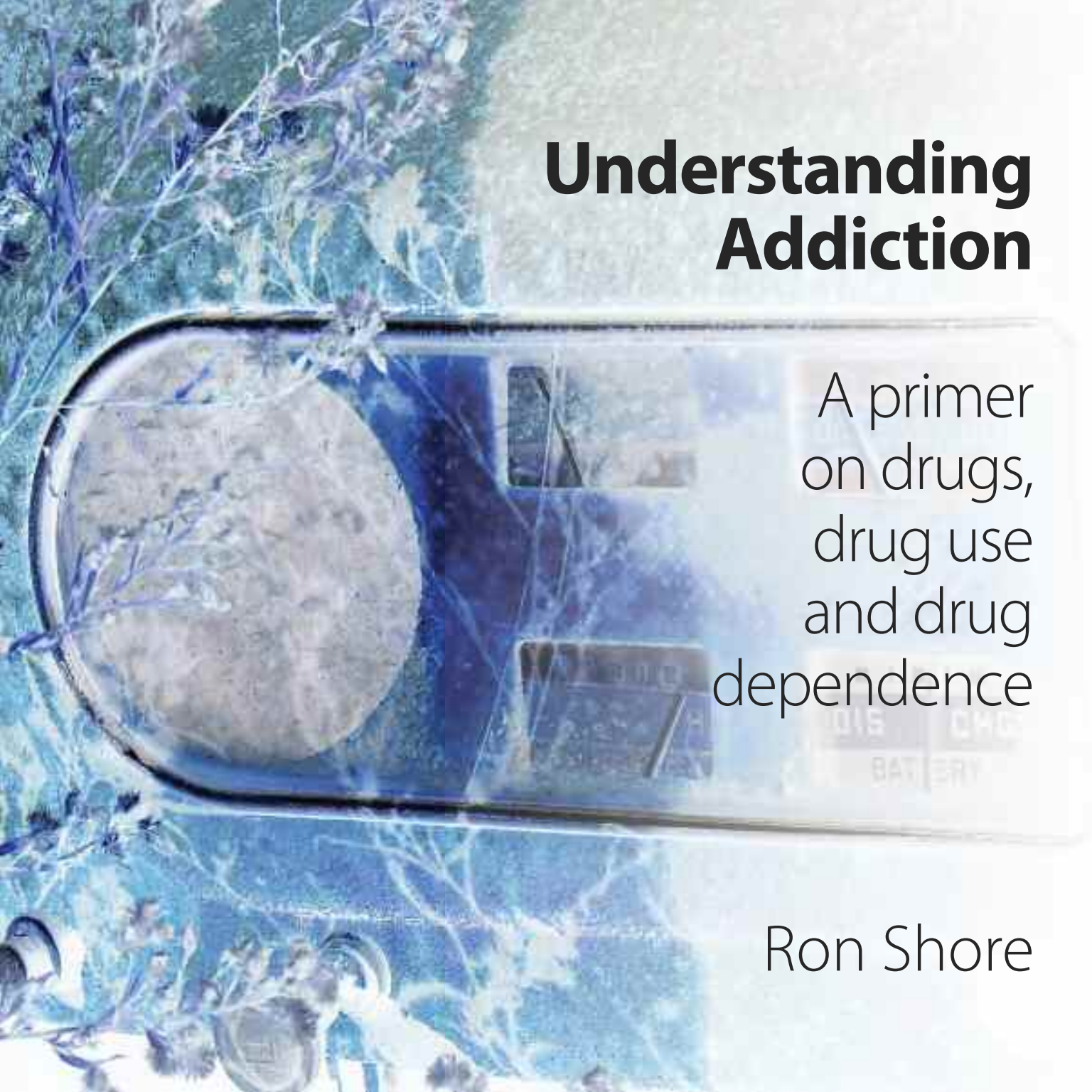




Understanding Addiction

A primer
on drugs,
drug use
and drug
dependence

Ron Shore





Cover Photo: *RE in Car Nation*, Peter J. Hodgkinson, 2007

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This book is dedicated to all of those we have lost too young, too early or because of things we can fix.

