



## THE ZEMIOLOGY OF PSYCHIATRIC MEDICATION

Adrian Hopici

---

### ABSTRACT

*The consumption of psychiatric medications is pervasive in almost all modern Western societies. This paper analyzes the processes and actors through which mental health knowledge-claims come to exist in social consciousness, and how these claims become almost inextricable from the biochemical, molecular treatment of mental illness through psychiatric medications (Rose & Abi-Rached, 2013). This paper argues that the pervasive prescription of psychiatric medications is a social activity that, to a significant extent, is directed by dominant sites of power such as nation-states and corporations that operate interdependently. The dominant pedagogies of mental disease and psychiatric treatment are harmful insofar as individuals are responsabilized with living an optimal way-of-being through the increasingly ubiquitous process of biochemical management. The management of the human mind through brain biochemistry has the potential to generate mass social harms so long as concepts of mental illness lack clear etiologies and psychiatric medicinal treatments lack disease-centered efficacies (Breggin, 2008; Breggin, 2011). If the enforcement of crime is about public security, then the magnitude of harms arising from mental health treatment pedagogies can logically be conceptualized as state-corporate crimes, but rarely are.*

**Keywords:** *zemiology, state-corporate crime, illegal drugs, psychiatry, psychiatric medication*

---

Adrian Hopici graduated from York University in 2016 with a double major bachelor of arts in Criminology and Psychology. He is currently a student in York's Socio-Legal master's program.

---

## INTRODUCTION

Zemiology is an academic discipline and concept that is etymologically derived from the Greek word *xemia*, meaning harm; hence, it is the study or science of social harm (Dorling, Gordon, Hillyard, Pantazis, Pemberton, & Tombs, 2005). This science seeks to understand individual, organizational, governmental, and corporate action or inaction that has caused or may have the potential to cause harm at the individual, domestic, social, and global level (Dorling et al., 2005). It is a discipline that was born in response to evidence demonstrating that harms related to events defined as criminal by the justice system pale in comparison to those harms which arise from events that are not defined as criminal (Dorling et al., 2005). Zemiology is a critique of contemporary criminology and the very notion of crime; it argues that crime and social harm are not necessarily contiguous concepts (Dorling et al., 2005; Whitaker & Cosgrove, 2015). In other words, what is considered criminal may not always necessarily be harmful, and what is severely harmful may not necessarily be defined as criminal by our justice systems.

For example, psychiatric or psychopharmacological medications are commonly used to treat and manage mental illnesses, even though research studies have regularly indicated that they are only slightly more effective than placebos and have the potential to generate permanent and chronic adverse effects (Tueth, 1994; Moncrieff, 2008; Marks, Breggin, & Braslow, 2008; Whitaker & Cosgrove, 2015). Nonetheless, the mass production and consumption of such medications continues to this day. At times, this is as a result of one's ambition to enhance one's own way-of-being or to alleviate the vicissitudes of life; at other times, it is as a result of a mental health expert's prescription, or even as a result of coercive prison or mental health institution policies.

An analysis of these harms, however, would be extremely limited if approached through contemporary criminological narratives and theoretical foundations of rational choice, strain, or routine activity theory, for example. This is because many mainstream theoretical explanations of contemporary crime tend to address the individual, or a limited number of individuals, in response to an infringement of the law and/or an actualized harm (Hillyard & Tombs, 2007). But the harms actualized by the psychopharmacological industry can rarely be reduced to the action or inaction of only one or a limited number of individuals. The industry is a complex nexus of social organizations – and its respective agents – which collaborate to produce and reproduce psychiatric pedagogies, biomedical technologies, and psychopharmacological treatments. This is not to say that psychiatry or its psychopharmacological treatments are inherently criminal, although there might justifiably exist zemiological reasons to criminalize actions or inactions related to this activity. Regardless, a zemiological analysis of such social and cultural activities can provide us with a broad interdisciplinary tool with which one might effectively identify how these industry-related harms are actualized and how we might be able to resist their zemiological impact.

This paper will first expand on the discipline and concept of zemiology as it relates to the notion of criminality and state-corporate crime with specific attention to psychiatry and the psychopharmacological industry. It will attempt to depict and elucidate the social structures that produce and reproduce the dominant explanatory narratives of mental illness, the use of psychopharmacological treatments, and the harms related to such social activity.

---

## A ZEMIOLOGICAL FRAMEWORK OF STATE-CORPORATE CRIMES

The social harm generated by the psychopharmacological industry cannot be effectively framed through a criminological lens because, as some critical criminologists have suggested, criminology has become a discipline concerned more with applied science and funding than with epistemological questions of what crime is and how it comes to be socially constructed as such (Hillyard & Tombs, 2007). This is but one major criticism raised by critical criminologists, zemiologists, and other sociologists alike.

A number of other criticisms have been raised against the contemporary criminological imagination. Critical criminologists and other academics argue that crime has no particular intrinsic qualities that can be used to identify any one event as criminal; they argue that the definition of crime itself is assumed by criminologists and rarely questioned; they argue that the definitions of crime do not reflect the most perilous of antisocial actions or inactions, and as such, excludes many serious social harms from criminological inquiry; they argue that the use of complex criminal law rules (e.g. *mens rea*) to determine criminality generates an individualizing effect which makes it difficult to address indirect social harms; they argue that the use of criminal law forecloses other social policy responses and makes it difficult to address underlying social and cultural determinants of crime and harm; and finally, they argue that crime serves to maintain power relations through particular cultural discourses of crime and ignores structural factors that lead to harmful events (Hillyard & Tombs, 2007).

Crime then, according to these critical academics, cannot be limited solely to individual events that occur on the streets, in public, semi-private, or private areas. The concept of crime for these criminologists should have a broader scope, and operate in parallel with zemiology, to focus on those actions or inactions that have caused harm or have the potential to cause harm. This is specifically relevant for the deviant behaviour and harm generated at the intersection of nation-states and corporate entities (Glasbeek, 2002; Hillyard & Tombs, 2007; Snider, 2015). As Hillyard and Tombs (2007; p.16) so aptly put it:

[The] concerns [which encompass] the deleterious activities of local and national states and of corporations upon peoples' lives, whether in respect of lack of wholesome food, inadequate housing or heating, low income, exposure to various forms of danger, violations of basic human rights, and victimization to various forms of crime, produces a sense of a need for a disciplinary home which could embrace a range of harm that affect many people throughout their life cycle.

These academics suggest that the disciplinary home for state-corporate crimes is in the zemiological framework. Such a framework is broad and would be able to embrace "a wide range of events and conditions that affect people during their life course" (Hillyard & Tombs, 2007; p.17); it could encompass physical harms, financial/economic harms, emotional/psychological harms, and the attainment of *cultural safety* (Reiman, 1998). Furthermore, an analysis of social harm not only depicts more accurately the vicissitudes of life that individuals face, it also allows for harm to be

traced and compared over time. In contrast, crime statistics portray only a distorted image of the gross social harms present in society and produce limited and specific versions of social harm that are then defined as crime (Hillyard & Tombs, 2007). A focus on social harm would be much more readily prepared to address the systemic harms caused by “chronic conditions or [the] states of affairs” rather than discrete, individual events (Hillyard & Tombs, 2007; p.18).

