Psychoactive substances and the English language: "Drugs," discourses, and public policy

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This article undertakes a historical ontology of psychoactive substances, or, in other words, an exploration of the philosophical and political nature of modern categories for plants and chemicals that alter consciousness. Drawing on the ideas of Michel Foucault and Ian Hacking and using the method of critical discourse analysis, I elucidate three distinct contemporary meanings of the English word "drug." Further, I demonstrate how these meanings of "drug" map onto a modern stereotypology of psychoactive substances that informs public discourses and sustains an ideological drug war paradigm. I trace this paradigm through the generative metaphors of drugs as "malevolent agents" and "pathogens" in modern public discourses, and explore how these metaphors frame and support policy responses within the international drug control regime that are inconsistent with human rights. In so doing, I argue that the language we use to talk and think about "drugs" may not be ideal for crafting sound public policy.

KEY WORDS: *Drug, psychoactive substance, policy, critical discourse analysis, language, metaphor, stigma.*

The word "drug" would not seem to present a definitional challenge to speakers of the English language. Its meaning is seen as a matter of common sense, and it is used freely in contemporary public, professional, and political discourses. However, the lexeme "drug" warrants closer scrutiny, especially inasmuch as its different senses and dominant metaphorical frames shape public policy governing psychoactive substances and the people who use them. In this article, I explore the political and philosophical complexities of the word "drug." Specifically, I argue that it functions within a modern folk stereotypology of psychoactive substances that reflects the ideological underpinnings (i.e., basic convictions, philosophical assumptions, and axiomatic beliefs) of what may be termed a "drug war paradigm." In analyzing how the word "drug" operates within this paradigm, I explicitly invoke Kuhn's (1962) postulation of a shared epistemic model in a domain of knowledge, which guides thinking in such domains as academic research, health, law enforcement, and education, and more broadly, public policies (Fischer, 2003).

The label "drug war paradigm" refers to the broad set of ideological beliefs that underlie the international drug control regime and justify the intimidation, surveillance, arrest, incarceration, denial of human rights, and other extreme measures of social control directed at people who produce, trade, and use certain kinds of psychoactive substances, deemed morally and criminally objectionable in the legal statutes and justice systems of countries adhering to the United Nations' international drug control conventions. This article aims to show that such a paradigm is evident in how the word "drug" operates in contemporary English language discourses, and that the crafting of alternative drug policies, in order to better align with human rights and public health principles, may require the public and policy makers to question dominant contemporary "drug" discourses.

Illuminating how the concept of "drug" operates within the drug war paradigm involves engaging in what Ian Hacking

(2002) describes as *historical ontology*. Ontology is a branch of metaphysics that analyzes the existence and categorization of reality, querying what exists and how it should be classified. Historical ontology, a term Hacking borrows from Foucault (1984), is an exercise in tracing how kinds of things —particularly those relating to human beliefs or practices— are constituted, both historically and currently, through the enduring dynamic of social or discursive constructions. Social constructions are categories that have been established through the linguistic and conceptual conventions of a particular culture or society (Hacking, 1999). The perspective of scholars such as Foucault and Hacking challenges us to look beyond the taken-for-granted categories in our linguistic representations of the world, and to query whether and how things might be otherwise (Burr, 2003). Identifying social constructions, as Hacking (1999, p. 58) puts it, "challenges complacent assumptions about the inevitability of what we have found out or our present ways of doing things." My aim in this article is to use Hacking's philosophical approach of historical ontology to demonstrate the contingent nature of contemporary thinking and talking about "drugs," and to suggest that language is an important factor to consider in efforts to shift both public opinion and government policy.

My method of inquiry is critical discourse analysis (CDA), a formalized way of identifying and critiquing the complex relationships between language and dominant social, political, and ideological structures. "Discourse" in CDA refers to language use as social practice, or how language functions to establish identities, social relationships, and systems of knowledge and belief (Rogers, Malancharuvil-Berkes, Mosley, Hui, & O'Garro-Joseph, 2005). As Fairclough (1992, p. 64) argues, discourse is a means of "not just representing the world, but of signifying the world, constituting and constructing the world in meaning." Discourses are manifested through texts, or the spoken or written instances of language-in-action; these are the concrete linguistic structures in which social understandings and ideologies are embedded (Hodge &

Kress, 1993). According to Luke (2002, p. 100), the method of "CDA sets out to capture the dynamic relationships between discourse and society, between the micropolitics of everyday texts and the macropolitical landscape of ideological forces and power relations." Thus, CDA provides opportunities for interrogating taken-for-granted beliefs in the social and political status quo, and rendering more visible some of the latent power structures inherent in the institutions of government and civil society.

Engaging in an historical ontology of "drugs" requires exploring how the categorization of psychoactive substances reflects tacit (yet contingent) cultural understandings and agreements about their nature. The question of what a drug is, therefore, is foremost an ontological question, and the answer one posits implicitly affects all consequent philosophical, investigative, and policy considerations (Seddon, 2010; Fraser & Moore, 2011). This question is especially pertinent with respect to counterintuitive ontological claims about particular psychoactive substances—such as coca leaf (Morales, 2006) or ayahuasca (Sting, 2003)—that they are not, in fact, "drugs." Such ostensible contradiction of common linguistic sense, not to mention authoritative legal opinion, warrants further investigation into what might give rise to such claims.

What is a "drug"?

In English, the noun "drug" is polysemic: it is a lexical item with several distinct meanings or referents, depending on the specific discursive context in which it is used. These different meanings and the semantic confusions they generate are apparent not only in the casual or lay uses of the word, but also in authoritative academic, medical, legal, and policy discourses. Seldom are the distinctions between the various meanings of "drug" articulated or made explicit, even in otherwise carefully considered discussions on the subject, and this has important implications for research, policies, and

practices relating to psychoactive substances. I distinguish three distinct contemporary meanings of "drug"—using numerical subscript markers for $drug_1$, $drug_2$ and $drug_3$, following Bruce Alexander's approach to distinguishing different meanings of "addiction" (2008)—and illustrate how these distinctions affect policy responses to psychoactive substances.[1]

The oldest and broadest meaning of the word "drug," here referred to as $drug_1$, is a chemical substance other than a food that alters metabolic or other functions when absorbed into the body. Etymologically derived from the Middle French term "*drogue*" (and cognate with "*droga*" in Spanish, Catalan, and Portuguese) in the 15th Century, the earliest meaning of "drug" was any substance, of animal, vegetable, or mineral origin, used as an ingredient in pharmacy, chemistry, dyeing, or various manufacturing processes (see "drug, *n*.[1.a.]", Oxford English Dictionary, 2009). Later, its meaning narrowed to refer to a substance used in the prevention or treatment of disease, or a substance that has a physiological effect on a living organism. Today, $drug_1$ is synonymous with "medicine," and it is this meaning of "drug" that is commonly understood when the word is used in phrases such as "drug store" (as pharmacies are commonly referred to in North America), "drug company," "wonder drug," or "pharmaceutical drug."[2] With the meaning of $drug_1$, the attribution of psychoactivity to a substance is indeterminate or irrelevant, as it is the general bodily or health effects that are salient, rather than whether or not a modified state of consciousness results from its ingestion. Common examples of $drug_1$ are numerous, and include formulations of substances such as acetylsalicylic acid (Aspirin™, to treat mild pain), atorvastatin (Lipitor™, to lower cholesterol), and amlodipine (Norvasc™, to treat hypertension), all of which are not psychoactive and are typically taken exclusively for medical purposes. However, $drug_1$ may also include psychoactive substances that are recognized by modern Western biomedical authorities as having therapeutic application, such as fluoxetine (Prozac™), diazepam (Valium™), tetrahydrocannabinol (Marinol™), amphetamines (Adderall™)

and methadone. In the early 20th Century, when the meaning of the word "drug" was becoming increasingly ambiguous in public and political discourses (due to its association with newly proscribed psychoactive substances such as opium and coca products), pharmacists in the United States engaged in a concerted public relations campaign (largely directed at editors of newspapers and other print media) to preserve $drug_1$ as the sole meaning of "drug" (Parascandola, 1995). The fact that they were unsuccessful is apparent in the continued ambiguity of the word "drug" today, whose negative connotations are embedded in the sense of $drug_3$, as discussed below.