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This resource is meant to be a brief introduction to a big topic.

Understanding addiction is not something that happens easily in our world, and it requires a little bit of knowledge about a whole lot of things. Drug use is about plants and chemicals, the body and the brain. But it is also about society and culture. Most confusingly, it means we need to explore a little bit about how personal choices are made, about the effect of stressors and trauma on our decision making, and about individual autonomy.

Understanding addiction also requires that we examine our own attitudes and personal responses to drug use. There exists considerable stigma and taboo around certain kinds of drug use.

When we talk about drug use, or addiction, all sorts of things come to mind. This book is intended to share some insights gained from more than 15 years in the field. I hope to provide some conceptual tools that will help make sense of the sometimes puzzling behaviour of people who chronically use drugs. Moreover, I hope to contribute to the larger discussion of drug use in our society at large. It is important that we not confuse addiction with drug use. It is also important that we not create a separate mental category of “addicts” in this dialogue, as if somehow there exists a hard and fast distinction between “them” and the rest of us.

Health is indeed more than just the absence of illness. Community and belonging are necessary to our personal well-being. It is important for us all to better understand not only our own drug use, but that of those around us.

Several gifted artists and poets from the Kingston Street Health community have graciously agreed to contribute art, photography and poetry to this book. Their powerful work transcends labels, boundaries and the forces of judgement and marginalization better than my thin words could ever do alone.

Ron Shore, Kingston, Ontario, January, 2009

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TABLE OF CONTENTS

Preface	1	Part Three: Understanding Dependence	68
		Defining Substance Dependence	71
Learning Objectives	6	Theories of Drug Dependence	76
		Addiction as a Human Process	78
Part One: Issues of Substance	10	Separation, Anxiety and Overcoming Aloneness	80
Drugs	13	A Habit that Gets out of Hand	82
Drug Classifications	16	Reviving the Hungry Ghosts	84
CNS Depressants	17	Drug, Set and Setting	86
Opioids	21	Sociological Issues: Stigma and Moralisms	90
Stimulants	23	Self-efficacy, Control and Ritual	93
Hallucinogens	26		
Part Two: Understanding Drug Action	30	Part Four: What Addiction Teaches Us	98
The Brain	31	Addiction as Exile	100
Neurotransmitters	33	Drug Use is not Metamorphosis	102
Pharmacokinetics	36	Building Blocks	105
The Susceptible Brain	40	Being Human	110
Trauma	42	Inclusion: A Philosophy of Care	113
Resiliency and Attachment	45	Public Policy and the Social Determinants of Health	115
		Risks, Harms and Harm Reduction	123
Poetry	48	Bibliography	127
Artwork	58	About the Author	129



RE in Car Nation: Milford Dump Series, Peter J. Hodgkinson, 2007

Preface

I started working in the field of harm reduction in 1991, when I was 22 years old. I have spent almost the entirety of my adult working life – my career – in harm reduction. I remember a time before needle exchange, before methadone treatment on any significant scale, and before the identification of hepatitis C. I remember the early days of the AIDS movement, a time before the modern anti-retrovirals and effective combination therapies. Those were times when the idea of harm reduction was new and controversial and when the populations we were engaging and who carried such haughty social labels – men who had sex with men, prisoners, addicts, junkies, sex trade workers, transsexuals, criminals – were a who's who list of society's outsiders. This new realm of social engagement brought a veritable powder keg of social conflict into the public realm. Here we were, a rag-tag band of activists and community-based educators reaching out to populations historically shunned and addressing behaviours that carried huge social taboos. Change was bound to happen; it did, and it does. We had then, and continue to have, a leverage place in social policy: the fear of epidemics.