The zemiological framework extends our ability to investigate notions of responsibility beyond the individual to states, corporations, and other collective organizations; it could also allow us to address “responsibility [or irresponsibility] in the failure to deal adequately with social problems” (Hillyard & Tombs, 2007; p.19). Zemiology can allow us to address social harms more effectively through public and political avenues, which requires societal discourse and debate about social harms, resource allocation, and governmental priorities rather than through the limited responses of criminal justice systems. It could also allow us to “chart instances of mass harm caused by routine practices, standard operating procedures, lines of organizational responsibility and accountability, general modus operandi, cultures of fear, [and] indifference” (Hillyard & Tombs, 2007; p.20) that are generally characteristic of state and corporate crimes.

Social harm, however, is a broad concept which makes it quite difficult to define and operationalize; it cannot be addressed in isolation from “social norms, environmental circumstances, and subjectivity [inherent in] value judgements” (Paoli & Greenfield, 2013; p.13). In other words, the decision to label an event as a harm is a normative process and is infused with moral, cultural, and socio-economic interests prioritized by a certain social system. Such normativity raises fundamental questions about what is harm: should all harm-claims be treated as equally important or legitimate? If we choose to differentiate between legitimate harms and illegitimate ones, what kind of knowledge shall we use to construct said (il)legitimacy? The ability to determine the legitimacy of a harm-event is even more challenging to address if certain harms are also associated with some form of benefit. For example, a specific antipsychotic medication might be detrimental to the physical, emotional, and psychological well-being of an individual, but the money generated by the psychopharmacological corporation, which produces and sells the medication, might create jobs for the local community and enhance the state’s economy. It might also be the case that although antipsychotic medication is detrimental to the longevity of human life, they may very well alleviate symptoms which can enhance one’s way-of-being and personal life satisfaction.

Another limitation to the zemiological framework and the identification of harms is that definitions of harm can easily become an infinite list that can never be exhausted. That is, just how inclusive or exclusive should we be in our public and political discourses of social harm? What are the boundaries which identify an action or inaction as harmful or not? The answer to this question does not come easily, as even similar harmful events are not necessarily experienced the same, through space and time, from one person or situation to the next. Even if it were experienced the same, there is no one specific tool which can empirically assess the nature and intensity of harm experienced by a victim or a number of victims (Paoli & Greenfield, 2013). Yet even in light of these limitations, Hillyard and Tombs (2007; p.21) seem quite optimistic and ambitious about the possibility of addressing social harms through a zemiological discipline:

...we are arguing that in its explicitly political starting point, in its basis in intellectual reflexivity, in its commitment to the resurrection of subjugated knowledges, a social harm approach might entail a more progressive form of power-knowledge than that which criminology has come to represent in its 100-year plus history.

A zemiological framework allows for an analysis of the social harms generated by the psychopharmacological industry in terms of a state-corporate crime conceptuality that Aulette and Michalowski (2006; p.47) define as: “illegal or socially injurious actions [or inactions] that result from mutually reinforcing interactions between governments and corporations when they pursue goals that intersect.” The ramifications of state-corporate action and inaction are complex and can be evidenced in Michalowski and Kramer’s (2007) statement about the concept of state-corporate crime:

[D]eviant organizational outcomes are not discreet acts but rather the product of the relationships between different social institutions... [The] concept of state-corporate crime highlights the ways in which horizontal relationships between economic and political institutions contain powerful potentials for the production of socially injurious actions. [The] relational character of state-corporate crime also directs us to consider the vertical relationships between different levels of organizational action: the individual, the institutional, and the political-economic.

It is important to note that the state and corporation are not antagonistic social structures, instead, they operate in symbiosis with one another and each one is essential to the existence of the other (Tombs, 2012). After all, it is nation-states and their respective legislatures that provide the legal framework for the existence of the corporation, not only as a legal individual, but also as a social entity organized for the accumulation of wealth. Consequently, the corporation enhances state economies, creates jobs and even assists the state in the governance of its citizens.

The harms generated at the intersection of the state and the corporation, however, are not easily identifiable due to the high latency between one’s exposure to a product or service and one’s identification of a disease, injury, or other form of severe harm as a result of that product or service (Glasbeek, 2002; Snider, 2015). Once identified, there must be somewhat of a causal narrative that might – to a specified standard (e.g. *beyond a reasonable doubt*) – demonstrate that, the use of product X or service Y was implicated in the adverse effects experienced by the victim.

The contrast between the application of criminal law to “street” crime and state-corporate crime depicts, not only the hypocrisy of the law, but also demonstrates how certain acts are not as deserving of a criminal conceptualization even when the potential for social harm is relatively high. Although it has been indicated in numerous studies that state-corporate crimes are more harmful than “street” crimes (Timmer & Either, 1989), we continue to over-enforce the latter and passively disregard the former.

The mass creation and consumption of psychiatric medications is a case in point (Dumit, 2012); for example, in 2014, Health Canada received 3.6 billion dollars in funding (Health Canada,

2014) while the Toronto Police Service (TPS) received 1 billion dollars in funding (Toronto Police Service, 2013). The fact that the municipal TPS received 25% of Health Canada's funding, but is only responsible for delivering a service to a city of merely 2.6 million individuals, while Health Canada regulates about 5.6 million Canadian prescription-users who use at least one prescription medication (Rotermann et al., 2015) along with a plethora of international organizations and their agents, evidences the current political and economic priorities.

The existence of psychopharmacological medications on the market is justified with limited, short-term study results that regularly demonstrate safety and efficacy as per regulatory standards (Whitaker, 2002; Whitaker, 2010; Fabris, 2011; Dumit, 2012; Abraham & Davis, 2013). However, there is ample research which addresses the harms produced and reproduced by the psychopharmacological industry. The pervasive consumption of such medications continues to this day even though such a social and cultural activity has demonstrated a great potential to generate harmful and irreversible adverse effects at individual, social, and global scales (Tueth, 1994; Moncrieff, 2008; Marks, Breggin, & Braslow, 2008; Whitaker & Cosgrove, 2015).

Whether legal or illegal, however, psychoactive chemical substances certainly have the potential to generate harm and require enforcement in order to control and mitigate those harms. The criminalization of "street-drugs" and the regulation of "psychopharmacological medications," however, conceals the harms perpetuated by nation-states and pharmaceutical companies on the individual and society, both domestically and internationally.

## **A GENEALOGY OF PSY-EXPERTISE: MENTAL HEALTH, ILLNESS, AND TREATMENT**

In order to depict the zemiological impact of the psychopharmacological industry, a genealogical analysis of psychological, psychiatric, and neuroscientific expertise is necessary. The genealogy of the concept of mental health or mental disease plays a significant role in explaining the contemporary harms that are actualized by the production and consumption of psychopharmacological medications.

Historically, these contemporary bodies of expertise were represented in the wisdom of the elders, the shamans, the séances, etcetera (Rätsch, 2005). These were individuals that were socially and culturally defined healers who were responsible for treating physical problems, but also psychological and spiritual ones. In those ages, however, science and biotechnologies were non-existent, so health (both psychological and physical) was commonly associated with the mind, religion, or spirituality. Of course, psychoactive substances such as, but not limited to, cannabis, opium, ayahuasca, peyote, psilocybin, mescaline, and fermented fruits and vegetables were concocted and consumed for personal healing and spiritual enlightenment. These substances, however, were predominantly only understood in terms of their manifest psychoactive effects.

