher self.

This same flight from modern neoliberal capitalist culture that sends individuals on a quest to self-heal can also manifest itself as a longing for community, as explained by Sennett (1998):

One of the unintended consequences of capitalism is that it has strengthened the value of place, aroused a longing for community. All the emotional consideration we have explored animate that desire: the uncertainties of flexibility; the absence of deeply rooted trust and commitment; the superficiality of teamwork; most of all, the specter of failing to make something of oneself in the world, to "get a life" through one's work. All these conditions impel people to look for some other scene of attachment and depth. (Sennett, 1998, pg. 138)

Thus, the quest to self-heal is accompanied by a quest for healthy community, and resisting the philistine paradigm leads to a pursuit of not only a healthier, purer, higher self, but also a healthier, purer, higher society. What at first is Durkheim's formula reversed—with society as profane—becomes upright again as a new society is imagined. The sacred becomes the individual and the newly imagined community—lost at first to postmodern sickness but soon to be found again in the shared company of healed individuals whose increasing numbers mark the sacred beginning of a New Age of coming society.

Authors such as Nash (1967) and Glacken (1967) note that nature/culture dualism has a long history of Western roots; during the beginning of the modern era it was used to paint a picture of a growing technological culture overcoming, taming, and bringing

structure to the non-human natural environment. The metaphor was found in both popular Christian religious as well as popular secular social contexts. Given this picture it is easy to see the logic of the counterhegemonic reversal of this dichotomy in which there is opposition to a profane modern culture, and in which the antagonist, the force of nature, becomes viewed as a space in which to imagine a liberating alternative. Filling out the body metaphors, the anti-capitalist quest for a healed self and community is thus accompanied by a need to “heal the world” from the malevolent effects of globalization that are driven by modern technological capitalist processes. As dichotomous body metaphors become conceptually blended in a reversal of Durkheim's formula, a pure, unpolluted environment—“nature” embodied—thus becomes “a symbolic center” (Albanese, 1991, pg. 7), a counterhegemonic sanctuary in which one can escape the colonization of one's lifeworld by the encroaching sickness of advanced capitalism, a place in which a solution to the profanities of modern social processes becomes manifest in a sense of the sacredness of nature.

Sacred Union: Nature as Antistructure

I'm talking to Kibo, who lived in a polyamorous community known as Shivalila. At its height, four men and four women slept with their children in a single room called the “birthing room”. It was a heterosexual “round-Robin” sleeping arrangement; each night each member slept with a different member of the opposite sex; sexual relations were not required but absolutely sanctioned if that night's partners felt moved to do so. A notable feature of community participation was a periodic LSD ritual in which one of the community members was blindfolded and encircled by the group. For a considerable portion of the “trip”, the member became the focus of an intense group-mediated psychotherapy session intended to bring to the surface and address contradictions and

issues that might inhibit the continuity of the group's successful functioning as a polyamorous community. The community lasted eight years before a violent breakdown by Kibo during a session marked the beginning of the dissolution of the entire group.

Kibo now lives in one of Puna's permaculture communities. His path to this community started when he met Bob and Dawn at an orgasmic meditation workshop in San Francisco, in which men and women are paired up for the purpose of developing a "connective resonance" through prolonged "mindful" finger-to-genital contact. After being joined by two others from the workshop, the group of five moved to Puna to start their own group-owned permaculture community. Bob was initially Dawn's partner; he eventually left the community but remained in Puna for years afterwards helping conduct and participating in orgasmic meditation workshops. Dawn's new partner Juan is a permaculture community member as well as a member of an *ayahuasca* church that engages in monthly group *ayahuasca* ceremonies. Juan considers the ceremonies an important part of his life; without the cleansing provided by the ceremony, he feels he would not be able to maintain the higher consciousness needed to participate in alternative living and would be more likely to forget and fall back into the thinking patterns he grew up with as an average American upper-middle class suburbanite.

As the cultic milieu's flight from something must eventually result in a run towards something, the shamanic element of permaculture is not to be underrated. Kibo, Bob and Juan are all similar here in their use of counterhegemonic practices as a path towards mystic union. The various materials used and behaviors engaged in by various members of the cultic milieu to achieve this union can be interpreted as ritual devices meant to bring about a sense of *communitas*. As used by Turner (1969), the subjective

experience of *communitas*, basically fits the concept of egalitarian union: it is a space without internal differentiation in which one achieves a sense of equality and unity with elements within that space. Turner quotes Malcolm X's description of his experience at Mecca as an ideal example of *communitas*: "love, humility, and true brotherhood that was almost a physical feeling wherever I turned" (Malcolm X, 1966, pg. 325, as quoted in Turner, 1974, pg. 168). Of Turner's three varieties of *communitas*, the mystic union sought between people or with the natural environment fits his concept of existential *communitas*, described as "the direct, immediate, and total confrontation of human identities which tends to make those experiencing it think of mankind as a homogeneous, unstructured, and free community" (Turner, 1974, pg. 169).

For Turner (1974), the space within which *communitas* is experienced is a space of anti-structure, which is a term borrowed from Van Gennep (1960) and understood to be a space of experience separate from the ordinary world of experience and thereby extraordinary. The undifferentiation experienced within the space of anti-structure causes and in turn is caused by a detachment from the traditional social norms that dictate traditional personal, social, and ontological limits and expectations. It is a space where rules become turned on their heads and one's sense of right and wrong is suspended.

Survey results show the permaculture contingent as a group to have a relatively high incidence of mystical experience; mystical experiences associated with the nature environment is one aspect of the metaphor of union with the body. The importance of ego-loss and the shamanic sense of union associated with mystical experiences is important for understanding the relationship of mystical experience to anti-structure

spaces which imagine a union between humans and the non-human world.

Understanding such mystical nature connection experiences as hierophanies, as Eliade (1961) used the term, helps to explain why nature becomes associated with the sacred. The egalitarian worldview of the Puna permaculturist is relatively dualistic, and as Eliade (1961) argues, mystic nature experiences help to create distinctions between that which is considered sacred and that which is considered profane. Nature is experienced as a space of possibilities, exempt from the structures of limitation cast upon it by ideology of the profane modern social world and trapping those who believe in this ideology, in this ideology. In this it becomes similar to Turner's interpretation of the anti-structure space as "something positive, a generative center" (Turner, 1974, pg. 273). The importance of "unity" to this anti-structure space is exemplified by Musgrove (1974, pg. 102) who asserts that the members of counterculture "value most those moments when the barriers to perception crumble, when the walls between themselves and the world fall away and they are 'in contact' with nature, other people, or themselves". As Gould (2005, pg. 103) describes, individuals seeking back-to-the-land solutions "may describe themselves as experiencing a connection with nature that they (or we) might call mystical. Or they discover, through daily contact with nature, a sense of grace or holiness."

Understanding that part of the permaculture endeavor is to create a space amenable these experience, permaculture communities thus come to fit Turner's concept of an "ideological communitas, which is a label one can apply to a variety of utopian models or blueprints of societies believed by their authors to exemplify or supply the optimal conditions for existential communitas" (Turner, 1974, pg. 169). The specific

brand of utopia being constructed within permaculture communities, focused as they are on anti-structure spaces of human-environmental harmony, is something I call "ecotopia". Basking in the *communitas* of oppositional subculture, egalitarian-minded members of the cultic milieu seek a shared spiritual camaraderie that comes from participation in the construction of the idealized, harmonious vision of nature offered through the ecotopian vision of permaculture community design.

It is important to note that the space of anti-structure described by Turner (1974) was an elaboration of Van Gennep's (1960) second stage of the rites of passage, and the experience of *communitas* is but one of two characteristics associated with the space of anti-structure. The other characteristic, liminality, implies the inherent transiency of this space as the group or individual moves to the final third stage of a ritualized progression of human experience. Deflem (1991) paraphrases Van Gennep's original progression of these ritualized stages as:

(1) separation or the pre-liminal (after *limen*, Latin for threshold), when a person or group becomes detached from an earlier fixed point in the social structure or from an earlier set of social conditions; (2) margin or the liminal, when the state of the ritual subject is ambiguous; he is no longer in the old state and has not yet reached the new one; and (3) aggregation or the post-liminal, when the ritual subject enters a new stable state with its own rights and obligations. (Deflem, 1991, pg. 6)

What will be crucial to the story here is an understanding of the inherently liminality of the experience of nature as an ecotopian symbol of antistructure within the worldview of the egalitarian-minded cultic milieu who turn towards permaculture lifestyles. Various authors have long noted the inherent liminal character of mystic and religious experiences as they are experienced across cultures (James, 1902; Pahnke, 1963), and this liminal aspect will become important as we imagine the permaculture endeavor to be a process in which its mystic-oriented members must eventually enter a third stage.

Nature/Culture Narratives in the Construction of Ecotopia

Call of the Cultic Milieu: Secular Pilgrimage to an *Axis Mundi*

I am driving over the forested ridge of Kilauea's east rift zone. On the opposite side of the street is a 20-something bearded barefoot guy wearing a backpack with his thumb held out. His smile is huge. He has a trademark "transcended" look in his eyes and expression that makes me think he's just arrived from the mainland, a pilgrim fresh off the plane, now immersed in what seems like Shangri-La on earth and looking for somewhere to drop his bags to begin his sacred communion with nature. I've picked up so many guys and girls like this over the years, either going to or coming from or looking for one of the various work-trade communities, many of which use the "permaculture" trope as part of their self-description of what the community is all about. They serve as excellent random informants, keeping me in touch with the latest happenings around Puna and often adding their two cents, when appropriate, to my growing canvas of shared permaculture experiences. Many times I'll pick up the same person a number of times over a couple of months, then never see them again, most likely because they have returned to the mainland. Puna's work-trader jet-set is a highly transient crowd.

Why such individuals choose to make the journey to Puna when numerous opportunities to engage in permaculture projects exist on the mainland has a lot to do with the historic significance of tropical islands in the Western imagination. Authors such as Grove (1995) note that tropical islands have long presented the ideal of a pristine and unspoilt nature while simultaneously offering encapsulated examples of the fragility of nature to human intervention as demonstrated through the historical results of European imperial conquests on various islands worldwide. As a result, according to

Grove (1995), islands have long been central to the formation of Western progressive environmental ideas, as well as Western ideas of social reform in general:

Landscapes of island . . . were metaphors of mind. Anxieties about environmental change, climatic change and extinctions . . . mirrored anxiety about social form . . . and motivated social reform. At the core of environmental concern lay anxiety about society and its discontents. (Grove, 1995, pg. 14)

Islands offer the possibility of redemption, a realm in which Paradise might be recreated or realized on earth, thereby implying a structure for a moral world in which interactions between people and nature could be morally defined and circumscribed. (Grove, 1995, pg. 13)

But the coming of the cultic milieu to Hawaii is about more than just coming to a tropical island; it is also about experiencing the homeland of a previously pristine and unspoilt culture—which itself becomes representative of the "nature" half of a conceptual dichotomy between nature and technological culture. Roderick Nash (1967) notes the way in which indigenous American Indian populations, like wilderness itself, became valorized once they had been conquered to the extent that the initial threat possibility has been minimized. A simultaneous place sits in the American mind for Hawaiians in particular. Aided by images of Hawaiian culture promoted through the film, surfing and tourism industries, as well as by Mead's images of nearby Samoa, Hawaii and Hawaiians themselves conjure images of simplified lifestyles and the social freedom and ecological wisdom of an indigenous and once noble island culture.

Once in Hawaii, the cultic milieu makes its way to the Kilauea East rift zone, where the the world's most active volcano easily fulfills the image of a sacred *axis mundi*. To see the destructive results of Kilauea's lava as it flows forth from the earth's mantle, unstoppable and destructive to anything in its path, adding acres of land to the Big Island each year, it is hard not to evoke Eliade's (1961) conceptual descriptions of *axis*

mundi as a veritable navel of the world, sacred omphalos, source of earthly creation and place of connection to higher and lower realms. Yearly lava flows, erratic and unpredictable, take out stands of trees and shrubs, the occasional home, and on rarer occasions a human life. Actual risk and associated insurance problems due to the lava flows slow the construction of homes and businesses alike, while the lack of soil spells difficulties for industrialized agricultural operations. These conditions create a sort of naturally anti-capitalist geography, resistant to encroachment of the modern technological world, which is thus naturally attractive the anti-modern, anti-technological, and anti-capitalist imaginations of the cultic milieu. The magma chambers at various spots along the rift zone are only a few miles down and heavy rainfall thus creates numerous areas of natural warm ponds and steam vents and produces the sulfurous smell of fire and brimstone after a fresh rain. Many Puna residents have their own personal explanation for how and why living in the Kilauea East Rift Zone creates the feeling of being charged—emotionally, physically, and/or aurically. Some give scientific descriptions that attribute this feeling to the natural ferromagnetic qualities associated with slowly cooled lava; others attribute it to something entirely else. Kilauea's East Rift Zone thus carries a reputation for bringing forth among residents and visitors alike a numinous sensation which arises as much from the sense of dread and threat as it comes from a sense of exaltation; it gives a sense of being within the realm of that which Eliade termed the "wholly Other". With these images in mind, the cultic milieu's desired flight from the profane is aided by the actual physical distance of Hawaii from the mainland U.S.A., which helps to create a feeling of separation from the profanity of the modern world and adds to the mystique of

a land faraway in both space and character. Once again, Grove notes the historic significance of this distance aspect inherent in the tropical island, in relation to more Westernized geographies:

The older metaphor or an actualized Eden could thus be blended with the image of the island as a new empirical realm of safety amidst an unknown and explorable natural world whose chief characteristic was a lack of connection with all things European. (Grove, 1995, pg. 45)

During in-depth interviews with permaculture participants, many described their decision to come to Hawaii as a "calling"; they "felt a call," received "signs" or "messages" telling them to go, or otherwise expressed themes of passive esoteric correspondence when describing their motives for travel. Often, these experiences of passive esoteric correspondence occurred during meditation, vision quests, or psychedelic experiences.

The religious dimensions of such esoteric motives for travel aids an interpretation here of the Puna permaculture participant coming from the mainland as a type of pilgrim, while the long journey to Hawaii thus becomes akin to a secular form of pilgrimage. Once again, we can turn to Victor Turner for a clearer understanding of pilgrimage as a ritual process; he quotes from the Jewish Encyclopedia in his definition of pilgrimage as "a journey which is made to a shrine or sacred place in performance of a vow or for the sake of obtaining some form of divine blessing" (Jewish Encyclopedia vol x, 1964, pg. 35, quoted in Turner, 1974, pg. 173). Here, the Kilauea East Rift Zone, as the wholly other *axis mundi* and known home to others seeking sacred union with nature, becomes the pilgrimage endpoint. Furthermore we can look at the act of permaculture participation as ritual performance of a vow meant to bestow grace through communion with nature and like-minded brethren. Finally, understanding the

pilgrimage process as ritual movement to a space of antistructure, we can once again see the possibility for conflict that arises when the permaculture spaces, conceived in theory for purposes of engendering long-term material sustainability, become pilgrimage sites for the ritualized experience of antistructure.

Secular Religion and Egalitarian Ritual in Permaculture

Religion? Nature is the only religion. (Manis, owner of Pangaia, during an in-depth interview)

U.S. Supreme Court Justice Potter Stewart famously declared his definition of obscenity by stating, "I know it when I see it." I'm wondering if this definition might be applied to religion as I hold hands in a circle with members and work-traders at the La'akea permaculture community. We're all om'ing ("ooooohhhmmmmmm"). Some have their eyes closed. Some have their eyes open and are looking deeply into other's eyes. In between om's, wide smiles abound. There's little question that eye-rolling or sarcasm, even in jest, would be highly inappropriate here. Afterwards, group hugs are common. Another common followup is to have each member of the circle express how they feel and/or what happened in (or what is planned for) their day. Such expressions take on dimensions which less appreciative individuals from the wider majority culture might describe as "woo-woo"².

Group circles such as this happened in one form or another at most of the permaculture communities I visited. As an observing participant, the group circle is a ritual that has a distinctly religious feel to it, but my questions to others regarding their own views on whether the act constitutes religious behavior has never lead to

² "Woo-woo [adj.] concerned with emotions, mysticism, or spiritualism; other than rational or scientific; mysterious; new agey." (A Way With Words, 2012)

enthusiastic affirmations from the other members. I find more consensus once I drop the word "religion" and choose instead the word "sacred"—circles like these, many agree, help to invoke a sense of the sacred, allow members a platform in which to share their experiences of the sacred, and thereby help to create a connection between community members. Woo-woo-filled experiences of connection between community members are expressed as commonly as experiences of a sacred connection to nature.

What is important to point out here is that this sense of the sacred is manifesting itself among a generally secular crowd. According to in-depth interviews, most permaculturists come from non-religious upbringings, and those that reported being exposed to religion in the home while growing up also reported having rejected it either before or after leaving home. This rejection opens the door for interpretations of the sacred that, though perhaps indirectly shaped by, are not directly tied to previously enculturated beliefs of an organized religion. This leaves space within permaculture for religious dimensions to develop independently around the concept of a sacred nature.

To understand the religious qualities of the permaculturist's take on nature and the sacred, we can use an "ideal types" approach (Weber et al.; 1949) to religion in which we list the various beliefs, practices, and other characteristics commonly associated with traditional organized religion (our "ideal type"). Such characteristics might include belief in supernatural entities, attribution of anthropomorphic qualities to non-humans, sacred phenomenological experiences, sacred linguistic codes, sacred spaces and structures, and sacred behavioral phenomena.

Following Taylor (2010), if certain beliefs, practices, and/or other characteristics of a secular group, movement, or social phenomenon can be argued to have "family

resemblances" to those beliefs, practices and/or other characteristics associated with traditional organized religion, then that group, movement, or social phenomenon can be characterized as having religious dimensions. Thus, it is possible to remove the primary characteristic associated with religion (belief in supernatural entities) and be left with characteristics that occur in everyday life which have religious dimensions yet may not be considered religion per se. Broadening this definition of religion to include aspects of life characterized by religious dimensions is a common contemporary approach to religion (Saler, 1993; Taylor, 2007) that recognizes the vacuum of meaning that exists in the absence of traditional religion in secular society (Luckmann, 1967; Bailey, 1997). In these instances, secular aspects of human life can be recognized to be imbued with religious character and treated in religious manner with accompanying ritualized behaviors (Chidester, 2005).

Millenarianism, Revitalization, and Reverse Cargo Cultism

I'm watching Blake as he mulches a patch of bananas with the weeds he and others have been pulling from an overgrown sweet potato patch near the community kitchen. I'm having a moment of rest from the work I've been doing: taking down the cane grass that has overgrown the young saplings of various fruit trees that were planted just a year ago. I've been at it for nearly a week now; on my best days I get into a Zen-like state as I take down the thick grass stalks at their base with a machete and then saw out the roots with a small saw-bladed sickle called a "kama". Weeding, mulching, planting, composting; weeding, mulching, planting, composting. It's a surprisingly repetitive set of tasks that comprises the bulk of permaculture. The goal, of course, is the harvest. But I'm starting to look at the work we do as less of a

technologically rational behavior and more of a ritual act carried out for the purpose of fulfilling millenarian and revitalization narratives of a secular nature religion.

In permaculture communities, spiritual ideology about nature serves as a binding force for utopian ventures. These spiritual beliefs are not organized religion per se, and in permaculture beliefs about nature and the natural world tend to arise from and are made meaningful through an interpretation of highly Western scientific concepts. Yet, in doing so, they uphold Spiro's (1963, pg. 194) proposition that "in the absence of traditional religion, ideology becomes religion". In permaculture's ideological religion, the realm of nature takes on sacred importance, and communion with this realm is the highest good. Principles of Western scientific logic uphold the greater meaning of such communion through secular narratives of revitalization and millenarianism.

Peak oil is certainly the most obvious example of a permaculture millenarian narrative based on a scientifically-derived storyline. The basic narrative maintains a belief that oil energy will run out, that the unsustainable practices of neoliberal economics will result in a painful worldwide crash, but that proper work and organization in accordance with permaculture design will ensure a smooth ride through this crash for those who choose the permaculture "way". Alternative versions of this millenial storyline replace peak oil with global warming, market crashes, and/or catastrophic resource depletion, but all identify modern technological culture as the growing evil element responsible for the current dystopia:

Throughout most of human history, people have lived connected to the Earth, in some kind of community structure (be it tribe, clan, village, or whatever), sharing some form of spiritual beliefs that informed their daily lives. It's only been in the last century that our world has changed so dramatically, and at incredible speed, leaving most of us living divorced from the Earth, each other, Spirit, and even ourselves. (Tarletz, 2007)

By envisioning an escape route from the impending despair—the back-to-the-land act of reharmonizing with a sacralized salvational nature—permaculture participants tend to be somewhat positive in choosing themes of millennial hope instead of apocalyptic despair when describing the life philosophies driving their actions. Denouncing apocalypticism, Toby Hemenway (2008), a major permaculture figure, notes the belief itself to be yet another manifestation of modern technological culture:

Although plenty of Peak Oil commentary is sober analysis, a survey of the major websites and books quickly brings up apocalyptic titles like dieoff.org, oilcrash.com, *The Death of the Oil Economy*, *The End of Suburbia*, and *The Last Hours of Ancient Sunlight*. Peak Oil writings are sprinkled with predictions that billions will die, civil order will collapse, and even that civilization will end... I now believe that Peak Oil catastrophism is largely a manifestation of our primary cultural myth: that all things end with suffering, death, and then resurrection. Belief in apocalypse is programmed into western civilization. Given our heritage, “the end is nigh” is the nearly unavoidable personal and collective response to times of uncertainty and rapid change. (Hemenway, 2008, online)

Thus the idea of escape becomes counterhegemonic itself, making this element of permaculture belief an example of Comaroff & Comaroff’s (2001) description of the utopian, millennial response to dominant government, in this case industrialized neo-liberal capitalism. It is:

A vision of transformation that departs from the social totality and [involves] a renovated left [which] are central conditions for the development of a counterhegemonic project. Robinson (2004, pg. 176)

However, permaculturists go a step further by infusing their politico-environmental millenarian message with secular dimensions of nature religion expressed through Gaia terminology and an esoteric understanding of the view of humans as one system within a greater environmental system (in two of the communities, both the writings of James Lovelock and Howard T. Odum sit on the bookshelves right next to the main

permaculture texts). In many cases, such accounts are colored by less scientific storylines based on Mayan cosmology or the prophecies of Nostradamus.

If peak oil, global warming, and GMO apocalypticism can be understood as millenarian narratives of permaculture's secular religious ideology, then the act of gardening is certainly its ritual. It is through this act that revitalization is deemed possible. In the basic revitalization narrative of the permaculture prophecy, man has separated himself from the natural world and ought to get to getting back to it. Such narratives become tied to millenarianism as they become based on the necessity of a back-to-the-land imperative to avoid the dangers of an immanent apocalyptic crash, as exemplified in the following quote from a bioregional conference flyer advertising the book "Ecohabitats: Experiences Towards Sustainability":

Although this book has a solid theoretical and academic foundation on environmental issues, it is primarily the work of several people who speak from living this way. It comes from households of people practicing living ecologically with a religious or spiritual fervor. I'm not exaggerating. The individual efforts to save the environment of the planet, although modest in their global outreach, are nevertheless heroic. As a matter of fact, the sum of all the individual efforts, if adopted by millions, would result in the salvation of the earth. If we take care of the quality of life for our family, we are taking care of the quality of life of the community and, ultimately, for the whole world. We cannot have a global environmental spirit if we don't have it first in our daily, domestic and local life. (Bioregional Congress, 2008)

In the egalitarian world of permaculture, millenarian beliefs are fused with revitalization concepts through use of a time factor to define the difference between the inner, pure body of nature and the outer, corrupted body of modern technological society. The inner body in this case becomes the original body—humans and society as they existed in an earlier time period, in harmony with nature. The outer body equates to later in time and includes the current time period, when man has been corrupted by the evils of modern capitalized industrial culture and through this evil

become separated from nature. In the impending social and environmental collapse, only those select few who return to the good ways of early man and the non-Western Other shall make it through to the other side, happier and more harmonious than ever before.

Combining millenarian narratives with these rituals of revitalization, it becomes possible to view permaculture as a reverse form of cargo cultism. In the cargo cult phenomenon that took place in parts of Papua New Guinea and the Pacific Islands, small groups from non-Westernized tribes ("primitives"), following the arrival of the cargo-laden military planes of the Allied forces during World War II, are said to have "put down their digging sticks" and climbed to mountain top plateaus, cleared vegetation for makeshift landing strips, made bamboo likenesses of radio control towers, used reed batons to copy the behavior of landing strip traffic controllers, and waited. This ritualized mimick of Western aviation behavior was intended to draw unto them from the sky gods the same abundance of cargo which arrived into the hands of the Western G.I's who engaged these same behaviors (Trompf, 1990). In some interpretations, cargo cult behavior is seen as a political protest against an immoral imbalance of materials possession between Westerners and non-Westerners (Kaplan, 1995).

Permaculture is a reversal of this scenario in which a dispossessed Other seeks the abundance of Western goods through ritual magic. In both Pacific cargo cults and permaculture, Western culture has dispossessed the individual of a sense of well-being. But in permaculture, Westerners themselves have been dispossessed by their own cultural processes, and they seek through ritual emulation to bring forth the supposed abundance attributed to the non-Western precapitalist Other. Turner defined ritual as:

A stereotyped sequence of activities involving gestures, words, and objects, performed in a sequestered place, and designed to influence preternatural entities or forces on behalf of the actors' goals and interests. (Turner 1969, pg. 183)

From a secular standpoint, the sky gods have been replaced here by the earth gods—nature has taken the place of the mystical, preternatural entity. Having made their pilgrimage to the Kilauea East Rift Zone—the sequestered place—permaculturists weed, mulch, plant, and compost in an effort to reproduce the abundance imagined to exist in the natural lifestyles of the non-Western primitive Other. Underlying this is the contrast between "nature" as the giver of abundance and technological "culture" as the source of degradation. On Puna's permaculture scene this interpretation of the relationship between nature and technological culture provides a sacred canopy of meaning and direction which is reinforced by group circles in which ancient Hawaiian chants are sung, and in which glorified stories are told of the efficiency and wisdom of ancient Hawaiian agricultural techniques. It is an image borrowed from scientific interpretations of the Other's abundance as described by Sahlins (1972) and Lee (1979)—"they hardly had to work at all!" said one permaculturist when describing the ahupua'a system of Hawaiian agricultural management. Indeed, Mollison himself (1997) imagined the well-designed permaculture garden as being capable of leading to a state in which nature does all the work and humans are left solely with light managerial tasks necessary to maintain the continued return of bounty and abundance. Thus, the ritualized work of gardening is imagined in some ways to be a liminal state—as emulation of the beliefs and lifestyle patterns of the Other are perfected, the work load is imagined to lighten as nature begins delivering the goods on her own.

Glorifying the Other: Landdancing, Value Rationality, and the DMP

Part of the glorified pursuit of the imagined Other involves a pursuit of those forms of rationality that Weber (1968 [1922]) originally found descriptive of the lifeworlds of individuals living in pre-capitalist, non-market societies. In permaculture, instrumental rationality is associated with those who are at home in the capitalist market system found in highly technological, industrialized societies; for permaculturists, that instrumental rationality has not been able to provide them with their immaterial needs. The response is a conscious move towards a more value-based rationality with a heightened moral dimension.

This idea of a heightened moral dimension to community forms of counterculture was explored by Etzioni (1988) who saw evidence for it in the anti-consumerism values and anti-consumption lifestyle choices of the "Living Simply" movement. Paralleling this, Thompson (1971) considered the idea of a value-based "moral economy" to be a form of resistance to capitalism and capitalist relations of production. Thompson noted that various non-instrumental, value-based systems of rationality tended to occur in societies characterized as pre-capitalist and engaged in domestic modes of production (DMP). Some of these values, such as task orientation, caused resistance to the presumably more instrumentally-efficient time-oriented rationality of capitalist culture. Indeed, part of the goal of emulating the Other within permaculture involves successful engagement in a domestic mode of production, in which basic needs are met autonomously by the nuclear group through their interaction with the surrounding natural environment. Permaculture's ideal vision of the domestic mode of production includes an actively sought transition from time orientation to task orientation, seeing task orientation as more human and less alienating:

For us, it's all about living on the land. It goes far beyond hours. It's a feeling of Unity with Gaia. Our 9 to 5's are dancing with the land, dancing with each other, dancing with ourselves in quiet solitude. It's like this: through our Work we are discovering ourselves; so who's keeping track of time anyway?? (Pangaia, 2007b)

This quote captures the non-interest in time-labor, fuzziness of work/play boundaries, and interwoven sense of community and spirituality that is common to ideals found in permaculture and communitarian counterculture. Firth (1939) explained the difference between work and labor as the difference between energy expended for exchange—labor—versus energy expended for fun, for pure satisfaction, and for the satisfaction gained through work itself. Labor, in Firth's view, implied a political context; it was labor that produced value in capital society, not work. No satisfaction was meant to be gained through labor itself; labor implied a lack of pleasure.

This distinction between work and labor is an important clue to understanding what motivates Puna's communitarians and its many work-exchange visitors during their construction of ecotopia. People are attracted to Puna for the anti-capitalist experience, for the heightened "consciousness" assumed to be found in a setting outside of capitalism:

Pangaia is a place where you will discover how you feel when your consciousness stops getting a constant dose of automobiles, traffic, cell phones, faxes, interruptions, advertisements and commercial transactions. (Pangaia, 2007c)

This heightened consciousness, free from the confusion of capitalism's technology, is the original "state of nature", à la Rousseau—the original state of the Other in the natural world, which takes on utopian meaning. The anti-capitalist nature of this sentiment is expressed in millenarian terms as a loss of connection to both Earth

and Spirit—a connection that can be found again (revitalized) through engaging in an energetic, hands-on discourse with the land:

Our vision is of unity with Gaia, the Earth mother, and with each other; a full and complete expression of who we are through our work, art, and play.
(Pangaia, 2007)

As part of this hands-on discourse, an important objective of permaculture is the need to transform the Apollonian, capitalist experience of work as “labor” into a Dionysian, anti-capitalist, antistructure sense of work as “play”. One way the communities approach this is through the concept of the “land dance”. Active members may “often spend up to 60 hours a week” landdancing away with machetes, hoes, and their bare hands as they dig, cut, hack, plant, pull, and otherwise engage in their jungle “labor”. This transformation of laboring on the land into the worshipping Gaia through “landdancing” hits upon Heilbroner’s (1953) ideas of how “work” gets turned into “play” through social relations (such as the landdance, which is usually performed together). Heilbroner stressed that the barrier of property usually defined work. Working on one’s own property was not really “work”—“labor” was something you did on someone else’s property.