The early advances in harm reduction, such as the creation of needle exchange programming in Canada beginning in 1989, occurred largely as a response to trends in HIV infection. The sharing of needles used in illicit drug use was

identified as a potent vector for the transmission of the virus behind AIDS. Canada's first needle exchange programs (NEPs) began as federally-funded pilot projects and became a first-line prevention strategy within our public health system. At that time the messages, "shoot safe", "use clean works", and "get high, not AIDS", reflected a new approach to addressing drug use. Even the strategies of engagement – outreach workers on the street, mobile vans, evening and weekend hours, and the use of peer workers – represented a new way of working with people. It was a way of addressing behaviours without judging the whole person, a way of extending our social network of care, of building bridges with the marginalized and of working directly in the social settings we were concerned about in a way that was creative, responsive and dynamic. To summarize, we were winging it.

I do believe there are lasting lessons from the AIDS movement, key understandings that evolved over years of program design, practice and evaluation. We would be foolish to forget them.

One health issue cannot be treated in isolation from others. Clearly, dealing with HIV meant coming to terms with other health problems related to high-risk drug use. It meant understanding how people use; understanding addiction also requires we understand mental health in the broader context, given the concurrent co-morbidity of anxiety, depression and post-traumatic stress disorder that is so common. We need to look at the whole person, including

their basic food security, housing, income and social support needs.

Health is always political. The poor are unhealthier than those who are not. Marginalized communities and those that face multiple barriers to health will live shorter, less healthy lives. We need to recognize that as a social good, health is not equally distributed. Some people are simply at greater risk than others, and it is often necessary to prioritize these communities when we allocate health resources. It is called for.¹

An individual is not a health problem. People are free, complex, yearning, capable humans whose life and potential always exceed any label or disorder we apply to them. Respecting their choices – even better, understanding their choices – opens up all the potential we need for behaviour change. Usually, it is not just health information people need. They may know their risk behaviours are "bad"; often what is needed is more: support, encouragement, solidarity, and addressing the many stressors and drivers that act on an individual to fuel risk behaviour.

The individual needs to be at the centre of any health program; too many programs are still designed for the ease and comfort of staff, and are not

¹ See *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health*. World Health Organization, 2008. http://whqlibdoc.who.int/hq/2008/WHO_IER_CSDH_08.1_eng.pdf

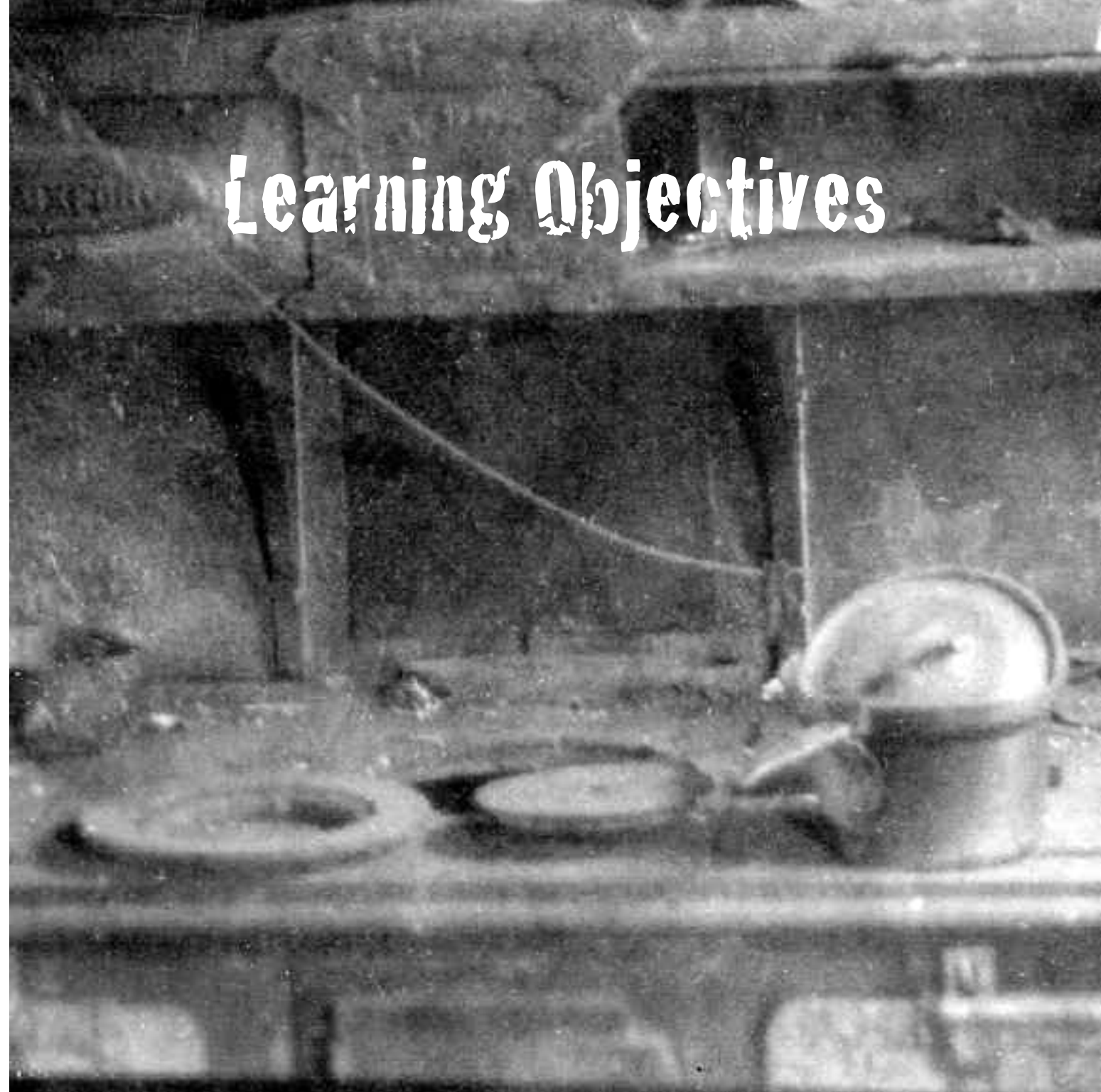
designed to result in the client engagement and change necessary to improve opportunities for health.