A second meaning of "drug," $drug_2$, is a chemical substance other than a food that alters consciousness when absorbed into the body. Etymologically, this distinct sense of "drug" emerged in the English language in the 17th Century to denote the common effects on humans of distilled alcohol, opium, and other psychoactive substances ("drug, $n.^{1.b}$", Oxford English Dictionary, 2009). Today, when the word "drug" is used in the sense of $drug_2$, the referent is a psychoactive substance, regardless of its medical utility or legal status. The semantic scope of $drug_2$ includes some medicines (or $drug_1$), such as those listed above, but also other psychoactive substances typically used for nonmedical purposes, both legal and illegal. When people concede alcohol, tobacco or coffee to be "drugs"—which for much of the 20th Century was rare (Courtwright, 2005)—what they mean is $drug_2$. According to Parascandola (1995, pp. 158-9), the distinct meaning of $drug_2$ may have resulted from a linguistic process of conversion involving the verb form of "drug" (i.e., to drug someone), which was an older syntactic usage of the word (see "drug, $v.^2$," Oxford English Dictionary, 2009). The verb "drug" denotes the action of surreptitiously administering to someone a $drug_2$ (i.e., a psychoactive substance) to intentionally alter their consciousness. Yet, historically, and still typically today, the verb form of "drug" is used without any necessary implied connotation as to the legal status of the substance administered (although such action itself may be criminal). The mean-

ing of $drug_2$ is also metaphorically implicit in the concept of "digital drugs," or electronic sound files distributed online with drug-jargon names, the listening to which has recently been promoted (and sensationalized in media reports) as a legal way to alter consciousness.[3]

The third primary meaning of "drug," $drug_3$, refers to a plant or chemical substance that alters human consciousness and has been subjected to the most rigorous forms of control—typically criminalization—under the international drug control regime (which, as should be clear, was not established to restrict $drug_1$ or $drug_2$ per se). When the word "drug" is collocated with words such as "dealer," "trafficking," and "war," $drug_3$ is the intended meaning. This sense of "drug" emerged at the end of the 19th Century with the move towards international drug control and, despite the concerns of pharmacists in the United States (commonly known as "druggists" at the time) (Parascandola, 1995), was used synonymously with the now more anachronistic nouns "dope" or "narcotic." For example, the title of a large international meeting in Philadelphia in 1926, focusing on education about newly proscribed substances such as opium and cocaine, was the "First World Conference on Narcotic Education" (Middlemiss, 1926).[4] Today, the meaning of $drug_3$ is prevalent when the word "drug" is used in public and political discourses, although audiences are typically expected to distinguish it from its polyseme, $drug_1$, through rhetorical context. In the mass media, the word "drug" (meaning $drug_3$) often obscures important pharmacological and contextual factors when it is used as a vague synecdoche for specific illegal substances.[5] The prototypical examples of $drug_3$ are opium and its opioid derivatives, coca and cocaine, and cannabis, as well as psychedelics such as LSD, psilocybin, and mescaline.

The common phrase "alcohol and drugs"—which implies the former is somehow ontologically distinct from the latter—illustrates the conceptual bifurcation of $drug_2$ from $drug_3$ in public and political discourses during the 20th Century (Courtwright, 2005). The political failure of alcohol prohibi-

tion in various countries in the first half of the 20th Century may also have prompted some moral entrepreneurs not only to shift their focus to "drugs" (Schrad, 2010), but also to discursively position this ostensibly discrete object of policy concern as ontologically distinct from alcohol. Nevertheless, although in the past few decades there have been some shifts towards a lay recognition of legal psychoactive substances as akin to $drug_3$—evident, for example, in the phrases "AOD" (i.e., alcohol and other drugs) or ATOD (i.e., alcohol, tobacco and other drugs)—in ordinary usage the word "drug" rarely connotes alcohol, tobacco, or caffeine products.

Based on the preceding discussion of the various senses of the word "drug," I argue that the referent of $drug_2$—or what I will henceforth call "psychoactive substances" for clarity[6]—is an ontological category that provides a comparatively sound basis for policy that addresses the human tendency to alter consciousness with plants or chemicals. To illustrate why the category of "psychoactive substance" is conceptually preferable to the semantically ambiguous term "drug" for drug policy analysis, I propose, as a heuristic tool, a tripartite schema onto which the aforementioned meanings of "drug" can be mapped (Table 1). This schema represents a stereotypology of the three dominant social constructions of psychoactive substances in late modern public and political discourses—*drugs*, *non-drugs* and *medicines*—which implicitly reflect the 20th Century drug war paradigm. As will become clear in reference to my discussion about the word "drug" and its three possible meanings, the stereotype of *drug* is identical to $drug_3$, *medicine* is the subset of $drug_1$ that are psychoactive substances approved for medical uses, and *non-drugs* are the subset of $drug_2$ that are typically used for non-medical purposes yet are legal to both produce and consume. Following a brief exposition of the schema in the next section (where I use italics to identify these stereotypes), I discuss two dominant metaphors for "drugs" and their constitutive relation to the drug war paradigm, and conclude by considering their implications for stigma, human rights, and public policy.

TABLE 1
Schema of Modern Stereotypes of Psychoactive Substances

Non-drugs (= $drug_2$, *legal psychoactive substances*)	*Medicines* (= $drug_1$, *regulated psychoactive substances*)	*Drugs* (= $drug_3$, *illegal psychoactive substances*)
• Psychoactive substances not commonly considered *drugs* or *medicines* (e.g., alcohol, caffeine, nicotine, refined sugar)	• Psychoactive substances permitted for restricted and regimented use; designated by modern biomedicine regime	• Psychoactive substances deemed inherently bad or dangerous; little or no distinction made among them (e.g., coca, opium, cannabis, LSD, DMT)
• Use is condoned by the state, promoted by corporations, and permitted a matter of personal choice (by adults for alcohol and tobacco)	• Use is promoted by the state and private corporations, but only within a prescribed medical regimen requiring a physician's prescription	• Use is generally prohibited, and decision to use criminalized or pathologized as "abuse" or addiction
• Permitted for corporations to manufacture, market and distribute; CEOs socially and financially rewarded	• Permitted for corporations to manufacture, market and distribute; CEOs socially and financially rewarded	• Possession, production and/or distribution categorically prohibited; "dealers" demonized, criminalized and penalized
• Retail distribution may be conducted by adults, typically without special training or licensing	• Retail distribution may be conducted only by trained and licensed professional pharmacists	• Retail distribution conducted by outlaws (sometimes minors) without special training or licensing
• Pleasure permitted and tolerated or celebrated	• Pleasure pathologized and contraindicated as "euphoria"	• Pleasure pathologized, moralized and forbidden