In Puna, the idea of property ownership is dirtied through utopian collective mindset towards property and the infusion of indigenous Hawaiian beliefs land is never actually owned by anyone; it is everyone’s, or nobody’s. Thus, permaculture communitarians like to praise the lava takeovers of Kalapana and Kapoho as proof from Mother Pele that humans, in the end, do not own the land. In visions of Pele as the owner of the land, ownership is always by a non-human entity; in visions of Gaia, the idea of human ownership seems immoral and backwards. Ideas of non-ownership are reinforced through egalitarian rituals, such as the group circle, and an ongoing anti-

capitalist rhetoric infused with sacred overtones of the values of the Other, especially values associated with old Hawaiian culture.

It is the land, it is our wisdom, it is the land, it shines us through, it is the land, it feeds our children. it is the land, you can not own the land, the land owns you. (Pangaia, 2007)

Such rituals and beliefs help to muddy the legal differences between permaculture property owners and the transient work-traders; it helps to provide a sense of shared participation and responsibility for work/labor needed to create the abundance of the Other. Through accepting non-ownership and escaping the blinders of the capitalist worldview, permaculturists in their ideal worldview see themselves working/laboring as equals in nature and thus fuse with it in a millenarian reconnection with nature. This utopian pursuit is the heart and soul of ecotopia.

In furthering the comparison between permaculture's DMP and pre-capitalist DMP's, it is worth mentioning that Heilbroner (1953) and Sahlins (1972) both note that there is little separation of work and labor in pre-industrial society. Applebaum (1992) claims that the idea of work is qualitatively different in non-market societies: from the non-market perspective, work is embedded in the social fabric of the social institution. Like the landdance, non-market values do not separate work from personal life, and religion and magic are as likely as material concerns to dictate work procedures. Work under Applebaum's non-market perspective was not something you did for eight hours a day for personal gain; it was something with social significance, performed with a meaning and for a purpose that transcended individual gain. Work was entrenched with ideas and values that circulated around working for and with each other; it was the work of society, getting done by and within reciprocal relationships. Applebaum also saw, as Thompson did, that non-market work as task-oriented instead of time-oriented. Under

these terms, visions of the Pangaian land-dancing for 60 hours a week in service to Gaia begins to appear less irrational.

However, the prospect of 60-hour workweeks, however spiritual the permaculturists might paint the process to be, is a difficult vision of ecotopia to swallow for prospective work-exchange volunteers, who often pay hundreds of dollars a month for the opportunity to experience life and work in Puna's alternative living scene. That is why the main emphasis in Puna work-exchange advertisements usually paints ecotopia as an easy, morally-sound lifestyle in which needs are fulfilled without backbreaking requirements—and that this ease is the direct result of having successfully engineered a lifestyle that is alternative to the mainstream:

La'Akea is an easy place to be. . . . It's a bridge from the standard disconnected western lifestyle to a more earth-based, integrated, whole way of being. (La'akea Community, 2007, online)

This sellable vision of sustainability is the ecotopia of legitimate underproductivity, valorized by past anthropologists as the trademark of non-agricultural societies (Sahlins, 1972; Lee and De Vore, 1968), where there is ample time to engage in social reproduction within the community, in which accusations of laziness by the mainstream can be shrugged off with replies equivalent to the famous !Kung response "why should we work when there is so many mongongo nuts in the world?" Substitute reverse cargo cultlike concept of nature's willingly-provided abundance and bounty, and you get the permaculture version of the pure idyllic life of the non-capitalist Other:

I think about how many candy-sweet pineapples I've eaten this week and the pleasant lifestyle I have and consider saying, 'Hey, wouldn't you rather be a poor farmer in tropical paradise than a rich professor in Chicago?!' I suppose it's a reasonable question to ask why I would spend all of that time slaving away through grad school and then become a farmer. And I suppose it's expensive to buy food processors, coffee makers, and other fancy "time-saving" devices since they do have to get shipped so far. But I

don't use those things and half of the food I ate today came from plants that multiply faster than I can replant them, so in my mind, it's cheap to live here. . . . at the permaculture farm I work about 20 hrs/wk, and the rest of the time I get to relax and play. All of the food I eat is organic and most of it is picked only a few steps from the kitchen, though some comes from the health-food store. I have no income or savings, no phone, and no connections to "the grid," and everyday I enjoy a more relaxed, fulfilling, healthy life than I ever did, or could, before. (Silber, 1998, online)

CHAPTER 6
THE PERFORMANCE, ACT TWO: NATURE/CULTURE PROCESSES IN THE
COMMODITIZATION OF ECOTOPIA

Nature/Culture Dystopias and Disillusions

Trickster Geography: How Kilauea Monkeywrenches Visions of Ecotopia

I'm on a fieldtrip with my Humanity, Society, and Technology class. We're visiting Robb Farm in Waimea. Robb Farm is perhaps the Big Island's most productive organic farm and is the main provider of a wide variety of produce to many restaurants and health food stores on and off island, including, ironically, those located in Lower Puna on the other side of the island. There are no keyhole gardens here. Long straight rows of organic crops and years of farming knowledge differentiate this farm and others I've visited from the typical permaculture endeavor in Lower Puna, and likely contribute to the equally huge contrast in productivity. But the biggest cause of difference in productivity likely comes from differences in the environment itself. Waimea is blessed with light rains and rich medial andisol soils; the Kilauea East Rift Zone leaves Lower Puna essentially soilless, while heavy rains leave the rainforest leached nutrients and produces a hot humid breeding ground for mold, mildew, airborne plant pathogens, and various insects that carry non-airborne pathogens from plant to plant.

Grove (1995), in his treatise on tropical island environments, notes the danger posed to Westerners of being seduced by the myth of the island utopia and presents in its place the imperative of transformation necessary for the success of the hero in a strange environment:

In confronting the reality of the natural world, he successfully weathers the transition from magician to natural scientist. Only a rigorous empiricism, it is implied, can cope with the sheer extent of physical unfamiliarity when there is not culturally received precedent to fall back upon. (Grove, 1995, pg. 34)

Such is life for the permaculturist in the rainforests of Lower Puna. The utopian version of nature, as imagined by newly arrived permaculturists arriving to Lower Puna, does not yet exist and so must be constructed. But the difficulty of transforming cargo cult rituals into actions that truly bear the imagined fruits is daunting, and expensive, and not always utopian in endeavor. Arguments can ensue over what is and what is not natural, and it is here that Hawaiian history and the unique island geography of the Kilauea East Rift Zone combine to confound Western constructs developed in temperate continental regions of what constitutes good and bad human-environmental behavior.

Perspectives on biodiversity and non-native species, for instance, become highly contestable when attempting to carve a living out of a rainforest region covered by lava once every 400 years on average, on an isolated island populated by humans only 1500 years ago. The Jurassic look of the Kilauea East Rift Zone comes from the combination of ohia trees and ferns that have carved out their niche here through their unique ability to colonize the soilless lava. Few species other than birds provide a food source for humans in the native ohia-fern forest environment. The vast majority of edible species associated with traditional Hawaiian island lifestyles were brought in by the Hawaiians themselves within the last 1500 years, constituting a recent introduction when measured against continental time scales. Many of these staples—sweet potato, taro, breadfruit—grow well in the vertisol and andisol soils around the island, but don't do well on the lava fields of lower Puna, where the potentially rich basalt has yet to become transformed into a substrate amenable to agricultural crops. In some spots, a few hundred years of decay of rainforest plant matter have left behind a layer of relatively infertile muck

classified as sapritic histosol, but this layer is so thin and scattered that the vast majority of the East Rift Zone is classified as soilless (Deenik, 2005).

Many of the tropical foods which are seen to grow in lower Puna and which have become associated with a romanticized image of "old" Hawaii—pineapples, papayas, avocados, mangoes, macademia nuts—were introduced only in the last few hundred years following the arrival of Captain Cook, in most cases by Westerners. All of these species, as well as other food sources such as banana, palm nut, and coconut, annuals such as lettuces, tomatoes, and cucumber, vine-based perennials such as pumpkin and chayote, and trees such as citrus and sapote, require the import of soil, mulch, and compost as well as liming, watering, pest control, and additional fertilization in order for abundance to be forthcoming. Typically, when combined with the use of ornamentals, the presence of humans in the East Rift Zone seems to create a marked increase in non-native species, but with it, an increase in species diversity. However, this can only occur with additions of material inputs that require vast amounts of human labor and typically, unsustainable energy inputs during the construction phase.

In addition to the problems inherent in the construction of a food cornucopia, problems arise with the construction of environmentally-friendly shelter. Overall slow growth precludes widespread sustainable use of the native ohias, while the inherent brittleness of the wood makes it especially vulnerable to breakage from side pressure and dictates that only impractically thick un-milled trunks be used as structural supports. Few other native woods exist in the region. Lumber quality bamboo species can be grown only through laborious work and energy inputs involving pickaxes, soil additions, and nutrient amendments. Non-natives such as mango and invasives such

as guava can provide light structural roles such as handrails and guardrails, but building codes preclude their use otherwise. The prospect of fire, overall permeability to the elements, and the speed of rotting in the rainforest humidity precludes the use of traditional thatch siding and roofing. In the end, the vast majority of permaculture structures are built with the same imported tin roofs, imported lumber framing, imported plywood siding, and imported cement or plywood flooring as any majority culture Big Island home.

In addition to practical difficulties of food and shelter, aesthetic ironies can arise when pursuing the "natural" side of things in Puna out of principle alone. An excellent example is the ongoing amivalence towards lawns. Facing a piece of raw lava rock rainforest, the typical permaculture pursuit begins with an initial razing of at least a portion of the land; interestingly, the grass that naturally crops up from the razed lava cinder quickly results an arcadian ideal of the lawn that puts most mainland suburban lawns to shame.

But this phenomenon in itself can prove an area of contest among permaculturists. Environmental historians such as Worster (1977) note that the arcadian depiction of the nature ideal is rooted in open spaces originating from Victorian bourgeoisie notions of country living. In this tradition, cattle pasture became transformed into a demonstration of expanse and grandeur through open unused space of the grazer-free "lawn", which became a measure of the lack of need of concern for agricultural efficiency, which in turn demonstrated the carefreeness of those with wealth to spare. This image, carried forth in the modern West through the suburban value placed on beautiful lawns, results in a backlash among permaculturists to the idea of the lawn as evidenced in discussions

about their inefficiency, their difficulty of maintenance, and the profane suburban values with which they are associated.

But the alternative, the “man-living-in-wild-nature” scenario, with dwellings and gardens encompassed with multiple trees and the rainforest jungle itself, leads to problems in Puna. Dwellings enclosed by trees give rats access to rooftops and water cisterns, and provide an overhanging stoop for birds to defacate on rooftops leading to cisterns. This is a major concern as it can lead to leptospirosis in the drinking water and dead animals in the cistern. Close trees and jungle also means humidity and close proximity with mosquitoes, as well as limited airflows which result in mold and mildew. On top of this, branches of overhanging albizias and other naturally sheared trees can easily crush a tin roof; furthermore, a close jungle allows the nightly ear-piercing cries of the coqui frog to originate from a few feet away.

Thus, Puna in many ways demonstrates the practical elements of an image associated in continental regions with impracticality by proving that open space in the modern tropics serves highly pragmatic purposes. The open spaces provide sunshine and airflow to well-spaced fruit trees. Various animals that attack a garden—pigs, rats, and mongoose in particular—are greatly deterred by the open space of a lawn. Plus the lawn, growing naturally on its own, provides a soft carpet for barefoot machinations nature mystics living on the permaculture manor. Permaculture notions against the lawn thus turn out in many ways to be rooted in aesthetic, postmaterial principles developed by Westerners revolting against the suburb and not as the result of practical materialist concerns of living off the land in lower Puna.

Reverse Cargo Cultism and its Consequences

The fact that most permaculturists arrive with little knowledge of agriculture becomes doubly problematic in face of the fact that, though traditional Hawaiian agricultural knowledge is sought and emulated, there are no examples of indigenous Hawaiian groups engaged in traditional agricultural domestic modes of production with which to associate or otherwise glean agricultural knowledge. Many of the permaculture communities sit in close proximity to more mainstream agricultural operations owned and run by families of mixed Western, Pacific Islander, and Asian descent; often such families trace their histories two generations or more back to Hawaii's original sugarcane workers. However, communication between permaculturists and "locals" tends to be scant, and this seems partly the result of a bias which favors the knowledge of the extinct, sacralized, traditional "natural" indigenous Hawaiian Other, and places actual locals in the profane category of mainstream "technological culture". In-depth interviews showed that the social networks of both landowners and worktraders in Puna's permaculture communities were extremely insular, comprised almost wholly of daily interactions with, a sense of kinship towards, and an admiration for individuals living within the permaculture community or individuals living in other back-to-the-land communities in Lower Puna. Some of these communities were miles apart.

At times the sacralized status given to the traditional indigenous Hawaiian and the lifestyles and worldviews they represent is expressed in terms that portend the possible dangers of an ethnic bias that can result from the sacralization of a nature/culture dualism. Comments differentiating those who demonstrate "higher consciousness" from those who demonstrate "lower consciousness" are occasionally directed in the negative

towards "locals". Such comments bring to mind the more nefarious ties between ideologies of environmental purity and ideologies of social purity which some scholars have noted when examining connections between the back-to-the-land movements of late 19th-century Germany and the anti-semitic ideology of 20th-century Nazi Germany (Bramwell, 1985; Bruggemeier, et al., 2005).

The irony of branding the "local" worldview as profane becomes apparent when considering that the overall survey results showed the control group representing Hawaii majority culture to differ less from the permaculture test group than either of the other two control groups (see figures in the appendices). Nonetheless, as in any modern Westernized rural low-income region, the stereotypical image of the truck-driving, meat-eating, tattoo'ed tough guy is certainly a visually conspicuous element of Hawaii's local demographic that finds itself at odds with permaculture's preferred image of the indigenous, taro-eating, tree-hugging, aloha-bearing pacifist. The tragedy of this constructed discrepancy is best exemplified in a statement made by a work-trader named Willow; she was weeding a taro patch while Jonah expressed his anger about the "lower consciousness" of the locals who had just been caught dumping trash onto a nearby vacant land lot. In response she sighed and said "I look at us and sometimes think, we're more Hawaiian than the Hawaiians".

However, this sense of thinking and behaving like the imagined glorified Other comes without witness to or immersion into any actual Other lifeworld of perspectives, experiences, or ecological knowledge. The result is that the desire to make a successful transition away from the profanities of modern Western culture becomes a difficult one, especially when nature, as the intended deliverer of abundant cargo, rarely seems to

deliver as imagined. In many ways, the typical permaculture community scenario of a sustained high-level labor input goes against the ideal of nature as provider, and this is likely why replacing concepts of labor with "landdancing" can become an effective response to the fact that the cargo is never so voluntarily forthcoming as imagined.

Sometimes we feel like a bunch of suburban numbskulls without a clue... we are going through our own process of learning that eggs don't come in cartons from Safeway!!! In this complex conversation, the land answers our calls with her responses. Admittedly, we have stuttered, floundered, and stumbled many times in the process of learning the language of life, this give and take with the land. Some people call it 'mistakes,' we call it 'learning.' It is humbling, yet we feel honored that the land is willing to continue this dance. (Pangaia, 2007a, online)

However conceived, the problem of food production abounds in permaculture communities. In most of the communities the majority of work-traders gain or attempt to gain access to food stamps for the duration of their stay on island. In other cases, workers pay a monthly fee to cover food costs. Landowners usually make food purchases from personal saving accounts built up during past histories of mainstream professions and financial transactions, collected work-trade fees, and financial results from the various fee-based workshops which many communities increasingly offer as part of the permaculture experience.

However painted, what becomes apparent is that the reverse cargo cultism of the permaculturists leads to an error similar in style to that made by Pacific Island cargo cults. Members of mid-20th century Pacific Island cargo cults engaged in a superficial mimic of the behaviors and material constructions seen to bring cargo planes. However, they have no real knowledge of airplane production and function, much less a conception of the vast amounts of knowledge, energy labor and human organizational coordination that goes into the Western industry of aviation and which has made

possible the arrival of cargo planes on Pacific Islands in conjunction with the construction of runways and radio towers and the waving of landing strip batons as performed by members of Western Allied forces.

Just as the Pacific cargo cults have a simplified version of the complex Western processes behind the arrival of technological cargo from the sky gods, so do the permaculturists have a simplified version of the complex traditional indigenous processes behind the arrival of Nature's cargo from the earth gods. The ritualized motions of the permaculturists do not take into account the hidden intensity of coordinated, effortful, at times deadly, and likely dystopian history trials and errors required to make this agricultural-based bounty appear. Missing this element, permaculturists perform the perfunctory acts associated with the natural indigenous gardener, yet the food does not come.

It is likely that the antihegemonic and mystical sides of permaculture contribute to the cargo cult aspects of belief of the effectiveness of the gardening ritual. The mystic phenomena prevalent among permaculturists in which an individual has a spiritual experience of insight unaided by conventionally social religious structures, is likely to push an individual towards accepting the possibility that knowledge and gnosis can be something obtained outside the realm of normative understanding in which knowledge transmission comes from authoritative community experts. This leads to the possibility that something as pragmatic as food production does not necessarily require participation in a conventional (or traditional) social structure or guidance by authoritative expertise in order to be successful.

According to Sigmund Freud's psychoanalytic theory, members of unstructured groups will tend to idolize a selected leader in a similar way as a young child idolizes a parent, instilling the charismatic leader with impressive qualities and projecting their own needs onto an individual whom they perceive as able to satisfy those needs (Halverson et al., 2004). This relation can be seen to take place among back-to-the-land pilgrims arriving in Hawaii as they look to "nature" as a charismatic and Edenic mother figure who will provide bountiful cargo if the correct rituals are performed. But the mystic search for unity with a parental mother nature returns surprisingly scant Mother's Milk in the soil-poor lava rock of the Kilauea East Rift Zone.

The poor returns of the reverse cargo cult error are one source of disillusionment that can set in as the sacred space of "nature" refuses to deliver the promised utopian bounty. As financial savings are used up, most pilgrims must return to the mainland with what money is left. The worst off have spent all their money on the journey and become something akin to indentured servants to communal landowners, working for little incentive but the desire to return home after as a growing materialist need begins to wash away a *communitas* dependent on a postmaterialist space of security.

Problems with Permanent Liminality and the Maintenance of *Communitas*

I'm sitting in Alice's car, not wanting to go back to the compound. I'm thinking of the smell of rotting fish, the flies, the human manure that splashed on me as I dumped it on the bamboo. I'm thinking of my tentmate who woke me up in the middle of the night with his vomiting, having tried to eat "naturally fermented" raw fish. I'm thinking of facing another day with Anko, the landowner, who seems to have good intentions but also has anger management issues and ends up barking orders and yelling much worse than any Babylon boss I've ever had.

Alice thinks I'm crazy for doing this. She was from California but now considers herself something of a local *wahine*. She's picked up a pidgin accent, hangs out with the locals, drives a nice car, and recently picked up a high-paying job as secretary for the boss of the local phone company in Hilo. But she used to live right down the road from Anko. As she puts it, she ran around for years as a barefoot raw vegan/fruitarian before the unending social drama of communitarian life got to her, and she got sick of getting sick. Leptospirosis outbreaks twice, rat lung worm once, and constant staph infections, as she claims. She's "over it", she keeps saying, "mo' bettah ways fo' have fun!" But she still talks with respect about the attempt to "live off the land".

One of the problems risked by the ideological importance which back-to-the-land communities place on the counterhegemonic pursuit of an environmental sustainable lifestyle and a utopian sense of community connection is that they never quite achieve their goal. Thus communities tend to remain trapped in a space of permanent liminality, a space of unresolved antistructure. Marin (1984) calls this predicament "the neutral", in reference to the deferral of success by which the community perpetually "wedges itself between reality and its other" (Marin, 1984, pg. 197). This situation is typical of Lower Puna's permaculture communities. As the honeymoon sense of environmental and social *communitas* within this space of permanent liminality wears off, it can lead to an experience that Heatherington (2005) calls "waking up", in which the individual feels compelled to make a return to majority culture. This wakeup call occurs for various reasons, some material and some immaterial. In all cases it leads to different consequences for the landowners and the worktraders.

Unlike landowners who have a degree of permanent investment in the community, work traders can leave at any time. Many come and leave following preset timelines; the work-trade crowd for this reason often peaks during the summer, and there seems to be a high influx and outflux during the weeks falling in between spring, summer, and fall school semesters. The vast majority of these permaculture participants have purchased two-way tickets and the antistructure experience of *communitas* ends on schedule with the return flight home, creating a packaged permaculture experience that is typically experienced as highly positive by both the landowners and the work-traders themselves.

Other work-traders arrive on free schedules, many with one-way tickets, some having sold their possessions and/or quit jobs as a precursor to their arrival. For these individuals, the pursuit of permaculture is not necessarily intended to have an ending date—the possibility of an exalted life living low off the land is something which is conceived to be both a real and permanent possibility. It is here that the inevitable but unintentional end of *communitas* within the liminal space becomes the key factor deciding departure.

In the postmaterialist realm, this breakdown invariably involves social relations. Sexual relationships develop quickly in the unstructured egalitarian atmosphere but can also burn out quickly, causing community departure of either half. In other instances, a new relationship causes community departure by both halves as they seek a new circumstances as a couple or in preparation for a child. Other times, the breakdown in *communitas* is experienced as a personal existential crisis for which the permaculture

setting cannot provide a permanent solution. Many times, this crisis is at least partially derived from a breakdown in the belief that ecotopia is an achievable goal.

However, sources of immaterial difficulty need not always be experienced as philosophically profound. A common cause of participant departure arises from struggles created by the vacuum of power in an unstructured experimental social environment, in which conventional rules become suspended. The result is an infamous reputation among back-to-the-land communities for being spaces of ongoing emotional volatility and social drama. Accompanying these dramas are ongoing debates regarding the degree to which rules should be set in place to manage the drama, and what those rules should be. It is an ironic dilemma when considering that pre-capitalist groups, admired so much by permaculturists, often struggle in the modern world to resist the breakdown of traditional, coherent community structures that provide stability and meaning which guide individual and group behavior. Egalitarian societies such as permaculture communities, attempting post-capitalist transitions while maintaining a counterhegemonic anti-structural vision, face the opposite: the dilemma of whether or not and how to intentionally develop rules and social structures of relations where they did not previously exist:

The process of creating an intentional community can often be a stressful experience. Our buttons related to power, control, money, sex, food and other issues have and will be pushed; the question is how we deal with them when they are pushed. Do we retreat into ourselves, blaming ourselves or our family of origin? Do we blame those around us, focusing on how others are different from us? Do we just focus on creating systems and rules that will solve these problems? Or do we allow ourselves to be vulnerable, share what's going on inside ourselves and work cooperatively with the community to find understanding, empathy and support? (Silber, 2007, online)

However, from a strict Maslowian perspective, the immaterial concerns described above are ultimately less problematic than the materialist concerns which arise and which mainly appear in the form of either financial concerns and physical health concerns. The starkest "wakeup calls" tend to occur in the face of abrupt physical health crises. The preventative focus of alternative medicinal remedies, including herbal treatments, health food, and various methods of bodywork, maintain the ideal of the "natural" domestic lifestyle but quickly lose appeal in the face of ear infections, broken legs, difficulties during natural childbirth, or systemic illnesses from leptospirosis parasites or rat lungworms, all of which were witnessed during the research phase and which brought a prompt end to a participant's permaculture experience.

Such emergencies prove not only dangerous to personal health but also dangerous to the ecotopian vision, as the ultimate value of Western medical institutions and health insurance options are made apparent in such cases, however poorly such institutions might fit into permaculture's goal of low impact sustainable living. The search for alternatives to conventional treatment is the first line of defense but can, when ineffective, increase the physical danger and thereby decrease that faith in the antistructure space necessary for the maintenance of *communitas*.

Such physical health emergencies, in the end, are also a financial emergency, and lack of financial resources as a single category is perhaps the number one factor influencing departure from the permaculture communities of individuals who otherwise may have stayed. In most cases, the money problem is not related to a physical emergency. Food stamps can provide for months to years, but the basic desire for Western non-edible items—toothpaste, beer, cellphone service, laundry money—

eventually creeps up on the work-trader, as do the monthly community donations required by many of the permaculture establishments. Money-making opportunities are scant to non-existent in or near Puna's permaculture communities, and an empty bank account usually signals the beginning of the end of permaculture participation. As with immaterial failures and physical health emergencies, financial emergencies not only spell the end to participation in the permaculture community but can also damage faith in the permaculture antistructure by hammering a nail into the coffin of the utopian dream of domestic reproduction, as the dystopian realization sets in that participation in the permaculture communities ultimately seems to require a steady source of outside financial input in order to remain viable.

Whether work-trader departure from the permaculture community occurs as a result of unplanned emergency, a disillusioned end to the sense of *communitas*, or due to a scheduled set ending in which community departure provides the clean signalled end to the *communitas* experience, heavy work-trader turnover is the norm for all of Puna's permaculture communities. Since work-traders tend to outnumber the landowners, usually by a substantial difference, the result is the imagined community of permaculture is a transient one in which the majority of the population changes in membership from year to year.

Given this turnover, both the overall intensity as well as the qualitative character of community *communitas* can change from year to year in any single community, and this dynamic tends to be an reflexive topic of discussion within permaculture communities as the social drama continually unfolds in each. Factors such as the charismatic influence and chemistry of the landowners versus the charismatic influences and chemistries of

that particular season's work-traders, as well the relative predominance of the different factors (mentioned above) that precipitate work-trader departure, heavily shape the overall sense of *communitas* and help to determine whether community *communitas* is experienced as a monastic millennial communion with nature or as the antistructured revelry of a countercultural court society.¹

Commoditization of Ecotopia

Landdance my ass. I've been weeding all day with Muffin. She came from Boston to learn about farming, ready to "dig, plant, and harvest" as she says, but has done nothing since her arrival but weed. It's painfully monotonous work that builds up an appetite. Unfortunately, food stamps don't adequately cover the cost of the organic food purchases which, as a rule, are the only foods Jonah allows in the community kitchen. So Muffin and I spend our weeding session shouting out names of all the "bad" foods we're going to eat in town before hitchhiking back to the farm with our "good" groceries. Chili dogs! Twizzlers! Ben & Jerry's Chunky Monkey ice cream! I find the whole thing highly amusing but realize this isn't exactly the kind of *communitas* experience Muffin had in mind when she flew to Hawai'i. She's only been here two weeks, but tells me she has already decided to leave at the end of the month.

No "wakeup" decision is declared more commonly and with more exasperation than that arrived at through the realization by the work-trader that farm and garden labor, in the end, is tough work. Muffin is not alone today in her complaints. Willow has been working for Jonah for four months now and tells a similar story in which she once

¹ The latter distinction elaborates upon descriptions by Thomassen (2009) of monasticism and court society as exemplifying two of the three types of permanent liminality.

weeded for three weeks straight. Even more unfair, her boyfriend Manny had started with strength tasks but was later given more interesting tasks of responsibility with heavy machinery and various pieces of farming equipment while Willow continued to weed. Nonetheless, Manny too complains about feeling increasingly beaten down rather than invigorated by the constant physical workload. As Willow notes, we must be at the main meal hut by 7:15 a.m. each morning to milk the cow at 7:30 a.m. This is followed by work schedule that starts from 8:30 a.m. and goes until 4 p.m. each day, followed by another milking at 5:00 p.m. The result is a dawn til dusk schedule of hard manual labor 5 days a week. Sometimes the days go longer, as when we went to Jonah's farm in Kalapana. We worked until after dark that day—a 10.5 hour workday as Willow calculated. For this, Willow and the rest of us receive a room and partial board that we supplement with food stamps. Meanwhile, as long as work-traders are around, Jonah seems to spend relatively few hours doing much of the backbreaking dirty work that is incrementally increasing the value of his property hour by hour, day by day, week by week, year by year.

I joke with Willow, telling her that if we were brown-skinned natives, they would call this oppression. But I'm only half joking. Willow and the rest of us are doing this by personal choice, driven by a shared understanding of the sacred importance of nature. But from a Marxist perspective it is this religious dimension of our views of nature that allow us to be exploited. Nevertheless, it cannot be denied that on the best days this sacred canopy placed on the meaning of labor in ecotopia works. However imbalanced the underlying social relations may be, these long sweaty days of weeding taro patches with Willow, Manny, and Muffin under blue Hawaiian skies have the uncanny ability to

bring about, at times, a heightened sense of pleasure and exaltedness that makes itself felt as a deep sense of connection with both them and with the land. Or maybe that's just signs of mild heatstroke combined with the camaraderie of shared misery—I'm not sure it really matters. This is my last permaculture gig and I'm glad to be done with it, yet whatever the cause of these feelings, and despite the sense of oppression, I will remember these moments with nostalgia.

A Marxist Perspective on Work-Trade: Using Nature Religion to Mystify Exploitation

Service and Sacred Space Internship: Our community and educational center is looking for committed cultural evolutionaries who love to create their world and work as one continuous expression of appreciation for life and the joy of a job well done. Your time will include meditative chores that foster the care with which we hold our guests, Permaculture design and landscaping, and opportunities for creative expression through natural building and space re-creation. Explore Feng Shui principles and other ideas of sacred space. The qualified applicant will be a motivated self-starter with some prior experience in service work. Strong communication skills, and the ability to assess tasks and work independently are essential. Repetitive tasks make-up at least 50% of the job time, so a keen eye for detail and a meditative attunement will allow for maximum personal growth during your internship. Job specifics include: general cleaning and housekeeping, bed making, laundry duties, conference space set-up and take-down, team collaboration, grounds keeping, landscaping, solitary work-time, natural building, space renovation, creative design opportunities, and plenty of chances for meaningful connections. (posting from a bulletin board next to Island Naturals health food store in Pahoā)

Baudrillard (1998) notes that in postmodern consumer society, advertising becomes the true art of capitalism. It is practiced in Lower Puna as insidiously as anywhere else. Exemplifying this was the posting, reprinted above, which Manny found on a bulletin board by the local health food store. As Manny noted, a collection of tasks that might otherwise constitute a paid position called, as he said, "housemaid slash groundskeeper" had been artfully transformed into an unpaid Feng Shui internship.

