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Preliminary Statement for Preliminary Committee:
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From drug war to drug peace: Medical violence embedded in the diagnostic criteria for "Substance Abuse" mental disorder enables systematic human rights violations and must be updated by the medical geography of non-problematic and beneficial psychoactive substance use.

Dear Committee:

My interests are in the area of re-evaluating current medical diagnostic criteria of "human disorder" and psychopathology as applied to individuals who may encounter legal troubles as a result of using psychoactive plants, plant products, or their congeners. Specifically, I am interested in understanding those self-medicating practices that can best be called entheogenic and/or transpersonally and integratively therapeutic. I want to show that this class of human behaviors and activities, some of which may be currently legally prohibited, derives fundamentally from a particular type of nature-society relationship that actually has significant health-promoting features that generally go unacknowledged at best or severely pathologized at worst in mainstream medical practices. Not only do I wish to explore the medical geographic dimensions of this beneficial or non-problematic psychoactive substance use, but I also want to explore the public health implications and human rights violations that stem from core medical-psychiatric support of the current global drug control legal regime and law-enforcement practices through complicity, participation, and outright justification.

The specific academic fields and disciplines that my proposed research will cover are:

Medical geography
- Therapeutic landscapes
- Ethnomedical geography or cultural-medical geography
- Political ecological disease ecology related to HIV and HCV transmission amongst injection drug users

Body-geography
- Biophysical continuity with Earth
- Biopolitics
- Somaesthetics

Medical anthropology
- Critique of role of medicine in society, esp.medical-legal social control
- Medical violence (iatrogenesis) and human rights

Entheobotany
- Experience of sacred space vis-à-vis entheobotanical landscapes

Humanism, esp. subjective experience

Phenomenology of the *Salvia Divinorum* and *Kava kava* encounter
Transpersonal psychiatry
Benefits of altered, trance, and mystical states
Integrative medicine
Phronesis

Here are definitions of some of the terms and fields listed above that you may be less familiar with:

therapeutic landscapes: Wilbert Gesler's concept of therapeutic landscapes applies to the confluence of environmental, individual, and social factors that come together to make a certain place or situation therapeutic. One particular therapeutic landscape class that Gesler outlines is "traditional healthcare landscapes." On these, Gesler (1992) writes: "there is a long tradition that healing powers may be found in the physical environment, whether this entails materials such as medicinal plants, the fresh air and pure water of the countryside, or magnificent scenery. The pharmacopoeia of both folk societies and professional medical systems (Chinese, ayurvedic, unani, biomedicine) contains thousands of medicines made from leaves, herbs, roots, bark, and other materials found in nature" (p. 736). I will extend Gesler's notion of therapeutic landscapes by combining it with concepts related to the experience of sacred space from Yi-Fu Tuan's writings (Tuan 1970,1990, 1998). When certain psychoactive plants constitute a landscape, I call these entheobotanical landscapes (see 'entheobotany' below).

ethnomedical geography or **cultural-medical geography**: Charles Good states that the objective of ethnomedical geographic research is to "contribute to the development of a comprehensive theory of human health-related behavior that: 1) *interprets and incorporates the social, cultural and spatial dimensions of medical pluralism*; 2) *effectively confronts the inherent ethnocentrism and medicocentrism of the dominant functional theories* of international medicine; and 3) will aid health planners, policy makers, and health personnel to reconceptualize their professional models of reality in the interest of improved care and intervention" (Good 1980).

Good (2000), in recognizing the influence of social theory, critical social geography, medical anthropology and human ecology on medical geography coins the hybrid term cultural-medical geography to recognize the growing interdependence between cultural and medical geography. With this new scope, "medical geographers endeavor to understand the *complex interplay of cultural-ecological, political, and place-space processes* and patterns in human health. Issues can range from the study of diseases promoted by human alterations of the environment, to spatial patterns of cancer, *to the spiritual dimension of health behavior*."
[italics added to indicate highly relevant areas to this preliminary statement]

political ecological disease ecology: Based on Jonathan Mayer's 1996 article in *Progress in Human Geography* entitled "Political ecology as one new focus for medical geography", political ecology in a medical geography framework relies on the importance of political context as integrated into the cultural and disease ecological frameworks that

have been central to medical geography. Jonathan writes that the major innovation in political ecology is the unification of cultural ecology with political economy (p. 447). He uses this framework to examine infectious disease outbreaks—past, present, and future—that depend on a particular arrangement of circumstances that bring human beings into contact with exogenous pathogens.

somaesthetics: a new philosophical discipline defined by Richard Shusterman (1999) as "the critical, meliorative study of the experience and use of one's body as a locus of sensory-aesthetic appreciation (*aisthesis*) and creative self-fashioning."

entheobotany: a hybrid term that combines the words "entheogen" with "ethnobotany". Entheogen is an alternative to the loaded terms psychedelic (mind-manifesting), hallucinogen (hallucination-inducing), and psychotomimetic (psychosis-mimicking) referring to "drugs which provoke ecstasy and have traditionally been used as shamanic or religious inebriants, as well as their active principles and artificial congeners" (Ruck *et al.* 1979). Entheogen, based on it Greek roots *entheos* and *–gen* literally means "becoming divine within." Ethnobotany is the scientific study of how people use plants. The hybrid term *entheobotany* thus refers to the scientific study of how entheogenic plants are used in various cultures.

humanism: using the definition outlined by cultural-medical geographers Wilbert Gesler and Robin Kearns, humanism is an area which focuses on subjectivity, experience, and meaning informed by the so-called "philosophies of meaning" (idealism, pragmatism, phenomenology, existentialism); practitioners employ qualitative, interpretative, and ethnographic methods to 'get inside the heads' of the people they study (Gesler and Kearns 2002).

transpersonal psychiatry: Transpersonal, meaning beyond the personal, refers to development beyond conventional, personal, or individual levels. Transpersonal psychiatry is psychiatry that seeks to foster development, correct developmental arrests, and heal traumas at all levels of development, including transpersonal levels. It extends the standard biopsychosocial model of psychiatry to a biopsychosocial-spiritual one in which the later stages of human development are concerned with development beyond, or transcendent of, the individual (*Textbook of Transpersonal Psychology and Psychiatry, eds.* Scotten, Chen, Battista 1996).