The AIDS movement (and later, breast cancer) brought medicine and science down from the pedestals we had placed them on, down to the level of personal and social accountability. We saw rifts in the supposed neutrality of science; biases and prejudices were made clear. We realized, though slowly, how some illnesses are rooted in social inequalities. This was really a main driver in the idea of “patient-centred care” that has since become a more universal value. Patients became citizens, less passive and more knowledgeable, demanding to be at least a part of their care plan. We take some of this for granted now; as the saying goes, those who forget history are bound to repeat it.

HIV brought media, social, policy and professional attention to the phenomenon of injection drug use. Prior to that, people who injected commonly only came into contact with our social systems through the police, courts, prisons and hospitals. Injection drug use was seen, and remains, a matter of crime. But HIV, and now hepatitis C, in addition to the whole host of other health risks, taught us that drug use is a health issue. Drug use is a health issue not just because of the health risks that accompany it, but because drug use itself is all about the interplay of health and wellness, the body and the brain, and the individual and their community.

Learning Objectives

Galley Dredge Primrose, Peter J. Hodgkinson, 2007



Learning Objectives

This book was originally intended as a kind of field guide. A field guide is a practical tool that can travel along with you as you move through the world and over time. It is a handy reference, helping you to identify and understand what you see. It helps you to recognize things for what they are. It is meant to be practical. It is also limited, and serves only as an introduction to key concepts.

For the person who wants to dig deeper, to go further and better immerse themselves in this field, there are references to key terms, subject areas and thinkers that can help you in your continuous learning. This book in no way promises to be complete or comprehensive. It is merely a beginning, but like all journeys, the start sets you off in your direction of travel and supplies goals, expectations and roadmaps to help you navigate your way through the much messier terrains of life.