But it is this art of transforming labor and hardship into a sacred space within the antistructure that helps to keep alive the sense of monasticism and court life. Sacred hand-holding circles, concepts of landdance, and non-ownership ideologies help maintain an egalitarian sense of *communitas* that mystifies the fact that work-traders are working for free, and sometimes even paying to work, on someone else's land, and can be asked to leave at any time.

In many ways, the heavy turnover rate of work-traders provides the key element by which permaculture communities manage, as spaces of permanent liminality, to maintain the sense of *communitas* on a long-term basis. Like the work-traders, permaculture landowners are vulnerable to the same unplanned physical crises, financial emergencies, and immaterial disillusionments that can bring a quick end to the sense of *communitas*. However, unlike work-traders, landowner's property commitments tend to prevent them from leaving. In the financial arena in particular, many landowners have used their maximum available financial resources to acquire large acreage of cheap land in Puna as part of the intent to live sustainably off that which can be gleaned from the natural environment.

The initial land purchases in all cases of are made with funds garnered from non-agricultural mainstream activities. In the case of Lower Puna's permaculture communities, one landowner had made his money in real estate. Another had managed a highly successful construction company. Another was a high-ranking military medical officer. Two landowners had raised the majority of their initial land purchase funds through divorce settlements from wealthy spouses, and at least two had acquired property finances through donations from wealthy lovers who were not

permaculture participants themselves. It is with these initial purchases that the image of ecotopia begins its life, from birth, as a commodity tied to the modern capitalist market.

On the permaculture scene, landowners and work-traders alike are motivated by postmaterial, egalitarian, and mystical interests that are ultimately met through the transformation of property in the Puna rainforest into a space which engenders a sense of *communitas*. However, the landowners are faced with considerable material concerns regarding their property investment, which in turn reflects an overall level of immaterial responsibility to the construction of *communitas* from which it is less difficult than work-traders to walk away from. In all cases, the initial construction phase of the permaculture community requires considerable investment in time and money (although two had been purchased from previous landowners who had made the initial work and financial investments in constructing infrastructures associated with back-to-the-land living).

But like the work-traders themselves, landowners tend not to come from farming backgrounds. As the prospect of acquiring funds directly from land productivity become dimmed, the initial *communitas* felt by landowners dims as well. Here the value of work-trader participation towards not only offsetting ongoing financial inputs, fulfilling ongoing maintenance tasks, and providing sustained physical effort towards the permaculture goal of domestic agricultural sustainability, but also towards contributing to the creation of a space that offers, in one form, or another a counterhegemonic sense of environmental and social *communitas*, becomes highly evident. One aspect of this is the beneficial effect of having a constant turnover of work-traders, which provides permaculture communities with crucial periodic injections of money and muscle, all from

a consistently fresh crop of individuals whose lack of disillusionment provides an ongoing renewal of the *communitas* experience.

Ecotopia as Spectacle and Simulacrum

I've just finished the participant-observation stage of my dissertation research and moved from my last permaculture community to the remote Black Sands subdivision in the high hills of Lower Puna, where I am caretaking a homesteading project for a friend. It's an altogether simple setup: posts cut from invasive stands of guava on the 1/5-acre property have been perched on a lava cinder floor to hold up 300 square feet of tin roofing. Tarps and mosquito screens serve as walls. Rainwater drains from the tin roof plastic gutters which drain into a raised 300-gallon plastic cistern, while PVC piping from the cistern brings gravity-fed water to spigots inside (sink) and outside (shower) the shack. A dozen yards from the outside shower, a bucket of wood shavings next to a plywood box with a hole on top serves as the toilet.

It's decidedly down, but definitely not prosperous. Showering and defecating are mosquito-crazy affairs. Rats and mongoose make nightly raids, silently chewing through my plastic tubs to reach the food inside and loudly fighting over the apparent prizes in my poop box outside. Downpours send rain through the moldy mosquito screen which soaks the futon and bedsheets, while a one-week drought leaves the cistern dry and clogs the sink and spigots with slugs seeking solace in the last remaining wet spots. Meanwhile, the nearest sources of food, drinking water, internet, and a cellphone signal are miles away. Mosquito screen can't be locked so I'm forced to bring all valuables with me each time I make a trip—Black Sands subdivision is the cheapest place to live in Lower Puna, but that doesn't exactly make this neighborhood a mecca for well-meaning do-gooders of the New Age.

One month later, I move to a two-story redwood bungalow on the other side of the neighborhood that has a propane stove as well as houselights and a 12-volt water pump run off car batteries powered by a 1000-watt generator; my sustainability has likely plummeted, but my well-being has shot through the roof. However, I realize that even my nasty, brutish, short stay in the cinder floor guava shack was an immersion into a modern technological culture of tin roofing, mosquito screens, PVC piping, cisterns, spigots, sinks, sheets, futons, plastic tubs, plywood, paved roads, cellphones, and foodstuffs made available through the energy-intense global web of fossil-fuel based technologies. Even the seemingly natural elements of the guava shack, such as the lava cinder floor, conceal an intense fossil-fuel-driven process of backhoe razing followed by transport from the Kapoho region of heavy truckloads of cinder that have been crushed, sifted, and graded with fossil-fuel-based machinery. The only renewables here are the guava wood, the rainwater, and perhaps the cinder itself—and though these things stand out as sound examples of back-to-the-land design principles, they are, in the end, images of environmental sustainability that would quickly disappear into quantitative insignificance in a measure of the the overall amounts of sustainable versus unsustainable inputs that made up my Black Sands guava shack lifestyle.

Taking a birds-eye view of permaculture community evolution, the most significant aspect of transformation tends to be the change that occurs in a community over time from its noble beginning as an extreme group of egalitarian nature mystics contributing maximum labor hours and following extreme ideologies, free of social hierarchies and with few rules dictating social relationships and behaviors. Attending such beginnings is

usually a material situation, similar to my Black Sands experience, characterized by relatively few amenities.

However, humans in the pristine world of Puna's lava rainforest do not in practice easily find ecotopia, and all examples of extremely primitive living which I witnessed were either one-man shows ("communities of one" as they are called) or were relatively short-lived before the buildup of amenities began. In the end, the imagined utopian integration of humans with nature is a valued product arrived at only in Puna only through a manipulation of the environment that requires huge inputs of human labor, fossil fuel energy, and non-local resources in order to be compatible with even the most basic of human needs. Communities with the least overall inputs were certainly the least likely to attract others; certain human-produced images are needed to create the sensation of a utopia of human-environmental relations.

Given the appropriate addition of inputs, the image of ecotopia can be achieved, and the most effective versions are those constructed from objects and behaviors which symbolize environmentality to such an extent that nonrenewable energies embodied in their construction and maintenance become overshadowed. Pre-fab "Bali-style" bungalows provide an example here in which the beauty and design of the stained bamboo, hardwood, and reed construction combination induces the sense of ecological *communitas* that overshadows the nonrenewable and unsustainable aspects hidden in extraction, construction, and transoceanic transport. Similarly, larger fancier versions of the pre-fab Bali hut, with beautiful stained woods, hidden fixtures, elaborate curves and carved doors, help overshadow environmental expenses needed for plumbing, electrical

installation, varnishes, cements, extra materials processing needed to create and fit elaborate curves, and energy needed for industrial reproduction of carved Bali doors.

In the labor arena, labor contracted from majority culture professionals may seem to compare unfavorably to labor originating from the work-trader, but this belies the liminal aspect of the work-trader's free labor. Taking this liminality into account means incorporating the work-traders' labor hour inputs the environmental costs associated with roundtrip plane flights, and in some energy accounting scenarios even the educational and financial resources necessary to produce a postmaterialist individual willing to work for free.

A pre-fab Bali hut imported to Hawaii may, in the end, use up more nonrenewable energy than a standalone carport converted into a dwelling, and I've seen examples of both. However, like the Bali hut, some objects and behaviors stand out as more representative of the ecotopian image than others, and these include items such as composting toilets, solar panels, alternative building structures, fruit trees, and vegetable gardens. All add to the ecotopian image whether they prove functional and productive or not. Raw meat eating associated with the primal diet, famous in two communities, serves as a case in point; for many it fit smoothly into their concept of a natural lifestyle despite the long weekly roundtrip driving times it took to travel to the slaughterhouse in Hilo to get supplies of meat fresh enough for raw consumption.

Permaculture, in the end, whether successful as an environmentally sustainable endeavor or not, must be experienced as a beautiful and comfortable thing for the effort towards its construction to seem worth maintaining by those who are not permanently invested. With enough input of time, money, and labor, the image of ecotopia does in

many instances become something of seeming value, and with this it becomes increasingly a source within the community for capitalist relations and is itself shaped increasingly Western capitalist cultural concerns regarding material consumption. In general, permaculture's counterhegemonic appreciation for non-capitalist, antimaterialist rationality is meant to "defetishize" material accumulation (Kearney, 1995) and invest instead in other, non-economic forms of capital embodied in the social, symbolic, and cultural forms posited by Bourdieu (1987). Investment in these forms translates to a heightened valuation of morality. However, in the fetish vacuum created, a secular spiritual fetish takes its place, and that is the fetish of ecotopia.

Baudrillard (1998) claims a hallmark of late capitalist culture to be a transition away from the importance of production to the importance of consumption as a source of meaning and identification. The hedonistic, Dionysian element inherent in the cultic milieu's desire to unite with antistructure can be expressed as a desire to consume, yet the counterhegemonic element places a moral block against the profanity of conventional material consumption. Permaculture's search for *communitas* redirects consumption towards an immaterial fetish, that of the image of ecotopia. This can be understood as another manifestation of reverse cargo cultism: in the perfectly designed permaculture garden, nature is the producer, while man as managerial magician oversees this production for the purpose of consuming it.

As part of the overall community agenda, the importance of the *communitas* factor can eventually outshine and undermine the drive towards minimalizing environmental impact. The vision of ecotopia constructed in Puna's permaculture community combines various romanticized elements from various tropical locations and cultures

real and unreal which have been propagated over the years by the mass media—the short working hours and immateriality of nomadic hunter-gatherers, the arcadian green expanses of agricultural and pastoral tribes, the earth spirituality of American Indians and Hawaiians, along with images of egalitarian social relations and an equally distributed herbal cornucopias and tropical food cornucopias that do not necessarily fit any particular known image at all. These images are combined together to produce a picture of low-impact social and environmental harmony that has no actual referent in modern or primitive society, yet it is this image of past and future perfection that is chased as real. Thus ecotopia becomes a spectacle in the sense intended by Debord (1977), in which "images detached from every aspect of life fuse into a common stream" (Debord, 1977, pg. 12). As this spectacular image is perfected as an inducer of *communitas* its importance as a genuine example of environmental sustainability fades until "everything that was directly lived has moved away into a representation" (Debord, 1977, pg. 12).

Among back-to-the-land community pursuits such as permaculture, the search for social and environmental *communitas* thus involves the consumption of an idealized image of something that never existed. Ecotopia if real would be a measurably low impact existence in which human labor input is minimal in the midst of a sustainably designed and locally-derived agricultural and material bounty. However, no example of this exists or ever did. As efforts are increasingly put towards the maintenance of a *communitas*-inducing ecotopian spectacle, in which the construction of a simulated image of human-environmental harmony becomes more effective than construction of a truly low-impact community, however non-utopian, the product of permaculture takes on

the qualities of Baudrillard's (1994) third-order simulacra, which "masks the absence of a basic reality" (Baudrillard, 1994, pg. 6)—it is not a distortion of any reality as much as it is an image of a reality that has never existed.

In this, the ecotopia simulacra is "of the order of sorcery" (Baudrillard, 1994, pg. 6). We can use Baudrillard's phrase here to help us understand how the image of ecotopia becomes becomes a sacred canopy for permaculture participants. As Berger (1967) explains it, one function of religion is to provide *nomos*—structure and meaning to reality—as an antidote to secular anomie and anxiety. Permaculture participants, as members of late capitalist culture habituated to the consumption of spectacles as a route to meaning, accept the ecotopian simulacra because of its function as a sacred canopy to cloak the terrifying alternative: namely the real possibility that there is no *communitas* to be found in an environmentally sustainable and socially equitable alternative.

Meanwhile, in masking the lack of a glorified man-society-nature harmony, it thereby also masks not only the ongoing environmental reality in which permaculture community lifestyles continue the human pattern of environmental overexploitation, but also an ongoing social reality in which the community continues a pattern of imbalanced exchange relations between landowners and workers. Through this process the sacred canopy of the ecotopian spectacle becomes the glue of permaculture's permanent liminality and an example of Latour's (1993) unacknowledged hybrids—in this case, a hybrid between the inachievable perfection of an imaginary nature and the unreconciled brutalities of a modern technocultural reality.

Ecotopia's Articulation with Capitalism

I'm at Kehena, the main Sunday beach scene in Lower Puna. Riox is dancing naked in the black sand with half a dozen others while a bunch of us beat drums. I'm not sure where she's been living since it is well known that the landowner of the permaculture community she had lived in—where I'd met her in the garden a month earlier—had managed to sell his property. This ends up being the last time I see Riox; my best guess is she eventually found her way back to the mainland.

A year later I learn the details of the ownership switch from a hitchhiker named Gabe who also had been living in the community at the time. According to Gabe, the community of work-traders had been doing well under the wing of an older couple from Alaska. The couple had made a bid on the property but in the end the landowner sold to a family whose main interest was the 80/10/10 diet (a trending version of the raw vegan diet). Most community members were not open to the diet switch and had no choice but to pack up and leave; some had been living there for years. The final sale price was \$400,000; the asking price had been \$995,000. I keep wondering how much of that value had come from improvements to the property at the hands of work traders laboring for free and even paying to do so, hour after hour, day after day, year after year, throughout the property's twenty-year existence as a permaculture community.

Ecotopia can be envisioned as a social product of capitalism and an outcome of the Western trend of nature/culture dualism, while its simulacra characteristics can be seen an expression of failed efforts to continue the push towards low-impact environmentally sustainable lifestyles. The ideological vision of ecotopia is enculturated prior to arrival in Hawai'i, while the material spectacle itself is constructed within the community through rituals which maintain a continued sense of *communitas* while

mystifying the evidence for environmental overexploitation and internal social stratification that might arise through a closer scrutiny of energy utilization methods, prescribed social relationships, material structures and financial arrangements.

Most permaculture communities start as simple endeavors, but they get more fancy and undeniably comfortable over time as amenities show up, perfecting the overall effectiveness of the ecotopian image to induce *communitas*, and through subsequent advertisement by self and others, attract more people.

This is a good moment to address the possible underlying class factor that also likely motivates the permaculture movement. Communitarian counterculture can be viewed through a more critical lens as a class reaction by new petty bourgeoisie (bourgeoisie bohemians, or “bobos”), who seek separation and autonomy in order to reclaim the mode of production (Althusser and Balibar, 1970) and who accentuate the cultural value of specific moral-based rationalities (in this case, “nature love”) as a means of creating status distinctions which transcend class immobilities. Weber (1922) outlined this process of creating status distinctions as a response to class immobility, which Bourdieu expands upon through his discussions of cultural and symbolic capital as “taste” (Bourdieu, 1987). Demonstrating ecotopian values is thus a moral “taste” which helps distinguish, in certain circles, the noble from the less noble of the middle class.

Ongoing ecotopia construction produces a symbolic commodity which increases the social, cultural, and (potentially, for the landowners at least) financial capital of the permaculture community; commodification of ecotopia results in the selling and trading of the idea of social change (the morals associated with permaculture) along with social

change information (practical aspects of permaculture) as “vacationers” and “work-traders” rapidly transit through the community and back to the mainland. The most successful permaculture communities attract the most money, labor, and prestige, furthering their development and furthering their perceived effectiveness, thus furthering their symbolic role as a catalyst and inspiration for the possibility of effective and feasible social change towards the construction of a revitalized, more satisfying culture.

Thus, when countercultural escapists leave to Puna, buy land, and begin construction of a product called ecotopia, they at some point produce something of value to other members of the dominant culture—and in doing so, they achieve meaning through status that in the end supplants the less rewarding pursuit of measurable environmental sustainability. This is because, as Mannheim (1936) pointed out, the utopian values held by the counterculturalists are actually values and beliefs arising out of mainstream culture that are simply unexpressed due to inherent conflicts with other mainstream values more amenable to current social, economic, and environmental circumstances. As Hicks (2001) notes:

If America itself is conceived as a utopian endeavor—and public rhetoric from the Puritan intention of setting an example for a benighted humanity down to the latest rhetorical political claim that American military expeditions are solely humanitarian surely points to that conception—then the fit of utopian community experiments with the nation is much closer than merely the provision of ample social and geographical space and tolerant or fretful indifference. As I try to demonstrate, utopian communitarians are dedicated participants in American culture, regardless of their apparent desire to secede from it. (Hicks, 2001, pg. 13)

Thus specific values of “autonomy” and “sustainability” embodied by counterculturalists and expressed in their permacultural creations are permutations of values such as “freedom”, “individuality”, “egalitarianism”, and “exceptionalism” that are deeply embedded in American culture. Alexis de Tocqueville noted the problematic

element created by American individualism for the utopian endeavor. Distinguishing it from selfishness, he defined individualism as:

... a mature and calm feeling, which disposes each member of the community to sever himself from the mass of his fellows and to draw apart with his family and his friends, so that after has thus formed a little circle of his own, he willingly leaves society at large to itself. (Tocqueville, 1862, pg. 119)

He notes that it rises out of crisis of identity created by the "equality of condition". In this he mirrors Weber's (1922) insight that immobility of class results in attempts within class to create moral hierarchies identified by Weber as status differences.

In permaculture in Puna, the American drive for individualism leads the middle class to reorient their drives to status issues of morality. Ecotopia has embedded into it notions of morally superior American values as they relate to concepts of wilderness, purity, egalitarianism, freedom, and individualism. When countercultural landowners who manage to create some semblance of ecotopia, they create something that becomes valuable to other members of the dominant culture. In addition, they gain moral status. Soon, people are willing to exchange money in order to experience ecotopia and do so in the form of ecotourism and pilgrimage tourism.

In Puna, landowners seeking to perfect their own ecotopias find themselves entering a capitalist enterprise in which the best ecotopias attract more money as well as more prestige for the landowner. In the most successful communities, landowners can soon charge sums of money for "permaculture certifications" and various self-growth courses (a popular one is "non-violent communication"). Typically, those which charge the most are those with the most amenities and thus are the least likely to be effective examples of human-environmental harmony overall. At the time of this writing, one self-advertised permaculture community asks \$575 per month plus 30 hours per

week of work-trade. As an extension of the work-trade offer of labor in exchange for ecotopian *communitas*, many sell themselves as shamans and gurus to the environmental cultic milieu, charging high fees for various counterhegemonic self-help services, some agriculturally oriented and others oriented more towards personal growth. A growing trend is to offer an "internship" which puts landowners in the ascribed role of authoritative expert; costs currently associated with the "internship" offer average \$800–\$1000 per month and request 16 hours per week of work-trade exchange.

Even on the relatively small scale of Puna's permaculture scene, prices rise and fall yearly due to market effects such as flight prices and food costs. The communities inevitably remain cognizant of each other's offerings and adjust accordingly. Fluctuating seasonal trends in the availability of work-traders and the community's current reputation quickly affect advertised prices and work-trade hours required. Changes in the communities overall amenities, of course, has considerable impact as well.

The effectiveness of work-trade and internships as a source of finance and labor, as well their role in *communitas* maintenance along with the actual effectiveness of the constructed ecotopia, mystify the unsustainable aspects of capital accumulation in permaculture communities, since in most communities the permacultural ecotopia has been created by massive capital inputs from savings made in urban capital settings, while the internal hierarchy conflicts between group members who contribute money while working menial tasks and those collect money while contributing less work can be even more striking and intense than those experienced in mainstream urban family and work settings.

Nonetheless, once ecotopia has exchange value and enters the capitalist market as a product, permaculturalists can now take advantage of the floods of cultic milieu pilgrims seeking the experience of utopia. This increases the competitiveness of permaculture retreats with standard hotel tourism units in Hawaii, since the free labor contributing towards reproduction and elaboration of the permaculture home community is a classic capitalist case of utilizing a domestic mode of production to provide a cheap source of labor (Meillasoux, 1975) that becomes engaged in the production of ecotopia for the capitalist market. Collins (2003) explains this as a difference between domestic labor and market-based labor in regards to the value placed on the effort put into making products that have exchange value. This devaluation of domestic, community-based work-trade labor is what makes Puna's "ecotopia" a good deal from the market perspective—as long as the work-trade force which permaculture attracts is willing to create the product as a communal "labor of love" effort, then little financial payback is required, overhead is reduced, and Puna can get away with being a great vacation deal.

At the same time, the Puna permaculturalist path towards an autonomous and low-impact type of domestic mode of production is reversed once the ecotopian simulacra becomes developed enough to be a valuable product and becomes dependent on an articulation with the mainstream capitalist market. Here, Puna's spatial fix of a back-to-the-land solution to the problems associated with capitalism reveals its weakness as capitalist relations are reproduced, with the once-proletariat and anti-capitalist landowners now turning into the capitalists—as stated in the introduction, this is a reenactment of George Orwell's animal farm. The most successful versions of ecotopia tend to accumulate growing amounts of technology and

mainstream creature comforts and material securities that, I believe, eventually bring them on par with—and may even allow them to surpass in certain instances—the embodied energy intensities of the more conventional homes, lifestyles, and tourism businesses located in the Puna District. (Emergy diagrams depicting these processes of (a) idealized permaculture design, (b) the commoditization of ecotopia, (c) the effect of mystification processes, and (d) the pattern of increasing nonrenewable resource use maintained by ecotopia's commoditization, can be found in Appendix L).

With the increasing popularity of ecotourism, dollars in recent years seem to flow more steadily than ever before into Puna, threatened only by the increase in flight costs. In general, Hawaii's unique status as the premiere tropical island getaway has so far provided even in the worst of times (such as the 2008 recession) a steady trickle of work-traders. Puna is the last tropical frontier on American soil, and its popularity as an "alternative" ecotourism scene is largely dependent on its ability to undercut the prices of high end mainstream "ecotopia" resorts in nearby Honolulu and Maui. Thus, Puna's communitarian experiments offer a tropical ecotopia experience that are unlikely to be undercut by other experiences on American soil, and for these purposes will likely be managed and maintained by capitalist market processes as a domestic mode of "ecotopia" production.

From a systems perspective, in which Puna is an underutilized geographic region within the U.S. capitalist system, it becomes apparent that the dualized understanding of nature as an antithesis to the technological culture of capitalism has actually helped capitalism to complete an encroachment cycle. A product—ecotopia—that is scarce in the market has been created and made available for exchange. Value has been

created in a space that previously had little capital value—Puna's lava fields. The intense amounts of capital that has been invested into the creation of middle-class postmaterial citizens who "leave the system" to Puna in search of technological culture's opposite has now been returned to the system in the form of free labor towards the creation of a product with exchange value in the market.

Continued ecotopia construction can eventually result in energy-intensive ecotourism forms such as health retreats, spiritual retreats, and adventure tourism, meant to attract a broad range of customers. Exemplifying this is Kalani Honua², Lower Puna's longest running and most popular ecoretreat. Nightly cabin prices for guests range from \$90 to \$275, putting Kalani on par with high-end resorts in Kona.

Underwriting Kalani's overhead costs are volunteer laborers paying \$1000 a month for the chance to camp on Kalani's property (tent not provided) and perform 32 hours per week of housekeeping, maintenance, horticultural, and kitchen duties. This endpoint of market articulation follows a typical path of intentional communities observed by Zablocki (1980) and others—the legacy of the famous Oneida community was silverware; Amana's pursuit of communal autonomy left behind high-quality kitchen appliances; in its current form, Puna's utopian search for environmental harmony finds its market niche in a product called ecotourism.

² Kalani Honua does not self-advertise as a permaculture community, nor is it typically recognized as such by others.

CHAPTER 7 NOTES ON THEORY AND METHOD

Multiperspectivism and Middle Range Structure

I have used a mixed methods approach to research the questions laid out above, and tapped a wide a mix of theoretical approaches in order to interpret and present the observations, answers, and propositions. The resulting pastiche of theories and methods has allowed me to stitch together an ethnographic story that stays true to my own observations, uses the existing literature to demonstrate the overlaps between these observations and the social scientific theories of others, and which then quantifiably tests the validity of some these observations and theories.

Initially I feared that incorporating this range of theoretical and methodological approaches into the arguments of the dissertation would leave me open to critique. My fear was that by not utilizing a single, cohesive theoretical and methodological perspective throughout the dissertation to guide my research questions and observations, it would be easy to view my final assessments as contradictory, nonrigorous, and/or otherwise impotent.

However, current anthropological literature that deals with the social scientific research process itself suggests that a mixed theoretical and methodological approach might not only be acceptable but perhaps even demanded within a contemporary postmodern academic setting that acknowledges the multifaceted character of culture and reality, as well as the tricky demands of achieving valid and accurate portrayals of such things. Marcus and Fischer (1986), addressing the research implications of postmodernism, paraphrase Lyotard's (1984) dismissal of the metanarrative as a "loosening of the hold over fragmented scholarly communities of either specific totalizing

visions or a general paradigmatic style of organizing research" (Marcus and Fischer, 1986, pg. 8). In such a world, theoretical perspectives and methodological tools function less as definitive proofs and tests of the ultimate order of social reality and more as descriptive tools. As Geertz (1988, pg. 148) puts it: "the present state of play in the field is at once disordered and inventive, haphazard and various."

Within this "anything goes" atmosphere of contemporary social science, I have settled upon identifying my approach as one that is "multiperspectivist", following Zelic's (2007) use of the term, as a way of incorporating the implications of Nietzschean "perspectivism" into social research.¹ In this, I mean to portray my incorporation of various theoretical and methodological approaches as complimentary and synergistic rather than incomplete, competing or contradictory. I say this despite the fact that many of these theories, along with the differences in quantitative and qualitative methods, may be found by some to be incompatible on certain finer points regarding their explanations for, and means of explaining, culture, history, and reality. The point here is that such theories and methods may nonetheless be useful when used together as a means of shining light on the processes taking place at the fieldsite. In the end, I found that choosing to leave out various theories and tropes in the interests of avoiding their various unresolved conceptual conflicts was leaning in a direction of nihilistic solipsism that proved much less productive than choosing to include them.

¹ My intent here is to use the term "multiperspectivism" to describe a conceptual approach to presenting research; I am not implying nor investigating any possible overlaps between this use of the term and its use by Vivieros de Castro and others to describe Amerindian worldviews.

To give an example of some of the various approaches used in this dissertation, I use social materialist theories of deviance as a compliment to Mary Douglas's grid/group typology, call upon various psychological and political profiling techniques (Schwartz's values theory; Inglehart's postmaterialism theory), and refer to historic descriptions of Western cultural processes (regarding the development of nature/culture dichotomization and secular religion) in order to describe the ontological processes and socio-cultural backgrounds that tend to accompany the individual who becomes oriented towards permaculture and nature spirituality. I rely on both traditional Marxist and neo-Marxist concepts to describe how nature spirituality within the permaculture setting mystifies capitalist modes of production that undermine a desired domestic mode (incorporating Meillassoux's thoughts on domestic/capitalist articulations), and how environmental discourse within these settings is indicative of status struggles occurring within a single (middle) class (incorporating both Bourdieu's concepts of "taste" distinction and Weberian concepts of status-based power).

Calling upon such various authors might be perceived as leaving an unresolved conflict between agent-based "power" issues, historic culture-based issues, and materialist "mode of production" issues as the identified main culprit undermining the ability to produce a sustainable human-environmental system. Furthermore, these three approaches in turn ultimately have various conceptual conflicts with the structuralist ideas of Victor Turner, Mary Douglas, Levi-Strauss, and the biogenetic structuralists, each of whom emphasize structuring processes taking place at different processual, social, cognitive, and biological levels. Yet I turn to each these authors as I describe patterns taking place at various levels that seem to structure and influence the

environmental discourse-based power plays taking place both outside and within the permaculture setting, as well as the articulation between domestic and capitalist production modes that takes place during the practiced pursuit of communitarian back-to-the-land-style permaculture.

In the end, a multiperspectivist approach puts me in line with current social scientific theories (such as Giddens' "structuration" and Luckmann and Berger's "social construction of reality") which overcome agency/structure arguments through demonstrations of the simultaneous and balanced influence and interactions that take place between the agent and the various spheres of influential factors within which the agent is embedded. In this dissertation, the "structure" side of the agency/structure dichotomy includes not only the social structuring effects of early socialization, socioeconomic position, grid/group factors, and the influence of Western cultural history, but also the structuring effects based on Puna's historic and geographic particularities (what Oliver-Smith, 2002, call "mutuality"), as well as structuring effects based on cognitive propensities for dichotomization (Levi-Strauss, 1963), including mystical dichotomization (Durkheim, 1915; Eliade, 1961) and the mystical experience itself (Atran, 2002; Boyer, 2002) that may be a universal and/or epigenetic feature of human neurocognitive processing hardware (with degrees of influence on discourse and practice that vary according to other structuring processes, including the influence of biogenetic variability and various psychological strain factors).

With all these interrelationships, it becomes a rhetorical argument trying to decide which factor counts as agent and which as structure. Instead it becomes worthwhile to view the social system, individual humans, the environment, various cognitive and

processual patterns, and cultural history itself, as mutually interactive and complex structuring agents²—e.g., factors with complex characteristics and behaviors that tend nonetheless to follow discernable patterns regarding the manner in which they influence other factors and the manner in which other factors influence them in return.