Although they formed a part of that cultural zeitgeist, such substances were not necessarily always consumed in order to modify brain physiology, chemistry or neuronal activity. Instead, the use of said substances were significantly more concerned with the healing of the metaphysical mind rather than the physical brain (Rätsch, 2005). This meant that the successful treatment was indicated by the personal experience of the user in relation to the wisdom of the elders. As humans developed medical sciences and biotechnologies, their attention shifted from the mind to the brain.



The mind was no longer a separate entity which operated in symbiosis with the body and the brain; the brain – its neuro-biological functions, its ailments, and its physiological treatment became the fundamental societal and cultural narratives for the conceptualization of mental health and disease (Rose & Abi-Rached, 2013). Rose & Abi-Rached (2013; p. 13) argue that the contemporary conceptualization of the mind has been reduced to: “[mind] is what the brain does.” Such a conceptualization of the mind justifies the use of psychoactive substances to modify the brain in order to assuage mental illness in spite of the unclear neuro-biological bases of many psychiatric diseases. In this sense, a healthy individual became solely constructed through these novel forms of neuro-biological expertise and often eclipsed the personal experience of the individual.

The concept of disease, more generally, was once understood through a pathologist’s analysis of a deceased body (Szasz, 1994; Horwitz, 2002). The pathologist could verify if there existed some form of physiological abnormality within the deceased body via autopsy and the use of visual or tactile cues. This was the case until the industrial revolution, after which technological innovation commenced and technology evolved and became more sophisticated. Not only were these new technologies used to measure and identify new mental diseases, they were also used to reify diseases that were already clinically defined by psychiatry, but perhaps lacked a demonstrable, physiological etiology. As such, the pathology of disease was no longer limited to a physiological, molar examination of the organs or components of the human body. The secular pathology of disease does not require a deceased organism in order for the pathological analysis to be conducted as new technologies provided, and continues to provide, us with ways to scrutinize and modulate the human body and lived experience (Clarke et al., 2003; Rose, 2007; Szasz, 2008). These technologies allow us to continue to generate new scientific expertise through simplistic medical science methodologies (e.g. correlations) that attempt to explain mental disease in terms of the relationship between the mind and the brain.

Clarke et al. (2003) describe this secular conceptuality of disease as a shift in medicine that produces complex, technocratic biomedical tools and techniques for constructing disease definitions through biochemical and biotechnological explanations. This biomedicalization has led to the “political [and] economic reconstitution” of the biomedical sector which has shifted the focus of healthcare onto risk-management and bio-medicinal surveillance (e.g. community treatment orders) through technological and scientific discourses that are able to transform the production, distribution, and consumption of biomedical knowledge-claims (Clarke et al., 2003; p. 161). These claims transform bodies to include new properties or characteristics that lead to the “production of new individual and collective technoscientific identities” (Clarke et al., 2003; p. 161). These biotechnologies are pivotal filters through which we conceptualize illness. They have shifted the medical epistemology of mental illness from an analysis of lived human experience to a medical-scientific analysis of biochemical brain processes.

Biotechnologies have provided us with new ontological realities of mental illness, treatment, and optimal lived human experiences but they have also brought with them immense social harms – of which, some have yet to emerge. These biotechnologies range from brain scan technologies (e.g. EEG, PET, CT, fMRI) that can triangulate brain activity and brain-behaviour relationships, to menial, self-administered questionnaires that determine disease based on aggregate statistical

analyses. The technology itself, however, does not define the mental illness. It is the psychiatric experts who interpret the raw information output generated by these technologies that define and reify the conceptualizations of mental illness. For example, decreased electrical or oxygen activity detected in the prefrontal cortex by a brain scan is not necessarily indicative of a personality disorder; it only becomes a disorder, illness, or disease once the expert interprets and establishes a correlational relationship between decreased brain activity and the psychiatric diagnosis of a personality disorder. Diagnostic questionnaires, likewise, follow the same logic: it is not the raw result of the questionnaire that defines the illness, but the experts who create the questionnaire, its methodology, and its scoring system (Whitaker, 2002; Dumit, 2012). Simply because these are expert interpretations of biotechnologically-generated data does not essentially mean they are true or accurate representations of a mental illness. Our biotechnologies are created and calibrated by humans; this means that human error, or problems with the technologies themselves, can lead to the identification of false positives at any point in the process. The real challenge that remains is in our ability to distinguish between accurate and impaired biotechnologically-generated data.

Furthermore, a patient diagnosed with a mental illness is treated or rehabilitated for something one does or did rather than something one *has*; psychiatry regulates disorders so that a form of social decorum is maintained. Cockcroft (2013) suggests that in order to understand a social organization, we must examine its fundamental assumptions, its beliefs, and the idiosyncratic artefacts that define its subjects. The fundamental assumptions of psychiatry can be found in the Diagnostic and Statistical Manuals' diagnostic categories; its expert beliefs are those of psychiatrists, neuroscientists, and private pharmaceutical companies who espouse biomedical etiologies and pedagogies of mental illness; and, its artefacts are the diagnostic questionnaires, biotechnologies, medications, and other treatments and medical procedures for these disorders.

Psychiatric subjectification, often defined through biotechnologies, is a common social activity that defines how we come to understand, not only ourselves, but also life itself (Clarke et al., 2003; Rose, 2007). This is not to say that medical risk assessment and clinical judgement have been eclipsed by biotechnologies; instead, they have functioned as catalysts to the development of the current mental health knowledge-claims and practices as we now know them. Our knowledge and conceptions of mental health, mental illness, and mental treatment are defined by psychiatry's pedagogies which are used to govern our own conduct and the conduct of others. These psychiatric bodies of knowledge are defined by socio-culturally cultivated narratives; narratives which facilitate a process of socialization in which individuals who do not operate according to the "social game" of society are (self)identified, problematized, and treated in an attempt to reintegrate said individuals back into society and into its social norms (Rose, 2007). For example, a child who receives a diagnosis of Attention Deficit/Hyperactivity Disorder (ADHD) because their teacher has suggested that the child cannot focus and does not fit into the classroom decorum. In this "social game," the abnormal conduct of the child is identified by the teacher. It is then problematized in terms of a psychiatric condition (i.e. ADHD), and treated or managed – most often through medications such as Ritalin or Adderall.

The secular concept of disease is an amalgamation of both physiological qualities and psychological dispositions and so too are its etiological explanations (Szasz, 2008; Moncrieff, 2008).



But, a disease rooted in physiology is an exogenous disease; it is a disease that is inferred to have originated outside the patient as a result of contact with a third foreign body. In contrast, a disease rooted in the mind, is an endogenous disease; it is not solely a biological, neurological, or psychological illness; it is a social and political illness since it is the human mind that constructs the perceived abnormality of human behaviour or the mind as an illness itself (Szasz, 1994; Horwitz, 2002; Szasz, 2008; Gaimard, 2014). Although many psychiatric illnesses are often explained in terms of neurotransmitter levels and activity, the research is still significantly limited by the various biotechnologies that measure illnesses of the mind through proxies and surrogate biomarkers such as neurotransmitter metabolites in urine, saliva, or blood (Rose & Abi-Rached, 2013; Abraham & Davis, 2013).