integrative medicine: The definition I use comes from the website of the University of Arizona Program in Integrative Medicine (Residential Fellowship Program) founded by Dr. Andrew Weil in 1994. Integrative medicine is healing-oriented medicine that takes account of the whole person (body, mind, and spirit), including all aspects of lifestyle. It emphasizes the therapeutic relationship and makes use of all appropriate therapies, both conventional and alternative. The Basic Principles of Integrative Medicine are:

*A partnership between patient and practitioner in the healing process
*Appropriate use of conventional and alternative methods to facilitate the body's innate healing response.
*Consideration of all factors that influence health, wellness and disease,

including mind, spirit and community as well as body
*A philosophy that neither rejects conventional medicine nor accepts alternative medicine uncritically
*Recognition that good medicine should be based in good science, inquiry driven and open to new paradigms
*Use of natural, less invasive interventions whenever possible
*The broader concepts of promotion of health and the prevention of illness as well as the treatment of disease
*Practitioners as models of health and healing, committed to the process of self-exploration and self-development
(http://integrativemedicine.arizona.edu/about2.html, 14 Feb. 2005)

phronesis: Greek term for practical wisdom or prudence, the application of good judgment to human conduct, in contrast with the more theoretical inquiry leading to sophia, or wisdom generally. This is one of three types of knowledge that Aristotle defines, in addition to *episteme* and *techne*. As Bent Flyvberg writes in *Making Social Science Matter: Why social inquiry fails and how it can succeed again*: "Phronesis goes beyond both analytical, scientific knowledge (*episteme*) and technical knowledge or know-how (*techne*) and involves judgments and decisions made in the manner of a virtuoso social and political actor…in their role as *phronesis*, the social sciences are the strongest where the natural sciences are weakest: just as the social sciences have not contributed much to explanatory and predicative theory, neither have the natural sciences contributed to the reflexive analysis and discussion of values and interests, which is the prerequisite for any enlightened political, economic, and cultural development in any society, and which is at the core of phronesis" (pg. 3).

The following are three key areas that represent angles and trajectories of approach I am taking on my research topic. I will present one or two more specific applications of the trajectories listed, but, this being my preliminary statement, leave comprehensive details out for now.

1. Medical violence 'writ large' AND the circularity of medical and legal definitions of psychoactive "substance/drug abuse"

One of my primary foci in this work is to show the link between global trends in violence and institutionalized medicine's practice of "medical violence." The concept of medical violence has been used in limited ways to describe the mistreatment of women, children, and infants in the context of intersex genital surgery or female circumcision—treatments offered without patient consent (Girodet 1987; feministcampus.org 2005). Kothari and Metha (1988) offer an extended discussion of the topic in their chapter "Violence in Modern Medicine" in *Science, hegemony and violence* in which they address all manners of shoddy and neglectful treatments, attitudes, and diagnoses by healthcare workers. The understanding of medical violence that I am after is predicated on the fundamental denial of patients' subjective experience by diagnosticians. To contextualize this further, the medical violence that I am addressing arises when state-

level projects of structural violence and systemic human rights violation are justified, extended, and actively practiced by medical professionals. Medical violence generally goes beyond iatrogenic harm, in that the harmful actions often go unacknowledged and their effects on patients may not necessarily be produced inadvertently but in fact intentionally.

Amazingly, medical violence has actually been codified in the DSM-IV, the Diagnostics and Statistical Manual of Mental Disorders, the canonical text for medical-psychiatric diagnoses. Below, I will quote the full diagnostic criteria that the DSM-IV lists for determination of 'Substance Abuse', one of the Substance-related mental disorders, in a patient. One of the primary targets of my research topic is critique of criterion (3). This is the official text:

Criteria for Substance Abuse

A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, *as manifested by one (or more) of the following*, occurring within a 12-month period:
(1) recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household)
(2) recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)
(*3) recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct)*
(4) continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights) [italics added]

The non-uniform enforcement of "controlled substance" laws will have a significant impact on the geographic patterns of "substance abuse" mental disorder diagnoses. For example, "recurrent substance-related legal problems" are much more likely to arise for those who are members of socially disadvantaged groups, like black poor living in urban centers, or for those living in parts of the United States where "drug laws" are more strictly enforced. But those who are able to acquire and use currently illegal psychoactive substances in areas that are less "cracked-down" upon (i.e., less heavily patrolled by police officers for "drugs") will be less subject to the same degree of legal problems faced by other groups because they'll be caught less often by police (Miller 1996; Beckett 2004). Here I am solely referring to the enforcement of laws which are meant to protect citizens from themselves. Just based on criteria (3) for the "substance abuse" variant of substance use mental disorders (as shown above), we can predict that people living in less cracked-down places will be less frequently diagnosed as having a particular "substance use disorder" and will be less often treated for that disorder. An example that demonstrates this can be seen when **comparing** data from the Substance Abuse and Mental Health Services Administration showing which states have had large increases (twice or more over a ten year period) in the annual rates at which

"patients" are admitted for marijuana use disorder treatment **with** how those states rank on the Marijuana Possession Arrest Threat Index (MPATI), a composite index created by Jon Gettman that weights the following state-level factors: maximum penalty for possession of 1 ounce, the total arrest rate, the arrest rate for 18 year old males, and the arrest rate for black adults (Gettman 2005). The spatial variation in the MPATI across the United States correlates well with the relative increase in marijuana treatment admissions in those states over the ten year period. For example, Alaska and New Mexico, two states that have actually seen a decrease in marijuana treatment admissions over the ten year period also rank in the lowest quintile of the marijuana possession arrest threat index. In general, the increase in marijuana arrests over the last decade in the United States correlates with the increases in marijuana treatment admissions, which reached 279,905 in 2002 (Gettman 2005; SAMHSA 2005). While law enforcement channels are not the sole means by which "patients" are admitted into marijuana treatment (or admit themselves due to legal coercion), they are now over 50% of the time the sole "referring" source. This is an example of how politically-influenced law enforcement practices can generate disease.