The following demonstrates and exemplifies how the mutual interaction between these various structuring agents plays itself out at my fieldsite: the individual human subjects who participate in the permaculture communities discussed in this dissertation are likely engaging, to some degree in latent forms of Weberian status struggles and Bourdieuan power plays through the utilization of environmental discourse (this occurs amongst themselves as well as between themselves and those identified as representing majority culture). The expression of this environmental discourse is shaped by various cognitive structuring processes, including a cognitive propensity to dichotomize nature and culture (as suggested by Levi-Strauss) as well as related dichotomizing propensities resulting from egalitarian perspectives on body and group boundaries (as suggested by Mary Douglas). These cognitive structuring processes are influenced by general Western cultural histories related to tropical island geographies and Hawaii in particular, while the various environmental practices that accompany such structured discourses are heavily influenced by factors pertaining to Puna's particular history and environmental geography. Additionally, the postmodern capitalist processes of mystification and commoditization which undermine permaculture's desired domestic mode is made possible by a general human habit of ritualization exemplified in

² I use the terms “structuring factors”, “structuring agents”, “structures”, and “factors” interchangeably. The reader should consider these terms synonymous for the purposes of this dissertation.

processual social patterns of *communitas*, liminality, and rites of passage described by Victor Turner and Arnold Van Gennep.

The interrelatedness of these various structuring agents makes it a moot to mull over which agent precedes or is primary to which other agent. Nonetheless, the complex interactions of these structuring agents demonstrate empirically recognizable patterns in particular times and places. The emergence of such “middle range” patterns (patterns that are recognizable in, and thus transferrable to, other times and places, but not all times and places) is what makes a description of these patterns and their interrelationships worthwhile.

What I have done in this dissertation is to take a particular (posited) structuring agent—nature/culture dichotomization—and look at how it is shaped by, and in turn shapes, various other structures located at cognitive, sociocultural, environmental, and ultimately historical levels, under social circumstances in which the main (apparent) object of social intent and discourse is the pursuit of environmental sustainability through the practice of “permaculture”. Thus I am taking a “middle range” methodological approach to structure: I am making statements about nature/culture dichotomization processes taking place within a specific cultural subset in a particular geographical location, rather than trying to say something about structuring processes that occur in humans in general (though I do reflect on this possibility in Chapter 7).

Reconsidering Structure: Formal Causality and Cognitive Structuralism

Although I am interested in the recognition of repeated social patterns that seem to have their basis in various structuring factors which influence and are influenced by human behavior, it would be inaccurate to label my viewpoint as structuralist in the spirit often attributed to Durkheim or Radcliffe-Brown. I see no homeostatic functional

mechanism occurring on some societal level other than that directly resulting from the self-preservation processes being acted out by individual human agents.

It is fair to say that strain theory mechanisms and various structuring factors of social origin (class; secularization; nature/culture dichotomization;) may in certain circumstances interact to drive change in the overall social system towards conditions which are better adapted to the long-term survival needs of the system itself, with individual deviance and adaptation as the proximate vehicle for this social change. However, I see any resulting functional effectiveness as temporary and circumstantial (e.g., its sustainability or functionality assessable only under a particular environmental parameters whose future characteristics are largely unknown and contingent) and certainly not self-reinforced at some level beyond individually recognized human needs. Furthermore, since the outcome is not necessarily functionally adaptive (e.g., more environmentally sustainable, individually pleasing, or longer lasting than the original system), my approach to structuralism does not *necessarily* dictate any beneficial, functional, or sustainable outcome for either the individual or the social group.

I take, instead, a “formal-causal” approach to structure (Rappaport, 1999) in which structuring factors within a given time period interact to influence the behaviors of the human agent, and may or may not produce an outcome which is either desirable, self-sustaining, or at least patterned, for a given period of time. The question regarding structures for this dissertation, more accurately, is (1) whether the various structuring factors responsible for the particular human-environmental systems of interest (in this case, the role of nature/culture dichotomization in the construction and maintenance of “permaculture” systems and social networks in the Puna district) result in a system with

a measurably significant degree of environmental sustainability (compared to majority culture lifestyles) given current environmental parameters, and (2) how these various structuring factors interact and ultimately impact this measure. In other words, how are these structuring factors influencing the effectiveness of groups of human agents to achieve their (apparent) intentional goal of an environmentally sustainable social system?

My position is that the ability of structuring agents such as nature/culture dualism to serve as an heuristic device for conceptualizing the objects and practices towards which to gravitate for the long-term survival of a human-environmental system is at least partially dependent upon the ability of these structuring agents to simultaneously provide for immediate individual needs (be they socially constructed or not). This is why countercultural approaches to nature/culture dichotomization have the ability to unglue existing social systems as well new ones—the drive for individual human well-being not only fuels the drive to break long-ingrained social patterns (as with the permaculture "nature" lovers who attempt to break from the norms of "technological culture"), but also keeps intentional communities (such as Puna's idealized "environmentally sustainable" permaculture communities) from staying glued in cases where the cultural construction of "nature" cannot meet these needs.

Regarding the ability of certain structuring elements to be associated with a certain patterns of sustainability within (Western, at least) human-environmental systems, it became unmistakably evident to me that, despite the apparently wide range of approaches being used by Puna's various permaculture communities and the range of characters participating in these communities, there were patterns of demography,

discourse, and community progression that seemed to repeat themselves in each and every situation, and that a wide yet capturable range of factors were producing this structured pattern repetition. It was the unmistakable observation of these recurring patterns that made it hard to dismiss the idea of common structuring elements to these communities.

During my graduate studies, the idea that various characteristics of human society were the result of identifiable structuring factors was being presented to me through various courses; yet at the same time, structuralism was continually being dismissed as an outdated set of theories, set aside during the history of anthropology's theoretical evolution due to unresolved conceptual problems. The importance here is to note the two main halves of structuralism that anthropologists commonly deal with. I will use Radcliffe-Brown (1965) to represent the first half of structuralism, which deals with inquiries into the possible universality of certain social structuring characteristics common to all human societies. His ideas were cast aside as Radcliffe-Brown himself became associated with a teleological, functional aspect of social structure that was often interpreted as suggestive of a "ghost in the machine" at some abstract societal group level.

Meanwhile, D'Andrade (1995) suggests that the cognitive-based structuralism originally espoused by Levi-Strauss as an underlying factor responsible for various social patterns (the second half of structuralism, following my line of argument), was abandoned by anthropology because it made unverifiable assumptions about universal structures of the human mind. This second half of structuralism has seen some revival due to recent leaps in empirical evidence from neuroscience and psychology and the

resulting cross-disciplinary meta-analyses made possible by the information age. Within anthropology, the biogenetic structuralists (Laughlin and D'Aquili, 1974; D'Aquili et al., 1979) had early posited cross-level links between structures at the neural, cognitive and social levels, with ritual being a key processual link. Interestingly, the recent reemergence of evolutionary cognitive structural explanations have used religion as the exemplary social phenomenon linked to cognitive structures (Guthrie, 1995; Atran, 2002; Boyer, 2002). Such writings have allowed structuralist tenets to reemerge within the social sciences—though not necessarily within anthropology, seemingly due to lack of communication between anthropology and other disciplines. Nonetheless, structuralism seems to be back—at least in the other social sciences—so in the end, I throw up my hands and dive in for reconsideration of Radcliffe-Brown's (1965) original structural question: why do certain social patterns seem to repeatedly manifest themselves in various human societies, even to the point of fixation?

Certainly, Puna's permaculture scene is an interesting example of this pattern. In multiple instances, separate groups of humans have intentionally joined together during different periods at different locations in the district in attempts to fashion social scenarios that unfold in ways different than that of majority culture. The resulting communities tend to unfold in ways either surprisingly similar to each other, and often end up unravelling altogether. Why? Looking at this occurrence in Puna is a "middle range" approach to Radcliffe-Brown's original broader question. Radcliffe-Brown, unfortunately, found himself pigeonholed into the wrong (functionalist) half of an increasingly intriguing (structural) answer. The avenue of theoretical (rather than practical) interest, in this case, has less to do with what integrated social institutions are

necessary/sufficient for a functioning society, and more to do with how various structuring agents—social, environmental, and historical—influence and are influenced by patterns of human belief that might result from innate, cognitively-structured tendencies. Such structures may be directly responsible for the shared images of desirable lifestyle practice (as well as the similarities in the resulting actual lifestyle practices) of Puna’s permaculture practitioners.

In this paper, then, I am declaring the existence of a middle-range cognitive structure whose effects are particularly pronounced at my fieldsite. I am also declaring the concept of nature/culture dichotomization to be a useful trope around which to construct an explanation for the pattern of repetition occurring amongst permaculture communities in the Puna district as a result of this structure. This cognitive structure is shown to be influential in the way the Puna permaculturalists perceive and value various objects and practices, as well as the way they experience sensations of liminality and *communitas*. Ultimately, it helps to engender a form of nature religion that supports capitalist socioeconomic relationships and production modes while maintaining through discourse and ritual (including huge energetic investments in physical manipulation of the surroundings) a sacred ecotopian spectacle of the egalitarian domestic mode of production. As a result, this dissertation ends up being a somewhat covert treatise on biogenetic structuralism in that I demonstrate a link between cognitive structure and culture through a demonstration of ritual behaviors of a secular religion—religion being the *sine qua non* of human cultural experience according to Geertz (1973).

Grounded Theory (Awareness), Critical Theory (Deconstruction), and Post-Postmodern Praxis (Reconstruction)

Regarding the validity of the ethnographically derived portion of my dissertation, and the subsequent applicability of the resulting hypotheses being used to quantitatively test various parts of these theories, I argue that these theories and resulting hypotheses have for the most part arisen through an inadvertent “grounded theory” (Glaser and Strauss, 1967) process that took place as a result of my progression from a period of non-academic participation and atheoretical observation during the first five years of my time in Puna, to a period over the last seven years during which my exposure to academic social theories and methods increasingly helped me to frame, order and thematize my ongoing observations. I will give a more detailed explanation of this progression over the next few paragraphs.

In short, the basic concerns about Western back-to-the-land communities that are being addressed in this dissertation were concerns of mine long before I began graduate studies, while I was still an observing participating client rather than an observing participating scholar. At that time, I did not yet have any well-formed questions, much less any theories or answers, with which to address these concerns—only a sense that there might be a meaningful logic connecting the patterns of discourse, behavior, and community progression taking place on the scene that was difficult to identify and articulate yet there nonetheless. The development of meaningful questions, identifiable themes, subsequent tentative answers, and of the nature/culture propositions that further elucidate these answers, were derived later through repeated periods of ethnographic observation as a graduate researcher. These periods of

observation became increasingly framed by my ongoing studies of the existing academic literature.

Despite the years in Puna prior to graduate school, it was only through repeated observations as a graduate scholar that I began to identify the common themes that ran through these communities, and begin to see a meaningful parallel between these themes and those patterns described by the various sociological and anthropological theorists whom I had been reading. The more I studied, the more I began to see surprisingly good fits between these themes and the stated theoretical literature, which increasingly gave me good reason to call upon this literature as part of an approach to describing what I saw. More importantly, it became increasingly obvious that these fits were proving far superior, in terms of breadth and depth of descriptive and explanatory power, to any epiphanous insights I had been able to make on my own.

For instance, from early on I had a vague notion that there was a superficial element to the sensation of harmonious natural living so important to people working in Puna's permaculture communities. Later, academic study began to demonstrate to me the applicability of using Marxist terms (commoditization) and the ideas of Baudrillard (concerning consumption and simulacra) and Debord (the "spectacle" in which the production of the subjective lifeworld experience becomes a bought and sold product) to refine my description and understanding of this notion into one in which "images" of nature and sustainability were being traded for manual labor. In such cases, academic ideas and terms were *ad hoc* in terms of their temporal relation to the patterns ("themes") which were emerging as a result of my ongoing observations ("data").

Over time, it was this incorporation of the observations of past and contemporary gifted scholars into my own fieldsite observations that allowed me to arrive at a point of redundancy: as of this writing, recent trips to the new permaculture communities that have popped up in Puna since the end of my period of intensive participant-observer fieldtime, and my return visits to existing ones, have resulted in experiences best described as “more of the same” rather than new and/or original in their ability to refine my emerging picture of Puna's permaculture scene. It is this sequence of events—from atheoretical and athematical observation to a period of making theoretical ties between the various themes being made evident by observation and participation—that I see as matching the abductive process of theorizing laid out by Strauss and Corbin (1990) in their description of the formal approach to research known as grounded theory. I see this as appropriate, despite my incorporation of academic theory and observation into my own observation processes.

Whether such instances are better construed as cases of theory driving observation³ or theory clarifying observation is certainly debatable and perhaps unanswerable. My personal sense is that exposure to the academic world helped to clarify my ongoing observations—it provided the terms, tropes, and ties which allowed me to see, in a Helen Keller sense, that which had been previously and frustratingly incomprehensible and incommunicable. In short, the observations of the academic masters have, for the most part, turned out to be masterful observations rather than simply ungrounded projections of academic head trips. In most cases, exposure to their

³ It is this basic accusation of the postmodern deconstructionists that prompted the development of grounded theory in the first place, according to my interpretation of Glaser and Strauss (1967).

ideas and terms, and to the theories that surround their ideas and terms, actually helped pave the way for fitting together pieces of a jigsaw puzzle of patterns and relationships which I had previously discerned yet not clearly conceptualized.

This has increasingly backed up my belief in the power of social science to clarify social things and processes, particularly in terms of the role played by “critical theory” approaches in providing an opportunity for enlightenment through the exposure and clarification of processes whose effects are felt yet difficult to comprehend and thus difficult to address. The need to address these processes becomes important for purposes of bringing about social change directed towards a proper mode of "life enhancement" that transcends those reactive forces of the Nietzschean "will to power" which tend to lead permaculture away from the organization of production towards the production of organization.

For my part in playing this critical role, I identify in this dissertation a pattern of “mystification” taking place upon the permaculture scene. The difficulty I experienced as a back-to-the-land client regarding my ability to identify and articulate such patterns and processes is what keeps such patterns and processes “mystified” in the first place and in operation until a good explanation renders them obvious and less hegemonically potent. I now recognize how well this “mystification” explanation articulates and addresses the concerns that lead to my own sense of unfulfilled frustration as a back-to-the-land client; furthermore, my descriptions of this mystification process has elicited various empathetic responses from both individuals still living in Puna who have dropped out of the back-to-the-land scene, as well as from individuals who continue to participate.

Such experiences have strengthened my hope that such critique, when expressed in the appropriate setting, might help to bring forth a form of epiphanous realization among permaculture participants that is more productive than the typical “wake up call” described by Jacob (1998) and Hetherington (2005) that occurs prior to the eventual return of the typical back-to-the-land participant to majority culture. However rude this realization, the purpose here is to address those mystified patterns that short-circuit the effectiveness of permaculture so that more effective patterns might be implemented. In any case, this deconstructive role of critical theory—helping to recognize the hidden processes and constructs that lurk behind the intended processes and constructs—is certainly an important step in constructing more effective and truly life-enhancing forms of the sustainable lifestyle initiative.

Critique and reflexivity is necessary to halt the repetition of mistakes of the past; yet critique’s deconstructive tendency can also be cumbersome to the creative power of the millennial spirit and thereby antithetical to the original goal of directing a constructive praxis of change towards sustainability. This dark, nihilistic side of critical theory is the downside of taking the postmodern view to its logical completion. Without the security of a millenarian metanarrative of nature/culture, it becomes exceedingly difficult for the permaculturalist to construct a personal narrative, much less a community narrative, in which the terms of life enhancement follow principles of environmental sustainability. With hopes of moving past this postmodern pitfall, a final intent of this dissertation is to keep the deconstructive tools of critical theory in tow while moving evermore towards a post-postmodern form of reconstruction in order to rediscover hope.

To do this, the dissertation follows its analysis of permaculture's inhibiting social structures with a consideration of the new and progressive social structures that might arise from permaculture and which may allow it to indirectly serve a unique supporting function for Western environmental sustainability initiatives. In other words, following a postmodern deconstruction of the processes that account for unsustainable patterns within permaculture, one must ask: how might these processes, however disenchanting (and postmodernism tends so often to stop at the disenchantment), operate (perform) to produce a desired outcome, however impure the means (this halting disenchantment at the absence of purity within processes being a leftover of modernist wishes within postmodernist thought)?

These reconstructive aspects of the dissertation follow an emerging perspective currently being described loosely with terms such as postpostmodernism, performatism or metamodernism (Turner, 1995; Kirby, 2006; Eshelman, 2008; Vermeulen and Akker, 2010) that reaches past postmodernism to place faith in the ability of incompatible processes and disagreeable outlooks to nonetheless act together to produce conditions that help engender, however indirectly, the original desired effect or social change. The key to this ability, as foreshadowed, may have much to do with permaculture's role as a social structure within greater Western society that serves as a factory for experiment and a producer of both methods and symbols for social change which are eventually incorporated into majority culture as permaculture's social networks grow.

This plan to take the results of deconstruction and use them for reconstructive purposes makes this dissertation, like permaculture, is an intended transpraxis (in the sense outlined by Nietzsche [1980] and discussed by Freire [1970] and Arrigo and

Milanovic [2008]) in which the process that engenders transformative justice, however indirectly or unexpectedly (as in the process of researching and writing a dissertation on permaculture), does not constitute the intended change itself but comes from the speech patterns and discourse used to interpret the cognized world. In terms of transpraxis, permaculture already has an edge here in that it “curses the darkness” (of unsustainable majority culture patterns) “but also lights a candle”, as one permaculture participant has described it (referring to the openness of typical permaculture participants to accept failure while still working with hopeful faith toward future solutions). Puna’s permaculture communities in this sense also exemplify Giddens’ (1990) concept of utopian realism in that their informed devotion to constructive and progressive action amidst a simultaneous belief in likely environmental/political apocalypse creates a space of hope based on a self-conscious renewed faith in the old modernist idea of a better world. Through this faith come the actions that can eventually invoke meaningful change.

CHAPTER 8

RECONSTRUCTING THE DECONSTRUCTED: EXPLORING THE ROLES OF NATURE/CULTURE AND PERMACULTURE IN SOCIAL CHANGE

Any theory of historical change must address questions of how alternative projects arise, how resistance is articulated, and how dominant structures are subverted. Theories of capitalist hegemony are incomplete without corresponding theories of counterhegemony. (Robinson, 2004, pg. 174)

It's a Friday night and I'm making my third visit ever to Hawaiian Sanctuary.

Hawaiian Sanctuary sits on a 44-acre piece of land just a few miles from Pahoia and advertises itself as an "eco-rejuvenation center" which "studies and promotes sustainable development" (Hawaiian Sanctuary, 2012). The google search display for their main website shows the phrase "Hawaiian Sanctuary | Permaculture Courses | Sustainable". Following the operational definition used in this dissertation, Hawaiian Sanctuary can be classified as a permaculture community. However, I never stayed at Hawaiian Sanctuary because I had not heard about it until near the end of my research. By that time, it was already too expensive. Current "internship" costs are \$575 per month plus 30 hours of work-trade per week.

Shotgun interviews with various individuals over the last few years have returned common themes about the incredible speed of development and the huge amounts of money that went into the construction of Hawaiian Sanctuary. The property was raw land in 2005 when it was purchased for a little over \$400,000; after that structures began to pop up virtually overnight. Now Hawaiian Sanctuary offers more yoga, permaculture, massage, drumming, dancing, hula, and herbal therapy classes than just about any other establishment in lower Puna except the famed and venerable Kalani Honua. Nightly stays as a tourist begin at \$65/night for the "eco-pod"—still a cheaper deal than most of the major resorts in Kona, though more than many of lower Puna's

vacation rentals. Amenities at Hawaiian Sanctuary include coin-operated laundry machines and dryers, a massive and well-equipped outdoor kitchen, dry-heat saunas, a chemical-free jacuzzi, a 600-square-foot fitness center crammed with a dozen or so pieces of state-of-the-art Cybex fitness station equipment, an elegant 1500 square foot entertainment pavilion, and an even larger wooden-floored complex used for staging dance workshops, massage classes, and the occasional concert.

Despite its beauty, Hawaiian Sanctuary certainly wouldn't measure up well in an environmental audit of environmental sustainability in terms of the overall oil inputs, embedded sustainable to unsustainable energy inputs, or total carbon dioxide outputs required to produce a day in the life of one of its residents, visitors or work-traders. However, I'm not here today to assess its sustainability. I'm here to see Russell Ruderman, a high-profile democratic candidate for the newly designated Senatorial District 2.

In 2011, the Hawaii State Reapportionment Commission redrew zoning lines and gave Hawai'i Island an extra seat in the Hawaii State Senate. The newly designated Senatorial District 2 covered a demographic area in which the vast majority of citizens were from Puna; in essence, Puna now had its very own seat in the Hawai'i Senate. Now it's July, 2012, Hawai'i's primary elections are less than a month away, and Ruderman is here at Hawaiian Sanctuary playing guitar with his Grateful Dead cover band Terrapin Station in order to help raise funds for his election campaign. Ruderman is well known in the community due to his status as the owner of the highly popular Island Naturals health food store in Pahoehoe, the success of which has allowed Russell to open sister stores in Kona and Hilo.

I can't imagine Russell faring well in an election outside of Puna, but in this highly liberal neck of the rainforest, his dual roles as band leader and local health food store owner are major components behind the charismatic force of his campaign. In the crowd of volunteers, paid workers, and paying event-goers attending the event are a wide range of characters whom I've seen over my years of Puna research, including many who are or were members of the various back-to-the-land communities that have popped up in Puna over the last thirty years. Ruderman's speech is a typical liberal democratic platform that repeatedly makes its way back to the importance of local food security, the need to invest in sustainable energy resources, the need to reform building codes in order to legalize alternative construction materials and design, and the intransigence of the current business-as-usual politicians. It's a political rendition of permaculture principles, and it receives wide applause from the crowd.

I can't help but think that Ruderman is here at Hawaiian Sanctuary because of the symbolic role which the permaculture concept now plays as a representation for better, alternative ways of living, while the crowd here represents the current outcome of the slow trickle of hippies that first began coming to Puna nearly fifty years ago in search of a greener way of life. Whether or not Ruderman wins the final election¹, the current strength of these social networks, and the political potential of the nature/culture ideologies they champion, suggests that there may be a role being played by back-to-the-land communities and nature/culture dualisms which go beyond their direct utility in

¹ In Hawai'i's August 11 primary elections, Ruderman beat out three other candidates to become the democratic nominee for the Hawaii State Senatorial District 2 seat. The historic democratic voting record of the Puna district suggests that he will likely win the November 2 elections by an easy margin.

Puna as social organizations and cognitive constructs which directly result in environmentally sustainable lifestyles. This dissertation has largely deconstructed that utility; the next step is to reconstruct the indirect utility of back-to-the-land movements and nature/culture constructs as mechanisms for greater social change.

To begin such a reconstruction, it will be important first to view concerns with the authenticity of nature/culture dualism and permaculture's sustainability endeavor as outdated modernist concerns, and instead move towards a more "postpostmodern" outlook in which the simulacra of ecotopia may prove effective as a mechanism of social change despite the unreality of the harmonious low-consumption lifestyle it superficially emulates, and in which this effectiveness arises from the same capitalist articulations that undermine permaculture's intended pursuit of such a lifestyle.

As a social project personified by mysticism and egalitarianism, we can analyze the effectiveness of permaculture and its ecotopian illusion in light of its role as a modern form of shamanism—a neo-shamanism which, like most surviving shamanisms, exists in counterhegemonic articulation with a priestly order (which, in its current global form, is a social order kept in place by neoliberal capitalism and modern science). Here, the liminal, neoshamanic aspects of Puna's permaculture communities prove to be living examples of Rappaport's "cybernetics of the holy" (Rappaport, 1999), in which the ongoing production of an ecotopian *communitas* helps to reinforce nature/culture dualism as an "ultimate sacred postulate", which in turn helps to mobilize alternative political networks from the cultic milieu and which leads to the development and dissemination of alternative ideas and products that help bring about adaptive change within the larger system.

Reconstructing Permaculture as a Space of Hope

Cultural Production Within Counterhegemonic Liminal Spaces

For our part, we find it unimaginable that innovative forms of emancipatory practice will not emerge to address the excesses of neoliberal capitalism...Critical disbelief, in pursuit of a reinvigorated praxis, is the beginning of a solution. (Comaroff & Comaroff, 2001, pg. 335)

The importance of "thinking out of the box" is a hallmark slogan for the American capitalist entrepreneurial spirit. I'm thinking of this as I stare at the bags of I.M.O. ("indigenous microorganism") soil mix being sold in the local KTA supermarket. Ten years ago I had never heard of I.M.O.'s. A few years later it was the rage on the permaculture scene. It fit in nicely with permaculture's Gaia-inspired postulate of a glorified, spiritual, egalitarian, and at times animistic sense of nature—suddenly the agro-hipster scene was alive with talk about "living soils" that provided underground "communication webs" between plants. Jonah, one of Puna's I.M.O. pioneers, began spiking his I.M.O. mix with fermented *Psychotria* juice. Others began denouncing plant nutrient theory as similar to germ theory: a bogus ideological construct of the Western techno-industrial complex.

For many years, Big Island I.M.O. workshops were the exclusive terrain of Puna's permaculture communities and organic farms. Ten years later, I.M.O. workshops are offered through Hilo's County Offices, and I.M.O.'s are the object of research in university agricultural departments. This includes the agricultural department at the University of Hawaii at Hilo, whose history is otherwise that of being a bastion for conservative agricultural policies due to the department's ties to the GMO papaya industry. The counterhegemonic dimensions of this fast changing policy were evident during 2011's Occupy Wall Street movement. One notorious Big Island variation of this,

known as Occupy Hilo With Kalo², involved the unpermitted planting of agricultural crops in grassy street divides and walkways around the city; soil spiking with I.M.O. mix was considered a crucial step to ensuring productivity. The impromptu guerrilla work parties were announced through Facebook, Twitter, and word-of-mouth, and often attracted in excess of 100 people. The mastermind of the project was Drake, a protege of Jonah (a permaculture landowner mentioned in various instances throughout this dissertation) with a vociferous passion for permaculture. Each time, a considerable portion of the massive supplies of tools, agricultural cuttings and I.M.O. soil mix were informally provided through networks which traced back to UH Hilo experimental agriculture department.

The above vignettes are meant to demonstrate the indirect functional role of permaculture as space of antistructure where experimentation can take place—especially when the trick being tried seems ludicrous to the general public. But when those ludicrous ideas uncover something of decided beneficial value, it becomes a commodity on the common market. Thus, on the upside of many of these seemingly ludicrous and failed experiments in ecotopian living, the haven of protection and separation provided by the permaculture scene can turn up an array of surprises. A year after I incredulously watched India's mother applying honey to the gaping hole in India's leg, I witnessed a mainstream media blitz on the amazing disinfection properties of honey. And sure enough, despite my conviction that many mainstream mothers would have called State child protective services before letting India's mother feed her child raw meat and apply honey to a deep infection in lieu of antibiotics, India did get

² Kalo is the Hawaiian term for taro.

eventually get better and was soon a thriving healthy girl again running around on her own. In fact, after ten years witness to the seeming insanity of a raw meat/egg/milk diet, the raw carnivores often seemed to be faring even better than the raw vegans—few who make the switch to the raw meat diet in Puna have ever switched to another diet, and I've never seen any diet with simultaneous ability to bulk up emaciated men and slim down heavy women.

Overall, I remain constantly amazed at the ability of Puna's back-to-the-landers to fare well in the midst of conditions, practices and beliefs that would otherwise seem absolutely far-fetched. In retrospect, surprisingly functional results were often borne from practices and beliefs that would be deemed heretical, unhealthy, and even insane within a conventional setting. They help reveal the extent to which common majority culture practices are more habitus than practical—more akin to Weber's "traditional rationality" than any actual technocratic "instrumental rationality" associated with a calculating *homo economicus*.

Yet given the surprisingly effective results of many of these extreme modes of "thinking outside the box", how far would such experiments get as a movement of solitary individuals attempting their deviant crafts among the conventional institutions and social networks of the dominant culture? In general, the autonomy (economic, cultural, and political) sought by communitarian counterculture is an attempt to disassociate from dominant cultural forms whose beliefs and practices, trapped more by traditional conventions of rationality than truly instrumental considerations, are considered to be the source of environmental exploitation and social oppression.

A study of communitarian counterculture is thus also a study of deviance: in leaving recognized cultural forms behind, these communities escape the deviance label described by Becker (1963) which function to limit engagement in practices and beliefs which fall outside social norms. By constructing a space of physical and cultural separation, the permaculture antistructure escapes the pro-normative forces of the "carceral archipelago" described by Foucault (1975) and elaborated upon by Lowman et al.'s (1987) through his concept of "transcarceration". Both of terms describe the coherence with which various social institutions of the dominant culture work in parallel to punish and control those bodies which deviate in behavior from the shared ideology espoused by the dominant. Thus the escape into the space of nature, as an antithesis to the space of technological culture, must be understood as a logical step to escape these constraining social forces and the oppressive aspects of their associated ideologies as detailed in concepts such as hegemony (Gramsci, 1971) and the state apparatus (Althusser, 1971). By making this escape, these subjects thus circumvent an ongoing colonization of the lifeworld (Habermas, 1981) that ultimately limits the ability of the typical citizen to imagine, much less act out, a new cultural form.

Having made this escape, the early stages of permaculture community and other back-to-the-land movements often appear irrationally extreme and radical because of their willingness to throw away and question *all* cultural forms associated with the modern West. What needs to be recognized here is the overall attempt that is being made to discern, through trial and error, the difference between cultural forms which have actual instrumentally rational merit from those forms which only appear to be

instrumentally rational due to the hegemony of tradition pushed by the state apparatus.