To further illustrate this point and the difference between a physiological disease and a psychological one, the following example is presented. Consider two deceased bodies: the first died as a result of liver Cirrhosis, while the second committed suicide as a result of depression. The pathologist, upon analysis, could visually conclude that the first body has an enlarged liver that is characteristic of Cirrhosis. In the second body, however, the pathologist would not be able to determine any disease entity precisely because the individual is deceased; the illness is problematized as life itself rather than as an exogenous neurobiological occurrence in the human body. In other words, psychiatric disease is not solely about what we *have*, it is also about what we *do*, and what we *do* is frequently explained in biochemical and physiological terms and narratives constructed and ossified by psychiatric diagnostic categories and biotechnological analyses of conscious, living, human brains. In the case of psychiatry, disease is no longer just a third-party physiological entity; instead, disease is the individual itself.

Psychology, psychiatry, and neuroscience espouse claims about optimal mental health, the mental health goals one ought to strive for, and the tools and techniques (e.g. psychiatric medications) one ought to employ in order to achieve said optimal way-of-being. Contemporarily, mental health is about normal brain functions and the modulation of neurotransmitter activity in the brain based on biochemical interventions as a means to ensure individuals are able to contribute and participate in a free and democratic society.

In order to receive a prescription for psychiatric medication, however, one must first receive a psychiatric diagnosis. An individual can either self-diagnose with questionnaires or assessment tests or the individual is diagnosed either by a personal psychiatrist, a public psychiatric centre, or through the criminal justice system (Szasz, 2008). Regardless, if one self-diagnoses or is diagnosed by others, healthcare systems and insurance companies in Canada only provide coverage for psychiatric treatment options. If one wishes to pursue other types of therapies, one must be able to expend time and money to access said therapeutic social relationships. Furthermore, in the case of imposed diagnosis, the criminal justice system coercively diagnoses and determines treatment – which is usually achieved through means of psychiatric medication – for those diagnosed as mentally ill as a means to manage specific populations within the institution's walls (Szasz, 2008).

Mental illnesses, in turn, are very often reified by their respective psychiatric medical treatments. One may not necessarily present any signs and symptoms characteristic of depression other than the consumption of anti-depressant medications (Moncrieff, 2008). At times, one might

---

never know that someone else suffers from a mental illness until informed that said individual is using a psychiatric medication. The process of self-diagnosis or diagnosis of mental illness has become inextricable from the social consumption of psychiatric medications (Dumit, 2012; Moncrieff, 2013); especially, in Western countries where politics, culture, and medicine tend more towards the discovery of new technocratic panaceas and quick fixes to patch existent ills (Narayan et al., 2013).

But insofar as psychiatry emphatically espouses a disease-treatment association, the relationship between disease and treatment is not fundamentally natural. If someone has a sore throat, for example, one does not necessarily need to treat it with medication as the human body is equipped with the necessary mechanisms to overcome the bacteria. In the event that the body cannot overcome the bacteria or disease then perhaps treatment is indeed justified. But an individual with a sore throat, however, may still choose to treat the disease with a medication, either because the medication provides some form of desirable benefit, or because it helps to avoid the social stigma of being perceived as sick or contagious (Szasz, 2007). Interestingly, there is little mentioned about our body and brain's inherent ability to overcome mental illness through innate protective mechanisms. Perhaps this is due to the stigma attributed to mental health issues which motivate individuals to hastily seek treatment and means to manage their undesired mental-health-related conditions.

There certainly are a variety of reasons why one might choose to treat a disease; however, an illness does not necessarily have to be treated medically and the amelioration of a disease or disorder is possible through personal, cultural, and social change. In the discourses of mental illness, the use of psychiatric medication is a social artefact that reifies the illness itself and turns treatment into an imperative rather than a choice (Szasz, 2008). If one believes that he or she is diseased, then there is a social obligation to recover back into society's norms (Rose & Abi-Rached, 2013), and the way to recover as espoused by the many agents in the psychiatric industry is through the use of psychopharmacological medication and the chronic management of biochemical brain processes.

Certainly, there are a variety of cultural, social, political, and economic determinants which define and establish mental illness as a natural entity and its psychiatric medicinal treatments as natural responses to these illnesses. It is through the diffusion of such knowledge that many secular societies and their citizens have adopted the dominant ontologies of psychiatry as tools to not only perceive and conceptualize the personal human experience of existence in the brain, but also to enhance the brain itself through the use of lifestyle medications and brain training applications. The fundamental assumption that the brain is plastic, and that the brain is able to wire and rewire itself in different ways, justifies psychiatry's attempt to help change human conduct and behaviour (Rose, 2007; Dumit, 2012; Rose & Abi-Rached, 2013).

Psychiatry's fixation on brain-behaviour discourses coupled with its dominant presence in secular societies and cultures around the world has the potential to be severely dangerous, insofar as it limits our understanding of mental health and illness to only a few dominant sites of knowledge production and dissemination. This is particularly problematic when these sites share vested interests in the mass, chronic consumption of psychiatric medications (Dumit, 2012). If there exists no other conceptual reality of mental health and mental illness other than that of the

psychiatric community, then psychiatric disorders and the use of psychiatric medications to manage and treat said disorders are therefore always coercive.

Furthermore, most research on psychiatric medications and psychiatric diagnoses are conducted by private companies (Dumit, 2012; Abraham & Davis, 2013). These affluent companies are able to construct a collective imagination and knowledge-base of what mental illness and mental health treatment is. They have become implicated alongside nation-states in the provision of mental healthcare to citizens. Currently, this is done by responsabilizing the individual as a logical actor, who, based on his or her personal research of products and services on the free market, ought to decide how best to respond to their mental illness. State agencies collaboratively regulate companies that produce the psychiatric medications which are offered to the responsabilized citizens of the modern state; this is most often because nation-states seek to profit from pharmaceutical companies operating within their borders (Abraham & Davis, 2013).

What mental illness *is* remains a transient and dynamic cultural narrative. Like crime, it is a concept that is inherently socially constructed, sometimes through collective consensus and, other times, through conflict. The human experience of consciousness is not well understood, and may never be fully understood. Indeed, it might not even be epistemologically feasible to medically and scientifically understand our brains and minds with our brains and minds.

Perhaps it is not about medicating individuals back to health but about medicating individuals to alleviate symptoms which, in turn, allows them to function as a member of a society and a social order. Indeed, of the many medications contemporarily consumed, the majority are medications that are used to (self)manage – rather than cure – our bodies and minds. Psychiatric medications are, in many cases, a case-in-point example of medication management, in which psychiatric medications are medically espoused and used to ease or alleviate symptoms of mental illness rather than cure the illness altogether.

It is important to note that, historically, the physiological properties of psychiatric medications were not understood; the use of a medication was justified by its characteristic ability to calm “mad” and “unruly bodies” (Fabris, 2011). This calm, however, is not induced by targeted biochemical effects on the brain, rather, it is induced by broad biochemical effects which “destructively [burden] the central nervous system with toxicity” (Fabris, 2011; p. 116) which, in turn, pushes the human body to be “susceptible to fatigue, [emotionally numb, cognitively restricted], and suggestible” (Fabris, 2011; p. 115) – all characteristics that can render an individual easily manageable.

The unclear psychiatric and neuroscientific explanations as to why and where such mental illnesses begin and end makes it virtually impossible for a permanent medical cure to be determined. Gaimard (2014; p. 2) brings poignant attention to the transience inherent in notions of health and disease when he suggests:

Health [and disease] is a highly complex notion shaped by the experience of each individual, their values, the information available to them and their understanding of health [and disease] and health-related notions. As such, the concept of [health and] disease varies in different times and places.