Furthermore, this underscores the way that certain medical definitions of pathological substance use mental disorder are not tied to any scientific underpinnings but rather to spatially varying political power and law enforcement structures. Medical-psychiatric definitions of disease and mental disorder ought not to be wedded to classifications of legality and illegality. In medical knowledge and practice, clinicians ought to aim for establishing far more personal and close-up relationships with the patients they care for prior to making diagnoses. While the locus of emphasis in medicine has generally been shifting in the direction of diagnoses and treatments becoming more personalized and tailored to each patient's unique needs and constitution (e.g., "personalized medicine" and "pharmacogenetics"), the "substance abuse" mental disorder definition remains quite distant and far-removed from the patient (Washington, D.C. or a state-capital). As it now stands, a diagnosis and plan for treatment can be implemented simply by reading how a police report or "rap sheet" characterizes the psychoactive substance use behavior of the patient. The "recurrent substance-related legal problems" diagnostic criterion takes no stock of the subjective experience of the patient with the substance and leaves the following questions unaddressed. Is the psychoactive substance use non-problematic or beneficial for the patient with regards to the patient's health? If law enforcement has "cracked-down" on an individual one or more times, then is it really a logically and scientifically sound implication that the individual now has a substance use mental disorder? Indeed, this begs the question, is it not possible that it is the law enforcement system and overall legal structure which is in fact disordered, and not the patient's mental health? Just one "symptom" of the legal system's putative disorder: much information has now surfaced which documents how federal governmental agencies (such as the CIA) have been complicit and/or active in fostering, fueling, and funneling profits from the global trade in "illegal" psychoactive substances, which is now a ~$400 billion dollar annual enterprise (Webb 1999; McCoy 1991; Steinberg and Mathewson 2005; Russell 2000).

It should be noted that in no other medical-psychiatric category of disease or mental disorder do legal definitions and criminal justice system outcomes figure so prominently and centrally in evaluating the presence or absence of a diagnosis as they do

in the "substance abuse" mental disorder. Carried to its logical end, there are several outrageous implications of using the "recurrent legal problems" diagnostic criterion for defining mental disorders such as the fact that methods individuals use to avoid testing positive for "illegal drugs" in mandatory urine testing scenarios could easily be seen as mental disorder prevention or "disease prevention" strategies! Books like *Don't Get Busted* (2000) could sensibly pass as "prevention literature"! A far more unconscionable and disturbing implication of this definition stems from the fact that many clinicians believe that those who are diagnosed as having the mental disorder of "substance abuse" have a "brain disease." So says Dr. Alan Leshner, the former director of the National Institute on Drug Abuse. The title of a textbook chapter that he wrote explicitly states this prevailing orthodoxy: "*What we know: Drug abuse is a brain disease"* (1998). So if a mentally disordered "substance abuser" (so diagnosed based solely on criterion (3)) crosses an international border and moves into an area where legal problems no longer present themselves because of differing law enforcement practices, has this individual been cured of his "brain disease"?

A brief comment about the nature and justification of the basis of "substance-related legal problems" is warranted. In the United States, the Controlled Substances Act of 1970 established the basic scheduling structure of US Federal Law which is now found in 21 USC Sec. 812 (TITLE 21 - FOOD AND DRUGS CHAPTER 13 - DRUG ABUSE PREVENTION AND CONTROL SUBCHAPTER I - CONTROL AND ENFORCEMENT). For example, a drug or substance is placed into Schedule I in Federal Law, the most restrictive schedule, based on the following three criteria: "(A) The drug or other substance has a *high potential for abuse*; (B) The drug or other substance has no currently accepted *medical use in treatment* in the United States. (C) There is a lack of *accepted safety* for use of the drug or other substance *under medical supervision*" [italics added]. The scheduling decisions are made by the US Attorney General. How does the Attorney General, generally a lay person when it comes to medicine and scientific research, evaluate what drugs or substances meet these criteria? The US Federal Code is clear on this point:

> Evaluation of drugs and other substances: The Attorney General shall, before initiating proceedings under subsection (a) of this section to control a drug or other substance or to remove a drug or other substance entirely from the schedules, and after gathering the necessary data, request from the Secretary *a scientific and medical evaluation*, and his recommendations, as to whether such drug or other substance should be so controlled or removed as a controlled substance. In making such evaluation and recommendations, the Secretary shall consider the factors listed in paragraphs (2), (3), (6), (7), and (8) of subsection (c) of this section *and any scientific or medical considerations* involved in paragraphs (1), (4), and (5) of such subsection. [italics added]

This is the great catch-22! Whether or not a drug or substance has a "high potential for abuse" is based on medical and scientific evaluation, according to US law. But, when the medical diagnostic definition of "substance abuse" is visited in the DSM IV, one finds there that total deference is made to legal findings and law enforcement patterns in determining what counts as "abuse." Simply put, medicine looks to the law to

define and diagnose abuse, and the law looks to medicine (and science) to define what it considers abuse.

This is a nonsensical, vicious cycle that medicine ought to step out of first by distinguishing "problematic substance use" from "non-problematic substance use" or "beneficial substance use" at the level of the individual patient's biopsychosocial milieu and life experiences. Legal definitions and law enforcement practices and outcomes should not be used as necessary or sufficient diagnostic criteria. As Horacio Fabrega has written: "Because criminality and psychiatric illness definitions are both influenced by cultural conventions, it is necessary to ensure that these conventions are clearly specified and independent" (in Mezzich *et al.* 1996). It would be interesting to define and describe the sizable populations who are "at risk" for potentially having legal troubles (criterion 3) due to their psychoactive substance use behaviors but do not meet any of the other criteria for substance abuse mental disorder as it is currently defined. If people do have mental disorders, should they not exist in patients independent of whether or not a physician has gotten around to diagnosing them as such? As it stands, the diagnosis will only be made with this group of "high risk" individuals when they are arrested.