The importance of this critical disbelief is noted by Harvey (2000):

There is a time and place in the ceaseless human endeavor to change the world, when alternative visions, no matter how fantastic, provide the grist for shaping powerful political forces for change...better that, surely, than giving in to the degenerate utopianism of neoliberalism...and living in craven and supine fear of expressing and pursuing alternative desires at all. (Harvey, 2000, pg. 195)

Harvey (2000) goes on to outline his project of a dialectical utopianism, in which utopian imaginations are worked upon as projects ever moving towards utopia from within the capitalist system. Harvey's ideas of dialectical utopianism are similarly expressed by Hicks (2001), who notes:

We should expect no one-to-one correspondence between the cultural system and observed social life. Indeed it is one of anthropology's basic assumptions that a discrepancy between culture and practical action is inevitable. Exploring this discrepancy, trying to discover how people justify and explain their perception of the distinction between what should be and what is, leads to some of anthropology's most stimulating analytical efforts. (Hicks, 2001, pg. 17–18)

As practitioners of cultural critique and subsequent utopian imaginations, anthropologists, permaculturalists, and various utopian entrepreneurs of the cultic milieu all face this task of critical disbelief, imagination of utopian alternative, and subsequent instrumental maneuvering as a method to negotiate the distinction between what is and what ought to be. As shall be argued, the liminal experience of liminal *communitas* can play a crucial role in engendering this disbelief. As Victor Turner puts it:

Without liminality, programming might indeed determine performance. . . . Given liminality, prestigious programs can be undermined and multiple alternative social programs may be generated . . . (Turner, 1974, pg. 14)

In many cases, cultural programs which are initially discarded—monogamy, formalized rules, written contracts, recognition of property ownership, and various

technological amenities—make their way back into most communities over time and can give these communities a sense of non-authenticity in their attempt to create something Other. But through this process, Puna's egalitarian back-to-the-landers appropriate these cultural programs as their own and thereby help to disassociate them from those practices and ideologies of the technological capitalist hierarchy that cause the power imbalances (including global/regional imbalances outlined in the literature by Wallerstein [1987] and Gunder Frank [1990] and various forms of gender imbalance described by Rosaldo and Lamphere [1974] and Meillassoux [1975], including those originating from within the family as described by Engels [1884] and Rey [1975]) believed by the cultic milieu to maintain, justify and contribute to patterns of environmental exploitation.

While previous resistance movements to capitalism depended upon and focused upon the mobilization of labor into unions and political units, it is noted that the “new empire” of global neoliberal capitalism has successfully decentralized itself, which means that counterhegemonic forces must attack in a new and decentralized way (Hardt and Negri, 2000); thus the birth of the new culture-based and lifestyle-based social movements. As David Harvey notes, these new oppositional movements, spawned by late forms of neoliberalization, have tended to “shift the terrain of political organization away from traditional political parties and labour organizing into a less focused political dynamic of social action across the whole spectrum of civil society . . . [and] . . . tend to be embedded in the nitty-gritty of daily life and struggle” (Harvey, 2005, pg. 200).

In line with many of the new social movements, participants in permaculture are often less concerned about predictable success of their own living experiments as they

are about dissassociation from majority culture's ongoing experiment with modern technological forms of capitalism. As Baudrillard (1998) notes, postmodernity has brought about a change from production identity to consumer identity among the social individual. The simple act of non-participation, along with resulting self-expressive experimentation with alternatives to conventional consumption, produces a cultural product that symbolizes the experience of postmodern ecotopia. Cultural production here occurs through recognized acts of what is and is not consumed. In this, the search for autonomy from the perceived capitalist mode of production becomes less about engaging in a perceived domestic mode of *production* and more about engagement in a domestic mode of *consumption* as a model for undermining the dominant system. Using this vision of consumption and its role in counterhegemonic identity, attempts at non-participation in the capitalist economic system are political both in gesture and symbol (Buechler, 2000).

With cultural production through alternative methods of consumption given priority, less emphasis thus falls on the success of practices associated with actual material production. Along these lines, it is important to note that success in the realm of creating what ought to be is not needed in order to appreciate the utility of a counterhegemonic liminal space: the permaculture space is an equally important space in which failure is allowed to take place as part of the path of determining what alternatives to technological capitalist culture ought *not* to be. Certainly there are many, and discussion of the more problematic alternatives tend to be the realm in which the most hotly contested debates occur as the cultic milieu in Puna comes to terms with the eventual vagaries of, and subsequent ongoing need to shape, the character details of

nature/culture as an ultimate sacred postulate of life on a lava field. For instance, prospect of increased geothermal production as an alternative energy source is hotly debated—is it a preferred alternative to oil, or does it "rape Pele", as many state, through its reproduction of capitalism's industrialized and centralized approach to energy? Another instance of ongoing contestation involves germ theory: its denouncement is a central tenet of the primitivist theories of raw meat converts, yet at the same time the very real threat of leptospirosis forces the use of high-technology ceramic filters and UV mechanisms in rainwater catchment systems. In a similar vein, horrific experiences with rat-lungworm (caught from slug slime on garden vegetables), especially in the Papaya Farms Road region of lower Puna, combined with the general lack of agricultural substrate everywhere except the Papaya Farms Road region, has spelled trouble for the gardening ritual that works so well for temperate continental permaculture communities. As a result, the ecotopian image of the garden has increasingly given way to visions of agroforestry as the path to an alternative decentralized domestic mode of production and consumption. Despite such changing visions, Puna permaculturists' faithful agricultural experiments in Puna over thirty years still have yet to reveal a reliable strategy for the production of staple crops in a way that can sustainably provide a steady source of income and food.

Other cases of failed experimentation along the imagined route to sustainability have included a passing phase which encouraged the growing of bamboo for sustainable construction purposes; this turned out to be impractical due to the difficulties of growing bamboo in the soilless lava and the difficulty of developing the special skills needed to effectively prepare and install bamboo for purposes of structural support.

Other conceptually functional sustainability schemes, such as the use of humanure for fertilization or the use of sand for flooring instead of concrete, seem in the end to simply be less appreciable in practice than in theory.

Through this extended process of trial and error, funded by savings from mainland bank accounts and contributions of work-traders lured into free labor by the ecotopian spectacle, permaculture makes its way ever slowly from its symbolic role as an imagined alternative to a contributing role towards actual alternatives—from imagined authenticity to the truly authentic. From a systems perspective, is it is hard to imagine a safer resource to use for experimentation purposes than an educated middle class—for similar frontier experiments throughout history, unaided by well-funded articulation with the larger existing system, the price of failure was death rather than finances.

Certainly the most frustrating barriers to successful experimentation with alternatives are legal barriers. Construction of sustainable shelter in Puna turns out to be a difficulty in Puna due to building codes which sanction only the most conventional construction methods and materials. Such cases, in which written legal codes explicitly block particular avenues of beneficial social adaptation, amount to what Rappaport (1999, pg. 440) called an "oversanctification of the specific". Rappaport found such concrete instances of maladaptive dissonance within the existing regulatory hierarchy to be the points most vulnerable to upset by networks representing alternative social and political arrangements. In lower Puna, it is in this realm of alternative construction that the growing social networks within the back-to-the-land movement have offered their most significant contribution to overall social change in the region.

Neoshamanic Simulacra and the Cybernetics of the Holy

...organization of the proletarians into a class, and, consequently into a political party, is continually being upset again by the competition between the workers themselves. But it ever rises up again, stronger, firmer, mightier. (Marx and Engels, 1906, pg. 27)

It's May 2012 and I'm at the County Offices in Hilo, but from the look of things you'd think I was at Woodstock. A public hearing is finally taking place regarding a March 2010 threat from the Windward Planning Commission to revoke a special use permit that allows Graham Ellis the right to use his 12-acre property as a venue for public events. Graham calls his property Belly Acres; it sits on the edge of the Seaview subdivision in lower Puna. Since he bought the property in 1987, it has evolved into a community homestead of eight houses and twelve cabins that provide a home for 26 permanent residents in addition to a seasonally changing population of work-traders and guest teachers. The community focus is sustainable food production and the performing arts; put in terms used by the local news channel, it is "an enclave for jugglers, acrobats, and other skilled performers" that is also a "sustainable eco-village" (Big Island Video News, 2012).

Belly Acres' performing arts focus blew up in popularity when Graham's special use permit application finally went through in 2007; community members promptly pooled finances and constructed a huge, high-ceiling, open-walled building which they dubbed SPACE—the Seaview Performing Arts Center for Education. Soon they were hosting a weekly farmer's market in addition to holding circus, dance, and martial arts classes during the week. SPACE provided a sense of community for many of lower Puna's more colorful residents, but it also resulted in complaints from various subdivision residents that eventually led the Planning Commission to issue a Notice of

Non-Compliance in March, 2010. The list of broken rules ranged from parking violations to illegally-built structures to charging money for non-commercial events. However, SPACE has made Graham a popular guy, and this public hearing has turned the County Offices parking lot into a 100-person-plus circus of stilt-walkers, unicyclists, dreadlocked farmers, and aging hippies in tie-dyes. In the end, the Planning Commission's cease and desist order is repealed and Graham is given six months to file an amended version of the special use permit that will make his operation legal.

It had been over two years from the moment of the Planning Commission's first Notice to the time of its first public hearing, but Graham had not been silent during the interrim. He created the Hawaii Sustainable Community Alliance (HSCA) to deal with the ongoing problems surrounding the inability to legally permit structures built from local sustainable materials. Active HSCA board members include Amara Karuna, member of the La'akea Permaculture Community, Mojo Mustapha, founding owner and manager of Hedonesia Hawaii Sustainable Community Rainforest Retreat, Dagan Ray, a well-known member of Hawaiian Sanctuary, as well as two candidates currently running for seats in the 2012 Hawai'i County Council elections.

In October of 2011, longtime County Council member Angel Pilago introduced a bill of resolution drafted by Graham called the Sustainable Habitat Resolution. The resolution passed the Council with no objections, and HSCA members are now working on composing a Sustainable Habitat Ordinance as well as another resolution called the Sustainable Living Research Resolution. The bottom line here is that after twenty-five years of environmentally-oriented community-based endeavors in Puna, however impractical, Graham's social connections run deep and his clout score runs sky high.

If Hawai'i's existing building codes are examples of Rappaport's maladaptive "oversanctification of the specific", then nature/culture dichotomization is the "ultimate sacred postulate" which becomes the basis for the political platform of Puna's alternative social networks. Using the terminology by which Rappaport describes a "cybernetics of the holy" (Figure 9-1), we can trace the process by which the liminal space of permaculture leads to the strengthening of these alternative social networks. As a space of ritual participation in the permaculture ecotopia, *communitas* provokes a numinous interpretation of nature and aids in the formal acceptance of and loyalty towards an alternative regulatory hierarchy. As a location for ritual withdrawal from the dominant regulatory hierarchy, the experience of *communitas* helps to desanctify elements of the dominant regulatory hierarchy. These ritualized withdrawal and participation features of the ecotopian *communitas* help to enculturate an ultimate sacred postulate which glorifies nature while maligning various features of modern technological culture. As Rappaport (1999) puts it:

The Cybernetics of the Holy is constituted of corrective actions initiated in response to pressure from those subordinate to regulatory hierarchies for the amelioration of unsatisfactory conditions prevailing within the systems governed by those hierarchies. (Rappaport, 1999, pg. 436)

Rappaport (1999) noted that situations characterized by an "oversanctification of the specific" historically occurred in hierarchical societies in which access to the "magico-spiritual"³ world was appropriated by groups for purposes of maintaining class

³ This term, as used by Rappaport, is a loaded term which connotes both culturally-derived interpretations of the sacred/spiritual, the actual phenomenological experience of connection with the sacred (paralleling the liminal experience of *communitas*), as well as the ritual means (magic) by which this connection is achieved. I use this term from here on out in order to demonstrate how the ongoing argument exemplifies Rappaport's dynamic conceptualization of a "cybernetics of the holy".

power rather than purposes of maintaining social well-being. Similar perspectives have been detailed most recently by Winkelman in his review of shamanism (2000).

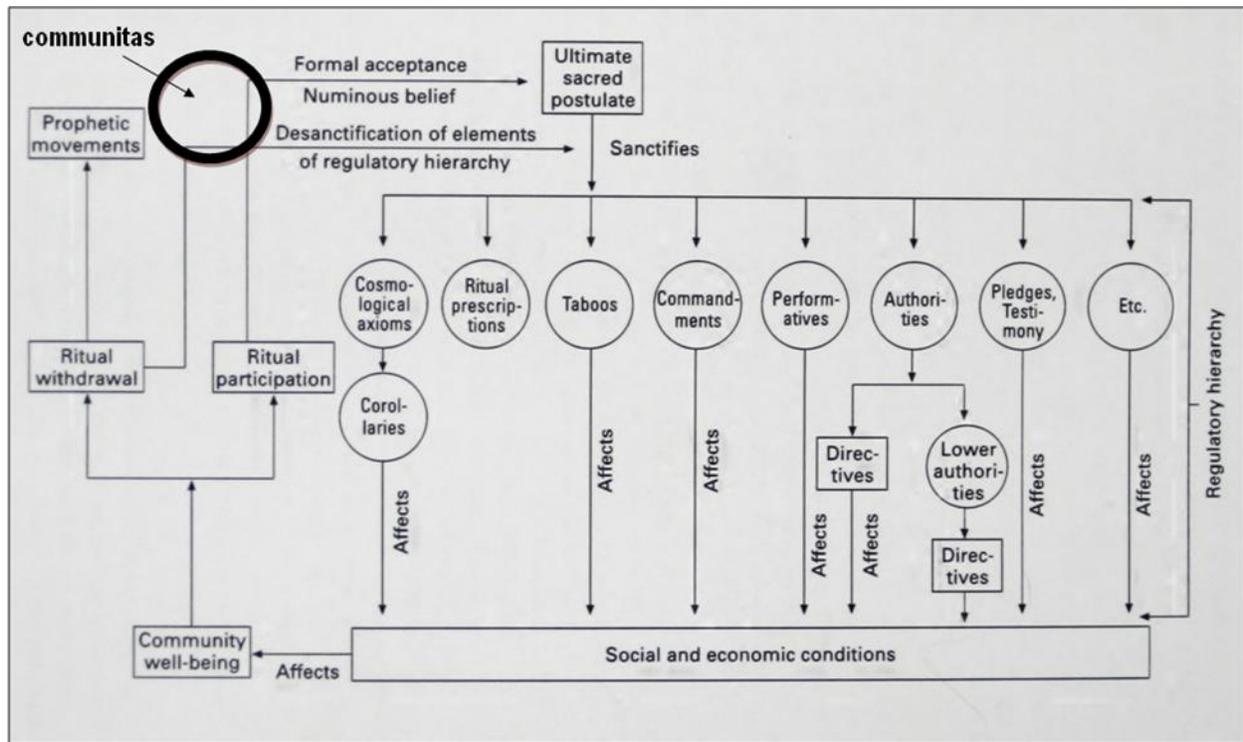


Figure 8-1. Rappaport's "cybernetics of the holy". Added by the author is the location of the liminal *communitas* experience.

In the secular capitalist world, in which a commodity fetish replaces religion, rising prices and increasingly inacheivable building codes dispossess the typical Big Island citizen of access to the American Dream. At the same time, the inclusion of alternative sustainable shelters within the counterhegemonic ecotopia is simultaneously thwarted by such codes. As Robinson (2004) notes:

Fundamental change in a social order becomes possible when an organic crisis occurs. Organic crisis is one in which the system faces both structural (objective) crisis and a crisis of legitimacy or hegemony (subjective). (Robinson, 2004, pg. 171)

Given the current state of financial and legal affairs, it may be posited that the cultural hegemony of conventional approaches to the domestic domicile is coming into question in Puna. As Robinson (2004) goes on to note:

A popular or revolutionary outcome to an organic crisis also requires that there be a viable alternative that is in hegemonic ascendance, that is, an alternative to the existing order that is viable and that is seen as viable and preferable by a majority of society. (Robinson, 2004, pg. 172)

It is here that the social networks that support the material and ideological antihegemonic structures of back-to-the-land community networks can become the source of change. Thus, as environmental and social crises loom larger, the role of lower Puna's back-to-the-land movements stands a chance of becoming less marginal and countercultural and instead increasingly political in spirit:

In a world of constantly rising energy and resultant affluence, permaculture is always going to be restricted to a small number of people who are committed to those ideals which have some sort of ethical or moral pursuit. It's always going to be a fringe thing. Whereas in a world of decreasing energy, permaculture provides, I believe, the best available framework for redesigning the whole way we think, the way we act, and the way we design new strategies. (Holmgren quoted in Fenderson, 2004, online)

Comaroff and Comaroff (2000) note that increasing marginalization of classes and minorities has actually increased the prevalence of magical practices and beliefs in the modern, Western world as financially and structurally disempowered individuals are forced to turn to non-capitalist practices in order to seek or reinstate health, identity, and/or other forms of well-being.

If we follow the logic of Rappaport's cybernetic system of ritual function, it is reasonable to see how the successful engendering of the experience of *communitas* within the permaculture antistructure can become a point of cathartic renewal following a ritual withdrawal from a society that does not serve the well-being of its subjects. This

renewal encourages a subsequent “desanctification of elements of the regulatory hierarchy”. In this desanctified space, the gaudy outlandish designs of tarp roofs, screen walls, and living fenceposts that characterize the stereotypical back-to-the-land homes of happy hippy punatics, and which seem heretical to if not an outright mockery of the structured decorum of the majority culture image of domestic bliss, become meaningful as counterhegemonic images of an unstructured, antithetical, low-impact, more natural form of domestic bliss. This is the magico-spiritual world of nature, which is accessible to anyone willing to give up their belief in the ideological magico-spiritual American Dream that serves to maintain the current power structure.

I'm in the midst of the representatives of this counterhegemonic magico-spiritual world of nature as I stand in the parking lot of the County Offices. It is from these individuals that Graham's clout score comes—these acrobats and stiltwalkers and circus freaks. Their demonstrated political effectiveness exemplifies Giddens' (1990) concept of "utopian realism", in which the ongoing maintenance and propagation of a subsystem envisioning an alternative future can help such an alternative to be realized both in the subsystem and the larger system through a focus on "life politics", which encompasses an individuals' concerns with personal well-being, self-actualization, and fulfilling social connection as they cope with the alienation and dispossession brought about by the globalizing Western techno-industrial cultural complex.

The facelessness of this cultural complex is not meant to imply that it is without structure. There is a degree of homeostatic maintenance willed by the regulatory hierarchy through the carceral components of the complex, and in this light it is worth looking at the deviance label placed upon Graham's circus freaks as a parallel to the

deviance label that has been placed on representatives of shamanic gnosticism throughout history by representatives of the dominant regulatory hierarchy (Narby and Huxley, 2001; Znamenksi, 2007). Graham's social network is a modern-day neoshamanic⁴ hodgepodge of pagans, witches, druids, hippies, New Agers, and psychic vampires. They are the cultic milieu, brought to Hawai'i by their pursuit of an ecotopian image of nature, and they thrive here not due to their ability to survive autonomously in a domestic mode of production but due to their ability to successfully remain in dialectic relationship with dominant capitalist cultural forms.

The cries of inauthenticity cast at such individuals, usually directed towards their inability to successfully reproduce the supposed autonomous domestic life of the Other, is most potent when coming from the dominant order as it reduces the likelihood for counterhegemonic cultural production—they are neoshamans castigated as heretics specifically because of the threat posed by their ever-present ranks. Since they "subvert the axioms and standards of the ancient regime" (Turner, 1974, pg. 14) by finding *communitas* through means that do not contribute to the maintenance of—and often instead drain—the dominant code of power, security, and spending, they are recognized as a "danger in all tolerably orderly societies". In response, representatives of the regulatory carceral complex tend to generate a "proliferation of taboos that hedge

⁴ In this dissertation, "neoshaman" refers both to those individuals seeking a contemporary liminal experience, as well as those individuals who construct and conduct the space within which the liminal experience is meant to occur. "Neoshamanic" refers the Otherworldly experience of *communitas* which the neoshaman seeks to provoke; it also connotes the similarities to traditional shamanic ritual that characterize neoshamanic ritual provocation.

in and constrain those on whom the normative structure loses its grip" (Turner, 1974, pg. 14).

One way of deconstructing the accusation of inauthenticity is through comparing the neoshamanic element of Puna's permaculturists with the historic shamans they are accused of inauthentically replicating. One interesting similarity about accusations of non-authenticity and heresy against both shamanism and neoshamanism is that they both often come from representatives of a larger dominant hierarchical social order in which shamanism and neoshamanism have continued to flourish. Thus, both traditional shamanism and neo-shamanism tend to prevail as dialectic forces within larger complex hierarchical social order which dispossess the average citizen of the right of access to the magico-spiritual world in which healing, salvation, success, and well-being is to be found. Interestingly, this pattern of dispossession as it occurs within complex hierarchical societies nearly guarantees the continued existence of non-hierarchical forms of both shamanism and neo-shamanism in which the magico-spiritual world is much less regulated and more easily accessed.

Furthermore, this tendency to be in heavy articulation with capitalist markets of the modern world—a condition which is commonly used as the basis for questioning the authenticity of the neoshamanic element—was an instrumental characteristic of the successful traditional shaman as part of the attempt to cultivate, in any way possible, the means by which to reproduce the liminal space of the magico-spiritual world in which healing, unification, and other elements of *communitas* can occur. Thus, like the neoshaman, the success of traditional shamans has been deemed dependent on the same entrepreneurial spirit (that of the unique and gifted, and often "out of the box",

individualist) that is championed by neoliberal capitalism. In this sense, there is less distinction than imagined by the West within traditional shamanism for the importance between authentic and inauthentic. The goal of traditional shaman (as with the modern neoshaman) is to use ingenuity and intuition, and whatever tools and means necessary, to bring about transcendent experience (Harner, 1990). Some tools, such as the use of appropriately potent psychoactive substances and/or appropriately rhythmic drumming in both shamanic and neoshamanic contexts, may prove effective due to direct effects on the nervous system. Other tools may prove effective due to their ability to provoke culturally-sensitive reactions. Examples here include the universal use of foreign objects to induce a sense of the exotic—often metal nails and shiny buttons for early 19th century Siberian shamans, or Tibetan prayer flags and Indian incense for modern neoshamans—as well as the recreation of culturally prescribed images—such as the spectacle of the caterpillar dance in !Kung ritual or the spectacle of ecotopia in permaculture ritual.

In each case, the moment in which the magico-spiritual space of *communitas* is successfully provoked is the moment in which the liminal stage of the ritual process is can be deemed successful; in this, the possibility exists for any simulacrum to outperform its closet version of some original copy in its ability to reproduce the *communitas* experience. In the non-hierarchical world of traditional shamanism and the egalitarian world of neoshamans, in which anyone has the potential for access to the magico-spiritual world of *communitas*, there is competition to attract the interests of those seeking healing, killing, and prognostication. Thus the charismatic, salient shaman, who offers the newest and most effective combinations of plants and music

and images and who presents rituals with appropriately exotic combinations and foreign objects, advertises to others his/her unique gift for numinous connection - his/her ability to be part of the world of the “Other”.

Given that the Western neoshamanic appropriation of a hodgepodge of disconnected indigenous elements is little different than indigenous appropriation of non-local elements for shamanic purposes, who is to say that Western forms are less authentic or effective than the traditional shamanic experience? In both cases, the entrepreneurial aspect of shamanism leaves it open to all forms of syncretism, borrowing, novelty, and appropriation.

The point is that it is these characteristics of syncretism, borrowing, novelty, and appropriation, when wielded by the neoshaman that cries of non-authenticity are most likely to be heard. In the realm of culturally-mediated liminal experience, the numinous image of ecotopian *communitas* which the contemporary back-to-the-land neoshaman strives to recreate is a postmodern hodgepodge borne from global flows of ethnoscaples, technoscaples, ideoscaples, mediascaples, and financescaples; likewise, the contemporary neoshamans' unique gift for recreating this image is ultimately derived from his/her unique gift to access these global flows across space and time. As Harvey puts it, for members of the postmodern world such as the middle class neoshamans of Puna, “it is now possible to experience the world’s geography vicariously, as a simulacrum” (Harvey, 1990, pg. 300).

Jameson (1991) describing postmodernism as the “cultural logic of late capitalism”, portrays the importance placed since the '60's on the production of new culture as one in which:

...the frantic urgency of producing fresh waves of ever more novel seeming goods ... now assigns an increasingly essential structural function to aesthetic innovation and experimentation. (Jameson, 1991, pg. 56)

Thus, cultural production in the postmodern era is “an arena of fierce social conflict” (Harvey, 1990, pg. 63). This importance of aesthetic innovation, experimentation, and fierce social conflict surrounding cultural production is mirrored in the highly flexible and highly syncretic characteristics of both traditional shamanic and neoshamanic processes of ritual and material artifact utilization.

Thus, in the flexible, pluralistic, postmodern world, rules fall apart for designating a distinction between “real” and “not real” forms of shamanic ecstasy. Neoshamanic images and the cultural construction of a counterhegemonic magico-spiritual world are mediated through television, movies, and other popular media such as video games. Such technology brings together images of traditional shamanism with various new forms of ecstasy and paths to the “Other” world that become incorporated into the neoshamanic system. Traditional word-of-mouth learning is supplanted by books on shamanism (e.g., Harner, 1990) and weblogs. Cries of non-authenticity are increasingly overshadowed by new forms of legitimacy as the postmodern fascination with “audit culture” (Strathern, 2000) converges with the sacred pursuit of the Other to produce online shamanic psychedelic “recipes”, compilations of the world’s most effective trance dance music, and official certifications for everything from reiki healing to shamanic journeying to transcendental meditation (Jakobsen, 1999). Thrown into the mix are scientific discourses intended to authenticate and legitimize from a Western perspective the “healing” achievable by way of shamanic experience (Drake, 2003).

Thus, via postmodern discourse and the effects of globalization, the shamanic experience as recreated by neoshamans is increasingly being streamlined,

institutionalized, and made more efficient and potent than ever before. In this, as Harvey notes, “the simulacra can in turn become the reality” (Harvey, 1990, pg. 300). The tendency of postmodern forms to become third-order simulacra, having distinguished themselves from simply being inaccurate copies and amalgamations of some original form, does not stop such simulacra from being able assume the same roles and functions of some original form, and in many instances, providing roles and functions that turn out to be even more effective than the original.

Reconstructing Postmodernism's Outcast Nature/Culture Dyad

Nature/Culture as the "Ultimate Sacred Postulate" of Transnational Civil Society

Tara's earache hasn't gone away. She's a work-trader from Berkeley with big blue eyes and bright orange dreadlocks, and she's been the focus of attention at La'akea for the past few days. She's had the smoke of Indian tobacco leaf blown into her ears. She's had earcandle treatments while being held and sung to by Dona. She's been given mamake leaf teas as well as various internal cleansers from the health food store meant to purify her blood. Now she's receiving lomi-lomi massage with a locally made kukui nut oil while a recording of traditional Hawaiian chanting and gourd-beating plays in the background. A week from now I'll end up driving Tara to the hospital for a round of antibiotic treatment, but meanwhile, the experiences I'm witnessing are sensual and emotionally charged events—neoshamanic rituals of *communitas* that definitely help to bond the members of the community.

The treatments and techniques I've witnessed at La'akea over the last few days may lack effectiveness against the ear infection but they've definitely achieved something else. What's more, I'm sure that most anyone experiencing a sense of alienation and dispossession from the spreading cultural forms of technological

Westernization—anyone from any culture around the world—can relate to the shamanic sensibility of what is happening here. Underneath it all lies the sacred postulate of a nature/culture dualism that venerates treatments and techniques symbolic of the natural and renounces as much as possible treatments and techniques associated with the modern technological West.

For Rappaport's "cybernetics of the holy" to be believable, we must believe in some cross-cultural elements that can engender the subjective experience of the magico-spiritual. Psychic unity theses regarding the existence of a "universal shamanism" are currently argued among anthropologists on the grounds for its empirical support in the archaeological record (Lewis-Williams, 2002; Francfort and Hamayon, 2001; Helveston and Bahn, 2003), while scholars in the recently emerged field of evolutionary psychology (Guthrie, 1995; Atran, 2002; Boyer, 2002) argue for the existence of universally innate cognitive apparatus that leaves human individuals susceptible to religious belief.

Merging these arguments, an academic path is cleared for the likely existence of universally innate cognitive apparatus that leaves human individuals susceptible to the liminal shamanic experience of *communitas*. Van Gennep (1909) showed that there were themes consistent in ritual across all cultures in which the group or individual leaves conventional reality, enters an altered "topsy-turvy" world, and then returns with a renewed identity characterized by new or renewed knowledge, powers, and/or status.

For a universal shamanism, these phases must be able to function in both traditional shamanic and neo-shamanic contexts, and the key to this effectiveness rests on the ability of ritual elements to induce Van Gennep's topsy-turvy second stage,

characterized by Turner (1969) as the liminal sensation of *communitas*. The appropriateness of tool use by which such ritual elements become effective is the heart of the "technique of ecstasy" described by Eliade (2004). Here, various lines of evidence, from shamanic studies (Reichel-Dolmatoff, 1976; Winkelman, 2000) to psychedelic studies (Mandell, 1978) to holistic anthropological syntheses of both (Laughlin and d'Aquili, 1974, Young-Laughlin and Laughlin, 1988) suggest that effective techniques ultimately trigger universally innate systems of neurological hardware that are in turn responsible for producing universal patterns of gnosis, unity, and ecstasy associated with the magico-spiritual experience (Mandell, 1978).

In a world of growing inequality, the use of counterhegemonic shamanic rituals to induce *communitas* may play a role in the construction of alternative social networks which, as they grow and mature, use the sacred, counterhegemonic postulate of nature/culture dualism as common ground for the expansion of global transnationalist network that exists in articulation with the oppressive forces of the globalized neoliberal structure. Marx (1867) noted that capitalism could not be countered by an opposing organized force until it had completed its encroachment onto all existing and competing modes of production. With the neoliberal machine somewhere in the midst of its final phase of complete global domination, prospects open up for the imaginings of this counter-neoliberal transnational civil society. The global growth of images, however ineffective or inaccurate, which consolidate a view of the enemy (such as "the 1%") in conjunction with an alternative platform (such as "permaculture" or "indigenous rights") represent the global unified rumblings of the discontent and the possibility of their convergence around fast and frugal means of a dualized discourse which venerates

elements associated with "nature" while vilifying elements associated with modern technological "culture".

As Robinson notes:

The real prospect for counterhegemonic social change in the age of globalization is a globalization-from-below movement that seeks to challenge the power of the global elite by accumulating counterhegemonic forces beyond national and regional borders, to challenge that power from within an expanding transnational civil society. Robinson (2004, pg. 177)

In a global scene characterized by the impending global triumph of Westernized neoliberal capitalist culture, how do connections between disparate groups of resistance occur to give transnational civil society a unified face? For Harvey (2005), unity exists in that that they all tend to oppose the concept of accumulation by dispossession:

Dispossession entails the loss of rights. Hence the turn to a universalistic rhetoric of human rights, dignity, sustainable ecological practices, environmental rights, and the like, as the basis for a unified oppositional politics. (Harvey, 2005, pg. 178)

Thus, such hope for a transnational civil society rests on the vision of a possible universal discourse of justice. Recognizing the potential similarities of concerns of alienation as experienced by both disillusioned citizens of the North and dispossessed members of the South opens the possibility of a shared dialogue between the two. This dialogue can serve as the basis for collaborations of a counterhegemonic transnational civil class, between anti-capitalist post-industrialists and anti-capitalist pre-industrialists, on the grounds of similar needs to negotiate "life politics" for purposes of social, economic, and ecological well-being and sustainability. At the same time, Harvey (2005), Robinson (2004), and others admit that there exists the problem of building a common consensus of belief and action among the globalized cultic milieu of

counterhegemonic factions. Here, counterhegemonic forms of a dualized nature/culture discourse may provide the best option for a consensus-building tool.