In writing this work, I have been guided by a few learning objectives – intended changes in the knowledge or attitude of the reader:

- to awaken a further interest in the subject matter: the intersection of drug use, health and community
- to help in the efforts to reduce the stigmatization and marginalization of people labeled as “drug users” and “addicts”

-
- to introduce key concepts in the study of drug use in such areas as psychology, sociology and neurophysiology
 - to understand more about drugs, drug actions and the way drugs work with our brains and to understand the differences between different types of drugs
 - to assist the reader in improving both personal understanding of these issues and the ability to work with, interact with, or understand individuals who admittedly use drugs, often chronically

This primer is broken into four sections:


The first, **Issues of Substance**, positions the issue of drug use as a social norm, defines “drug” and explains the major classifications of drugs.

The second, **Understanding Drug Action**, explores the susceptible brain, how drugs interact with our body and gain their potency, and the impact of trauma on the human mind.

The third section, **Understanding Dependence**, seeks to make sense of the seemingly strange behaviour of addiction, exploring models that explain the functionality that lies beneath and tackling the significant sociological barrier of stigmatization.

The fourth section, **What Addiction Teaches Us**, offers some building blocks to a way forward, puts drug use in the context of being human, and provides an account of harm reduction as an inclusive, evidence-based framework for health programs addressing drug use.

Drug use is a biological, psychological, and sociological phenomenon. We need to examine each of these dimensions as we explore the interplay of drugs, consciousness and health.



Part One: Issues of Substance

Part One: Issues of Substance

According to the latest Canadian Addiction Survey (2004) most of us use drugs. Close to 80% of us reported consuming alcohol in the past year. Close to half of Canadians surveyed report using cannabis at some point in their lives. But how many of you would consider yourself a “drug user”, or an “addict”? What images come to mind when you read those words?

How many people that you know who drink alcohol would you consider problem drinkers? Did you know that close to a quarter of people who reported drinking at all in the past year reported exceeding low-risk drinking guidelines?²

For many of us, a “drug user” is a kind of shady criminal character we can’t quite trust and don’t really want to be associated with. But the reality is that most of us use drugs.

A drug is a substance that we consume for purposes other than basic nutrition. A drug is consumed usually with the intent of changing the way we feel. It is something that we take in from without, which then affects the internal workings of our brain and body, resulting in changes to consciousness.

² Canadian low-risk drinking guidelines call for no more than 2 drinks (standard serving sizes) per day or 14 per week for males and 9 per week for female adults.

Do you think of drinking a glass of wine in this way? How about a cup of coffee?

Some substances – like wine with a meal, or a cup of coffee in the morning – are so ingrained in our lives and culture that we forget they are drugs. Over 80% of Canadians consume caffeine on a regular basis. Indeed, we talk about alcohol and drugs as if alcohol is not a drug. And have you ever thought of your local coffee shop as a “drug dealer”? Probably not.

There are a few points here to consider. One is that different drugs elicit different responses. Another is that there is a fine line between drugs and other items we consume. In fact, there is some speculation that a “drug” is not so much an item, but the expectations and values we place on a certain behaviour. You may have heard people talk about love as a drug, or food as a drug.

Can love be a drug? Does food alter consciousness? What about gambling? We know that can be addictive.

If so, what does this mean about the power of what we call drugs? We hear about the “addictiveness” of heroin, the danger of crack cocaine. But is the drug-power within the substance itself or is it in how a substance is used by an individual and what that experience means to them?

The answer is both. And to understand how drug use occurs and how drugs affect us, we need to look at a number of things. One is the drug. We need to understand the different kinds of drugs and their different effects on the body. We also need to look at the person using the substance. What is their personality? What expectations do they bring to the drug experience? Placebo studies have well demonstrated that part of a drug effect is psychological. The third area we need to appreciate in order to understand drugs and addiction is the social setting in which we live. What are the social norms when it comes to drug use? What messages do we receive about drugs and what they do and who we are? What controls surround the availability of drugs and what rituals exist and find expression in how the drug is used?

But to start, let's look more deeply at what a drug is and how drugs are classified.

Drugs

The word drug evokes a number of meanings. A drug is a consciousness-altering substance that has a time-limited effect on the brain and subsequently affects or impairs our cognition, perceptions and mood. In short, it affects how we are. It may make us feel pleasure or it may create anxiety. It may enhance the speed of our thinking or it may cause hallucinations. It may cause us to relax, or it may stimulate.