'Substance abuse' as a term for a mental disorder ought to be phased out entirely due to its excessively moralistic and judgmental connotations (not to mention its pejorative form: "abuser"), in a similar way that masturbation used to be referred to as "self abuse" and has now been phased out (Szasz 1985, 2003). However, as it now stands, substance abuse or drug abuse as an act or mental disorder is a legal technical term which current drug control policies turns on. Medicine, by persisting with its current diagnostic criteria for substance abuse, propagates, supports, and justifies the ongoing structurally violent legal arrangement, and this carries vast and far-reaching legal, law enforcement, societal and public health implications. Medicine, as an institution, is keenly aware of the legal ramifications of what it defines to be "substance abuse", just as it is aware of the legal ramifications of other medical pronouncements (e.g., birth and time of death, temporary insanity, disability). In fact, physicians have historically led the charge to legally prohibit psychoactive substances that it considered to be "abused" (Gray 1998) Thus, I argue that the global public health travesty that is a direct by-product of the "war on drugs" legal framework is directly related to, and a "writ large" extension of, medical violence. There are numerous disturbing implications of this, but one I will mention briefly is the systematic human rights violations of injection drug users who are nearly universally denied basic, life-saving HIV prevention services. These denials are the result of legal regulations designed to have a zero-tolerance attitude toward "drug abuse", and medicine itself is responsible for providing the warranted grounds on which such structurally violent legal prohibitions are erected. Injection-drug users are a growing population who are globally at-high-risk for contracting HIV and do so in large numbers. ("HIV, harm reduction, and human rights" 2005; Wolfe 2004; Malinowska-Sempruch and Gallagher 2004) Other official state-sanctioned structural and direct violence leading to poor health outcomes such as the creation of massive incarcerated 'drug crime charged' populations with their attendant diseases and poor health, the forced treatment of the healthy, and the denial of treatment for problematic substance users or pain sufferers also ought be examined in light of core medical violence support. The same goes for other human rights violations and violent acts committed on humans bodies as a result of the corrupting influences and awesome purchasing-power of the

massive, unregulated, untaxed blackmarket profit from the prohibition-enabled "drug trade" such as murders, gunshot wounds, mutilations, human trafficking, human "mules", victims of traumatic violence funded by black market profits (Farmer 2005, 1999; Chien *et al.* 2000; Ott 1996; Nordstrom 2004). Such an analysis, I believe, will point out that medicine as an institution, has a great deal of blood on its hands—much more than normally expected.

2. Grounding psychoactive substance use in place, culture, and health: Geographic context of non-problematic and beneficial use

I argue here that medicine has essentially officially blinded itself to non-pathological psychoactive substance use grounded in place, religion/culture and health which forms the basis of the human geography of non-problematic and beneficial substance use. Medical knowledge and diagnostic criteria remain largely uninformed and unaware of patterns of non-problematic or beneficial psychoactive substance use because patients are strongly dissuaded from disclosing their use of illegal psychoactive substances to their health care providers for fear of legal repercussions. Moreover, health care practitioners suffer from what has been called the "Clinician's Illusion", a term that refers to the misconceptions that practitioners have regarding the duration and severity of illness in the general population based on clinical impressions (Cohen and Cohen 1984). Because health care providers see a disproportionately large number of serious and chronic cases of problematic substance use, they are generally unaware of normal, unproblematic psychoactive substance use patterns that predominate in the population (Polack 1995). What I intend to do is address the question of why some people choose to healthily use psychoactive substances even if the law forbids it. I am specifically interested in those uses that are reflective of an ongoing geographic relationship with the land, that are part of a meaningful geographic experience, and that are elements of healing and/or transformative experiences.

The laws which prohibit the possession and use of psychoactive plants and plant-derived products deny, at a fundamental level, a particular type of "nature-society" and human land use relationship that has been a universal feature of human cultures across the globe since prior to recorded history. Medicine, too, denies this nature-society relationship when it deems 'sick' and 'mentally disordered' those who are pursued or accidentally discovered by law enforcement authorities for possession, use, or vocalization/popularization of illegal plant-derived psychoactive substances and their artificial congeners. As the goal of medicine is to study and understand human health and disease in their wide context as per the *biopsychosocial* model (Engel 1977), then recognition of the essential linkages between human behaviors embedded in a *socio*-cultural, human *bio*logical evolutionary context related to the seeking out and experiencing of certain mind-altering (*psycho*-) interactions between their bodies and substances from their surrounding *bio*physical environment is needed. There are many fields of study that recognize the intrinsic and indelible linkages between humans (and other mammals), the land, and psychoactive plants. First, there is entheobotany. As defined before, this is the field of study that recognizes the ordinary and integrated role that psychoactive plants play in nature, ecology, and human usage both historically and currently. Entheobotany is a specialization in the general field of ethnobotany which

studies human usage of all types of plants (Balick and Cox 1996). Entheobotany specifically focuses on those plants humans use that play a role in religious or shamanic ecstasy. Richard Evan Schultes, the famed curator of the Harvard Botanical Museum and "Father of Ethnobotany", writes in his book *Plants of the Gods: Their Sacred, Healing, and Hallucinogenic Powers* that approximately 130 plants species have historically been used by humans for their mind-altering properties in the Western Hemisphere while 50 or so plant species were used in the Eastern Hemisphere (Schultes, Hoffman, Rätsch 1998). Humans also use animal-derived products for psychoactive inebriation. The field of study for investigations into these types of human activities is known as entheozoöpharmacognosy. For example, the Sonoran Desert Toad (*Bufo alvaris*) in the Southwestern United States secretes in its venom the psychoactive chemical 5-Methoxy-N,N-dimethyltryptamine,15% by volume (Weil and Davis 1994; Müller-Ebeling, Rätsch, Shahi 2002). Ethnographic reports from Mesoamerica have mentioned toads appearing in iconographical representations and mythological accounts. It is possible that the presence of psychoactive compounds in toad secretions may partly explain why toads are revered and have been revered historically. Additionally, gecko tails are known to contain entheogenic compounds that sadhus in South Asia are known to utilize. It should be noted that many animals, too, seek out psychoactive plants, as a routine part of their foraging and eating behaviors (Samorini 2002) and that many human discoveries of psychoactive plants are said to have arisen by observing and copying animals' feeding interests. These fields thus describe the ecological embeddedness of human psychoactive substance use behaviors in the plant, animal, and fungi kingdoms.