Stereotypes of psychoactive substances

The most appropriate term for the first category of psycho-active substance stereotypes is *non-drugs*, because modern discourses have not traditionally admitted its constituent members as types of *drugs*, in the sense of drug$_3$. Examples of *non-drugs* include alcoholic beverages, caffeinated beverages, tobacco, and cacao products, and in some respects sugar.[7] I postulate the category *non-drugs* to conceptually designate what Courtwright (2005, p.110) observed to be a curious phenomenon of the 20th Century: "In both western medicine and in western popular culture, alcohol and tobacco effectively split off from other drugs, to the point that the ordinary understanding of the word 'drugs' came to exclude, rather than include, these substances." The broader perspective of the anthropology of consumption is useful in reflecting on *non-drugs* and the presumed distinction between foods and drugs, as historical and cross-cultural comparative studies show these categories to be social constructions that are by no means self-evident or stable (Sherratt, 2007). Indeed, one of the central issues in 19th Century temperance debates was whether or not alcohol was a food (Blair, 1888). Modern intuitions dictate that chocolate, coffee, and tea are more obviously foods than psychoactive substances (especially in comparison with another *non-drug*, tobacco, which is gradually shifting in public perception to being less easily distinguishable from a *drug*). By contrast, although coca has been determined by the international drug control regime to be unequivocally a *drug*, its leaves have significant nutritional value and can aid digestion (Duke, Aulik & Plowman, 1975), and thus its "food"—not just its stimulant—properties may have contributed to the reverence the plant has traditionally been accorded among Andean indigenous peoples.

With respect to modern drug policy, governments accept that people (in some cases children as well as adults) may use *non-drug* psychoactive substances responsibly, that the decision to do so is a matter of personal consumer choice. In other times

and places, plants that are today stereotyped as *drugs*—such as opium, coca, and cannabis—have been treated as something equivalent to *non-drugs* (i.e., as substances for unproblematic non-medical consumption and enjoyment) (Schivelbusch, 1992). Even today, it is within this paradoxical semantic space that sacramental use of a psychoactive substance such as peyote has been legitimated by the United States government, which deems the entheogenic practices of the Native American Church as "non-drug use" of the otherwise illegal *drug* peyote (Parker, 2001). Conversely, although it is a *non-drug* in most parts of the world, alcohol is forbidden as *haraam* in the Koran, and prohibited in some Muslim states (Michalak & Trocki, 2006). Tobacco has also moved in a similar direction in some parts of the world, most notably in Bhutan, where its government has instituted the world's first national ban on the sale of tobacco (Koh, Joosens & Connolly, 2007).[8] By contrast, economic policies aligned with the neo-liberal capitalist imperative allow, indeed oblige, corporations in the business of producing *non-drug* psychoactive substances to maximize shareholder profits by cultivating, processing, distributing, and marketing them (Bakan, 2004). While what distinguishes a *drug* from a *non-drug* psychoactive substance began to be questioned in academic circles towards the end of the 20th Century—especially as similarities among different kinds of substance dependence and other addictions become increasingly evident from neuroscientific, genetic, and epidemiological evidence (Courtwright, 2005)—the international drug control system remains largely oblivious to this shift.

In contradistinction to *non-drugs* is the category *drug* (in the sense of drug$_3$), which includes substances such as cannabis, coca leaf and cocaine, opium poppies and heroin, and LSD or DMT. As noted above, this category has been synonymous with other conceptually confused and ambiguous terms—such as "narcotic" (used as a noun) and "dope"—in past medical, legal, and educational discourses (Middlemiss, 1926; see also Parascandola, 1995). Nevertheless, although pharmacological

knowledge about the diverse natures and properties of the different kinds of psychoactive substances in this category has grown substantially, it remains the case that in dominant public, political, and even professional discourses about *drugs*, "use is use . . . and there is little distinction to be made between the use of one kind of substance over another" (Moore, 2004, p. 421). As a result, substances as diverse as cannabis, cocaine, and heroin serve as indistinguishable prototypes, or representative examples (Lakoff, 1987), of the category "drug"; in the terminology of the U.S. National Institute on Drug Abuse, they are characterized simplistically and nebulously as "drugs of abuse" (National Institute on Drug Abuse, 2010). Policies about *drugs* reflect an a priori assumption that they cannot be consumed nonproblematically or responsibly, except insofar as they may have limited medical or scientific applications, and nonmedical use is criminalized or pathologized (as either abuse or addiction). The production and distribution of most psychoactive substances in this class is prohibited, except within the restricted regulatory domain of the pharmaceutical sector (in which case, *drugs* are almost magically transubstantiated into *medicines*), and those who do engage in their unauthorized trade, rather than being celebrated for their entrepreneurial capitalist initiative, are maligned as "dealers" and "pushers" (Coomber, 2006).

Finally, in this general schema of modern stereotypes for psychoactive substances, there is a third category, *medicine*, which lies between (and sometimes overlaps) the categories of *non-drugs* and *drugs*. As with the other two categories, *medicine* is a social construction that reflects the power dynamics of a particular time and place; in other words, there are no properties inherent in a substance that allow one to infer that it is, or should be, regarded as a *medicine*. Rather, depending on the cultural and discursive context—for example, whether in rural Latin American folk healing, traditional Chinese herbalism, or Western European acute care hospital practices—what is categorized as a medicine can be quite different. Furthermore, medical anthropological research shows that

discourses themselves can affect a substance's therapeutic impact in psychological and somatic domains (Harrington, 2008)—and this is especially the case if it is psychoactive. In other words, the therapeutic properties of a psychoactive substance cannot be reduced simply to its pharmacokinetic action. In dominant modern Western discourses, the authoritative recognition of *medicines* reflects the economic and political imperatives of physicians, the pharmaceutical industry, and government bureaucracies, among others.

A discursive history of *medicines* suggests that at different times and places their legitimization and delegitimization as remedies has varied according to cultural and professional opinions, but not necessarily as the result of changes in the nature of the substance itself. For example, many of today's common *non-drugs*—such as coffee, cacao, tobacco, and distilled alcohol—were introduced into Western culture originally as *medicines* (Cowan, 2005; J. Warner, 2002). Likewise, many currently illegal *drugs* have been considered vital *medicines* in different times and places, but have lost that status (often in the flagrant absence of sound scientific evidence) as biomedicine became increasingly intertwined with the international drug control regime and infused by the drug war paradigm. For example, although cannabis had been used medicinally in many cultures throughout history, it was universally excoriated as a *drug* in the 20th Century by the international drug control regime, and has only recently started to recover its former status as a *medicine* (Russo, 2007). Lysergic acid diethylamide (LSD) was a promising psychiatric *medicine* in the 1950s and early 1960s, but when its nonmedical use became headline news and the subject of moral panic, it quickly became a demonized *drug* with no authorized medical utility and the object of political stigma that repressed even scientific research into its therapeutic potential (Dyck, 2008). Methylenedioxymethamphetamine, or MDMA (more popularly known as "ecstasy"), was used therapeutically in underground circles in the 1970s, but was declared a Schedule I *drug* by the U.S. Drug Enforcement Administration in the 1980s.