In the globalized postmodern world, the effectiveness of nature/culture as a platform is not constrained by characteristics defined by time and space (e.g. race, generation, geography and/or nationality). Through this characteristic, nature/culture discourse, as with neoshamanism, defeats the meaningfulness of the truth claims which lie at the heart of postmodern deconstruction. In its place, nature/culture discourse becomes open to the globalized world of information and material flows, in which identity with the construct spans borders and worldviews without concern for the construct's underlying authenticity. Through this possibility for cross-geographical, cross-gender, and cross-cultural identification comes the possibility of a universal shamanism, built on nature/culture discourse that tests the Eliade's (2004) idea of shamanism as a template for magico-religious psychic unity.

Creating the Future: Nature/Culture as a Counterhegemonic Transnationalist Discourse

...critics may argue that the current dissatisfaction with the theoretical dualisms of the past is simply yet another postmodernist fad and that the deconstruction of the nature-society dichotomy has more to do with competition on the academic labour market and trendy rhetorics than with solid evidence and reliable observations of the real world. (Descola and Palsson, 1996, pg. 7)

The point of this final section is (a) to finish an argument started in the previous section, in which postmodern deconstructions of nature/culture arise from the duality itself via authenticity concerns (e.g., truth claims) which declare nature/culture to be a form of Western exceptionalism positioned in contrast to a superior non-dualized Other, and (b) to move past the nihilism of nature/culture deconstruction by positing the effectiveness of nature/culture dualism which, as a simulacra, can nonetheless become

a postcolonial tool of global counterhegemonic discourse through its appropriation by the growing numbers of those dispossessed by and/or disillusioned with the shortcomings of modern Western technological cultural forms.

Making a claim for the effectiveness of a universal counterhegemonic discourse based on nature/culture dualism is an unpopular stance to take in the de-essentialist atmosphere of postmodern anthropology, yet a palpable danger of inaction exists in the nihilist vacuum left behind by a deconstructive logic that bases its claim on the nonreality of the nature/culture distinction. Postmodernism's skepticism and fatalist, anti-utopian consciousness has demonstrated the limits of trendy, deconstructive rhetoric—it has become the proverbial arrow which never hits its target, as logic convinces the victim that at any moment the arrow still has halfway to go.

The reconstructive followup to this academic dead end has been described in the literature with terms such as supermodernism (Auge, 1995), performatism (Eshelman, 2008), metamodernism (Vermeulen and Akker, 2010), and post-postmodernism (Turner, 1995). Following from this last term, post-postmodernism has been described as renewed faith (Turner, 1995) – a consensus agreement based on the power of images and discourse, however ungrounded in truth, to bring about an intended and often transcendental effect. Epstein (1998) argues that:

"Post-postmodernism witnesses the re-birth of utopia after its own death, after its subjection to postmodernism's severe skepticism, relativism and its anti-utopian consciousness."

With this consideration, a renewed possibility of hope exists for the emergence of transnational social movements engaged in a global dialogue and forming a global identity characterized by a "post-postmodern" perspective. Such a perspective allows for the emergence of a consensus-based form of essentialism dependent on the ability

of constructs, such as nature/culture dichotomization, to help conceptualize and thereby distinguish what ought to be from what ought not to be.

As a step towards deconstructing the deconstruction of nature/culture, it is worth noting that academic denouncement of nature/culture dualism tends to take on a form that itself is dualist and representative of a dichotomy between Western culture and the "natural" Other. The literature is inundated with claims that the nature/culture dichotomy that has its origins in the West, as a review of well-known writings by Lynn White (1967), Roderick Nash (1967), and Clarence Glacken (1967) can well attest. Thus these deconstructions begin with the premise of Western exceptionalism – the idea that the West (with either good or bad results) has engineered itself in ways that are profoundly unique and original and that break with the patterns of previous cultures and social orders. Thus it is little surprise that the three authors referenced above, representative here of the beginning of the trend of nature/culture deconstruction, should all have been published in the same year – the year of the Summer of Love, the pinnacle of a transformative period which ushered in a new era of Western critique. The dream of the noble savage upheld the flip-side of this critique by claiming that some liberating answer was to be found in the alternate viewpoint of the "indigenous" who did not register a nature/culture duality. Unexamined since then has been the liberating potential for a universal discourse based on nature/culture dualism.

One escape from the postmodern roadblock is to realize that a deconstruction of nature/culture on grounds of inauthenticity, regarding the accuracy of such a distinction, is itself a modernist principle based on adherence to historical "truth claims". Like ecotopia and its neoshamanic *communitas*, nature/culture as a simulacrum may likely

prove more effective as a mechanism for beneficial social change than any discourse based on accurate representations of the conditions of a past or present "natural" environmental reality in which human society has historically been immersed and with which human society has interacted.

Any power the duality might derive from its inherent truth value is superseded by its power as an easily reproduced counterhegemonic meme accompanying the spread of Western technological cultural forms, and by the resulting articulation with capitalist modes of production through which the concept, however Western, becomes a fast and frugal heuristic for use as a platform for defining beliefs and actions which work against Western oppressive cultural structures. Artificial distinctions may be made, and many errors based on such interpretations (such as reverse cargo cultism) may eventually need to be worked out, yet many of these artificial distinctions may be helpful. This includes conceptual blending with female/male distinctions and South/North distinctions as imagined by those experiencing dispossession, as well as any ensuing identification with the historic traditional rights and past practices by which the indigeneous identify themselves in contrast to the Western forms of technology, finance, materials, media, peoples, and ideologies with which they articulate.

Effort to engage the nature/culture dichotomy as a universal discourse in this way opens the possibility for cross-cultural communication which upholds transnational perceptions of social and environmental justice and provides a platform for right and wrong action that may appeal to people in ways that transcend cultural, class, and gender boundaries. Discourse constructed in a manner which appeals to existing elements of nature/culture distinctions within a group may be an effective means of

engaging in lifestyle discourses and praxis which reach out towards the ideals of environmental harmony and sustainability which are so desperately sought in the rapidly degrading climate of the modern globalized world. Authors such as Stonich (1993) note that locals can be well aware of the environmental damage they incur, yet are helpless to stop it without a sense of involvement with counterhegemonic Northern social networks, possibly mediated through a shared nature/culture discourse, that can bring about an alternative to local immersion in global industrial production modes. From a postcolonial standpoint, it has become a matter of course for the colonized to learn the language and ideologies of the colonizer in order to declare rights and gain access to power. Here, the language of the nature/culture dichotomy may prove to be easily translated into indigeneous worldviews and may prove of use when attempting to global enculturate the notion that there may be a need to throw weight towards the "nature" side of the dyad in order to keep the whole boat from tipping.

In sum, there no need for the West to “unlearn” its system of dyadic thinking in which nature is opposed to culture, nor is there a need to prevent its global proliferation as it accompanies the spread of Western neoliberalism—there is simply the need to choose sides. For both North and South, it is a matter of dealienating oneself from the nature/culture boundary (where the “friction” occurs) and instead recognizing the need for full engagement in the mechanisms articulating this relationship and the hybrids that occur as a result. Oliver-Smith (2002) calls this recognition of engagement with the nature/culture border a matter of "mutuality". As its contrast, discourse emphasizing more holistic monisms leaves us with difficult situations such as the paradigm of ecological economics, as a theoretical construct can be dangerous specifically because

it chooses to erase or deemphasize the boundary and treat the human-nature dyad as a whole. The danger of this is the tendency for a superficial understanding of "what is good for one must thus be good for the other" due to their interrelationships; instead, it becomes harder to see the differences between immediate human instrumental values and overall ecological integrity (a similar argument is outlined by Harvey, 1996). A more extreme danger is one in which the path to non-duality leads to passive acceptance and naturalization of human activity, such that the destructive effects of capitalism and competition become normalized as a deterministic process of Darwinian evolutionary principles.

More useful, instead, are recognitions of a distinction in which the incognizant trajectory of human culture and the integrity of the natural environment are often engaged in an irreconcilable friction; through this the civil transnational citizen embodying the sacred nature/culture postulate can better recognize the need to throw focus towards the one side ("nature") of the equation in order to provide the balance that will end up providing long-term benefits for humans in both economic and non-economic spheres. This focus on venerating the "natural" side of things embodies the "ecocentric" perspective championed by many as a needed global environmental ethic (e.g., Callicot, 1993); it can come about will operate through construction and maintenance of a nature/culture dyad during global discourse.

As Brosius (2006) recognizes, the process of engaging in a global environmental rhetoric is not likely to be perfect, and this global/local articulation will likely continue to distort elements of indigenous worldview and practice and the role of environmental processes even in instances where these worldview, practices, and processes seem to

fit cleanly into global nature/culture discourse. However, any other alternative may be dysfunctional. To hold up the development of a construct for global discourse until more perfect, yet likely less memetic, translations can be made between local lifeworlds and global agents is likely to result in continued colonization of local lifeworlds and crucial environmental processes by the techno-industrial cultural complex. In the worst case scenario, holding up the creation of global discourse may result in environmental and perturbations that cause destructive distortion on a global scale not yet fathomed.

CHAPTER 9

SCIENTIFIC APPROACHES TO THE CULTURE OF SUSTAINABILITY: SUGGESTIONS FOR FUTURE RESEARCH

In a utopian academic world, unconstrained by factors of space, time, and finances, the preceding arguments would be shaped, supported, and perhaps negated by the results of the studies described below. Instead, such factors force these studies to be suggestions for future research that might be used to test the assumptions made within this dissertation and forward the cause of fashioning a functional and measurably effective culture of sustainability.

Is Nature/Culture Universal? The Need For a Renewed Look at the Evidence

In asking how and why a universal concept of nature/culture dichotomy might arise, there are three possibilities considered here: one is the tendency of human groups to define boundaries of the group, the second is the tendency of the human mind to think in two's, and a third is the tendency for specific phenomena to be consistently experienced outside the boundary of culture, which can lead such phenomena to become associated with a category defined throughout Western history as "nature". The third possibility in particular is an area in need of further exploration, and I will use the majority of this section to outline some possible routes of exploration along these lines as a path towards the possibility for universal dualisms, or more specifically, universal "possibilisms" in which global cultures' rituals and understanding of group boundaries show a congruence with aspects of nature/culture dualism in a manner that might facilitate the introduction of such discourse.

The Tendency to Define the Group's Boundary

The first possibility has been explored in detail in this dissertation through considerations of the dualism inherent in the egalitarian mindset. Note that Douglas's

(1970) earliest conception of the egalitarian mindset saw it to be a characteristic of any small isolated group (specifically, an "enclave"). This early insight leads to possibilities for exploring the prevalence of such a mindset among historically small and isolated tribal groups, or within groups that come to define themselves in contrast to a larger dominating group. Along these lines, Maybury-Lewis, (1989) notes binary thinking to be a trademark of societies preoccupied with the struggle to maintain equilibrium:

People in such societies are keenly aware that the conflicting principles that maintain the harmony of the universe in the long run can unbalance their individual and social lives in the short run . . . [and recognize their involvement in] . . . a constant effort to harmonize with these forces and to hold them in dynamic tension. (Maybury-Lewis, 1989, pg. 11)

The usefulness of this dualistic mindset as an expression of equilibrium is obvious when the interest is to maintain a balance against destructive forces of modern technological capitalist culture.

The Tendency to Think in Two's

I will give a bit more direct focus to research regarding the natural tendency to think in two's. The idea has since fallen out of favor due to ongoing NIMBY ("not in my backyard") claims by various ethnographers. A sample of anthropology's dualist posits will be presented here as a demonstration of the direction future research could take as background leadup to a reexploration of dualisms as they can be seen through tribal ritual behavior.

The idea of universal duality hit the scene in anthropology with Levi-Strauss's (1963) claim of a tendency towards dual organization in social thought. The topic has reemerged to some extent through authors such as Rodney Needham (1980), whose work is described by Maybury-Lewis (1989) as showing that "every human society recognizes and attaches some importance to polarities of logic or experience"

(Maybury-Lewis, 1989, pg. 1) and was quite explicitly described by Needham as “a universal tendency to think in two's” (Needham, 1987, pg. 229).

Observations of dualism were being made prior to Levi-Strauss's claim for its universality. Alfred Kroeber, for instance, noted its occurrence as a “psychological trend towards dichotomization” among the Aboriginal Australian that found “consistent, widespread, influential and probably ancient expression in a pattern of social structure” (Kroeber, 1952, pg. 92). Later, Maddock (1989) expressed support for Kroeber's observation in his own study of the social organization of the aborigines.

Following such a path, we must suspend for a moment the accusations which say that claims of universal dualism are simply a projection of Western ideological constructs onto non-Western systems where they don't exist. These accusations themselves can once again be deconstructed as Western exceptionalist variations of nature/culture dualism. Often they stress a veneration of the environmental wisdom of the Other who is claimed to lack recognition of a boundary between the two. The danger of this view of the romanticized primitive is that it rarely clear whether such groups *don't* make a distinction or if they *can't* make a distinction. This latter would seem to imply an innate shortcoming of the primitive's lack of complexity. Instead it may not be a stretch to assume that groups without a word for nature nonetheless demonstrate both the ability and the tendency to make such a distinction, especially in relation to group boundaries, may perhaps be enforcing such a latent structuring of nature/culture distinction through ritual acts such as the “walkabout”, which serves as a coming of age ritual in many Australian tribes and requires leaving the safety of the village to wander the Outback for extended periods in order to experience Dreamtime and the mystical.

Similar trends are noted among the Maasai of Eastern Africa. In traditional Maasai culture, to prove your manhood as a member of the *moran* – senior warrior – group, the young male is expected to leave the safety of the group armed with only a spear and not return until he has killed a lion. The phenomenon of binary thinking among the Maasai was analyzed by Spencer (1989). That this binary thinking may represent “philosophical commitments to binary forms of thought and society” (Maybury-Lewis, 1989, pg. 8) exemplifies extant beliefs that the possibility of a nature/culture dyad might be latently represented in such rites of passage.

Regarding the possibility of cross-cultural interpretations of the extra-cultural realm, we can consider the biophilia hypothesis of Kellert and Wilson (1993). If it is “a biological feature of human nature to feel refreshed in the wild” (Tsing, 2004, pg. 154, paraphrasing Kellert and Wilson) then perhaps this cross-cultural experience of refreshment can help to explain the tendency for spaces outside the “village” – which are associated with “wild” or “uncultured” forms of “nature” – to be imbued with a spiritual significance that helps to underscore a distinction between an experience of “culture” and an experience of “nature”.

Fox (1989) notes that Levi-Strauss’s landmark 1956 paper on dual organization was written in honor of J.P.B. de Josselin de Jong and his work on dyadic structure in Indonesia. Fox (1989) reviews the extensive literature stressing the important role of dyad categorizing in Indonesia as a key to understanding Indonesian society. Thus we have a base for believing that the nature/culture distinctions being made by “nature lovers” in Tsing’s (2004) book “Friction” may not just be the pure result of worldview takeover by a dual-minded West but something innate within the precolonial mindset.

In “Friction”, Tsing describes the nature experiences of Javanese university students. While the advent of nature-loving as a trend and socially advocated activity among the Javanese University students has its roots in a desire for cosmopolitanism derived from the Western concepts of nature, it is less clear that the deeper descriptions of the students, regarding their experiences, arise from any sanctioned or mandated reaction expected of them through their intake of Western literature and images (e.g., is their reaction “authentic” and thus not overly determined by Western influence—and if so, and if such reactions match those of other cultures to similar experiences, then are we hitting upon “universal” reactions to the experience of “nature”). Sri, a “creative and energetic young woman, determined to find her personal path” (Tsing, 2004, pg. 147), writes inspirational poetry about the biotic environment but ends up gaining a presumably authentic appreciation for the simplicity and strength of indigenous tribe members climbing the same mountain for traditional spiritual reasons. Budi, a mischievous adventurer bent expectedly on the “bizarre, the crazy, the difficult, the intense” (Tsing, 2004, pg. 151) nonetheless tells candid stories of the difficulties and the breakdown of romance in experiencing social and environmental problems in the areas they have gone to experience “nature”.

Universal Ritual Expressions of Latent Nature/Culture Structuring

The point here is that as Western academia focuses its perspective on the malevolent colonizing aspects of Northern cultural constructs (in this case, nature/culture dualism) forces onto the local experience, it loses sensitivity towards evidence for any authentic universals that may be expressing themselves through the particularities of local experience. Marvin Harris (1968) stressed a behavioral approach to interpreting culture. This dissertation has hopefully served as an outline for how

interpretations of ritual processes might be used in conjunction with examples of a groups verbal statements in order to postulate the existence of nature/culture dualities existing within the permaculture communities of Puna. This same technique might be used to reexplore the possibility for latent nature/culture dualism across various cultures, old and new, Western and non-Western. Rather than focusing directly on the lack of direct linguistic overlaps and upon emic perspectives regarding the sense of connection with elements of the natural environment, the researcher can look at rules and rituals, and perform textual analyses, to detect latent etic structuring of the culture/nature dichotomy.

Thus, although the Mbuti pygmies of Uganda describe themselves as the “people of the forest” and were glamorized by Turnbull (1961) as romantic savages living in harmony w/ nature, Edgerton (1995) notes that when a rule has been transgressed in pygmy society, a common punishment is to banish the pygmy from the village. Turnbull, relaying an Mbuti description of the punishment process, reveals not just a society/nature distinction among the Mbuti, but also a conception of “nature” outside “society” as being a place of terror. Not only is the transgressing pygmy banished, but it is also surmised that “he will die, because he cannot live alone in the forest. The forest will kill him. And if it does not kill him, he will die of leprosy” (Turnbull, 1961, pg. 112).

It can be seen from this description that, however familiar and integrated the Mbuti pygmies are with their forest, there is a boundary between the village and the forest such that the transgressing pygmy must be outside the boundary of the village. Furthermore, once in the forest, the pygmy is envisioned to be alone. Finally, as Turnbull’s translation would seem to indicate, the forest is considered a place of fear

and danger – much like early visions of the American wilderness laid forth by authors such as Nash (1967) and Glacken (1967), where the concept of “nature” that lay outside cultural boundaries was often infused with fear, power, and magic.

This boundary between village and forest is an important one that comes up in multiple ethnographies and should be considered an important proxy indicating a nature/culture dichotomy that is structured into Mbuti worldview. Note that, according to Turnbull (1972), the Mbuti themselves are seen as wild and undomesticated hunter gatherers by nearby farming Bantu tribes such as the Ik and the Lese. For these tribes living outside the forest, the forest represents uncultured “nature”, and is a place of fear and magic. Furthermore, the Mbuti are considered by the Ik and Lese to be part of this “nature” – in much the same way that Native Americans were once considered to be part of “nature” by early American pioneers (Nash, 1967). This is exemplified by the fact that the Mbuti – as representatives of a foreboding and unknowable “forest” and thus of the numinous (Otto, 1923) – are required by the Ik and Lese to be present during rites of passage ceremonies including funerals and the *nkumbi* ceremonies which initiate a boy into adulthood (Turnbull, 1972)¹. In both cases, rites of passage require bringing elements of “nature” into the village life for the sacred transition to take place – a sacred intervention into the mundane world (Eliade, 1961).

The theoretical importance of making a transition to something outside the boundary of culture has already been demonstrated in this dissertation through

¹ I use an exploration of Turnbull here to provide an example of an individual whose castigation from the realms of respectable anthropology due to the negative slant of his work might be a case in which some valuable babies have been thrown out with the bathwater. Turnbull's work has been criticized on a number of grounds, yet the claim presented above is not one for which Turnbull was ever denounced.

presentation of the work of Arnold Van Gennep (1960), who looked at rites of passage and noted a common pattern of separation, liminality, and reincorporation. Victor Turner (1969), also Joseph Campbell (1949), further analyzed the steps within the rite of passage. Crucial to all their models, and crucial to this analysis of nature/culture structuring, was the concept of liminality, the space “betwixt and between” (Turner, 1969), outside or exempt from the social structure. For Campbell (1949), the liminal as it occurred in myth often involved physical separation from the social boundary, and it was in this extra-cultural space that the supernatural or fantastic happened:

A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man. (Campbell, 1949, pg. 30)

In cases where a rite of passage requires travel outside the village in order to acquire the experience of liminality, we can see an important analogy between that of Durkheim’s (1915) and Eliade’s (1961) concept of sacred/profane dyad and that of the nature/culture dyad. In other words, it becomes easy to see how “nature” takes on qualities of the “sacred” as being something which lies outside the boundary of the “profane” experience of “culture”. Droogers (1980) specifically considers such rites of passage to help initiates realize and negotiate the basic life struggle of man versus nature. Other dualist aspects of rites of passage help realize and negotiate basic “man versus man” and “man versus self” life struggles (Droogers, 1980). Such dualisms are easily blended with nature/culture dualisms, as in the case above of the Ik’s conception of the Mbuti.

Thus, rituals which require leaving the village serve a latent function of defining the boundary between culture and nature. Bassomb (1996) describes such a ritual among

the African Bassa: following initiation into adulthood, the boys are forced to leave the boundaries of the village, unaccessorized with anything but loincloth:

For the next eighteen moons minimum, this boy has nothing, and we mean nothing, to do with the people of this village. That's the law. Let him go. (Bassomb, 1996, pg. xxvii)

To undergo the transition from being a boy to a man, male children spend ninety days in the deep forest. It is required. They must learn to survive in a dangerous and hostile environment. (Bassomb, 1996, pg. xxviii)

Similarly, Some (1996) described the month-long wilderness initiation of the Dagara people of West Africa – a process which risks death but which may entail a “dramatic meeting with the forces of the supernatural” (Some, 1996, pg. 17).

Among Native American tribes such as the Ojibwa and the Inuit, the vision quest involved “acquiring a vision of some supernatural being through fasting and meditation at a secluded sacred place or a lonely place out in the wilderness” (Hultkrantz, 1986, pg. 29). Vision quests were a rite of passage to adulthood, and involved periods of seclusion in “nature” often lasting five days or more, until a vision was finally obtained (Merkur, 2002). Merkur (1985) describes the seclusion period among the Inuit as being one in which the initiates are in a liminal space where they are neither male nor female, without rank or status, “half” and “hidden”. In a similar vein, Narby and Huxley (2001) quote from Rasmussen's work with Inuit shamans in the 1920's; assuming that "solitude" indicates a location outside the village, Rasmussen's word-for-word translation of one shaman's views on the key to accessing the world of the numinous demonstrates this same possible theme of latent nature/culture structuring as seen in the tribal rituals described above:

True wisdom is only to be found far away from people, out in the great solitude, and it is not found in play but only through suffering. Solitude and

suffereing open the human mind, and therefore a shaman must seek his wisdom there. (Narby and Huxley, 2001, pg. 3)

Moving this prefuntory exploration of latent nature/culture dualisms back to southeast Asia, a Kalimantan myth relayed by Meade (1996) tells of a village youth, ridiculed for having only half a body, who leaves the village. Outside the village, he encounters another youth with half a body. They struggle in a river, and from within the river they arise as a single whole, return to shore, and return to the village as a whole man. Again, the story relates to the importance of leaving the village, and how nature becomes the medium for learning and magical transformation.

Interestingly, the river in Eastern Buddhism also becomes an important location for spiritual transformation, with the concept of crossing a river representing spiritual struggle and the idea of returning to shore as a new “enlightened” being (Brodd, 2003); parallels with Van Gennep's (1960) rites of passage are obvious. In many Eastern traditions, such as Daoism, the solitary life of the hermit – outside “culture” and imbedded in a separate “nature”, becomes the context for enlightenment:

Wilderness, then ... is nothing like home. Home is social space, but the hermit does not ask for it. Wilderness has the attributes of infinity and ‘exists outside the dimensions of time as measured by the clock, and even of ritual time.’ It is ‘pregnant with as yet unrealized possibilities,’ the place of the ‘becoming.’ (Hahn, 2001, pg. 202)

In these Eastern Buddhist and Daoist renditions, “nature” is the site of struggle and difficulty, as well as the source for spiritual power, and a latent separation between nature and society is made evident through the myths and ritual separations that structure the boundary of profane and sacred, social and non-social. And while both Buddhist and Daoist precepts ultimately attempt the negation of dualist thinking, this religiously institutionalized focus on the importance of negation is simply proof that

dualist thinking was considered to be a regular tendency among members of the Eastern provinces where these precepts were espoused.

These examples demonstrate a route for future research to take in the exploration of a cross-cultural penchant for nature/culture dichotomization. The question here may be less one of whether the culture's own discourse contains linguistic concepts which fit "nature", but whether their words and actions may serve as the basis by which such terminology might be easily recognized and put to use for purposes of a global dialogue of social and environmental justice.

Quantitative Studies of Sustainable Behavior

The Need for Easily Used Indices for Estimating Lifestyle Sustainability

The most precarious untested assumption being made in this dissertation surrounds the untested claim that permaculture communities, over time, ironically tend to drastically increase in their consumption levels and concomitant degree of environmental sustainability. A similarly precarious unknown is the degree of difference between typical majority culture households and permaculture communities regarding consumption levels and environmental sustainability.

Necessary here is a quantitative measure of the sustainability associated with the lifestyles of the permaculture participants. The "lifestyle" approach to sustainability typically follows an individual's domestic consumption patterns, which are demonstrated in studies documenting energy use and polluting emissions from household consumption to directly accounts for 20% to 50% of the total human-caused environmental impact (Brower and Leon, 2003; Carlsson-Kanyama et al., 2005; Peters and Hertwich, 2006). Through indirect production processes associated with household

use and consumption, various estimates increase this figure to between 80% and 100% (EIA, 1994; Francis, 2004; Bin & Dowlatabadi, 2005).

A great benefit to the sustainability movement would be the development of easy indices by which a user could make simple calculations to determine differences in overall energy use, ratios of renewable to nonrenewable energy inputs, and carbon outputs associated with various aspects of domestic life, including food consumption, housing construction, transportation, daily domestic energy usage, and energy usage associated with use of services such as roads, education, and entertainment. Without such knowledge, it is hard to judge the relative impact of various lifestyle choices.

As a means to this goal of measuring lifestyle consumption patterns, the WSSD Plan of Implementation specifically identifies life-cycle analysis (LCA) as a key research tool for quantifying the environmental impact of consumption (WSSD, 2002, III-15). LCA research programs have been implemented by UNEP (e.g., UNEP, 2003) and the U.S. EPA (e.g., EPA, 2005); recent LCA efforts (Francis, 2004; Carlsson-Kanyama et al., 2005; Jones, 2005; Peters and Hertwich, 2006) have focused on analyzing direct and indirect emissions resulting from cradle-to-grave household processes of consumption.

As a complement to this method, eMergy analysis has gained a reputation as being the most complete approach to measuring total environmental energy inputs and outputs involved in a product or process (Hau and Bakshi, 2004). Applications of eMergy to sustainability studies are being recognized nationally and internationally by academic researchers and government agencies (e.g., EPA, 2005; Martin et. al., 2006) particularly in China and Italy (e.g., Lu et al., 2006; Bastianoni et al., 2001) and in

reference to agricultural systems (Lagerberg and Brown, 1999; Lefroy and Rydberg, 2003). These efforts have been facilitated by recent developments of eMergy-based sustainability formulas, including the environmental loading ratio and the eMergy sustainability index (Brown and Ulgiati, 1997). Rocha (2001) has mentioned the need to incorporate such rigorous standards of energy analyses into anthropological environmental research; the best applications to date exist in the form of doctoral dissertations in which the energy analyses are directed at large-scale systems (Guillen-Trujillo, 1998; Abel, 2000; Rocha, 2000), in which case access to existing data for valid analyses becomes facilitated.

Thus LCA and eMergy analyses both provide meaningful methods of environmental accounting, but databases need to be streamlined for simple use. Currently streamlined estimate figures are discouraged due the wide variation in outcomes that occur with different products in different locations. Another current problem, mentioned at the beginning of the dissertation is the vastly different results achieved through various measurement techniques. As a result, there is currently little consensus over the degree to which, or whether or not, a stand-alone photovoltaic panel system offsets energy use in comparison to direct connection to existing electrical grids, or a rainwater catchment system offsets energy use in comparison to direct connection to a municipal water supply.

The availability of such information, for purposes of comprehensive comparisons of various systems, practices, and objects, as well as subsequent comparisons of overall lifestyles utilizing various combinations of these practices and objects, would not

only provide the basis for a practical scientific approach to sustainable living, but would also open the door to future research projects such as those suggested below.

To what Degree can Consumption be Lowered while Maintaining Well-Being?

In many instances, as demonstrated in the "Black Sands shack" vignette in Chapter 6, the ability to construct lifestyles that decrease an individual's environmental impact are much less likely to be achieved through efforts that produce a measurably significant difference in the ratio of sustainable to unsustainable inputs than efforts which produce an overall decrease in total resource use and consumption. Studies of well-being and life satisfaction continue to show that typical first-world levels of resource consumption are not necessary prerequisites for well-being (Mulder et. al, 2006). After a certain level of consumption, subjective well-being stays about the same; regression studies repeatedly show that happiness is not mainly a matter of income and consumption (Kahneman & Krueger, 2006). Based on this, it has been suggested that reducing consumption will not necessarily negatively impact well-being (Jackson, 2005). Gerbens-Leenes & Nonhebel (2002), for instance, find that the land area requirements for grain-based diets required six times less land per person than meat based diet.

A needed study along these lines will take measures of well-being to determine, for instance, if changes to a grain-based diet significantly impact well-being. Likewise, if a composting toilet system can be shown to produce a measurable difference in environmental impact compared to traditional flush toilets, then measures would need to take place which demonstrate the degree to which well-being changes with the switch to a composting toilet system. The overall goal here would be to determine how which and how many various low-impact lifestyle changes can be introduced into a household without significantly impacting overall well-being.