Knowledge about health and disease is “governed by certain rules that establish what can be said

truthfully at any one time, the criteria of evidence, the forms of proof, and even the very object of which [one] can speak [of]" (Foucault, 2003; p. xii). In the lay discourses of mental health, it seems that medicine knows a lot about mental health, illness, and the treatment thereof. However, there are limitations to our knowledge and certainly there exists even more knowledge that we know has not yet been discovered or remotely integrated into our medical anthropologies (Moncrieff, 2008; Dumit, 2012). With this many unknowns, it would seem logical for mental healthcare to be cautious and precautionary about the use of psychiatric medications as standard treatments since such unknowns have been demonstrated to be harmful, dangerous, or toxic to the human organism as was the case with tobacco smoking and the tobacco industry (Freudenberg, 2014). Psychiatric medications may currently be an acceptable standard to manage mental illness, but in no way should that be indicative of beneficence.

## THE ZEMIOLOGICAL IMPLICATIONS OF PSYCHIATRIC MEDICATIONS

Psychiatric disease is not, in most cases, a third party physical entity that manifests itself in the human organism; it is the psychological/emotional experience and behaviour of the organism itself (Szasz, 1994; Horwitz, 2002). This means that there is no empirical evidence to suggest its existence other than through the collectively defined signs and symptoms of psychiatry's DSMs, its biotechnological assessments, and the other pivotal actors in the realm of mental health (Szasz, 2008; Dumit, 2012). Likewise, there is very little evidence to indicate that the medication prescribed for psychiatric diseases are indeed effective, especially in the long-term (Whitaker & Cosgrove, 2015).

They have the potential to cause physical harms through their adverse effects and toxicity; the potential to erode the basic human right of personal autonomy through the coercive use of psychiatric medications legitimated through mental health acts and policies; the potential to denigrate medical expertise and the public's trust in expert advice; the potential to sustain and increase the incidence of mental illnesses especially those characteristic of childhood; the potential to pathologize everyday life and generate an "impoverished philosophy of being" (Whitaker & Cosgrove, 2015; p. 164); the potential to create a mass concern for identifying and problematizing abnormalities based on political interests; and, the potential to act as a barrier to social justice by treating everyone as if they were alike in all ways fathomable.

In the discourses of mental health, the certainty imbued in its pedagogies comes not from evidence, but instead from hope (Rose, 2007). We are hopeful that we might find a way to ensure individuals cooperate effectively in society and contribute socially and economically to our collective structures of civilization. In doing so, we have constructed technologies of management such as psychiatry to help ensure, not only that individuals are able to operate and coexist in society, but also to suggest that there exists a correct way-of-being, of operating and contributing to society (Rose & Abi-Rached, 2013); a way-of-being that everyone in a specific society or culture ought to pursue and actualize. In a political ecology that is fixated on the enhancement of state economies, mental healthcare can easily be co-opted, and has been co-opted, by affluent private companies which seek to benefit from the prescription and sale of psychiatric medications (Dumit, 2012). But

to achieve the dominant way-of-being espoused by the psychiatric industry is not easy, nor is it very predictable. There is a nexus of contingencies which determine a medication's effect as either desirable or undesirable. Moncrieff (2013) clearly states some of these contingent factors below:

Whether [the] use [of a psychiatric medication] is ultimately helpful or harmful to the user depends on a variety of interacting factors, including the reason for using, the quantity taken, the manner and duration of use, the characteristic mental and physical effects the drug produces, the situation and personality of the individual user, the habits and lifestyle associated with the [medication's] use, as well as social attitudes and legal penalties attached to [the use of said drug or medication]. (p. 409)

The molecular structure of many psychopharmacological medications are similar to the molecular structure of illegal drugs (Perrine, 1996; Singer, 2008). This evidences a fundamental hypocrisy as virtually the same substance can simultaneously be legal through a qualified prescription yet also illegal for personal use. In other words, one cannot consume a substance for personal reasons, but might very well be coerced to consume a similar substance for other reasons determined by mental health facilities and prison policies. Regardless, the consumption of a legal or illegal stimulant, for example, will generate almost identical psychopharmacological and behavioural effects in humans and animals alike (Perrine, 1996). Their effects could be of temporary benefit to certain individuals, but the dissociation between substances considered immoral and illegal drugs and substances considered medicinal treatments obfuscates our ability to detect the harms produced by prescribed medications and the benefits produced by illegal drugs. Ultimately, it is not the molecular substance itself that is used to determine the substance's legal status; rather, its legal status is determined by social, political, and legal discourses about the substance and its *raison d'être* (Whitaker, 2010; Rose & Abi-Rached, 2013).

The potential for pervasive grievous harm, resides not so much in the illegal substances as it does in the legal ones, especially, the psychopharmacological medications. The magnitude of harm that these products may potentially generate is enhanced as the consumption of such substances is not only encouraged, but is coerced. This is because the use of psychopharmacological medications is a standard of care in our healthcare and criminal justice systems; it is the standard of management and treatment for mental illness. This standard of care produces and reproduces not only the norm definition of mental illness and health in terms of a biochemical ontology, but also establishes psychiatric medications as the treatment norm for mental illness (Szasz, 1994; Rose, 2007; Dumit, 2012). As such, anyone who is diagnosed or self-diagnosed as mentally ill will almost inevitably consume and use psychiatric medications to recover back to the optimal mental health standards, while others are coercively diagnosed and forced to consume psychiatric medications as a means of institutional management and personal rehabilitation (Fabris, 2011). This is increasingly problematic when one considers that mental illness diagnostic categories are extremely broad and can apply to nearly all persons at some point during their lives (Szasz, 2007b). The process of biochemical identification, problematization, and treatment of mental illness is inherently risky and due to its pervasive presence in modern societies, has the potential to generate grievous harm,

which more often than not, trumps those harms generated by illegal drugs. If we do not know the cause of a disease, then how are we to determine what effects our medications ought to have in and with our organism in order to remedy an illness? How can we expect to create a medicinal remedy that can specifically target the cause of a disease safely or with limited harms to its user?

There is a lay social assumption that illegal substances are harmful, while regulated medications are beneficial and generate demonstrable health benefits that transcend mere euphoria, ecstasy, or pleasure. In the case of psychiatric medications, detrimental and adverse effects are rarely considered in contrast to those of illegal drugs (Moncrieff, Cohen & Porter, 2013). Figure 1 illustrates the narrative of illegal drugs versus psychiatric medications. When conceived as a drug, a psychoactive molecular substance becomes associated with harm and injury. When conceived as a medication, however, it is associated with health, well-being, enhanced functioning and success.



Figure 1. These two pictures illustrate the dichotomous narratives of illegal drugs and psychiatric medications. The picture on the left is from a public health campaign that was used to educate citizens about the dangerous effects of using illegal drugs. The picture on the right is an advertisement for Adderall as an effective way to enhance attention and concentration in those individuals diagnosed with ADHD.

The lack of information about the adverse and detrimental effects of psychopharmacological medication is even more problematic in light of the frequency with which such medications are prescribed for extensive periods of time (Moncrieff, 2008; Moncrieff, Cohen, & Porter, 2013). Certainly, the use of psychiatric medication is only worthwhile if the benefits outweigh the harms (Moncrieff, 2008; Moncrieff, Cohen, & Porter, 2013), but which effects should we consider benefits and which harms? This is certainly not a straightforward process. Perhaps, as Moncrieff (2013) has urged, we might be more successful at the development of alternate non-biochemical therapies if we better understand the role such medications fulfill for the user, the state, and the parent company.