However, perseverance by activists and researchers has led to scientific studies showing remarkable therapeutic benefits (Mithoefer, Wagner, Mithoefer, Jerome, & Doblin, 2011), so MDMA may be poised for approval as a *medicine* in the United States and elsewhere. These examples demonstrate that what makes a psychoactive substance a *medicine* seems to have as much to do with vested economic or political interests as it has with historically grounded or scientifically informed evidence of therapeutic value.

The stereotypology of psychoactive substances and the schematic categories of *drugs*, *non-drugs*, and *medicines* help illustrate how today's dominant public and political (and often, by extension, academic and professional) discourses sustain an ideological frame that contributes to the stigmatization and human rights violations of vulnerable individuals and populations. I will say more about this by way of conclusion, but in the meantime it is important to keep in mind that "classifications . . . exist [not] only in the empty space of language but in institutions, practices, material interactions with things and other people" (Hacking, 1999, p. 31). A deeper consideration of the discursive foundations of the stereotype of *drugs*—specifically, looking carefully at the metaphors that operate in the language we use to talk about certain kinds of psychoactive substances and the people who use them—reveals how our rhetorical conventions implicitly convey embedded ideological assumptions about psychoactive substances in the operation of civil institutions, despite being questionable as foundations for healthy public policy.

"Drug" metaphors

Metaphor (deriving etymologically from Greek roots and meaning "carry across") is a linguistic trope that juxtaposes two unlike things in order to illuminate one of them through association or resemblance. Once considered intellectually vulgar and a vehicle for dissembling, metaphors have been

rehabilitated through research in disciplines such as cognitive science and psycholinguistics, providing insights into how integral these kinds of linguistic forms are to semantics and thought. Metaphors are now understood to be a fundamental component of human cognition, linking the abstract to the concrete. Their ideological force is noted by Lakoff and Johnson, who assert that metaphors "play a central role in the construction of social and political reality" (1980, p. 159). In the discursive realm of public policy, Schön (1993) argues that "generative metaphors" are tropes that can impose significant analytical constraints on framing policy solutions to intractable social problems (see also Fischer, 2003, pp. 169-171). This is as much the case in the arena of drug policy as in any other, where a number of common metaphors applied to *drug* psychoactive substances and their use circulate in contemporary political discourses (Montagne, 1988). In the discursive history of the modern drug war paradigm, two dominant metaphors have prevailed since at least the 18th Century: "drugs as malevolent agents" and "drugs as pathogens." Each of these informs competing, yet curiously complementary, systems of social control over people who use psychoactive substances for nonmedical purposes, and together they have been the primary scaffolding for the definition of the modern drug policy problem (Sharp, 1994).

The primary metaphor implicit in the discourses of the international drug control regime and of many national drug policies is that of "drugs as malevolent agents." By this conceptualization, a substance is understood as a kind of intrinsically evil force, like a demon or wild creature, possessing its own nefarious volition and the capacity to subjugate or override the free will of "weak" or "immoral" individuals. This metaphor is evident in early modern public discourses on psychoactive substance use, such as in this couplet of Reverend James Townley's, engraved on Hogarth's 1751 print "Gin Lane": "Gin, cursed fiend, with fury fraught, makes human race a prey" (Porter, 1985, p. 389). From its early application to distilled spirits in the 18th Century, the drugs as malevolent

agents metaphor was extended to opium—characterized as the "demon flower"—in the 19th Century. By the early 20th Century, it was a common trope not just in the tracts, pamphlets, and educational materials of the temperance and anti-opium movements, but in broader public, professional, and political discourses (Parascandola, 1995; Middlemiss, 1926).[9]

For example, in one popular book on opium from the period, the author alarmingly asserts that "these sinister drug agents . . . having assumed the air of some merciful spirit on earth, . . . [are] in reality mere satanic emissaries of disguise" (Graham-Mulhall quoted in Speaker, 2001, p. 597). The presumed malign nature of certain psychoactive substances was further evident from their associations with particular non-European ethnic groups, inspired by social Darwinist explanations linking deleterious effects on physical and psychological health, intelligence, productivity, prosperity, and sexual conduct with both substance use behaviors and race.[10] Over the 20th Century, various substances were successively demonized in mass news media, using rhetorical techniques that recycled exaggerated claims from previous *drug* scares about their supposed physiological, psychological, social, and criminogenic effects (Reinarman, 1994). By the 1990s, most of the states at the UN's Commission on Narcotic Drugs (and all of the most powerful ones, led by the United States) used rhetoric that explicitly deployed or implicitly reflected the "malevolent agents" metaphor (using terms such as "scourge," "menace" or "monster" to describe the perceived world drug problem) (Room, 1999).

The metaphor of drugs as malevolent agents implies that the use of a psychoactive substance is a moral trespass, and the people who engage in it weak or wicked, having succumbed to temptation and put themselves in danger of enslavement. The concept of "addiction" is often implicit in its operation, not in the medical or disease-model sense but in its etymological sense derived from Roman law, evoking a bondage or master-slave relationship between the drug and its disenfranchised

victim (Alexander, 2008); for 19th Century progressive and moral reform movements, temperance and anti-opium concerns were tightly bound to emancipation and anti-slavery interests (Seddon, 2010). The drugs as malevolent agents metaphor suggests that the *drug* itself is a diabolical force with talismanic or magical power to subjugate the will: even being in its proximity is dangerous, simple possession is reprehensible, distribution or sale is nefarious, and any indication of such transgressions merits swift and forceful preventive or punitive intervention. Imprisonment, isolation, banishment, or other forcible confinement or exclusion are—by logical implication and, in many jurisdictions, conventional practice— appropriate responses to a person who transgresses legal or moral codes with offences involving proscribed psychoactive substances. Despite their being inanimate objects, *drugs* seized by police are routinely displayed in press conferences to serve as a symbolic spectacle of conquest over the adversary. The drugs as malevolent agents metaphor continues to inform dominant public and political discourses, and serves as the primary policy frame for a range of coercive or punitive policies and practices, including imprisonment, fines, eviction, expulsion from school, denial of employment, and in some countries corporal or capital punishment.

The rival *drug* metaphor in contemporary constructions of drug policy is one drawn from medical and public health discourses: "drugs as pathogens." In this conceptualization, the substance is equated with a biological pathogen, such as a virus or bacterium, to which both individuals and populations are potentially vulnerable, especially inasmuch as it puts them at risk for the "disease" of addiction, or disorders of abuse or dependence (Keane, 2002). Accordingly, it constructs the person who uses *drugs* as sick and in need of treatment (Reinarman, 2005), coerced, if necessary (Wild, 2006). The drugs as pathogens metaphor has common roots with the disease model of addiction, which attempted to medicalize intemperate alcohol consumption in the 18th Century (Levine, 1978; Porter, 1985), and was subsequently extended to chron-

ic use of opium and other substances (Musto, 1999). While early formulations of a unified theory of "inebriety" lost currency in the early 20th Century (Courtwright, 2005), a coherent disease concept of addiction was later rehabilitated through late modern formulations and etiological explanations for substance dependence (Keane, 2002). However, with the discovery of germs and microbes as vectors for illness in the late 19th Century, more modern conceptualizations of disorders such as substance dependence established discursive constructions of *drugs* as pathogens. At the same time, the disease model of addiction broadened to encompass various instances or patterns of psychoactive substance use that are pseudo-scientifically labeled medical disorders of "abuse," a social construction of moral deviance that is objectively indistinguishable from use per se (Aggarwal et al., 2012; White & Kelly, 2011), but that sustains and reinforces the drugs as pathogens metaphor.