Yi-Fu Tuan has called for the need for a William James "to study the Varieties of Environmental Experience" (1990). I believe that the description and study of the human experience of natural entheobotanical landscapes can add to such a study. What I am proposing is that much of human psychoactive substance use is a fundamental and specific part of the class of human activities known as land use, and human-medical-cultural geography can understand these activities in much the same way that human interactions with other landscapes are studied and understood. Landscapes containing entheobotantical plants that are used and understood in that way can be said to be 'entheobotanical landscapes.' When describing how humans experience such landscapes, there is no need to privilege the visual or the auditory experience of the landscape as the sole mode of interaction. Another way to experience a landscape is to simply ingest part of it. Already, as early as 1973, papers in geography journals began to appear concerning the practice of geophagy—human consumption of dirt and clay (Hunter). In the same way, one can see the human consumption of entheobotanical landscapes as a geographic phenomenon. Once humans ingest certain portions of an entheobotanical landscape, entheogenic chemicals found in the landscape come into physical contact with the cellular receptors in their bodies producing downstream effects that eventually culminate in altered states of consciousness. This is what I would call a "deep" bodily experience with the landscape. Interestingly, some psychoactive chemicals that are ingested from the landscape are chemically identical to endogenously produced biochemicals. This is true for morphine from *Papaver Somniferum* and N,N-dimethyltryptamine from various plant sources, as both of these chemicals are made in the body (Ott 1997; Halpern 2004; Strassman 2001). Understanding this allows us to view psychoactive chemicals from the landscape as 'supplements' to endogenous biochemicals. Many exist today, both in the

underdeveloped and overdeveloped worlds, whose use of entheogenic plants can be well understood as part of landscape encounters. These would be excellent populations to study. In fact, one can describe humans' use of entheogenic plants, plant products, and their congeners in the context of their proximity to the landscape. On one end of the spectrum would be, using *Erythroxylum coca* as an example, picking and chewing wild-growing coca leaves in rural Peru and at other the other end would be purchasing and smoking crack cocaine on an urban street corner in Seattle (a highly processed, highly concentrated, packaged, and baking soda-diluted version of coca). One question I am interested in exploring is whether or not when human groups are closer to a plant-landscape relationship with a psychoactive plant or plant product, problematic use patterns are less likely to arise (Weil 2004).

Psychoactive plants have played and continue to play a central role in the spiritual and religious lives of individuals and communities. This aspect of the human geography of non-problematic and beneficial psychoactive substance use is related partly to the phenomenology of the "deep" human subjective experience with psychoactive plants and partly to the socio-cultural-spiritual contexts of these experiences. Geographer Clarissa Kimber has written about the use of peyote by the Native American Church in a chapter co-authored with Darrel McDonald entitled "Sacred and Profane Uses of the Cactus *Lophophora Williamsii* from the South Texas Peyote Gardens" published in the collection *Dangerous Harvest: Drug Plants and the Transformation of Indigenous Landscapes*, edited by three geographers (Steinberg, Hobbs, Mathewson 2004). The Native American Church has over 300,000 members across the United States and are the only group that is federally protected when using a Schedule I substance as a sacrament. A law passed by US Congress protects those who are at least 51% Native American by lineage in their use of peyote which, although legally in the most controlled category in the United States, remains explicitly unscheduled in Canada. Kent Mathewson in an upcoming piece refers to another entheogen in wide use: *yage* or ayahuasca in South America in shamanic and spiritual practices (in press). Again, the centrality of entheobotanical landscapes in these religious and spiritual practices makes them ripe for geographic study and description. Interestingly, sometimes entheogenic plants, plant products, and congeners with chemically similar active principles are discovered and rediscovered by various spatially and temporally distant cultures and societies and independently incorporated in to their respective religious and spiritual practices. For example, the Eleusinian mystery cults in Ancient Greece, in their longstanding ritual practices of 2 millennia, likely used an entheogenic wine prepared from *Claviceps Purpurea*, an ergot fungus that grows on rye grain in the region (Wasson *et al.* 1986). The lysergic acid amides found in ergot are structurally of the same chemical class, erogline alkaloids, as the active principles in the drink prepared from Morning Glory (*Turbina corymbosa*) seeds known as *ololiuhqui*, traditionally used by Native Mexicans in Oxaca and other areas. Of course, when Albert Hoffman synthesized LSD—lysergic acid diethylamide in 1938, also of the ergoline class—many who subsequently used the drug described their experiences as religious or spiritual. The Eleusinian mystery cult participants, the *ololiuhqui* imbibers, and the modern beneficial LSD users, all separated in time and space, are all linked together by ergolines. Another way that spiritual entheogenic experiences are linked is phenomenologically. The phenomenology of the religious, spiritual, or mystical experiences catalyzed by entheogens has been described

by Yi-Fu Tuan as being one a way to understand and experience sacred space. In his chapter, "Sacred Space: Explorations of an Idea", Tuan writes about the modern loss of the sense of sacredness and how it can be reclaimed. "Contemporary life, however pleasant and exciting, moves on one plane—the plane encompassed by rational and humanist vision. Ecstasy and dread, the heights and the depths, the awesome and the transcendent rarely intrude on our lives and our landscapes except under the influence of chemical stimulus" (Tuan 1978). In a later work, *Escapism*, Tuan writes "What must one do to see the world in this way? Certain chemicals help. Some American Indians, for example, eat the root [sic] of peyote in their sacred rites. The rites themselves heighten awareness, and the active element in peyote, mescaline, heightens it further" (1998). With such experiences, everyplace becomes a sacred place.