Yet, in light of all these uncertainties, psychiatric diagnosis and treatment through psychiatric medications remain the standard means through which we attend to, and cope with, the vicissitudes of life (Szasz, 2008). Furthermore, insofar as the nation-state defines mental illness as a security risk, both as a public health initiative and a criminal justice one, the desire to manage becomes greater than ever before and perpetuates the pedagogy of psychiatric management through psychopharmacological medications. This means that even more individuals will, against their will, receive psychiatric medications in response to a diagnosed mental illness. Even more problematic is that the actualization of any harms as a result of such medicinal consumption has had limited impact on the policies and/or practices of government healthcare systems and psychopharmacological corporations (Snider, 2015).



Psychiatric medications are utilized in two distinct ways: first, they are used as biotechnological tools by states, their psychiatric institutions, probation offices, jails, and prisons as means to manage and control patients or inmates. Fabris (2011) calls this a form of biochemical incarceration; individuals are involuntarily diagnosed and consequently prescribed psychiatric medications to render them more suggestible, passive, numb, and perhaps more susceptible to psychiatric and psychological rehabilitation (Fabris, 2011). Second, these medications are consumed – via doctor prescription – by individuals who voluntarily seek a means to manage and control their perceptions, consciousness, and personal lived human experience. While inmates and patients are coercively diagnosed and medicated against their will, so too is the general public, who is endowed with the responsibility of identifying, problematizing, and treating mental illness through psychopharmacological means.

Yet, even if one is extremely astute and committed to being the utmost responsible citizen, it is fundamentally impossible to accurately calculate a risk-benefit analysis if there is not enough significant knowledge or information about an illness or a medication's risk for adverse effects. There is little specific information in Canada about psychiatric medication prescription rates or their respective harmful effects. Also, there are very few global studies that demonstrate or indicate the long-term adverse effects of psychiatric medications or whether said medications exert disease-specific actions that are independent of their psychoactive properties (Moncrieff, 2008).

Furthermore, as research studies on psychiatric medications are predominantly conducted by the very same private companies who are profiting from the sales of the medications, the knowledge-claims that are generated often are manipulated in ways to indicate enhanced safety and efficacy (Healy, 2012). This can be achieved in a number of different ways such as ghostwritten academic articles; the decision to use placebo trials rather than comparator trials; skewed subject samples and sample sizes; modulation of statistical levels of significance; and failure to publish trials which indicate negative outcomes. The currently accessible psychiatric knowledge-claims tend to disproportionately indicate positive outcomes following the consumption of psychiatric medication as a means to alleviate mental anguish (Healy, 2012). This does not necessarily mean that said companies are not telling us the truth. They are merely telling us the truth they want us – the consumers, the academics, and the experts – to hear. But these truths, as constructed by the psychiatric industry, state regulations and governmental policies, have demonstrated the potential to cause grievous harm. Yet, even though this is the case, the manipulation of clinical trials, the concealment of independent trial methodology and results, the ubiquitous conflicts of interest, the co-optation of regulatory agents and agencies by private bodies, and the endangerment of human life and environment, are neither socially, culturally, legally, nor politically constructed as crimes or acts that ought to be considered criminal regardless of the risk that they might generate mass harm.

The harms caused by the creation, consumption, and lax regulation of psychiatric medications emerge at all levels of analysis. At the micro-level, individuals are directly harmed by the consumption of such medication, especially if the medication is used for long periods of time. The individual can experience acute, chronic, minor, and severe adverse effects. These adverse effects are actualized in the form of cardiovascular, neurological, genitourinary, hematological events, and other emergency syndromes (Tueth, 1994). Some well noted adverse effects of psychopharmacological medications

such as anti-depressants, antipsychotics, anxiolytics, and mood stabilizers are: postural hypotension, cardiac conduction blockade, extrapyramidal reactions, drug induced seizures, delirium, catatonia, pseudotumor cerebri, ataxia, urinary retention, nephrotic syndrome, priapism, agranulocytosis, neuroleptic malignant syndrome, hyperadrenergic crisis, serotonin syndrome, and anticholinergic syndrome (Tueth, 1994; Breggin & Cohen, 1999; Marks, Breggin, & Braslow, 2008; Breggin, 2008; Breggin, 2011). But these individual adverse effects not only impact the user, they also spill and extend into one's social network; family, friends, and, community are burdened with the task of enforcing recovery and becoming knowledgeable about psychiatric diagnoses and treatments (Rose, 2007).

At the meso-level, the adverse effects of these medications are not the primary concern. The concern at this level rests in the state-defined response to certain human actions and behaviours considered mental illnesses which require psychiatric medicinal treatment. This response limits the potential treatment options for those diagnosed as mentally ill. It does not allow the individual who cannot expend personal time or money to explore different treatments and therapy alternatives. The adoption of psychiatric narratives into state policies and legislation not only perpetuates the dominance of psychiatry's knowledge-claims, but also supports the capitalistic goals of private companies (Whitaker, 2002; Dumit, 2012; Abraham & Davis, 2013). The lack of state funding for such regulatory agencies and the state's preoccupation with market fundamentalism places these agencies in an awkward position that requires them to not only regulate industry for the purposes of human welfare, but also to collaborate with industry for the purposes of economic enhancement (Abraham & Davis, 2013). It seems that the state regulatory bodies are caught between the colloquial rock and hard place.

Many mental illnesses can, and at times are, defined as severe diseases which demands access to new, potentially more efficacious, psychiatric medications. This access to novel medications is, at least, not solely an act of corporate social responsibility or the state's concern for human welfare. It is often a strategic decision on the part of the company to support mental health rhetorics to shorten the duration it takes their product to reach the market (Dumit, 2012; Abraham & Davis, 2013); it is also a strategic state response which, in many instances, garners citizen support for the current states of affairs. This may certainly benefit some individuals by providing them early access to a medication, but in the realm of psychiatric treatment where etiologies and medicinal modes of treatments are merely precarious knowledge-claims, a weakened pharmaceutical regulatory regime not only increases the consumption of potentially unsafe and inefficacious medications, it also increases the number of citizens exposed to molecular substances that may be dangerous and harmful. Ultimately, this has the potential to erode citizen trust for the state and the state's ability to protect one's right to life, liberty, and security.

Furthermore, the mass production of psychiatric medications by private companies has an effect, not only on individuals and their social networks, but also on the social and organizational structures, policies, and procedures of nation-states worldwide. The pervasive creation and prescription of psychiatric medications impacts healthcare systems globally; this is because companies tend to produce more medications that generate high profit margins (Dumit, 2012). This is especially problematic since most of the secular medications which generate the most profits can readily be

classified as lifestyle drugs; that is, medications used to improve one's life or to live a certain lifestyle rather than cure disease (Dumit, 2012; Abraham & Davis, 2013). As such, transnational pharmaceutical companies rarely operate in developing countries where individual financial resources are scarce, and as a result of the limited production of basic medicines, individuals living in developing countries not only have no access to psychiatric medications, they also have very limited access to basic antibiotic medications (Dumit, 2002). As western countries over-medicate with lifestyle drugs, other developing countries lack access to basic treatments. Individuals in both of these countries are, to an extent, harmed as a result of the psychiatric industry, either through the overconsumption of psychiatric medications, or through the inability to access medications that have the capability to prevent numerous severe diseases because such non-psychiatric, non-lifestyle medications are not necessarily profitable (Dumit, 2012).