Today, the pathogens metaphor supports a vast industry of medical, public health, and prevention research and practice professionals. Drawing on the discourses of hygiene and communicable disease, this metaphor is evident in the use of terms such as "clean" to describe individual abstinence from particular substances (Weinberg, 2000). Children, in particular, have been perennially invoked as most "at risk" of succumbing to the pathogenic nature of *drugs* (Brown & D'Emidio-Caston, 1995), so prevention education has long been prescribed as a form of inoculation in schools (Thomas, 1926, p. 205),[11] with today's best practice recommendations emphasizing scheduled follow-up programs as "boosters" (Cuijpers, 2002). To the same end, other forms of anti-*drug* mental vaccination are disseminated through public service announcements, or even surreptitiously embedded in popular entertainment (Forbes, 2000; see also Boyd, 2007). For some scientists in the early 21st Century, development of actual vaccines to stimulate human immune responses to certain *drugs*—and thereby neutralize their psychoactive effects—is an intensive area of research (Shen, Orsen & Kosten, 2012). Although both pre-

vention of use and treatment of "abuse" or dependence have yielded marginal returns in reducing overall demand for *drugs* (Midford, 2010), the medical model for addressing psychoactive substance use supported by the drugs as pathogens metaphor remains popular in political rhetoric, if not in government budget allocations.

The drugs as malevolent agents and drugs as pathogens metaphors—in concert with the broader tripartite schema of *drugs*, *non-drugs*, and *medicines* described above—jointly inscribe a modern technocratic system classifying people as either bad or sick (or both) based on the substances they ingest, and have been foundational to the definition of the *drug* problem and policy responses to it (Sharp, 1994). However, Schön's (1993) key observation about generative metaphors as they relate to policy problem definition is that they have limitations which may impede creative thinking about potential solutions. Stone makes a similar point in her assertion that "buried in every policy metaphor is an assumption that if *a* is like *b*, then the way to solve *a* is to do what you would with *b*" (2002, p. 148). What the two dominant drug policy metaphors share is an attribution of causality to drugs themselves, and such causal attribution to a particular thing, social condition, or series of events is often a critical aspect of how a policy problem is defined (Rochefort & Cobb, 1994). With both metaphors, the complexities of substance use, addiction and associated harms are typically glossed over in a simplistic reductionism—what Reinarman and Levine (1997) identify as "pharmacological determinism"—which casts the very existence of *drugs* as the intrinsic root of many associated types of illness, crime, and social harms. Instead of interrogating how modern consumerist cultural attitudes, socioeconomic determinants of health, or free market capitalism itself might influence psychoactive substance use patterns in the population (Alexander, 2008; Eckersley, 2005), status quo approaches to defining and solving the *drug* "problem" focus primarily on the substances themselves. Thus, policy makers (and the general public) often infer that the availability of *drugs* per se is

the crux of the *drug* "problem," and that their extirpation from human societies—through the twin pillars of international control, supply reduction, and demand reduction—the obvious solution (Room, 1999).

The subtle control achieved by the cooperative power of the malevolent agents and pathogens *drug* metaphors occurs not least through what Foucault identified as a crucial aspect of the power of discourse, the capacity to constitute individual subjectivities through micro-power structures pervading all language use. The line of inquiry he recommended was "to discover how it is that subjects are gradually, progressively, really and materially constituted through a multiplicity of organisms, forces, energies, materials, desires, thoughts etc." (Foucault, 1980, p. 97). Following this approach, Foucault showed that the constitution of the subject is realized in part through the categories for existence that are made available to the individual by their discursive environments. As Willig (1999) puts it, "individuals are constrained by available discourses because discursive positions pre-exist the individual whose sense of 'self' (subjectivity) and range of experience are circumscribed by available discourse" (p. 114). By the same token, people who use illegal psychoactive substances are themselves influenced by the dominant metaphors in public discourse, and so to some degree internalize and conform to the social and political categories that construct them as bad or sick (Bailey, 2005; Seddon, 2011).

Although they may attempt forms of discursive resistance (Rødner, 2005), people who use *drugs* are hard pressed not to adopt the attitudes, beliefs, and behaviors of the dominant cultural constructions of "user" or "addict," unconsciously integrating and performing the identity that is expected of them,[12] especially through interactions with medical, legal, educational, and other governing authorities. At the same time, through what Hacking describes as "the looping effect of human kinds" (1995), there is always a reflexive interactivity that means "people of these [socially constructed] kinds can become aware

that they are classified as such. They can make tacit or even explicit choices, adapt or adopt ways of living so as to fit or get away from the very classification that may be applied to them" (Hacking, 1999, p. 34). Conversely, the label "drug user" conveniently allows people who consume legal (i.e., *non-drug*) psychoactive substances to avoid an Althusserian interpellation of themselves as "drug users," and the pejorative social and political connotations this identity entails.[13] For people who use *drugs*, those who use other psychoactive substances (e.g., *non-drugs* or *medicines*), and even those who use no substances at all, metaphors and language play a crucial role both in our perceptions of substance use and in government policy responses to it.

Conclusion

In this article, I have attempted to show how the language we use to talk about psychoactive substances is invested with powerful social meanings that affect how people—and more importantly, policy makers—perceive, categorize, understand, use, and respond to them. Drawing on the theoretical approaches of Hacking (1999; 2002) and Foucault (1980; 1984), my analysis demonstrates that a stereotypical schema of psychoactive substances as *drugs, non-drugs*, or *medicines* —and the modern metaphorical casting of the former as malevolent agents or pathogens in public discourses—is a function of complex historical, economic, cultural, and political factors, all of which may vary across times and places. However, my purpose is not simply to make an academic observation about how elements of language and discourse undergird dominant social attitudes and governmental policies. Rather, it is to prompt critical reflection among researchers, policy makers and practitioners about the relationship between language and suboptimal health and social outcomes for certain populations, and perhaps even to change professional attitudes and behaviors. By way of conclusion, I provide some observations about how language contributes to

stigmatization and human rights violations, illustrating significant and tangible effects of discourse that impact peoples' lives through public policy.