The word drug is rooted in a French term for "dry barrels", referring to containers of dried herbs used for medicines. The modern term "pharmacology", which refers to the study of the origins, properties and effects of drugs on living beings, comes from the ancient Greek term *pharmakon*, which can mean both medicine and poison. This origin is instructional: a drug can be both good and bad.

We routinely use drugs to alter the physiological functioning of the body. We may take medicinal drugs to soothe, to heal, to ease pain, or to affect the functioning of key bodily systems and organs. In modern medicine, health professionals are socially authorized to prescribe drugs for others – for their patients. In fact, pharmaceuticals have been for some time now the fastest growing component in health care. Pharmaceutical companies have massive budgets for drug research, and trials for new drugs are constantly ongoing.

Regulations exist to ensure patient safety and drugs are licensed for particular approved usages. The point is, we accept and promote the use of drugs to improve our health status.

Those are medicinal drugs. They come with the legitimacy of medicine and of science behind them. But they remain drugs – substances that may mimic natural compounds or that may be far removed from nature’s botany – and we use them to alter and regulate how our bodies are working.

As far as we know, human societies have always used plants (and now other less-than-natural substances) to this effect. Medicine has a long history. The known use of opioids for medicinal purposes dates back to Sumerian civilization, 3300 BC.

Alcohol was a staple of nutrition in European diets through to the Industrial Revolution, second only to potatoes as a source of nourishment. Breakfast in seventeenth century Europe routinely consisted of beer soup. Human civilization has an equally long history and love affair with consuming substances for pleasure. Drug use changes over time as societies change. Our attitudes towards drugs also change. Did you know that the average opioid addict in 19th-century North America was the stay-at-home mom?

The famous LeDain Commission of Canada’s parliament (this “Commission of Inquiry into the Non-Medical Use of Drugs” published its report in 1972) defined a drug as any substance that by its chemical nature alters the structure or function of the body or mind in the living organism. A more recent Canadian parliamentary committee (The Special Committee on Illegal Drugs, Senate of Canada, 2002) defined a drug as a substance that when ingested alters mental processes such as cognition or affect.

Drug Classifications

Drugs are classified according to their effect on the body. Drugs in the same classification will share key characteristics but can still vary in their effect on the user. In fact, the same drug can affect different people quite differently. So, understanding the drug in itself remains only part of the equation.

Psychoactive drugs alter brain functioning by decreasing, increasing or disrupting the activity of our central nervous system (CNS). This in turn produces changes in mood, perception, need-consciousness and other psychological functions. Ultimately, this results in changes at a behavioural level and may result in changes to bodily activity beyond the conscious control of the brain (respiration, heart rate, hormone regulation).

There are different models of drug classification but the most commonly accepted is to group substances by their effect on the central nervous system and on brain activity. In this model there are four main groupings.

CNS Depressants

These drugs reduce the activity of the CNS, producing disinhibition and relieving anxiety. They may be used medicinally as anti-anxiety agents, anesthetics, sleeping pills or sedatives. They produce effects along a continuum: anti-anxiety – sedation – hypnosis – anesthesia – coma – death.

The classification includes alcohol, barbiturates, benzodiazepines, antihistamines, alcohol and inhalants.

These drugs slow the body's metabolism and the CNS. They can enhance mood and produce a range of feelings from euphoria to relaxation, sedation or drowsiness. Memory, concentration and insight are all progressively dulled. At high doses depressants will produce sleep, stupor and may lead to death through suppressed respiration.

Alcohol works by increasing the effect of the neurotransmitter GABA (Gamma-Amino Butyric Acid), a depressant and inhibitory transmitter that suppresses the action of nerve cells in the brain.

Short-term effects include relaxation, disinhibition, incoordination, slowed reflexes, slowed mental processes and attitudinal changes.

Intoxication plays a major role in a large percentage of violent crimes, including murders, assaults and sexual violence. Other negative consequences include accidents, injuries, job loss and relationship conflict.