The harms that result from the creation and consumption of psychiatric medications are certainly evident and will continue to become more so as time elapses. These harms are actualized in space and time through the interactions of individuals, organizations, nation-states, and corporations. A diagnosis and treatment, however, could aid an individual in managing psychological distress; it could aid the individual's psychiatrist or psychotherapist determine an effective treatment option with therapeutic goals, but such a diagnosis and medicinal treatment also has the potential to cause harm. In cases of therapist malpractice, individuals can take legal action against their psychiatrist (Szasz, 2008). In the case of medications, there have been legal claims made through contract or tort law, but little in the way of criminal law. Currently, this means that there is no stigma attached to the harm incurred by a population as a result of a state or corporation's actions or inactions. The ability to contain such harms, perhaps, not only rests on a critical analysis of what we think mental illness is and how it ought to be treated, but also on a stronger, enhanced, and integrated criminal response to state-corporate harms.

The state's goal of polity and governance in a democratic society is intertwined with the capitalistic goal of private companies to accumulate wealth by creating and providing products, services, and technologies that states can use to govern its citizens, or that citizens of a state can use to govern themselves and others alike. These mutually reinforcing interactions produce and reproduce dominant social structures of psychiatric truths, psychiatric pedagogies, and psychiatric medicinal treatments. Psychopharmacological pedagogies and treatments become a taken-for-granted mental health reality; a reality which has harmed many and will continue to do so, as long as the treatment of mental illness remains predominantly conceptualized through a biochemical ontology and as long as criminology fails to adequately address state-corporate harms.

Even though many harms and irreversible adverse drug reactions have been associated with psychiatric medications throughout the last five decades or so since the appearance of psychoactive medications for psychiatric treatments, community treatments, and patient management, they continue to be created, prescribed, used and consumed without many second-thoughts. The unquestioned consumption of such medications and the pressures applied by states and corporations onto the public to engage in the management of the brain and the attainment of optimal mental health through biochemical, psychoactive interventions, conceals the harms that arise from this social activity.

Harms are sometimes connected to the consumption of psychiatric medications, yet the identification of such harms has not frequently led to many successful criminal adjudications, nor significant punishments. This is mainly because the criminal justice system's mechanisms are not often initiated when state-corporate crimes occur. This is because the law recognizes the corporation as an individual, even though, it is a nexus of various organizational nodes (e.g. shareholders, CEOs, presidents, vice-presidents, departmental managers, employees, etcetera.) that interact with one another and strive for a mutual, corporate goal. The ambiguity between what a corporation is legally and what it is pragmatically complicates the legal conceptualization and adjudication of the corporation mainly because criminal law seeks to identify the criminal act and the criminal mind. But just who is the mind of a corporation? Is it the corporation as a whole? Is it the CEO or the managers? How can we punish and rehabilitate a corporation as if it were a human when it is not? This is not to say that there can be no accountability on the part of the corporation, but corporate accountability claims are certainly more ambiguous than individual accountability claims. This ambiguity can be more effectively responded to through a zemiological framework.

## CONCLUSION

The harms that arise from the use of psychiatric medications do so as a result of the dominant mental health and mental illness knowledge-claims; the personal desire and hope to enhance one's lifestyle and well-being; state support of market fundamentalism and the desire to enhance its respective economy; and, finally, the striving of pharmaceutical companies to achieve anticipated profit margins. The harms that actualize as a result of the actions or inactions of these aforementioned actors is complex and is not always causally demonstrable through linear relationships (Snider, 2015). Each actor plays an important role in the process of the creation, consumption, and regulation of psychiatric medications, and in the zemiological outcomes of such activities (Rose, 2007; Abraham & Davis, 2013).

Currently, there continues to be a disproportionate application of criminal law in response to "street" crimes and a blunt disregard for state-corporate crimes (Snider, 2015). Harms that arise from state-corporate action or inaction are more likely to be resolved through contract, tort, or human rights law which are usually adjudicated outside of the public's awareness. So although such state-corporate actions or inactions cause significantly more harm than "street" crimes, there is virtually no stigma attached to said deviant behaviours (Glasbeek, 2002; Hillyard & Tombs, 2007). It remains a significant challenge for the individual to successfully subvert the claims and pedagogies of psychiatry and neuroscience, its history of false positives, its precarious etiologies, and the harms associated with its treatments.

The knowledge claims of psychiatry generate an illusion that we might actually be able to understand the relationship between brain activity and human behaviour in causal ways, that we can understand the human experience in terms of biochemical explanatory narratives of health and disease, and that psychiatric medications are able to help one attain and maintain a collective, optimal standard of mental health. As such, many patients are not critical about the efficacy of the psychiatric medications they are prescribed and often seek quick technocratic solutions to social

and cultural issues. But, if a consumed medicinal substance is only a little more effective than doing nothing (Abraham & Davis, 2013) and we know very little about its long-term effects, is it even worth the risk to consume it in the first place? The colloquial dodo-bird effect of psychotherapy alludes to the outlook that all therapies are able to attain similar results regardless of their method (Elliott et al., 2015). If that is the case, then there surely must exist alternate therapies (e.g. client-centered therapy or cognitive behavioural therapy) that do not necessitate biochemical intervention as a primary means of treatment.

The psychiatric medications that individuals regularly consume in Western secular societies are about lifestyle as much as they are about biochemical management (Rose, 2007). This management is coercive and has proven, in numerous cases, to be harmful to the brain and the body, not only of individuals in developed nations, but also of those in developing nations. Some might see these harms as a result of nothing more than irresponsible self-injury as a result of medication misuse or abuse; however, these harms depict what we are willing to risk, as communities, in order to achieve a way-of-being as prescribed by psychiatric and psychopharmacological pedagogies. Wisdom would dictate that we should primarily attempt to hinder those actions or inactions with the most potential to harm human welfare. Our current criminal laws and judiciaries are certainly not, in the present moment, common ways to effectively process state-corporate harms.

Our personal ways-of-being, our lifestyles, our perceptions, and our experiences are subjected to psychiatric analyses which coercively convince us that there is an optimal way-of-being, and that the way to achieve this optimal way-of-being is through biochemical techniques of subjectification, namely, through psychopharmacological medications. But if we want to avoid such state-corporate harms and ensure public health and welfare, we have to be prepared to question our individual and social assumptions about which activities we consider ill, criminal, unjust, harmful or morally wrong. Until those assumptions are challenged, altered, and tailored, the prescription and consumption of psychiatric medications, along with its dangers and harms, will remain nothing more than a common aspect and activity of modern life.