The centrality and importance of ecstatic altered states of consciousness in heightening human awareness historically and currently, religious or otherwise, entheogen-catalysed or otherwise, cannot be understated. These can be such meaningful and transformative experience that it would be proper to call them health-beneficial and developmentally-catalytic experiences. The grounding of these healing experiences is at the neurobiological and cognitive levels. The philosophical grounding is at the somaesthetic level. A passage from Michael Winkelman's *Shamanism: The Neural Ecology of Consciousness and Healing* illustrates the intricacy of our current neurobiological understandings:

> The different ASCs [altered states of consciousness] found cross-culturally involve similar integrative brain wave patterns across the neuraxis. A wide variety of techniques produce a parasympathetic dominant state characterized by entrainment of the frontal cortex by highly coherent and synchronized slow-wave discharges emanating from the limbic system and related lower-brain structures. These procedures and conditions produce an integration of information processing between the R-complex and the limbic system, between the limbic system and the frontal cortex, and between the hemispheres of the cortex. Evidence for the biological basis of this mode of consciousness is found in cross-cultural studies, in the psychobiological effects of various ASC agents and procedures, and in several common phenomena that manifest this general pattern of interrelationships among brain systems…conditions producing temporal lobe discharges also predispose individuals to enter ASCs… (2000, pg. 114)

Induction of altered states of consciousness through chemical means is a long-standing and universal human activity that may or may not involve integrative or transcendent forms of consciousness, but do permit the manifestations of these forms of consciousness. These experiences can be brought about through self-medicating or physician-directed medicating practices, given the proper set and setting. At the cognitive level, little comprehensive work has been done, but Benny Shanon's work *The Antipodes of the Mind: Charting the Phenomenology of the Ayahuasca Experience* (2002) and Mitch Earleywine's *Mind-altering drugs: The Science of Subjective Experience* (2005) offer directions at scientifically understanding subjective human cognitive experience catalyzed by use of psychoactive substances. One common and powerful experiential motif catalyzed by entheogens is metaphorically understood as

"ego-death." This is a cognitive experience related to the loosening up of extant cognitive concepts regarding "self" and "world." With reflection, cognitive patterns and frameworks can become shaped and modeled anew to help catalyze great leaps forward in self-development or healing of pathologically-ordered cognitive states. John Halpern has called this a "narcissiolytic" effect (Halpern 2003). For example, psilocybin, the active principle in psychoactive mushrooms of the *Psilocybe spp*., *Concocybe spp*., *Panaeolus spp.*, *Stropharia spp.*, is currently being investigated in FDA-approved trials for the treatment of refractory Obsessive Compulsive Disorder at the University of Arizona. In addition therapeutic effects in such clinical studies, there are numerous health beneficial usages of Schedule I psychoactive substances that are often realized via clandestine self-medication and/or in places where certain US Federal drug control laws are less heavily enforced. Two examples that come to mind are the thousands of patients who are documented by physicians in California to have benefited from "cannabis-substitution therapy" as a way of ending problematic psychoactive substance use patterns with ethanol or opiates (Mikuriya 1970; 2004 and O'Connell 2005; + unpublished results, personal correspondence). Another example is the use of *Tabernathe iboga* or its active principle ibogaine (schedule I) as an "addiction interrupter" in iboga therapy houses in Canada, Mexico, or offshore on Caribbean Islands (Mash 2005; Duque 2005; *Ibogaine: Rite of Passage* 2004). These health-promoting and healing practices generally fall into the transpersonally therapeutic or integratively therapeutic categories in modern medicine. Unfortunately, as it now stands, deep regulatory red tape and legal restrictions on proprietary rights have almost completely stifled clinical development of these substances which are legally classified as "having has no currently accepted medical use in treatment in the United States." It is interesting to ask why it is that a Usan (a U.S.A. dweller) finds himself or herself on a Caribbean island off the coast of Florida when receiving "addiction interruption" treatment with ibogaine. This is related to the concept of seeking out therapeutic landscapes which I will address in the next section.

Subjective humanistic somaesthetic phenomenological research can explore an area that medicine in general has been loathe to comfortably comment on: the experience of pleasure, ecstasy, and euphoria. There are certain forms of pleasure-seeking that medicine and psychiatry *are* simply quite comfortable commenting on and even therapeutically recommending—the allied health discipline of sexology and the burgeoning treatment of "erectile dysfunction" attest to these comfortabilities. Additionally, when it comes to pleasures relating to the use of psychoactive substances, the DSM-IV offers 'straightforward' and 'forthright' guidelines to help diagnosticians make a differential diagnosis to distinguish non-problematic substance uses from mentally disordered ones (note the psychoactive substance that the DSM-IV chooses to normalize): "Substance-Related Disorders are distinguished from nonpathological substance use (e.g., "social" drinking) and from the use of medications for appropriate medical purpose…" Using medications for appropriate medical purposes includes, for example, a patient's use of diazepam (*Valium* ®), for physician-approved treatment of *anhedonia* prn (*pro re nata,* as the situation demands; as needed). With regards to other psychoactive substances or other somaesthetic practices, very little is understood or emphasized, if not de facto pathologized. One essential point to realize when aiming for a holistic view that does not fixate solely on the materials or substances that people use to induce ecstatic and euphoric states is that psychoactive substances often serve as tools or

keys to 'unlock' innate body states (Weil 1986). This can be studied by observing the rapid pharmacokinetics of a psychoactive substance in the body in relation to the quite delayed onset of the ecstatic experience. Given that there are a variety of techniques that produce a pleasurable and ecstatic state in a person (e.g., drumming, meditation, music, dance, hypnosis, guided imagery, trance-induction), it stands to reason that ecstatic and euphoric states are innate features of the body, phenomenological vistas of the "body-geography." Human use of psychoactive substances can be understood as tool use to explore bodily 'degrees of freedom', a kind of 'deep body exploration.' It should be duly noted that some—a few—choose to explore their bodies in a syringe-accessible way. Why would people choose to experience pleasure, euphoria, relaxation, laughter, at-one-ment, etc.? Simple: because these experiences are excellent stress-relievers, which is well understood as a superbly healthful aim and because they can lift melancholic and depressive moods. Moreover, pleasure is a human drive that is innate and not in itself pathological. Jonathan Ott, a most excellent commentator with interdisciplinary grounding related to entheogens (who peppers his book with fantastic alliteration such as "Our procrustean and punitive 'Public Health Laws' are perverting and pathologizing primæval pastimes impervious to legislation, and its time we took a true public-health tack" (p. 76)), writes in his book *Pharmacophilia or The Natural Paradises*:

> Something so common, yea, all-but-universal as the pursuit of pleasure, basic to biology, can't be dismissed as dysfunction, nor can it be argued that drug-seeking behavior involves the 'abuse' of reward pathways designed for other pursuits, given our knowledge of zoöpharmacognosy. Our innate *impetus* to inebriation is part and parcel of survival-oriented biological drives—feeding and reproduction—and best viewed, as I have said, as another type of alimentation. On the other hand, I would not be understood as contending that there cannot exist pathological *expressions* of intrinsic drives, whether violent and hurtful sexual perversions of the mating instinct, addictions to fasting and extreme and unhealthful feeding habits, or, of course, unhealthy fixations on inebriation. (1997, p. 58)

Others have taken an evolutionary biopsychology approach to human psychotropic substance-seeking (Sullivan and Hagen 2002; Fabrega 1997).