Intoxication is a reversible drug-induced brain syndrome that includes: clouded sensorium, disorientation, impaired insight and judgment, amnesia, diminished functioning and cognition, as well as uncoordinated motor activity. It may result in labile moods and emotional outbursts. Hallucinations and delusions may occur with high doses.

Phases of alcohol overdose consist of: confused thinking, impaired judgment, labile mood, poor concentration, incoordination, slurred speech, nausea, vomiting, sleepiness, memory lapses, respiratory failure, coma and the possibility of death.

Alcohol is a psycho-active and mood-altering drug. Its active agent is ethyl alcohol, found in varying concentrations depending on the drink. While alcohol is not a stimulant, its high sugar content does result in a rise in energy and disinhibition effect early in the drinking episode.

Alcohol is the second most widely used drug in the world, behind caffeine. Unlike many other drugs that are also used medically, alcohol has no real

identified therapeutic usage in the clinical sense (though the health benefits of small amounts of red wine continue to gain attention). Fetal alcohol syndrome is a serious birth defect detected in 30-50% of babies born to alcoholic mothers.

Alcoholism is marked by clear withdrawal effects. Even short term heavy use results in a “hangover” – part alcohol poisoning, part withdrawal, and partly the result of dehydration. Excessive long-term alcohol consumption is known to irreversibly damage the liver, suppress the immune system, damage nerve cells in the brain, and wreak havoc on the digestive system. It also may be a risk factor for the development of several cancers.

Benzodiazepines are another group of drugs that can fall within the CNS depressant classification. Combined with alcohol or opioids, they have a high overdose potential. They are also strongly dependence-producing. By the late 1970s they had become the most commonly prescribed drug in the world, often used by physicians in the treatment of anxiety, depression, insomnia and stress. Recognition of their dependence-liability and of the extent of their over-prescription has resulted in decreased clinical usage. Many of their earlier indications are now treated by modern anti-depressant and related pharmaceuticals.

All benzodiazepines act by enhancing the brain’s inhibitory and sedating

neurochemical GABA. As a result the brain ceases its normal output of excitatory neurotransmitters necessary for alertness, memory, muscle tone and coordination, emotional responsiveness, heart rate and blood pressure control. Possible adverse effects include over-sedation, drowsiness, poor concentration, incoordination, confusion, blackouts, emotional bluntness, depression, irritability and even attacks of rage and violent behaviour.

Opioids

Like depressants, opioids slow brain and CNS activity. They have a sedative action, mask the perception of pain and have a clear cough-suppressant action. This classification includes opium and the drugs derived from opium such as heroin, codeine and morphine. Opioids may be natural or synthetic (such as methadone). They are used medicinally for acute short-term relief of pain and to reduce suffering in chronic and terminal illnesses. They are also used for sedation and to ease gastrointestinal distress.

Initial physical effects may include nausea and vomiting, fatigue, dry mouth and a warm heavy feeling throughout the body of the user. Other effects include constipation, increased urination, contraction of the pupils, itchy skin and slowed breathing. At high doses the skin can become cold, moist, and bluish and breathing can become slowed to stopping.

Chronic opioid users develop clear physical tolerance and marked withdrawal symptoms upon abstinence. Withdrawal symptoms include uneasiness, yawning, tears, diarrhea, nausea, cramps, goose bumps, chills and a runny nose, strong drug cravings and intense anxiety. Withdrawal sets in about six hours after last use, peaks at 48-72 hours, and may have prolonged abstinence syndrome symptoms such as depression and cravings for months.

Opioid dependence is a chronic and treatable health condition. The standard of care is methadone maintenance treatment. Untreated opioid dependence has high rates of morbidity and mortality; an estimated 1% of opioid users will die from overdose each year. The rate of death for those not on methadone maintenance treatment (MMT) is more than 30 times greater than those on MMT.

Methadone is an oral medication, a synthetic opioid, that alleviates withdrawal, reduces drug cravings and at maintenance levels acts as a narcotic blockade reducing the effects of other opioids taken. Methadone has mild side effects similar to other opioids, is taken daily, is safe for long-term use and generally does not impair functioning.