A particularly notable consequence of public policies based on the drug war paradigm is the stigmatization and scapegoating of people who use *drugs*. The metaphoric implication of the malevolent agent and pathogen tropes renders the *drug* user an object of anger, contempt or disgust, not only for violating the criminal law (in the case of illegal substance use), but for deliberately transgressing modern civil codes of order, rationality, and sobriety, and moral codes of cleanliness and purity. While the pathogens metaphor would seem to open up an avenue for compassion that the malevolent agents metaphor precludes (i.e., by casting the "addict" or "abuser" as a victim of disease), its currency has not resulted in a significant departure from the overall punitive nature of drug control efforts or a rupture in the coherence of the drug war paradigm over the past century (Room, 2005).[14]

Indeed, in many countries today people who use illegal substances (or at least those who present as stereotypical "*drug* users") are dehumanized and discriminated against as an out-group for whom basic human rights and dignities do not apply (Harris & Fiske, 2006). In some instances, people who use *drugs* are rhetorically depicted in public discourse as less-than-human vermin, such as leeches or cockroaches (Hollick, 2005). Stigma against this population is apparent not only in dominant public and political discourses, but also professional attitudes among some practitioners of medicine and public health (Alderman, Dollar & Kozlowski, 2010). This is a phenomenon in which language plays a crucial and empirically demonstrable role—for example, calling someone a substance "abuser" labels them as personally culpable and elicits stigmatizing attitudes (Kelly & Westerhoff, 2010). Furthermore, the harms of stigmatization reach beyond the experiences of the stigmatized individual; such instigation and exploitation of stigma and discrimination against marginalized groups of peo-

ple is reminiscent of the instrumentalist logic behind fascist and other totalitarian approaches to social control, which ultimately undermines the moral basis of civil society and liberal democratic institutions.

In its more extreme forms, stigma results in the neglect or denial of human rights, evidence of which is abundant in the lives of many of the most visible people who use illegal psychoactive substances (typically compounded by less-than-ideal socioeconomic determinants of health or other life circumstances) (Gruskin, Plafker & Smith-Estelle, 2001). However, arguably the most entrenched and damaging forms of stigmatization faced by people who use *drugs* are produced by policing and criminal justice interventions, institutionalized as part of the global war on *drugs*. In this respect, human rights infringements for the sake of *drug* control—which can violate rights to life, liberty, equality, medical care, religious freedom, and freedom of thought, among others (Barrett & Nowak, 2009; Tupper & Labate, 2012)—may be a cure that is worse than the purported disease. Indeed, a growing number of critics of the international drug control regime assert that prohibitionist drug policies have wrought more global health, social, and security problems than drugs themselves, and that alternative regulatory approaches are needed (Global Commission on Drug Policy, 2011).

If the current international drug control regime is not realizing returns commensurate with the human and financial resources invested in fighting the so-called war on *drugs*, it is incumbent upon policy makers to develop new ways of thinking about the issue, to proactively engage in a shift away from the drug war paradigm. In part, this requires recognizing that the human proclivity to alter consciousness using psychoactive substances is an enduring cross-cultural and historical phenomenon, rather than a modern blight to be remedied through an interminable war against people who produce, trade, and consume drugs. At the same time, reflecting on the constitutive role of language and discourse in shaping public policy is an

important step towards being more considerate, compassionate and inclusive in how we talk, think, and make political decisions about "drugs" and psychoactive substances.

Notes

1. These three different meanings of "drug" correspond to ones identified in the Oxford English Dictionary (online edition). Likewise, the World Health Organization (2011), in its online "lexicon of alcohol and drug terms," acknowledges three equivalent separate meanings, but does not attempt to address the implications of these distinctions for the development of sound public policy. See the entry for "drug" at: http://www.who.int/substance_abuse/terminology/who_lexicon/en/

2. Insights from corpus linguistics, a subdiscipline of linguistics, show how the semantic content of a word can change depending on associative factors such as social context, connotation or collocation—the words and phrases immediately adjacent to a word (McRoy, 1992). For example, the word "drug" connotes very different referents depending on whether it is preceded by the words "miracle" or "hard," or is followed by the words "store" or "pusher." The first terms in these disjunctive pairs invoke the concept medicine whereas the latter are unambiguously illegal or "controlled" substances.

3. In early 2010, youths began posting YouTube videos of themselves listening to these sounds and reacting to their purported capacity to alter consciousness. Predictably, news media reported on concerns among parents, teachers and police officers, generating a curious digital-age iteration of the classic demon drug scare (Colberg, 2010).

4. The adjective "narcotic"—derived from Greek roots and meaning "sleep-inducing"—continues to be applied erroneously, at least based on pharmacological principles, to substances such as cannabis and coca because of their definition as "narcotic drugs" in the 1961 Single Convention on Narcotic Drugs.

5. For example, when news media report that someone was in possession or under the influence of "drugs," they are unlikely to mean drug1, as it would hardly be newsworthy, nor drug2, in which case it would either not be mentioned at all—were it coffee or tobacco—or specified as alcohol or a legitimately prescribed medication.

6. In refuting a strict position on philosophical nominalism, Hacking asserts: "I think that many categories come from nature, not from the human mind" (2002, p. 106). I agree, and suggest that the term "psychoactive substance" has advantages as a label for an ontological category over the polysemic word "drug," especially for the genera-

tion and policy application of scientific knowledge about such sub-stances.

7.   The most recent example of the "non-drug" status of a potent psy-choactive preparation is the regulatory classification of highly caf-feinated "energy drinks" as herbal dietary supplements or natural health products in the United States and Canada.

8.   In the past decade, the World Health Organization led the develop-ment of a global Framework Convention on Tobacco Control, and it is currently engaging member states in discussions on a similar Framework Convention on Alcohol Control. However, these initia-tives do not challenge the fundamental inconsistencies of the drug war paradigm—most notably, they do not oblige governments to criminalize or prohibit the production, distribution, or use of these substances.

9.   According to Parascandola, in the early 20th Century in the United States, "the public was frequently exposed to newspaper headlines and stories in popular magazines about the drug evil and drug fiends" (1995, p. 160). For more specific examples of the kind of rhetoric common in English-language public discourse during the early phase of modern drug control efforts, see Speaker (2001).

10.   Stereotypical associations in North American public and political discourses existed between Chinese and opium, Mexicans and mari-juana, Andean Indians and coca, African Americans and cocaine, Native Americans and peyote, and non-Anglo Europeans and alco-hol. Regardless of what basis these associations had in fact, they were influentially promoted and widely circulated in mainstream dis-courses in the early 20th Century and continue to resonate today (Provine, 2007).

11.   Education is a somewhat euphemistic label for some school-based drug prevention programs—especially those led by law enforcement officers or others with an equivalent drug-warrior ideological tem-perament—as their prescribed knowledge, attitudinal and behavioral outcomes make them practically indistinguishable from indoctrina-tion (Tupper, 2008).

12.   Borst (2010) observes that the discursive genre of "addict-subject confession," going back at least to Thomas de Quincy's early 19th Century *Confessions of an English Opium Eater*, contributes signifi-cantly to this process.

13.   Marxist philosopher Louis Althusser (1971) used the term "interpel-lation" to account for the process by which subjects are produced through ideology. As social theorist Michael Warner explains, "Althusser's famous example is speech addressed to a stranger: a policeman says, 'Hey you!' In the moment of turning around, one is

interpellated as the subject of state discourse. Althusser's analysis had the virtue of showing the importance of the imaginary identification—and locating it, not in the coercive force of the state, but in the subjective practice of understanding" (M. Warner, 2002, p. 58).

14.   It was not until HIV/AIDS was linked to injection drug use in the 1980s that public health-based, harm reduction policies became possible in some countries in the late 20th century (Berridge, 1995). Yet even this shift and its demonstrated evidence of effectiveness in reducing blood-borne pathogen transmissions, unintentional overdoses, and other health harms has not made departure from the drug war paradigm any more palatable for the international drug control regime and many governments.

References

Aggarwal, S. K., Carter, G. T., Zumbrunnen, C., Morrill, R., Sullivan, M., & Mayer, J. D. (2012). Psychoactive substances and the political ecology of mental distress. *Harm Reduction Journal*, *9*(4) [doi:10.1186/1477-7517-9-4].