Also needed are studies which overcome energy use problems associated with the "transition demographics" paradox, in which decreases in environmental impact only tend to occur after a certain level of material security has been reached through transitions to an industrial economy. Inglehart's postmaterialism thesis, supported by the results of this dissertation, shows that individuals with strong interests in pursuing low-impact "environmental" lifestyles tend to have been raised in materially-secure environments. Both the postmaterialism and "transition demographics" theses as they currently stand suggest a reduced likelihood for the achievement of a coordinated and deliberately sustainable global future as they demonstrate the difficulty of engendering the individual pursuit of a purposively low-impact lifestyles without first providing the individual (usually during adolescence) with the conditions of a high-impact lifestyle.

Studies, therefore, are needed to assess the degree of environmental efficiency that can be achieved while still providing a level of material comfort conducive to postmaterial concerns and an subsequent susceptibility to interest in low-impact lifestyles. How low-impact can a lifestyle be designed while still providing a level of well-being beyond which additional energy inputs do not significantly increase well-being? Hope here lies in the possibility that postmaterial concerns can be engendered in pre-industrialized settings without colonial infringements on local sensibilities of social justice that arise from experiences of relative deprivation.

Is Nature/Culture Categorizing a Reasonable Heuristic for Environmental Impact?

In general, Western "cultural" technologies, especially those dependent upon and developed through the use of nonrenewable, energy-dense substances such as oil, coal, and natural gas, seem to have played a primary role in the recent historical increase over the last two hundred years in the relative ability of individuals to harness

and degrade energy resources (Odum, 2007). H.T. Odum's method of environmental accounting makes for a convincing demonstration of the basic nonrenewable origins of the vast majority of contemporary Western technologies, since the creation and maintenance of such technologies are predominantly dependent on the extraction and burning of petroleum-based fossil fuel, a high-energy yet non-renewable and quickly dissipating resource. As such, Odum provides strong support for the existence of a scientifically measurable parallel between the ultimate sustainability of an object/practice and its placement along a nature/culture continuum in which "culture" represents objects and practices associated with modern human technology. In other words, the ranking of objects and practices along a nature/culture continuum may be "good to think" (Levi-Strauss, 1963) from the viewpoint of maintenance of environmental integrity (for purposes related to either the intrinsic value of the natural environment or the extrinsic value of an intact natural environment to human sustainability).

This leaves room for a study to determine the extent to which dualized nature/culture categorizing is effective as a "fast and frugal" heuristic tool (Gigerenzer et al., 1999; Goldstein and Gigerenzer, 2004) for assessing the environmental impact of an object or practice. Such a study was designed for implementation during the research phase of this dissertation yet was not carried out due to space and time considerations as well as a lack of reliable information from which to develop unilinear estimates of overall environmental impact for a number of practices and objects.

The intended study design was meant to test for a correlation between (a) the degree to which certain objects and practices are categorized by subjects near the "nature" end of a nature-culture continuum, and (b) the "sustainability score" of those

objects and practices. This score could be determined by a measure of life-cycle carbon output or energy input, the ratio of life-cycle renewable to nonrenewable inputs, and or an index reflecting a combination of these measures. Alternately, various similar continuums, such as a nature-technology continuum or some sacred-profane continuum could be used to determine whether some dualisms proved more accurate than others. Or placement along such continuums could be compared to straight guesses by subjects as to the overall sustainability of objects or practices, to test whether or not attribute substitutions such a "nature" or "technology" proved more or less accurate than direct guesses in judging the overall sustainability of various objects and practices.

Simultaneously, such a study could break subjects into groups that distinguished controls from participants in permaculture or back-to-the-land movements, in order to determine whether certain groups' tendencies to categorize objects and practices along nature-culture and/or nature-technology continuums tended to more closely reflect the sustainability scores of those objects and practices.

Can Nature/Culture Dualism Help to Close the Value-Action Gap?

Even if nature/culture dichotomization can be shown to be a frugal heuristic for determining the environmental impact of various objects and practices, it does not necessarily mean that adoption of nature/culture ideology will lead to a change in environmental behavior. A problem that hinders any environmentally-oriented analysis of nature/culture dualism is the inherent assumption that mental models can significantly affect environmental behavior. Correlative studies tend to show only a weak (Van der Pligt, 1985; Tarrant & Cordell, 1997; Berenguer et al., 2005; Valle et al., 2005) or indirect (Bamberg, 2003) connection between pro-environmental ideologies and the deliberate pursuit of pro-environmental behaviors. Recent studies suggesting a

relationship between mental models and environmental behavior (Medin et al., 2006; Atran & Medin, 2008) rigorously measure and compare mental model differences between groups yet make untested assumptions regarding group differences in environmental behavior and impact.

Furthermore, most studies which do test for relationships between environmental ideology and environmental behavior use particular environmental practices (recycling habits; water use habits, etc.) as proxies for environmental impact without clarifying the significance of the proxy in relation to overall personal environmental impact (e.g., Guagnano et al., 1995; Corraliza and Berenger, 2000; Olli et al., 2001; Poortinga et al., 2004; Valle et al., 2005). The need to consider the link between environmental ideologies and actual environmental destruction has been noted in the literature (Beck, 1995; Christopher, 1999; Ryland, 2000; Worthy, 2008) but remains relatively untested due to a lack of studies which incorporate both social science methodologies (interviews; surveys; cognitive domain analyses) and ecological science methodologies (environmental accounting methods such as life-cycle analysis or eMergy analysis) into a single quantitative hypothetico-deductive testing format.

Such a study would address the growing academic concern about the role of mental models and socio-psychological variables in human environmental impact. These concerns are a contemporary redress of a classic anthropological question faced by Rappaport (1967), who considered the "relationship of cultural constructed meanings & values to organic well-being & ecosystemic integrity" (Rappaport, 1967:241) to be the central problem for ecological anthropology. Addressing the lack of quantified fieldwork in this area, Applebaum (1987) noted that anthropological claims for a relationship

between mental constructs and concrete action tended to be based on armchair theory and speculation; thus this dissertation, in many ways, perpetuates a deep strategic weakness that has long marred anthropological studies. More recently, Messer (2001) paraphrased Vayda as saying that further talk regarding “whether certain mental (culture) constructs lead to concrete actions, which then impact the environment . . . must frame historical hunches as testable hypotheses” (Messer, 2001:35). Additionally, Abel & Stepp (2003) have called for the incorporation of modern ecological methods into social science research.

An ideal study, therefore, might measure both an individual's or community's overall lifestyle-based environmental impact as well as the degree to which individuals classified objects and practices according to a dualized nature/culture schema. The goal here would be to determine the extent to which intentionally sustainable individuals or communities—whose lifestyles are significantly more "sustainable" than some control group or community according to careful LCA and eMergy based measurements of life cycle carbon outputs, energy inputs, and renewable to nonrenewable energy ratios—would also tend to categorize objects and practices according to a dualized nature/culture schema.

The theoretical link to the significance of such a correlation lies in the principle that dualisms such as “nature/culture” tend to carry overlapping moral and pragmatic meanings (Douglas, 1966; Douglas and Wildavsky, 1983; Albanese, 1991; Anderson, 1996) which can increase the extent to which a certain object or practice, classified as "natural", is also classified as "desirable", "sacred", "sustainable", "healthy", and "safe". Following Medin et al., (2006), the less moral and pragmatic conflict that exists between

various the various mental models associated with any specific object and practice, the more likely it is that the individual will engage in intentional behaviors toward that object/practice. Thus, the extreme low-impact behaviors of certain individuals or communities might result from the lack of cognitive conflict in relation to the various connotations associated those practices or objects which are measurably low-impact.

APPENDIX A DESCRIPTION OF QUALITATIVE METHODS

Defining "permaculture community" The Puna District of Hawai'i is well known for its wide variety of alternative living establishments. In order to focus the study, dissertation research focused on those alternative living establishments which fit three criteria: (a) the community utilized the term "permaculture" for self-descriptive purposes or was cited as an example of permaculture practice during in-depth interviews with individuals living in self-described permaculture communities; (b) the community consistently maintained a population of three or more individuals unrelated by marriage or birthrite; and (c) the community property was three acres or larger. Those alternative living establishments which fit these three criteria fit the definition of a "permaculture community" for the purposes of the dissertation.

Defining "permaculture participant" To be considered a permaculture participant for purposes of this study, the individual had to (a) be living on or planning to live on the permaculture farm for at least one month; (b) had to be living on the permaculture farm by choice rather than living on the farm as a dependent of another permaculture participant; (c) had to be either a landowner of the permaculture community or had to be performing work services in the community as a condition of living in the community (i.e., they were not just renters). As a result of the second criteria (b), dependents under 18 were not considered permaculture participants. Note however that one vignette (the story about India) is about an individual who, due to being an underage dependent of another permaculture participant, was not herself considered a permaculture participant for the purpose of the study and was not therefore used a subject for survey or interview purposes.

Participant-observation methods As part of participant-observation for the express purpose of dissertation research, the researcher spent one month or more at the following communities which fit the dissertation criteria for definition as a "permaculture community":

- La'akea Permaculture Community
- GaiaYoga Gardens
- Pangaia
- Kumu Aina
- Kalapana Ginger Farm

Participant-observation typically involved paying an upfront join/processing fee, living on-site performing work-trade as mandated by formal or informal contractual agreement with the community, and spending time with community members during non-work-trade hours both on-site and off-site. Interaction with community members during non-work-trade hours typically occurred before, during, and after kitchen mealtimes, or through group travel to an off-site location. Interviews were conducted and surveys were administered during this time but very little direct dissertation write-up occurred as computer work tended to feel and appear antithetical to community participation. As a result, most vignettes contained within the dissertation are expansions of experiences recorded in short notes taken on paper during the participant-observation stage.

These periods of participant-observation occurred in stretches between 2007 to 2009, with considerable portions of additional time spent after these periods living outside the communities and paying visits for purposes of followup interviews and general observation while constructing the written portion of the dissertation. Note that the researcher had a great deal of previous familiarity with a number of the communities

listed above and below due to extended periods spent visiting and living in lower Puna as a work-trader participant between 1999 and 2005, prior to engagement with these communities for the express purpose of dissertation research.

Five more communities which fit the dissertation definition of a permaculture community were not experienced through prolonged participant observation, yet were visited occasionally to often during the research phase and were incorporated into the dissertation through use of subjects for survey purposes, in-depth interview, and/or haphazard interview, or through use of the communities in descriptive vignettes:

- Belly Acres
- Hawaiian Sanctuary
- Evening Rain Farms
- Anne Kobsa's place
- Chitta's place

Survey administration Research for the dissertation included the administration of 6 surveys utilizing Likert-style ordinal scales to a total of 183 subjects. An additional survey, the postmaterialism survey, used a nominal scale and was administered to 75 of the 183 subjects. The length of time for subjects to complete all surveys tended to range from 20 to 45 minutes. The total number of surveys administered was 1173 (1098+75), which produced a total of 27161 data points (this number includes various item omissions as well as otherwise unusable survey results).

The 183 subjects comprised 6 separate groups of test subjects:

- Permaculture participants (34 subjects)
- Hawai'i WAL-MART customers (31 subjects)
- Hawai'i Community College ANTH200 students (53 subjects)
- University of Florida ANT2000 students (46 subjects)

- University of Florida ANT4403 students (9 subjects)
- University of Florida ANT2301 students (6 subjects)

Survey results from the last two subject groups were not used due to their small group size. Of the remaining four groups, permaculture participants served as the test group while each of the remaining three groups Hawai'i WAL-MART customers, Hawai'i Community College ANTH200 students, and University of Florida ANT2000 students served as control groups intended to be distinct representatives of "majority culture" for purposes of comparison to the permaculture participants. For all surveys, final results compared the test group to each of the three control groups. In most cases, control groups tended to perform similar to each other on surveys, demonstrating insignificant differences in two-tailed t-test comparisons. Survey results were entered into an Microsoft EXCEL spreadsheet and analyzed using the Microsoft XL-STAT add-on.

Subjects in the permaculture participant test group were participating in one of the ten permaculture communities listed above at the time the survey was administered. Participation was voluntary. Subjects were predominantly of Caucasian ancestry from middle-class backgrounds.

Subjects in the Hawaii Community College ANTH200 control group participated voluntarily and were taking the ANTH200 course from the researcher at the time the survey was administered. The class is comprised largely of local residents of mixed Hawaiian, Pacific Island, and Asian ancestry in their early to mid-twenties from low-income to middle-income backgrounds; most are pre-nursing majors taking ANTH200 as a mandatory prerequisite for admission to the University of Hawaii at Hilo nursing program.

Subjects in the University of Florida ANT2000 control group participated voluntarily and were taking an ANT2000 course taught by UF graduate student Nick Kawa at the time the survey was administered. Surveys were collected indirectly through the instructor with little to no face-to-face contact with the students taking the course. Based on the popularity of ANT2000 as both a general undergraduate elective and as a prerequisite for a broad range of majors, was assumed that the subject pool comprised a diverse mix of ethnicities and socio-economic backgrounds.

Subjects in the Hawai'i Wal-Mart control group were recruited from passersby entering and leaving the Hilo Wal-Mart. Participants received \$10 in exchange for taking the survey. Surveys were administered on a Saturday from a 10'X10' canopy placed next to the main entrance to the Hilo Wal-Mart. At the time of survey administration, Wal-Mart was one of the few and certainly the least expensive and most popular supplier of goods and foodstuffs on the East side of the Big Island; a popular conception, even among the alternative crowds of lower Puna is that "everyone goes to Wal-Mart". Thus Wal-Mart was chosen as the best staging area from which to obtain a diverse sample of the population of the East side of the Big Island.

Despite the financial incentive, recruitment percentage was low in regards to the percentage of customers recruited from passersby entering and leaving Wal-Mart. This low percentage of recruitment in combination with the bias of financial incentive represents a confounding variable that detracts from the likelihood that survey results represented an accurate sample of Hilo Wal-Mart customers or an accurate sample of Big Island residents. This confound may also be contributing to differences between the Wal-Mart control group and the other survey groups.

APPENDIX B INTERVIEW METHODS AND QUESTIONS

In-depth interviews were collected from 25 subjects overall. Of these, two of the subjects did not fit the strict definition of a permaculture participant since the community in which they lived (Anne Kobsa's farm and Chitta's farm) tended to have less than three people living on the property for considerable portions of each year. The remaining 23 interviewees came from properties that fit the dissertation definition of a permaculture community: La'akea Community, Pangaia, GaiaYoga, Kumu Aina, and Evening Rain Farms. Interviews tended to last from 1 1/2 to 3 hours total and were often spread out over the course of two or more days. For the interviews, interviewee's answers were written in pen or pencil into a notebook while the answer was being given. Long answers often became thematicized in the recorded script due to difficulties with inscription speed. Overall, the researcher found pen/pencil recording superior over tape-recording as the former process seemed to help actively engage the interviewee, didn't not require later transcription into written form, and tended to be the preferred form of interviewer recording when the interviewees were given the option to be hand-recorded or tape-recorded. The questions used for each interview are listed below in the general order in which they were administered:

- Name/Age
- How long living in Puna? How long at this property? How long intending to Stay?
- How long in Hawaii? Where in Hawaii besides Puna? Besides the current property?
- 5 closest friends (or those you interact with the most) who do not live on this property, but live in Puna district
- 5 other friends not on the property you live on, but live in Puna.
- 5 people who you consider respected by and/or pillars of the Puna community? Why?
- 5 most "sustainable" people or communities in Puna, and why you choose them?
- List: the intentional or progressive "communities" you know of in Puna

- Which communities in Puna are examples of "permaculture"? Why?
- Outside of this community, where do you like to spend time in Puna? Why?
- BEGIN STATEMENT: "The alternative types of people living in Puna are often referred to as 'Punatic'..."
- List: community events in Puna that bring the "punatic" together (examples: market, keheha, ecstatic dance)
- What are some of the themes/values that characterize the Punatic?
- What are some of the hobbies/things that Punatic like to do?
- Do you consider yourself to be a Punatic?
- What things/hobbies do you or beliefs you hold, that might identify you as a Punatic?
- Are there things you do, or beliefs you hold, that you think are "non-Punatic" in character? (examples: using "ice"; watching a lot of television)
- Do you have any gripes/complaints about the Punatic, what they do or believe?
- What are your personal gripes/complaints with/about the "mainstream"?
- PROVOKE EARLY LIFE HISTORY, PERSONAL BIOGRAPHY TYPE DISCOURSE, ENGAGED AND FLOWING...
- Any siblings? What order of birth are you?
- Raised by both parents? Are they still together?
- What did your parents do for a living?
- Middle class? Working class? How much did they "make"?
- Describe relationship with parents...good? Bad? Relationship w/ them when young? And how about now?
- Did they raise you with any religion? How did you react to that?
- 3 most recent books read (or articles or online info if no books)
- 3 most moving/significant books ever read, and why. Any others beyond 3?
- 5 most moving/significant people in your life, and why
- 5 most moving/significant personal events to occur in your life
- PROVOKE BRIEF LIFE HISTORY LEADING UP TO MOVING TO PUNA AND FINISHING WITH ARRIVAL AT THIS PROPERTY... get relocations, education, jobs, reasons for changes ... include most significant people/events/books ...
- What do you like about the current property you are at? What don't you like?
- How happy are you now? How happy are you now compared to your happiness on the mainland? (If relevant)
- What do you consider to be important to being sustainable?
- What role does nature play in your overall philosophical or spiritual beliefs?
- What do you do to be sustainable?
- What's difficult about going about sustainable living?
- What would you like to change personally about yourself in the future?
- What would you like to change about the community you are living in to make it better?
- What would you most like to change worldwide in the future?
- What is important to you now regarding the things you do in life that make you happy or your goals in life? What makes you unhappy?

- Having noted the religion you grew up with, describe yourself now? Any religion? Are you spiritual? (Provoke description)
- Describe your current diet—what do you eat? Do you follow any rules? Do you place importance on anything regarding diet? Why?
- ISSUES
- How do you feel about/what do you know about GMO? (important or not? why?)
- Organic (important or not? why?)
- Abortion?
- Current war?
- Is global warming a threat? If so, global warming man-induced?
- Is population growth a problem? If so, any solution to population growth?
- Invasive species a problem? If so, any solution you have?
- How do you feel about/what do you know about geothermal? (a good alternative or not? why?)
- How do you feel about/what do you know about coqui frogs? (problem or not? why?)
- How do you feel about/what do you know about military bases in Hawaii? (problem or not? why?)
- How do you feel about/what do you know about Hawaiian sovereignty? (a good idea or not? why?)

APPENDIX C
REPRINTS OF SURVEYS USED

Connectedness To Nature Survey

Please answer each of these questions in terms of *the way you generally feel*. There are no right or wrong answers. Using the following scale, in the space provided next to each question simply state as honestly and candidly as you can what you are presently experiencing.

1.....2.....3.....4.....5

STRONGLY
DISAGREE

NEUTRAL

STRONGLY
AGREE

- ___ I often feel a sense of oneness with the natural world around me.
- ___ I think of the natural world as a community to which I belong.
- ___ I recognize and appreciate the intelligence of other living organisms.
- ___ I often feel disconnected from nature.
- ___ When I think of my life, I imagine myself to be part of a larger cyclical process of living.
- ___ I often feel a kinship with animals and plants.
- ___ I feel as though I belong to the Earth as equally as it belongs to me.
- ___ I have a deep understanding of how my actions affect the natural world.
- ___ I often feel part of the web of life.
- ___ I feel that all inhabitants of Earth, human, and nonhuman, share a common 'life force.
- ___ Like a tree can be part of a forest, I feel embedded within the broader natural world.
- ___ When I think of my place on Earth, I consider myself to be a top member of a hierarchy that exists in nature.
- ___ I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees.
- ___ My personal welfare is independent of the welfare of the natural world.

*** JACOB'S BACK-TO-THE-LAND SURVEY***

How often do you experience the following sensations?

1 2 3 4 5
never occasionally often very often

- ___ A Sense of Peace of Mind
- ___ A Feeling of Union with Nature
- ___ A Feeling of Joy
- ___ A Feeling of Living in the Present Moment
- ___ A Sense of Wonder
- ___ A Feeling of Wholeness
- ___ A Sense of Being Accepted in the Universe
- ___ A Sense of Time Standing Still

NEW ECOLOGICAL PARADIGM SURVEY

Please use the following scale to respond to the statements below. Which number most closely reflects your reaction to the statement? There are no right or wrong answers.

1 2 3 4 5 6
absolutely strongly disagree agree strongly absolute
opposed to this statement disagree agree agree agreement;
a guiding principle
of my life

- ___ Present levels of industrial activity are severely upsetting the natural environment
- ___ Present levels of industrial activity are excessive and need to be reduced
- ___ Humans should adapt to nature rather than modify it to suit us
- ___ A change in basic attitudes is necessary in order to solve environmental problems
- ___ Humans should live in harmony with the rest of nature
- ___ Human interference with nature often results in disastrous consequences
- ___ Humans are presently interfering too much with the natural environment
- ___ People should have compassion and respect for the rest of nature
- ___ There are limits to industrial growth
- ___ Natural resources should be used primarily to provide for basic needs rather than material wealth
- ___ Humans have moral duties and obligations to other humans
- ___ Present generations of humans have moral duties and obligations to future human generations
- ___ Satisfaction and a high quality of life are more important than money or material wealth
- ___ Humans have the right to alter nature to satisfy wants and desire
- ___ Maintaining economic growth is more important than protecting the natural environment
- ___ Humans have the right to subdue and control the rest of nature.
- ___ The natural environment has value within itself regardless of any value that humans may place on it
- ___ Humans have moral duties and obligations to other animal species
- ___ Humans have moral duties and obligations to plants and trees
- ___ Humans have moral duties and obligations to the non-living components of nature (e.g., rocks)

HOOD'S MYSTICISM SURVEY

1.....2.....3.....4.....5

STRONGLY DISAGREE DISAGREE NOT SURE AGREE STRONGLY AGREE

USE THE SCALE ABOVE TO RATE THE ACCURACY OF THE STATEMENTS BELOW:

- _____ I have had an experience which was both timeless and spaceless.
- _____ I have never had an experience which was incapable of being expressed in words.
- _____ I have had an experience in which something greater than myself seemed to absorb me.
- _____ I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void.
- _____ I have experienced profound joy.
- _____ I have never had an experience in which I felt myself to be absorbed as one with all things.
- _____ I have never experienced a perfectly peaceful state.
- _____ I have never had an experience in which I felt as if all things were alive.
- _____ I have never had an experience which seemed holy to me.
- _____ I have never had an experience in which all things seemed to be aware.
- _____ I have had an experience in which I had no sense of time or space.
- _____ I have had an experience in which I realized the oneness of myself with all things.
- _____ I have had an experience in which a new view of reality was revealed to me.
- _____ I have never experienced anything to be divine.
- _____ I have never had an experience in which time and space were nonexistent.
- _____ I have never experienced anything that I could call ultimate reality.
- _____ I have had an experience in which ultimate reality was revealed to me.
- _____ I have had an experience in which I felt that all was perfection at that time.
- _____ I have had an experience in which I felt everything in the world to be part of the same whole.

- _____ I have had an experience which I knew to be sacred.
- _____ I have never had an experience which I was unable to express adequately through language.
- _____ I have had an experience which left me with a feeling of awe.
- _____ I have had an experience that is impossible to communicate.
- _____ I have never had an experience in which my own self seemed to merge into something greater.
- _____ I have never had an experience which left me with a feeling of wonder.
- _____ I have never had an experience in which deeper aspects of reality were revealed to me.
- _____ I have never had an experience in which time, place, and distance were meaningless.
- _____ I have never had an experience in which I became aware of a unity to all things.
- _____ I have had an experience in which all things seemed to be conscious.
- _____ I have never had an experience in which all things seemed to be unified into a single whole.
- _____ I have had an experience in which I felt nothing is ever really dead.
- _____ I have had an experience that cannot be expressed in words.

DAKE'S GRID/GROUP SURVEY

1 2 3 4 5 6
strongly disagree disagree disagree somewhat agree somewhat agree strongly agree

Use the scale above to provide, as accurately as possible, a response to the statements below:

- _____ I think there should be more discipline in the youth and young adults of today.
- _____ In a fair system, people with more ability should earn more.
- _____ There is no use in doing things for people - you only get it in the neck in the long run.
- _____ I would support the introduction of compulsory military service.
- _____ A free society can only exist by giving companies the opportunity to prosper.
- _____ If people in this country were treated more equally we would have fewer problems.
- _____ The government should make sure everyone has a good standard of living.
- _____ Cooperating with others rarely works.
- _____ I am more strict than most people about what is right and wrong.
- _____ If a person has the get-up-and-go to acquire wealth, that person should have the right to enjoy it.
- _____ Those who get ahead should be taxed more to support the less fortunate.
- _____ The future is too uncertain for a person to make serious plans.
- _____ I have often been treated unfairly.
- _____ I think it is important to carry on family traditions.
- _____ I would support a tax change that made people with large incomes pay more.
- _____ The world could be a more peaceful place if its wealth were divided more equally among nations.
- _____ A person is better off if he or she doesn't trust anyone.
- _____ It is just as well that life tends to sort out those who try harder from those who don't.
- _____ Racial discrimination is a very serious problem in our society.
- _____ What this country needs is a "fairness revolution" to make the distribution of goods more equal.
- _____ Most people make friends only because friends are useful to them.
- _____ I value regular routines highly.
- _____ Making money is the main reason for hard work.
- _____ Most of the meals I eat are vegetarian.
- _____ Health requirements are very important in my choice of foods.
- _____ I feel that life is like a lottery.
- _____ I think being on time is important.
- _____ I prefer simple and unprocessed foods.

- ___ A VARIED LIFE (filled with challenge, novelty, and change)
- ___ WISDOM (a mature understanding of life)
- ___ AUTHORITY (the right to lead or command)
- ___ TRUE FRIENDSHIP (close, supportive friends)
- ___ A WORLD OF BEAUTY (beauty of nature and the arts)
- ___ SOCIAL JUSTICE (correcting injustice, care for the weak)
- ___ INDEPENDENT (self-reliant, self-sufficient)
- ___ MODERATE (avoiding extremes of feeling and action)
- ___ LOYAL (faithful to my friends, group)
- ___ AMBITIOUS (hardworking, aspiring)
- ___ BROAD-MINDED (tolerant of different ideas and beliefs)
- ___ HUMBLE (modest, self-effacing)
- ___ DARING (seeking adventure, risk)
- ___ PROTECTING THE ENVIRONMENT (preserving nature)
- ___ INFLUENTIAL (having an impact on people and events)
- ___ HONORING OF PARENTS AND ELDERS (showing respect)
- ___ CHOOSING OWN GOALS (selecting own purposes)
- ___ HEALTHY (not being sick physically or mentally)
- ___ CAPABLE (competent, effective, efficient)
- ___ ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)
- ___ HONEST (genuine, sincere)
- ___ PRESERVING MY PUBLIC IMAGE (protecting my "face")
- ___ OBEDIENT (dutiful, meeting obligations)
- ___ INTELLIGENT (logical, thinking)
- ___ HELPFUL (working for the welfare of others)
- ___ ENJOYING LIFE (enjoying food, sex, leisure, etc.)
- ___ DEVOUT (holding to religious faith and belief)
- ___ RESPONSIBLE (dependable, reliable)
- ___ CURIOUS (interested in everything, exploring)
- ___ FORGIVING (willing to pardon others)
- ___ SUCCESSFUL (achieving goals)
- ___ CLEAN (neat, tidy)

POSTMATERIALISM SURVEY

Note: the postmaterialism survey is administered directly by the researcher following an exact protocol in which three cards with four items each are shown sequentially to the subject while reading the following statement:

"There is a lot of talk these days about what the aims of this country should be for the next ten years. (HAND RESPONDENT CARD A.) On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, considered most important? And which would be the next most important? (HAND RESPONDENT CARD B.) If you had to choose, which one of the things on this card would you say is the most desirable? And what would be your second choice? Here is another list (HAND RESPONDENT CARD C.). In your opinion, which one of these is most important? What comes next? Now would you look again at all of the goals listed on these three cards together and tell me which one you consider the most desirable of all? Just read off the one you choose. Which is the next most desirable? And which one of all the aims on these cards is least important from your point of view?"

CARD A contains the items below:

- A -- Maintaining a high rate of economic growth.
- B -- Making sure that this country has strong defense forces.
- C -- Seeing that the people have more say in how things get decided at work and in their communities.
- D -- Trying to make our cities and countryside more beautiful.

CARD B contains the items below:

- E -- Maintaining order in the nation.
- F -- Giving the people more say in important government decisions.
- G -- Fighting rising prices.
- H -- Protecting freedom of speech.

CARD C contains the items below:

- I -- Maintain a stable economy.
- J -- Progress toward a less impersonal, more humane society.
- K -- The fight against crime.
- L -- Progress toward a society where ideas are more important than money.

APPENDIX D
POSTMATERIALISM SURVEY ANALYSIS AND RESULTS

[Object D-1. Postmaterialism survey data results spreadsheet \(.xlsx file 172 KB\)](#)

Postmaterialism surveys were administered to the permaculture participant test group as well as the Hawai'i Wal-Mart control group. The researcher verbally administered the survey using three cue cards containing four letter choices each following the procedure outlined by Inglehart (1997). Of the twelve total letter choices, "a", "b", "e", "g", "i", and "k" represented materialist values while "c", "d", "f", "h", "j", and "l" indicated postmaterialist values. For each of the three cue cards, the subject was instructed to choose his/her first and second favorite choices of the four choices. This resulted in six chosen letters. The subject was next instructed to choose his/her first and second favorite choices out of all twelve choices, and then finally instructed to choose his/her least favorite choice out of all twelve choices. These instructions resulted in a total of nine letter choices for each survey.

The researcher used an original method to convert the resulting nine chosen letters into an overall numerical score from 1 to 10 that reflected the degree of postmaterialism. For the first of the three cue cards, the subject received two points if "c" and "d" were chosen as the two favorites and one point if "c" or "d" was chosen as one of the two favorites. This resulted in a score of 2, 1, or 0 depending on letter choice. Similar procedures were followed for scoring the second cue card choices (2 points for choosing "f" and "h"; 1 point for choosing "f" or "h"; 0 point for choosing neither), the third cue card choices (2 points for "j" and "l"; 1 point for "j" or "l"; 0 point for neither), and the top two choices overall (2 points for choosing any two of the letters "c", "d", "f", "h", "j", or "l"; 1 point for choosing any one of those letters; 0 points for choosing

none of those letters). For the final choice of least favorite, the subject received -1 point for choosing one of the letters "c", "d", "f", "h", "j", or "l". A base score of 2 was added to the total score producing a score range from 1 to 10 representing the most materialist possible of letter choices (0+0+0-1+2 base points=1 point) to the most postmaterialist possible of letter choices (2+2+2+2+0+2 base points=10 points).