3. Towards harm reduction and benefit maximization by fostering therapeutic landscapes for human psychoactive substance use: geography as set and setting

Wilbert Gesler's concept of therapeutic landscapes is an excellent starting point to understand the "set and setting" that shape the every aspect of altered states of consciousness that people experience, especially those catalyzed by psychoactive substances. In his paper entitled "Therapeutic Landscapes: Medical Issue in Light of the New Cultural Geography", Gesler takes a broad view with a panoply of lenses when describing therapeutic landscapes, taking into consideration humanistic, structuralist, and cultural materialist envisionings. Gesler recognizes that every patient/provider interaction occurs in a particular place influenced by the "negotiated reality" of the therapeutic community. He writes: "The exchange between the patient who is trying to

express a problem, perhaps using language that is a mixture of lay and biomedical terms, and the physician who is simultaneously trying to impress by categorizing symptoms according to a learned scientific system and to communicate with the patient, is an ongoing negotiation. The place in which the interaction takes place is clearly of importance" (1992, p. 742). It is unclear whether Gesler would appreciate the extension of his concept of therapeutic landscapes that I offer here, but I am surprised that such considerations have not, out of necessity, previously appeared in his papers, most notably in the paper he wrote on Epidauros, Greece (Gesler 1993). Gesler's paper on the therapeutic landscape of Epidauros during the time of the Aesclepian healing cult practices thoroughly addresses the set and setting of the therapeutic experience there but does not at all mention the vital importance of opium, and quite possibly other entheogenic preparations, in the healing temple incubations that were practiced there (Askitopoulou *et al.* 2002) In short, the 'therapeutic landscape' that Gesler describes is a vital, yet incomplete description, of the opium-catalyzed healing experience that occurred there. Since the opium was likely grown and collected on land surrounding the temple, this gives another reason that its use was an essential ingredient of the 'therapeutic landscape'.

Nevertheless, Gesler's insights into "negotiated reality" shed light onto why and how the psychological and cognitive effects of certain scheduled psychoactive substances are so narrowly understood by many healthcare practitioners, especially as reflected in much "substance abuse" prevention and academic literature. Medical geographic insight can help to better understand the psychosocial environment that shapes the experience of psychoactive substance-catalyzed ASC's. For example, the authors of a recent study in the medical literature who purported to show a link between cannabis use and psychosis administered a questionnaire to study participants that was meant to address schizophrenia-like symptomology (Fergusson *et al.* 2005). The questions include items that any one who engages in legally deviant behavior would have to endorse, even if they are not psychotic (Aggarwal, Carter, Steinborn 2005). Other scholars, in commenting on the decontextualization flaws in the study's methodologies, wrote: "Someone using a substance that is both illegal and socially frowned-upon almost by definition has 'ideas or beliefs that others do not share.' This is not a sign of mental illness, but rather an indication of a rational, thinking person realistically assessing his or her situation. Considering the widespread use of undercover officers in drug stings, the same can be said for 'feeling other people cannot be trusted'" (Mirken and Earleywine 2005). Thus, feeling "paranoid" after using a psychoactive substance may be more related to the legally hostile environment towards the psychoactive substance and its users rather than any particular organic effect of the substance. Other subjective effects of psychoactive substances too have been narrowly construed in the academic and prevention literature. For example, many write that one subjective effect of cannabis is 'short-term memory loss.' To be sure, this psychological effect is culturally conditioned by the psychological 'set' with which an individual interprets or understands his subjective experience. Short-term memory loss could also be interpreted as 'seeing the world anew' or 'extinguishing unpleasant memories and becoming attuned to the present.' Michael Pollan, the former editor of *Harper's Weekly*, and author of the best-selling book *The Botany of Desire* (2001) offers such an interpretation of the subjective effects of cannabis that 'culturally

competes' with the messages trumpeted in prevention materials and the academic literature regarding this particular psychological effect of cannabis. Pollan writes:

> The THC in marijuana and the brain's endogenous cannabinoids work in much the same way, but THC is far stronger and more persistent than anadamide, which, like most neurotransmitters, is designed to break down very soon after its release. (Chocolate, of all things, seems to slow this process, which might account for its own subtle mood-altering properties.) What this suggests is that smoking marijuana may overstimulate the brain's built-in forgetting faculty, exaggerating its normal operations.
>
> This is no small thing. Indeed, I would venture that, more than any other single quality, it is the relentless moment-by-moment forgetting, this draining of the pool of sense impression almost as quickly as it fills, that gives the experience of consciousness under marijuana its peculiar texture. It helps account for the sharpening of sensory perceptions, for the aura of profundity in which cannabis bathes the most ordinary insights, and, perhaps most important of all, for the sense that time has slowed or even stopped. For it is only by forgetting that we ever really drop the thread of time and approach the experience of living in the present moment, so elusive in ordinary hours. And the wonder of that experience, perhaps more than any other, seems to be at the very heart of the human desire to change consciousness, whether by means of drugs or any other technique. (p. 162)
> …
> It is by temporarily mislaying much of what we already know (or think we know) that cannabis restores a kind of innocence to our perceptions of the world, and innocence in adults will always flirt with embarrassment. The cannabinoids are molecules with the power to make romantics and transcendentalists of us all. By disabling our moment-by-moment memory, which is ever pulling us off the astounding frontier of the present and throwing us back onto the mapped byways of the past, the cannabinoids open a space for something nearer to direct experience. By the grace of this forgetting, we temporarily shelve our inherited ways of looking and see things as if for the first time, so that even something as ordinary as ice cream becomes *Ice cream!*
>
> There is another word for this extremist noticing—this sense of first sight unencumbered by knowingness, by the already-been-theres and seen-thats of the adult mind—and that word, of course, is *wonder*. (p. 168)

Pollan's eloquent prose about deconditioning and wonderment takes an entirely different perspective on so-called "short-term memory loss" effect of cannabis. Messages from government-funded prevention agencies are always competing in the population with messages from other elements parts of the culture, be it via television shows, music lyrics, movies, books, or any other source about the effects of psychoactive substances. Sometimes the US Federal Government actively pursues those who are responsible for introducing antithetical messages in the popular culture that radically differ from 'official' messages. A good example of this is Tommy Chong, an actor whose *Cheech*

and Chong movies were quite popular and well-received and continue to be so today. Chong was arrested and imprisoned as part of 'Operation Pipe Dreams' led by then US Attorney General John Ashcroft for selling drug paraphernalia. In the sentencing memorandum, federal prosecutors cited Chong's movies as "glamorizing the illegal use and distribution of marijuana and trivializing law-enforcement efforts to combat drug use" ("Chong says he was targeted for his hippie persona" 9/8/05).