Alderman, J., Dollar, K. M., & Kozlowski, L. T. (2010). Understanding the origins of anger, contempt, and disgust in public health policy disputes: Applying moral psychology to harm reduction debates. *Journal of Public Health Policy*, *31*(1), 1-16.

Alexander, B. K. (2008). *The globalisation of addiction: A study in the poverty of spirit*. Oxford: Oxford University Press.

Althusser, L. (1971). Ideology and ideological state apparatuses (B. Brewster, Trans.). In L. Althusser (Ed.), *Lenin and philosophy and other essays*. London: Monthly Review Press. Retrieved May 1, 2012, from http://www.marxists.org/reference/archive/althusser/1970/ideology.htm

Bailey, L. (2005). Control and desire: The issue of identity in popular discourses of addiction. *Addiction Research and Theory*, *13*(6), 535-543.

Bakan, J. (2004). *The corporation: The pathological pursuit of profit and power*. Toronto: Penguin Canada.

Barrett, D., & Nowak, M. (2009). The United Nations and drug policy: Towards a human rights-based approach. In A. Constantinides and N. Zaikos (Eds.), *The diversity of international law: Essays in honour of professor Kalliopi K. Koufa* (pp. 449-477). Leiden: Brill/Martinus Nijhoff.

Berridge, V. (1995). AIDS, drugs, and history. In R. Porter & M. Teich (Eds.), *Drugs and narcotics in history* (pp. 187-98). Cambridge, UK: Cambridge University Press.

Blair, H. W. (1888). *The temperance movement: Or, the conflict between man and alcohol*. Boston: William E. Smythe Company.

Borst, A. G. (2010). Managing the crisis: James Frey's *A Million Little Pieces* and the addict-subject confession. *Cultural Critique*, *75*, 148-176.

Boyd, S. C. (2007). Drug films, justice and nationhood. *Contemporary Justice Review*, *10*(3), 263-282.

Brown, J. H., & D'Emidio-Caston, M. (1995). On becoming "at risk" through drug education: How symbolic policies and their practices affect students. *Evaluation Review*, *19*(4), 451-491.

Burr, V. (2003). *Social constructionism* (2nd ed.). London: Routledge.

Colberg, S. (2010, July 12). "Digital drugs" at Mustang High School have experts warning of slippery slope [Electronic Version]. *NewsOK*. Retrieved May 1, 2012, from http://newsok.com/digital-drugs-at -mustang-high-school-have-experts-warning-of-slippery-slope /article/3475464 .Wired.com#ixzz0tmRa3SaB

Coomber, R. (2006). *Pusher myths: Re-situating the drug dealer*. London: Free Association Books.

Courtwright, D. T. (2005). Mr. ATOD's wild ride: What do alcohol, tobacco, and other drugs have in common? *The Social History of Alcohol and Drugs, 20*(1), 105-140.

Cowan, B. (2005). *The social life of coffee: The emergence of the British coffeehouse*. New Haven, CT: Yale University Press.

Cuijpers, P. (2002). Effective ingredients of school-based drug prevention programs: A systematic review. *Addictive Behaviors, 27*(6), 1009-1023.

Duke, J. A., Aulik, D., & Plowman, T. (1975). Nutritional value of coca. *Botanical Museum Leaflets* (Harvard University, 1975), *24*(6), 113-119.

Dyck, E. (2008). *Psychedelic psychiatry: LSD from clinic to campus*. Baltimore, MD: Johns Hopkins University Press.

Eckersley, R. M. (2005). "Cultural fraud": The role of culture in drug abuse. *Drug and Alcohol Review*, *24*(2), 157-163.

Fairclough, N. (1992). *Discourse and social change*. Cambridge: Polity Press.

Fischer, F. (2003). *Reframing public policy: Discursive politics and deliberative practices*. Oxford: Oxford University Press.

Forbes, D. (2000, January 13). Prime time propaganda: How the White House secretly hooked network TV on its anti-drug message [Electronic Version]. *Salon.com*. Retrieved May 1, 2012, from http://dir.salon.com/news/feature/2000/01/13/drugs/index.html

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings, 1972-1977* (C. Gordon, L. Marshall, J. Mepham & K. Soper, Trans.). New York: Pantheon Books.

Foucault, M. (1984). What is enlightenment? In P. Rabinow (Ed.), *The Foucault reader* (pp. 32-50). New York: Pantheon Books.

Fraser, S. & Moore, D. (Eds.). (2011). *The drug effect: Health, crime and society*. Cambridge: Cambridge University Press.

Global Commission on Drug Policy. (2011). *Report of the Global Commission on Drug Policy*. Retrieved May 1, 2012, from http://www.globalcommissionondrugs.org/Report

Gruskin, S., Plafker, K., & Smith-Estelle, A. (2001). Understanding and responding to youth substance use: The contribution of a health and human rights framework. *Public Health Matters*, *91*(12), 1954-1963.

Hacking, I. (1995). The looping effect of human kinds. In D. Sperber, D. Premack, & A. J. Premack (Eds.), *Causal cognition: A multidisciplinary approach* (pp. 351-383). Oxford: Clarendon Press.

Hacking, I. (1999). *The social construction of what?* Cambridge, MA: Harvard University Press.

Hacking, I. (2002). *Historical ontology*. Cambridge, MA: Harvard University Press.

Harrington, A. (2008). *The cure within: A history of mind-body medicine*. New York: W.W. Norton.

Harris, L. T., & Fiske, S. T. (2006). Dehumanizing the lowest of the low: Neuroimaging responses to extreme out-groups. *Psychological Science*, *17*(10), 847-853.

Hodge, R., & Kress, G. (1993). *Language as ideology* (2nd ed.). New York: Routledge.

Hollick, B. (2005, March 8). Meth campaign hits local stores [Electronic Version]. *Maple Ridge Times*. Retrieved from http://www.mapinc.org/drugnews/v05/n407/a10.html

Keane, H. (2002). *What's wrong with addiction?* New York: New York University Press.

Kelly, J. F., & Westerhoff, C. M. (2010). Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms. *International Journal of Drug Policy*, *21*(3), 202-207.

Koh, H. K., Joossens, L. X., & Connolly, G. N. (2007). Making smoking history worldwide. *New England Journal of Medicine, 356*(15), 1496-1498.

Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.

Lakoff, G. (1987). *Women, fire and dangerous things: What categories reveal about the mind*. Chicago: University of Chicago Press.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.

Levine, H. G. (1978). The discovery of addiction: Changing conceptions of habitual drunkenness in America. *Journal of Studies on Alcohol*, *39*(1), 143-174.

Luke, A. (2002). Beyond science and ideology critique: Developments in critical discourse analysis. *Annual Review of Applied Linguistics*, *22*, 96-110.

McRoy, S. W. (1992). Using multiple knowledge sources for word sense discrimination. *Computational Linguistics*, *18*(1), 1-30.

Michalak, L., & Trocki, K. (2006). Alcohol and Islam: An overview. *Contemporary Drug Problems, 33*(4), 523-562.

Midford, R. (2010). Drug prevention programmes for young people: Where have we been and where should we be going? *Addiction*, *105*(10), 1688-1695.