Table D-1. Results from two-tailed t-tests of the Postmaterialism survey.

HI = highly significant differences (p<0.01) MOD = moderately significant differences (.05>p>0.01) NONE = no significant difference (p>.05)			
Permaculturists vs:			
	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Postmaterialism score differences	HI		

Object D-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for the postmaterialism survey. The permaculture test group was compared to the Hawaii Wal-Mart group for differences in the overall postmaterialism score. Table D-1 above displays basic differences in significance between the test group and the control group as determined by a two-tailed t-test assuming unequal variances.

APPENDIX E GRID/GROUP SURVEY ANALYSIS AND RESULTS

[Object E-1. Grid/group survey data results spreadsheet \(.xlsx file 231 KB\)](#)

Dake's (1991) grid/group survey consists of 28 items scored on a Likert-style scale from 1 to 6. Each item is associated with either the hierarchical, individualist, egalitarian, or fatalist category; final scores for each of the four categories was calculated as the average of the scores of the associated items. These scores were used for t-test comparisons between permaculturist test group and the three control groups for each of the four categories.

For radar chart plots of average score results which were positively associated with the respective category, average category scores were subtracting by 3.5, which was the mid-range value of the survey's Likert scale. As a result, average score results indicating a negative association with the respective category became negative integers, while average score results indicating a positive association with the respective category remained positive integers. Negative integers were then given a value of zero so that only positive score results were plotted.

An opposite process occurred for radar chart plots of average score results which indicated opposed values. Average scores greater than 3.5 (indicating positive association with a category) were given a value of zero; the remaining scores were subtracted from 3.5 which caused highly opposed relationships to have the highest numbers, slightly opposed relationships to have low numbers, while positive relationships became zero.

Object E-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for the Grid-Group survey. The permaculture test group was compared to each

of the three control groups for differences in hierarchical, individualist, fatalist, and egalitarian survey scores. Table E-1 below displays the differences in significance between the test group and the control groups for these parameters as determined by two-tailed t-tests assuming unequal variances.

Table E-1. Results from two-tailed t-tests for Dake's Grid/Group survey.

HI = highly significant differences ($p < 0.01$)
MOD = moderately significant differences ($.05 > p > 0.01$)
NONE = no significant difference ($p > .05$)

Permaculturists vs:

	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Hierarchical values	HI	HI	HI
Individualist values	HI	HI	HI
Fatalist values	HI	HI	HI
Egalitarian values	MOD	NONE	HI

APPENDIX F SCHWARTZ VALUES SURVEY ANALYSIS AND RESULTS

[Object F-1. Schwartz Values Survey data results spreadsheet \(.xlsx file 506 KB\)](#)

The Schwartz Values Survey contains 56 items measured on a Likert-type scale with a range from -1 to 7. Each item is associated with one of ten "universal values": universalism, benevolence, tradition, conformity, security, power, achievement, hedonism, stimulation, and self-direction. These ten values in turn contribute to four overarching value categories labelled "self-transcendence", "conservation", "openness to change" and "self-enhancement".

Following the procedure outlined by Schwartz (2009), surveys in which the respondent used the same number response more than 35 times (an issue which Schwartz calls "anchoring") were discarded. This rule had serious repercussions for the total number of usable surveys for the control group Hawai'i Wal-Mart; of the initial 31 completed surveys, only 23 were usable due to "anchoring" issues.

Also following the procedures outlined by Schwartz (2009), prior to computing group score averages, the raw item scores for each individual survey must be centered. Centering the individual's raw item scores entails: (1) computing the average of the individual's 56 raw item scores and then (2) subtracting that average from each of the individuals' 56 raw item scores. The result is 56 "centered" scores which are either positive or negative depending on their direction of variance from the average score.

Centered scores were then used to calculate individual average scores for each of the ten universal values by taking the average of all scores associated with that particular universal value. An individual's benevolence score, for instance, was the average of the centered scores for the items "loyal", "honest", "helpful", "responsible",

and "forgiving". Overarching value categories were then calculated as the average of the universal values which comprised them. "Overall self-transcendence" was the

Table F-1. Results from two-tailed t-tests of the Schwartz Values Survey.

HI = highly significant differences (p<0.01)
MOD = moderately significant differences (.05>p>0.01)
NONE = no significant difference (p>.05)

Permaculturists vs:

	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Overall self-transcendence	NONE	HI	HI
Overall conservation	HI	HI	HI
Overall self-enhancement	NONE	NONE	HI
Overall openness to change	MOD	MOD	MOD
Universalism	HI	HI	HI
Benevolence	NONE	NONE	MOD
Tradition	HI	HI	HI
Conformity	HI	HI	HI
Security	HI	HI	HI
Power	NONE	HI	HI
Achievement	NONE	NONE	HI
Hedonism	MOD	NONE	NONE
Stimulation	NONE	NONE	NONE
Self-Direction	HI	MOD	HI

average of the "universalism" score and the "benevolence" score. "Overall conservation" was the average of the scores for "tradition", "conformity", and "security". One of the ten universal values, "hedonism", contributed to both "openness to change"

and "self-enhancement". For each of these overarching categories, the contribution of the "hedonism" to the category score was reduced by 50% through doubling the contributions of the remaining two values. In other words, "openness to change" was calculated as the average of "hedonism + stimulation + stimulation + self-direction + self-direction" while "self-enhancement" was calculated as the average of "hedonism + power + power + achievement + achievement".

Object F-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for the Schwartz Values Survey. The permaculture test group was compared to each of the three control groups for scores differences in each of the four overarching value categories and each of the ten universal values. Table F-1 above displays the differences in significance between the test group and the control groups for these parameters as determined by two-tailed t-tests assuming unequal variances.

APPENDIX G
HOOD'S MYSTICISM SURVEY ANALYSIS AND RESULTS

[Object G-1. Hood's Mysticism survey data results spreadsheet \(.xlsx file 318 KB\)](#)

Hood's Mysticism scale uses 32 items rated on a Likert-type scale from 1 to 5. Of these 32 items, 16 are worded in the negative; for these negatively-worded items the raw score had to be converted to a positive score using an algorithm which converted respondent scores of "1", "2", "4", and "5" to "5", "4", "2", and "1" respectively. This allowed an overall mysticism score to be calculated as the total sum of all 32 item scores.

In addition to the overall mysticism score, each of the 32 items was associated with one of Stace's (1960) eight mystical qualities: "loss of ego"; "unifying"; "inner subjective", "temporal/spatial", "noetic", "ineffability", "positive affect", and "religious quality". The score for each mystical quality was calculated as the average of the scores of its associated items.

Object G-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for Hood's Mysticism survey. The permaculture test group was compared to each of the three control groups for differences in the total Mysticism score as well as for differences in scores for each of Stace's eight mystical qualities. Table G-1 below displays the differences in significance between the test group and the control groups for these parameters as determined by two-tailed t-tests assuming unequal variances.

Note that many respondents independently indicated to the researcher that they had difficulty understanding the meaning of the two survey items which used the term "ultimate reality". These two survey items, in combination with two other survey items, comprise the score for "noetic" quality. This noted confusion may play a role in the

overall lack of significant differences on the "noetic" score between the permaculture test group and the Hawai'i Wal-Mart and HawCC ANTH200 control groups.

Table G-1. Results from two-tailed t-tests of Hood's Mysticism survey.

HI = highly significant differences ($p < 0.01$)
MOD = moderately significant differences ($.05 > p > 0.01$)
NONE = no significant difference ($p > .05$)

Permaculturists vs:

	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Total Mysticism score	NONE	HI	HI
Loss of Ego	MOD	HI	HI
Unifying	HI	HI	HI
Inner Subjective	HI	HI	HI
Temporal/Spatial	HI	HI	HI
Religious Quality	MOD	HI	HI
Noetic	NONE	NONE	MOD
Ineffability	NONE	MOD	NONE
Positive Affect	HI	MOD	MOD

APPENDIX H
CONNECTEDNESS TO NATURE SURVEY ANALYSIS AND RESULTS

[Object H-1. CNS data results spreadsheet \(.xlsx file 188 KB\)](#)

The Connectedness-To-Nature survey is a 14-item survey using a Likert-style scale from 1 to 5. Of the 14 items on the scale, 3 are worded in the negative. For scoring purposes, these 3 items were reversed using an algorithm which converted scores of "1", "2", "4", and "5" to "5", "4", "2", and "1" respectively. This allowed the calculation of a total Connectedness to Nature score which was the sum of all 14 items on the scale.

Object H-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for the Connectedness-To-Nature scale. The permaculture test group was compared to each of the three control groups for differences in the overall Connectedness-To-Nature scores. Table H-1 below displays the differences in significance between the test group and the control groups for this parameter as determined by two-tailed t-tests assuming unequal variances.

Table H-1. Results from two-tailed t-tests of the Connectedness-To-Nature scale.

HI = highly significant differences (p<0.01) MOD = moderately significant differences (.05>p>0.01) NONE = no significant difference (p>.05)			
Permaculturists vs:			
	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Connectedness-To-Nature (total score)	HI	HI	HI

APPENDIX I
BACK-TO-THE-LAND SURVEY ANALYSIS AND RESULTS

[Object I-1. Back-To-The-Land survey data results spreadsheet \(.xlsx file 217 KB\)](#)

A survey administered by Jacob (1998) as part of his study of back-to-the-land communities was used in this dissertation under the name "Jacob's Back-To-The-Land Survey". The survey contains 8 items which are scored by the respondent using a

Table I-1. Results from two-tailed t-tests of Jacob's Back-To-The-Land survey.

HI = highly significant differences ($p < 0.01$)
MOD = moderately significant differences ($.05 > p > 0.01$)
NONE = no significant difference ($p > .05$)

	Permaculturists vs:		
	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Back-To-The-Land survey (total score)	NONE	HI	HI
Peace of Mind	MOD	HI	HI
Union with Nature	MOD	HI	HI
Feeling of Joy	NONE	NONE	NONE
Living in Present Moment	NONE	NONE	NONE
Sense of Wonder	NONE	NONE	NONE
Feeling of Wholeness	MOD	HI	HI
Accepted by the Universe	NONE	MOD	HI
Time Standing Still	NONE	MOD	HI

Likert-style scale from 1 to 5. The cumulative sum of the scores for all 8 items results in an overall summary score for the survey. Two-tailed t-tests compared the permaculture test group to each of the three control groups for overall summary score, as well as for scores on each of the eight test items.

Object I-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for Jacob's Back-To-The-Land survey. The permaculture test group was compared to each of the three control groups for differences in total Back-To-The-Land scores as well as for differences in scores on each of the eight survey items. Table I-1 above displays the differences in significance between the test group and the control groups for these parameters as determined by two-tailed t-tests assuming unequal variances.

APPENDIX J
NEW ECOLOGICAL PARADIGM SURVEY ANALYSIS AND RESULTS

Object J-1. [NEP survey data results spreadsheet \(.xlsx file 219 KB\)](#)

The New Ecological Paradigm (NEP) survey contains 20 items scored by respondents on a Likert-style scale from 1 to 5. This study changed the scale from 1 to 6 in order to expand the range of possible answers and eliminate a middle range value which could be easily circled on the 5-point scale (e.g., "3"). Of the 20 survey items, 3 are worded to reflect adherence to the "dominant social paradigm" and thus the raw Table J-1. Results from two-tailed t-tests of the New Ecological Paradigm survey.

HI = highly significant differences ($p < 0.01$)
MOD = moderately significant differences ($.05 > p > 0.01$)
NONE = no significant difference ($p > .05$)

	Permaculturists vs:		
	Hawai'i Wal-Mart	HawCC ANTH200	U Florida ANT100
Total NEP score	MOD	HI	HI
Factor 1: human interference w/ nature	NONE	MOD	HI
Factor 2: equity and development issues	NONE	MOD	HI
Factor 3: humans and economy over nature	HI	HI	HI
Factor 4: duties to non-humans	NONE	HI	HI

score had to be reverse modified ("1", "2", "3", "4", "5", and "6" becoming "6", "5", "4", "3", "2", and "1" respectively) in order to calculate an overall NEP score which was the sum total of the scores of all 20 test items. In addition, each test item is associated with one of four factors: "human interference with nature" (factor 1), "equity and

development issues" (factor 2), "humans and economy over nature (factor 3), and "duties to non-humans" (factor 4). Scores for each of the four factors was calculated as the sum of the scores of its associated items.

Object J-1 above hyperlinks to a spreadsheet containing all histograms and t-test results for the New Ecological Paradigm (NEP) survey. The permaculture test group was compared to each of the three control groups for differences in overall NEP scores as well as for differences in scores for each of the four NEP factors. Table J-1 above displays the differences in significance between the test group and the control groups for these parameters as determined by two-tailed t-tests assuming unequal variances.

APPENDIX K
 MAP OF PERMACULTURE COMMUNITIES IN LOWER PUNA

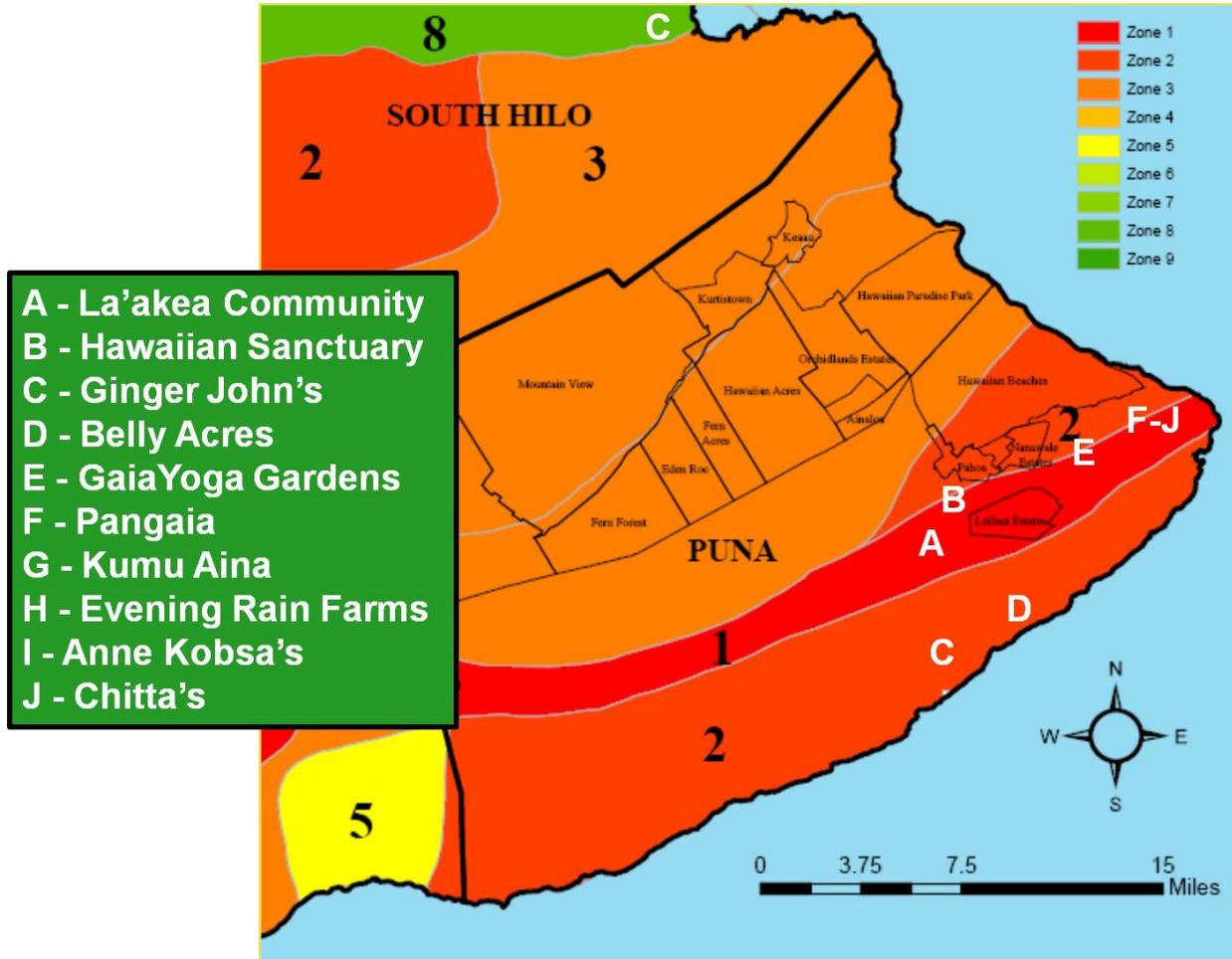


Figure K-1. Permaculture communities in Lower Puna which were the subject of dissertation research. Community C had properties in both Lower Puna and the South Hilo district. Lower Puna unofficially includes areas of Puna in lava zones 1 and 2. Zone 1 constitutes the ridge of the Kilauea East Rift Zone.

Appendix L
EMERGY DIAGRAMS OF PERMACULTURE

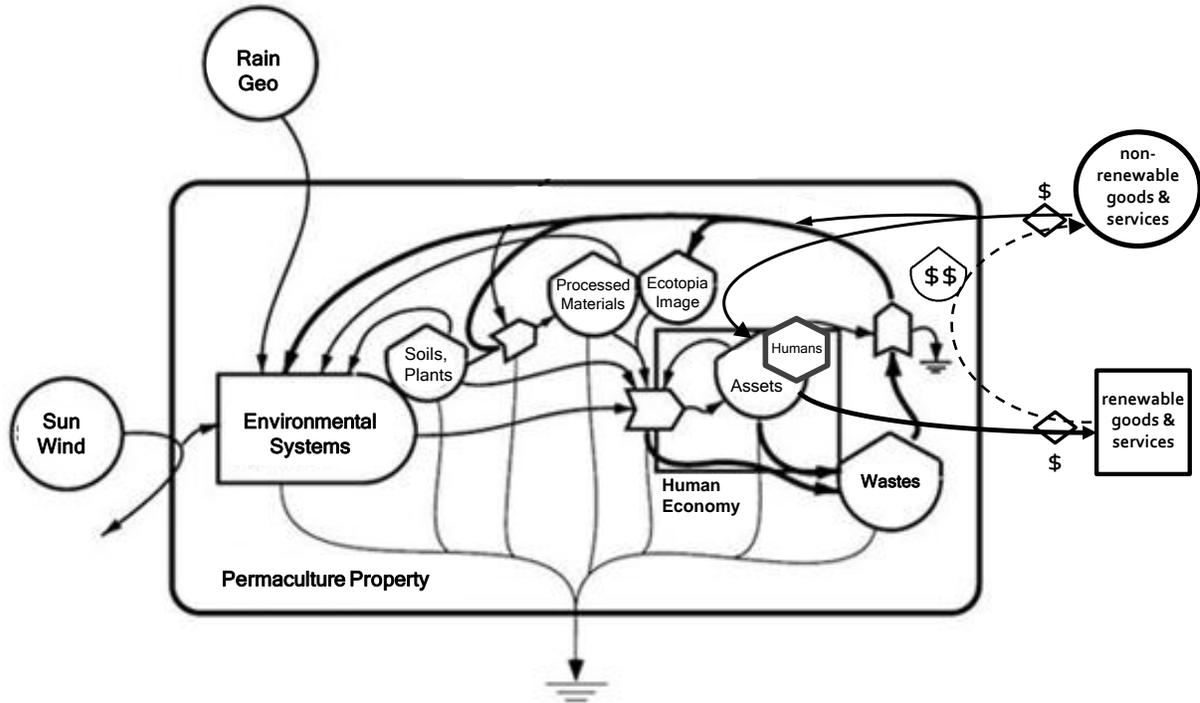


Figure L-1. The idealized view of permaculture community. Processed materials such as wood for building and crops for eating are derived from soils and biotic organisms on property. Assets include goods and services needed for transportation, shelter, food, and services such as entertainment. Ecotopia can be classified as a symbolic service asset. Wastes are recycled back into the system. Financial transactions allow renewable goods and services produced by the community to be indirectly exchanged for unavoidable and necessary non-renewable goods and services.

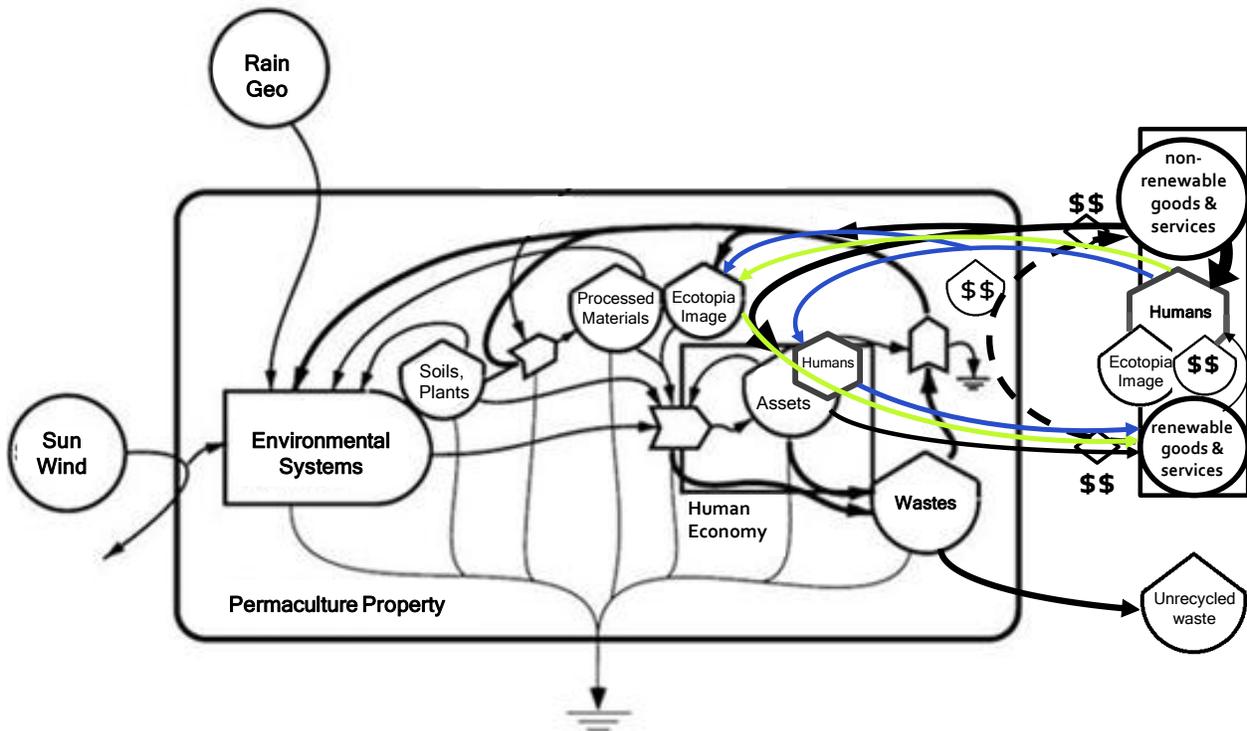


Figure L-2. Typical actual progression of a permaculture community in Puna as ecotopia is constructed and commoditized. As ecotopia is constructed, it becomes a product on the market. In exchange, arrivals of work-traders and other enthusiastic permaculturists bring finances, human labor, and ecotopia images with them into the community. Their finances, human labor, and images are made possible by the non-renewable energetic processes of the larger system. They leave and take ecotopia images with them as part of community advertisement.

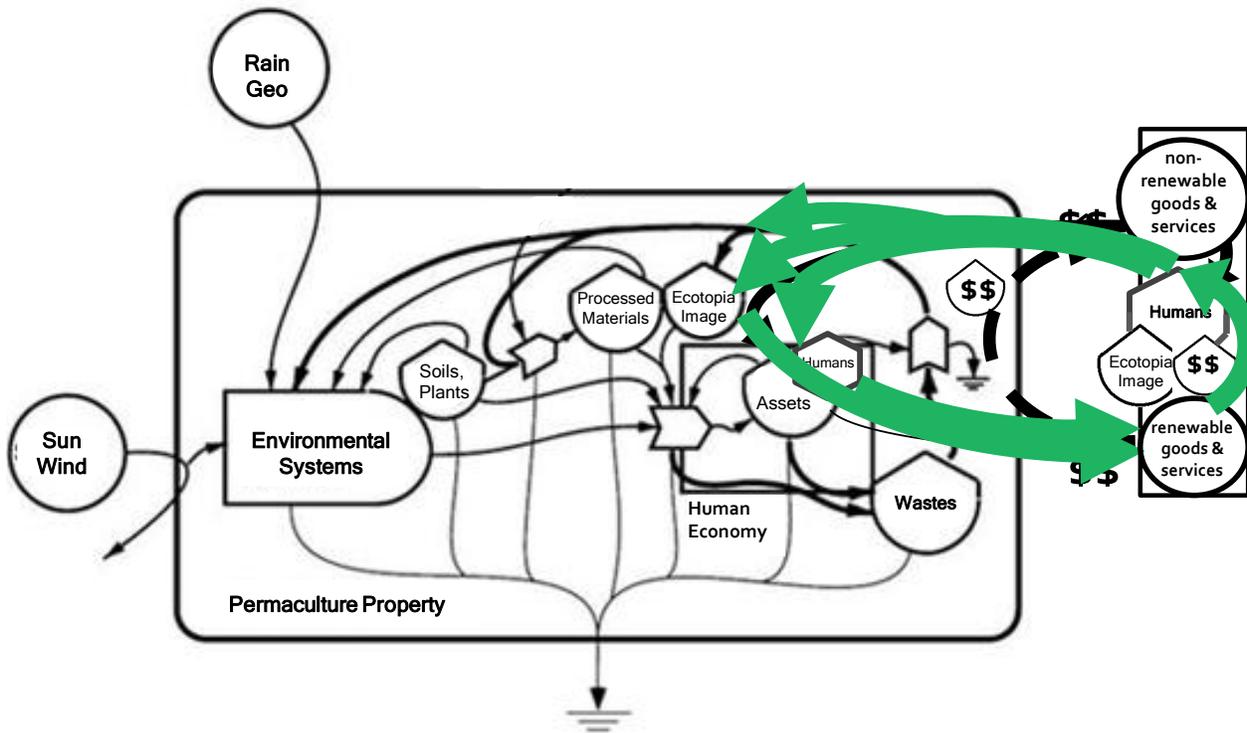


Figure L-3. Ecotopia's mystification of capitalist processes is a "greenwashing" effect. The production of a successful *communitas* experience of ecotopia helps to overshadow non-renewable energy exchanges and labor exploitation.

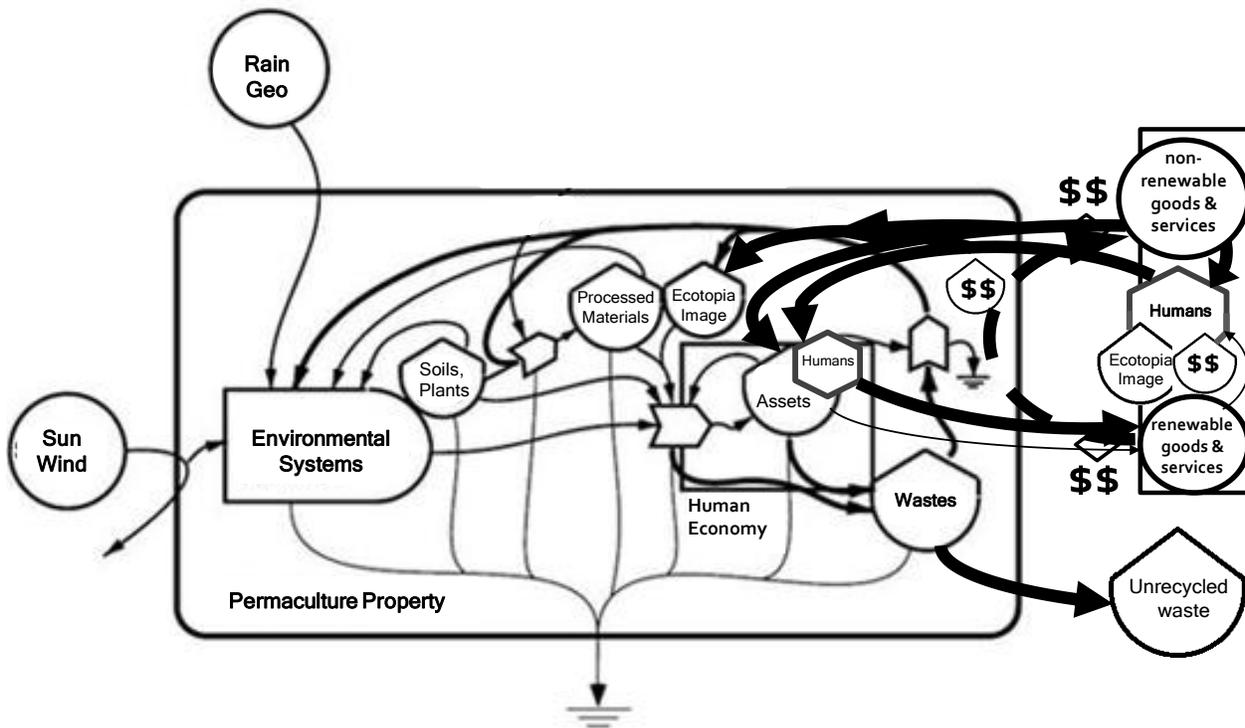


Figure L-4. Ongoing commoditization and mystification resulting from ongoing articulation with the larger system undermines sustainability efforts. Financial assets are derived from past participation in the larger system, typically representing a 7:1 non-renewable to renewable energy ratio (Odum, 1996). New financial inputs come from work-traders participating in the larger system or from other services derived from a successful portrayal of the ecotopian image. Finances from renewable asset production on property remain minimal. In the most "successful" communities, increased finances result in increased expenditures on non-renewable goods & services which in turn are channeled into ecotopian image production for a synergetic effect that increases human participation while simultaneously maintaining and increasing patterns of non-renewable energy input.

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BIOGRAPHICAL SKETCH

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