References to the pleasing qualities of scheduled controlled substances are virtually everywhere. They help form the 'set' with which many approach their own experiences with these substances. Here is another example of how these references are in conflict with prevailing medical-psychiatric orthodoxy. What the DSM-IV may call "Hallucinogen-Induced Toxicity" mental disorder others will come to view as a powerful spiritual experiences that may proffer a kind of knowledge (*gnosis*) about oneself and the world. One type of knowledge that people report as an outgrowth of their use of certain psychoactive substances is a sense of unity and at-onement in a non-dualistic sense about themselves vis-à-vis the world. This 'intuitive knowledge' can in fact be grounded in modern day systems theory, Gaianism, and deep ecology—all these offering a modern 'scientific' language to understand and talk about the *gnosis* gleaned from the unitive experiences catalyzed by entheogens (Capra 1982, 1988, 1996; Lovelock 1979; Bache 2000; Baetson 1980). The mainstream medical establishment, putting aside the revolutionary field of transpersonal psychiatry, essentially has only one word for these effects, in deference to the controlled substances legal framework: toxic. It becomes abundantly clear that in much of the medical/psychiatric academic and official government-sponsored prevention literature, there is an unstated goal to stop people, using rhetorically persuasive means, from ever using or trying a Schedule I or Schedule II substance. One has to only reflect on the imagined medico-legal geographies to see their impossibility: their hope is to create a world that is "drug free" (neglecting tobacco, caffeine, alcohol, psychopharmaceuticals, etc.), and one in which all stray coca, cannabis, and opium plants are completely eliminated, or better yet: a world in which no humans will care to wonder what the effects of these plants are on their bodies.

Returning to the example of cannabis, to lessen the effects of prohibition-generated paranoia and further their access to a safe and healthful supply of this 'controlled' psychoactive substance, some populations who engage in beneficial cannabis use have migrated in response to the state-federal-global patchwork of drug control laws. Many have moved west to Oregon, Washington, and California, where strong, state-level medical marijuana laws offer the right 'therapeutic landscape.' They have been moved to migrate in order to maximize their beneficial use of cannabis. Many have also crossed into Canada seeking safety in that country's more tolerant legal system. Some U.S. populations have also democratically chosen to pass city ordinances to make marijuana the "lowest law enforcement" priority. Laws like Seattle's I-75 which passed in September 2003 or Oakland's Measure Z which passed in November 2004 serve as "paranoia-minimization" laws for nonproblematic and beneficial cannabis users. Citizens in these cities play an active role in creating a 'therapeutic landscape.' There are also populations of beneficial cannabis users who have clandestinely self-medicated for years for treatment of psychological symptom complexes and who have staved-off more problematic substance use patterns with alcohol, nicotine, and opiates because of their use of cannabis. After medical marijuana protection laws were passed, a subgroup of this

population sought legal protection with a physician's recommendation for their heretofore illegal cannabis use. One physician in California, Dr. Tom O'Connell, has documented over 2000 such cases (O'Connell 2005); I intend to help write up his finding for peer-reviewed publication. The individuals in O'Connell's cohort and others like them benefited in their young adult years with their introduction (via the blackmarket) to a more diverse psychoactive substance portfolio that included cannabis. This begs the important question of whether or not access to a more diversified psychoactive materia medica, one that is heavily based on raw plant materials, would be helpful for persons and populations who are at high risk for developing problematic use patterns. Would not the ready availability of coca leaves and coca plants perhaps satisfy the psychostimulation desires of many who turn to powder or free-base cocaine (Weil 2004)? Would perhaps access to opium poppy juices that could be taken in oral form help to satisfy those who are interested in experiencing the effects of opiates? Introducing safer, plant-based psychoactive substances would, I believe, tend to produce a much more therapeutic landscape, a diversified 'garden'. Similarly, the creation of safe legal places for the intravenous injection of opiates, as the city of Vancouver, B.C. has done in the heart of its Downtown Eastside district, generates a therapeutic landscape for injection-drug users where public health, harm reduction, and treatment options can be presented.

The current decidedly un-therapeutic landscape, shaped by the structurally violent and prohibitive 'drug control' laws which undermine civil liberties (speech and religion, body privacy) and perpetuate disastrous public health outcomes and human rights violations, must be changed. There are, nevertheless, political groups and economic sectors that benefit from the status quo arrangement that continues today. The tobacco companies, alcohol sellers, drug treatment industry, prison and parole systems, pharmaceutical companies, surveillance technology manufacturers and biosurveillance technology manufacturers, all those interested in maintaining control and retaining sanctioned methods for suppressing dissident groups and threatening social elements—these are among the modern 'drug control' beneficiaries. The benefits that these groups *gain* as a function of the increasing *harms* bestowed on illegal psychoactive substance-using populations and the benefits that these groups *lose* as a function of increasing *benefits* bestowed on substance-using populations ought to be explored. For example, a preliminary investigations I have done has revealed that nearly all the states which have passed medical marijuana laws in the United States and thereby improved their therapeutic landscapes and benefited those who use cannabis health-beneficially, rank at the bottom of list when it comes to a state-level market-indicator that the pharmaceutical companies pay close attention to: total prescriptions filled per capita. Almost all of the medical marijuana states (9 out of 11) were at the bottom of the ranked state list of total prescriptions filled per capita. This sheds some insight into the geography of who benefits, and who loses out.

I'm open to your questions.

Thank you,

Sunil Aggarwal

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