---

**WORKS CITED**

- Abi-Rached, J.M. & Rose, N. (2010). *The birth of the neuromolecular gaze. History of the Human Sciences*, 23(1), 11-36.
- Abraham, J., & Davis, C. (2013). *Unhealthy pharmaceutical regulation: Innovation, politics and promissory science*. Palgrave MacMillan.
- Aulette, J., & Michalowski, R. (2006). The fire in Hamlet. In R. Michalowski & R. Kramer (Eds.), *State-corporate crime*. New Brunswick: Rutgers University Press.
- Barnett, L., & Casavant, L. (2011). *Prostitution: A review of legislation in selected countries* (pp. 1-32) (Canada, Library of Parliament, Legal and social affairs division).
- Benjamin, D. (2001). *National drug policy: United states of america* (Canada, Government of Canada, Law and Government Division).
- Breggin, P. R., & Cohen, D. (1999). *Your drug may be your problem: How and why to stop taking psychiatric drugs*. Reading, MA: Perseus Books.
- Breggin, P. R. (2008). *Brain-disabling treatments in psychiatry: Drugs, electroshock, and the psychopharmaceutical complex*. New York: Springer Pub.
- Breggin, P. (2011). Psychiatric drug-induced Chronic Brain Impairment (CBI): Implications for long-term treatment with psychiatric medication. *International Journal of Risk and Safety in Medicine*, 23, 193-200.
- Clarke, A. E., Mamo, L., Fishman, J. R., Shim, J. K., & Fosket, J. R. (2003). Biomedicalization: Technoscientific Transformations of Health, Illness, and U.S. Biomedicine. *American Sociological Review*, 68(2), 161.
- Cockcroft, T. (2013). *Police culture: Themes and concepts*. Abingdon, Oxon: Routledge.
- Dorling, D., Gordon, D., Hillyard, P., Pantazis, C., Pemberton, S., & Tombs, S. (2005). *Criminal obsessions: Why harm matters more than crime* (2nd ed.). London: Crime and Society Foundation.
- Dumit, J. (2012). *Drugs for life: How pharmaceutical companies define our health*. Durham, NC: Duke University Press.
- Elliott, K., Barker, K. K., & Hunsley, J. (2015). *Dodo bird verdict in psychotherapy. The encyclopedia of*



---

*clinical psychology*, 1-5.

Fabris, E. (2011). *Tranquil prisons: Chemical incarceration under community treatment orders*. Toronto: University of Toronto Press.

Foucault, M. (2003). *The essential Foucault: Selections from essential works of Foucault, 1954-1984* (P. Rabinow & N. S. Rose, Eds.). New York: New Press.

Freudenberg, N. (2014). *Lethal but legal: Corporations, consumption, and protecting public health*. Oxford University Press.

Gaimard, M. (2014). *Population and health in developing countries*. Dordrecht: Springer.

Glasbeek, H. J. (2002). *Wealth by stealth: Corporate crime, corporate law, and the perversion of democracy*. Toronto: Between the Lines.

Government of Canada, Minister of Justice. (2016). *Controlled Drugs and Substances Act* (pp. 1-88). Retrieved May 12, 2016, from <http://laws-lois.justice.gc.ca/eng/acts/c-38.8/page-2.html>.

Government of the Netherlands. (2016). Am I committing a criminal offence if I possess, produce or deal in drugs? Retrieved May 12, 2016, from <https://www.government.nl/topics/drugs/contents/am-i-committing-a-criminal-offence-if-i-possess-produce-or-deal-in-drugs>.

Health Canada, Director General. (2014). *Health Canada 2014-15 report on plans and priorities*. Retrieved from <http://www.hc-sc.gc.ca/ahc-asc/performance/estim-previs/plans-prior/2014-2015/report-rapport-eng.php#s4>

Healy, D. (2012). *Pharmageddon*. Berkeley: University of California Press.

Hillyard, P., & Tombs, S. (2007). From “crime” to social harm. *Crime, Law and Social Change Journal*, 48, 9-25.

Horwitz, A.V. (2002). *Creating mental illness*. Chicago: University of Chicago Press.

Marks, D. H., Breggin, P. R., & Braslow, D. (2008). Homicidal Ideation Causally Related to Therapeutic Medications. *Ethical Human Psychology and Psychiatry*, 10(3), 134-145.

Medco Health Solutions (2011). *America's State of Mind Report* (pp. 1-11, Publication). World Health Organization.

- Michalowski, R. J., & Kramer, R. C. (2007). State-corporate crime and criminological inquiry. In *International Handbook of White-Collar and Corporate Crime* (pp. 200-219).
- Moncrieff, J. (2008). *The myth of the chemical cure: A critique of psychiatric drug treatment*. Basingstoke: Palgrave Macmillan.
- Moncrieff, J. (2013). *The bitterest pills: The troubling story of antipsychotic drugs*. Palgrave Macmillan UK.
- Moncrieff, J., Cohen, D., & Porter, S. (2013). The Psychoactive Effects of Psychiatric Medication: The Elephant in the Room. *Journal of Psychoactive Drugs*, 45(5), 409-415.
- Paoli, L., & Greenfield, A.V. (2013). *Harm: A neglected concept in criminology, a necessary benchmark for crime-control policy*. Manuscript submitted for publication.
- Perrine, D. M. (1996). *The chemistry of mind-altering drugs: History, pharmacology, and cultural context*. Washington, DC: American Chemical Society.
- Rätsch, C. (2005). *The encyclopedia of psychoactive plants: Ethnopharmacology and its applications*. Rochester, VT: Park Street Press.
- Rose, N. S. (2007). *Politics of life itself: Biomedicine, power, and subjectivity in the twenty-first century*. Princeton: Princeton University Press.
- Rose, N. S., & Abi-Rached, J. M. (2013). *Neuro: The new brain sciences and the management of the mind*. Princeton, NJ: Princeton University Press.
- Rotermann, M., Sanmartin, C., Hennessy, D., & Arthur, M. (2015). *Prescription medication use by Canadians aged 6 to 79* (Vol. 25, Ser. 06) (Canada, Statistics Canada).
- Singer, M. (2008). *Drugging the poor: Legal and illegal drugs and social inequality*. Long Grove, IL: Waveland Press.
- Snider, L. (2015). *About Canada: Corporate crime*. Nova Scotia: Fernwood.
- Szasz, T. (1994). Mental illness is still a myth. *Society*, 31(4), 34-39.
- Szasz, T. (2007). *Coercion as cure: A critical history of psychiatry*. New Brunswick, NJ: Transaction.

- Szasz, T. (2007b). *The medicalization of everyday life: Selected essays*. Syracuse, NY: Syracuse University Press.
- Szasz, T. (2008). *Psychiatry: The science of lies*. Syracuse, NY: Syracuse University Press.
- Timmer, D. A., & Eitzen, D. S. (1989). *Crime in the streets and crime in the suites: Perspectives on crime and criminal justice*. Allyn & Bacon.
- Tombs, S. (2012). State-corporate symbiosis in the production of crime and harm. *State Crime Journal*, 1(2), 170-195.
- Toronto Police Service, Financial Operations. (2013). *2014 Operating Budget*. Retrieved from <http://www.toronto.ca/legdocs/mmis/2014/ex/bgrd/backgroundfile-65912.pdf>
- Tueth, M. J. (1994). Emergencies caused by side effects of psychiatric medications. *The American Journal of Emergency Medicine*, 12(2), 212-216.
- Whitaker, R. (2002). *Mad in America: Bad science, bad medicine, and the enduring mistreatment of the mentally ill*. Cambridge, MA: Perseus Pub.
- Whitaker, R. (2010). *Anatomy of an epidemic: Magic bullets, psychiatric drugs, and the astonishing rise of mental illness in America*. New York: Crown.
- Whitaker, R., & Cosgrove, L. (2015). *Psychiatry under the influence: Institutional corruption, social injury and prescriptions for reform*. Palgrave Macmillan US.