Middlemiss, H. S. (Ed.). (1926). *Narcotic education: Edited report of the proceedings of the first world conference on narcotic education, Philadelphia, Pennsylvania*.

Mithoefer, M. C., Wagner, M. T., Mithoefer, A. T., Jerome, L., & Doblin, R. (2011). The safety and efficacy of 3,4-methylenedioxymethamphetamine-assisted psychotherapy in subjects with chronic, treatment-resistant posttraumatic stress disorder: The first randomized controlled pilot study. *Journal of Psychopharmacology*, *25*(4), 439-452.

Montagne, M. (1988). The metaphorical nature of drugs and drug taking. *Social Science & Medicine*, *26*(4), 417-424.

Moore, D. (2004). Drugalities: The generative capabilities of criminalized "drugs." *International Journal of Drug Policy, 15*(5-6), 419-426.

Morales, E. (2006). Bolivian President Evo Morales on Latin America, U.S. foreign policy and the role of the indigenous people of Bolivia. Democracy Now. Retrieved May 1, 2012, from http://www.democracynow.org/2006/9/22/bolivian_president_evo_morales_on_latin

Musto, D. F. (1999). *The American disease: Origins of narcotic control* (3rd ed.). New York: Oxford University Press.

National Institute on Drug Abuse. (2010). Drugs of abuse information. Retrieved from http://drugabuse.gov/drugpages

Oxford English Dictionary. (2009). (3rd edition, online version). Oxford University Press. Retrieved May 1, 2012, from www.oed.com

Parascandola, J. (1995). The drug habit: The association of the word 'drug' with abuse in American history. In R. Porter & M. Teich (Eds.), *Drugs and narcotics in history* (pp. 156-67). Cambridge: Cambridge University Press.

Parker, C. (2001). A constitutional examination of the federal exemptions for Native American religious peyote use. *Brigham Young University Journal of Public Law*, *16*(1), 89-112.

Porter, R. (1985). The drinking man's disease: The "pre-history" of alcoholism in Georgian Britain. *Addiction*, *80*(4), 385-396.

Provine, D. M. (2007). *Unequal under law: Race in the war on drugs*. Chicago: University of Chicago Press.

Reinarman, C. (1994). The social construction of drug scares. In P. Adler & P. Adler (Eds.), *Constructions of deviance: Social power, context, and interaction* (pp. 92-105). Belmont, CA: Wadsworth.

Reinarman, C. (2005). Addiction as accomplishment: The discursive construction of disease. *Addiction Research and Theory*, *13*(4), 307-320.

Reinarman, C., & Levine, H. G. (1997). The crack attack: Politics and media in the crack scare. In C. Reinarman & H. G. Levine (Eds.), *Crack in America: Demon drugs and social justice*. Berkeley, CA: University of California Press.

Rochefort, D. A., & Cobb, R. W. (1994). Problem definition: An emerging perspective. In D. A. Rochefort & R. W. Cobb (Eds.), *The politics of problem definition: Shaping the policy agenda* (pp. 1-31). Lawrence, KS: University of Kansas Press.

Rødner, S. (2005). "I am not a drug abuser, I am a drug user": A discourse analysis of 44 drug users' construction of identity. *Addiction Research and Theory*, *13*(4), 333-346.

Rogers, R., Malancharuvil-Berkes, E., Mosley, M., Hui, D., & O'Garro-Joseph, G. (2005). Critical discourse analysis in education: A review of the literature. *Review of Educational Research*, *75*(3), 365-416.

Room, R. (1999). The rhetoric of international drug control. *Substance Use & Misuse*, *34*(12), 1689-1707.

Room, R. (2005). Stigma, social inequality and alcohol and drug use. *Drug and Alcohol Review*, *24*(2), 143-155.

Russo, E. B. (2007). History of cannabis and its preparations in saga, science, and sobriquet. *Chemistry & Biodiversity, 4*(8), 1614-1648.

Schivelbusch, W. (1992). *Tastes of paradise: A social history of spices, stimulants and intoxicants* (D. Jacobson, Trans.). New York: Pantheon Books.

Schön, D. A. (1993). Generative metaphor: A perspective on problem-setting in social policy. In A. Ortony (Ed.), *Metaphor and thought* (2nd ed., pp. 137-63). Cambridge: Cambridge University Press.

Schrad, M. L. (2010). *The political power of bad ideas: Networks, institutions and the global prohibition wave*. Oxford: Oxford University Press.

Seddon, T. (2010). *A history of drugs: Drugs and freedom in the liberal age*. New York: Routledge.

Seddon, T. (2011). What is a problem drug user? *Addiction Research & Theory*, *19*(4), 334-343.

Sharp, E. B. (1994). Paradoxes of national antidrug policymaking. In D. A. Rochefort & R. W. Cobb (Eds.), *The politics of problem definition: Shaping the policy agenda* (pp. 98-116). Lawrence, KS: University of Kansas Press.

Shen, X. Y., Orson, F. M., & Kosten, T. R. (2012). Vaccines against drug abuse. *Clinical Pharmacology & Therapeutics*, *91*(1), 60-70.

Sherratt, A. (2007). Introduction: Peculiar substances. In J. Goodman, P. E. Lovejoy, & A. Sherratt (Eds.), *Consuming habits: Global and historical perspectives on how cultures define drugs* (2nd ed., pp. 1-10). New York: Routledge.

Speaker, S. L. (2001). "The struggle of mankind against its deadliest foe": Themes of counter-subversion in anti-narcotic campaigns, 1920-1940. *Journal of Social History*, *34*(3), 591-610.

Sting. (2003). *Broken music: A memoir*. New York: Dial Press.

Stone, D. A. (2002). *Policy paradox: The art of political decision making*. New York: Norton.

Thomas, M. G. (1926). Teaching of narcotics in the schools. In H. S. Middlemiss (Ed.), *Narcotic education: Edited report of the proceedings of the first world conference on narcotic education, Philadelphia, Pennsylvania* (pp. 203-208).

Tupper, K. W. (2008). Teaching teachers to just say "know": Reflections on drug education. *Teaching & Teacher Education, 24*(2), 356-367.

Tupper, K. W., & Labate, B. C. (2012). Plants, psychoactive substances and the International Narcotics Control Board: The control of nature and the nature of control. *Human Rights & Drugs*, *2*(1), 17-28.

Warner, J. (2002). *Craze: Gin and debauchery in an age of reason*. New York: Random House.

Warner, M. (2002). Publics and counterpublics. *Public Culture*, *14*(1), 49-90.

Weinberg, D. (2000). "Out there": The ecology of addiction in drug abuse treatment discourse. *Social Problems, 47*(4), 606-621.

White, W. L., & Kelly, J. F. (2011). Alcohol/drug/substance "abuse": The history and (hopeful) demise of a pernicious label. *Alcoholism Treatment Quarterly*, *29*(3), 317-321.

Wild, T. C. (2006). Social control and coercion in addiction treatment: Towards evidence-based policy and practice. *Addiction*, *101*(1), 40-49.

Willig, C. (1999). Discourse analysis and sex education. In C. Willig (Ed.), *Applied discourse analysis: Social and psychological interventions* (pp. 110-124). Buckingham, UK: Open University Press.

World Health Organization. (2011). Lexicon of alcohol and drug terms published by the World Health Organization. Retrieved May 1, 2012, from http://www.who.int/substance_abuse/terminology/who_lexicon/en/.