Benefits attributable to MMT, established by over 40 years of research and evaluation include: reduction in illicit drug use, reduction in criminal activity, improvement in health status and productivity, retention in treatment and medical services, reduction in needle sharing, reduction in rates of disease transmission and positive pregnancy outcomes.

Stimulants

CNS stimulants include cocaine, amphetamines and caffeine. They produce increased activity in the cerebral cortex resulting in elevated mood, increased vigilance and postponement of fatigue. Effects include excitement, alertness, euphoria, increased motor activity, enhanced concentration, increased strength and feelings of power. They may be used as appetite suppressants, decongestants and to treat attention-deficit-hyperactivity disorder.

Caffeine is widely used to increase energy and alertness. Caffeine is known to elevate mood, reduce fatigue and enhance performance of gross motor tasks. Caffeine works by blocking adenosine receptors in the brain. Adenosine acts on specific receptors on the surface of cells in the brain to effect behavioural sedation.

Caffeine is the world's most popular drug with 120 000 tons consumed annually. Caffeine is found in significant amounts in coffee, tea, cola drinks, chocolate and cocoa. Daily per capita intake of caffeine in Canada is about 200 mg with over 80% of Canadians consuming caffeine on a regular basis. Withdrawal effects are noticeable upon cessation of doses as low as 100 mg per day (one cup of coffee). Nicotine acts uniquely as a stimulant at low doses and more similarly to a CNS depressant at higher doses. Nicotine and caffeine together have a synergistic effect, each enhancing the effect of the other.

Cocaine acts on the brain by altering the operation of key neurotransmitters – epinephrine, norepinephrine and dopamine; the re-uptake or absorption of these are blocked by cocaine’s effect, leaving excess amounts in circulation to restimulate receptors in the brain.

Amphetamines, sometimes used for weight control, in the treatment of narcolepsy or for performance enhancement, chemically resemble epinephrine and norepinephrine. Amphetamines are known to elevate mood, increase libido, inflate feelings about yourself, cause hyperactivity, paranoia and result in repetitive behaviours.

Injecting cocaine or speed brings a host of health risks including infectious disease, skin tissue, vascular and heart damage; smoking crack or crystal methamphetamine carries other unique health risks. Smokers will be at higher risk of respiratory problems and continue to be at risk of both blood-borne and saliva-carried infectious diseases.

Common side effects of cocaine and amphetamines include anxiety, insomnia, irritability and possibly psychosis. At low doses they create an alerting, arousing and behaviour-activating response not unlike the body’s natural reaction to stress and emergency. At high doses they may produce volatility, violent behaviour, spasms, convulsion and may cause death.

Stimulants cause blood pressure and heart rate to increase, pupils to dilate and both glucose and oxygen levels to rise. Blood shifts to muscle and away from skin and internal organs.

Stimulants augment or empower the action of dopamine and norepinephrine both in the body and in the brain. They mimic the natural response of biological amines such as adrenaline and trigger our “flight or fight” instinct, grossly exaggerating the mobilization of this natural defense mechanism.

Stimulant dependence is marked by fatigue, extreme depression, irritability, strong cravings and often stomach pain or cramps. Some of these may be attributable to the sleep-deprivation, lack of food and dehydration that often accompany chronic stimulant use.

Hallucinogens

Sometimes called psychedelics, these drugs produce changes in thought, perception, cognition and mood by producing a generalized disruption in the brain. Hallucinogens include mescaline, lysergic acid diethylamide (LSD), phencyclidine and cannabis. Many hallucinogens have a stimulant effect though cannabis is closer to a CNS depressant. Therapeutic uses of cannabis include the treatment of glaucoma, nausea and stimulation of appetite. Hallucinogens elevate mood, disrupt perception, impair cognition and motor function and increase appetite.

Cannabis is the most widely-consumed illicit drug throughout North America. Two to three hundred million people worldwide report smoking marijuana. According to the most recent Canadian Addiction Survey, 44.5% of Canadians report smoking cannabis at least once in their lifetime; 14.1% report smoking in the past year. Cannabis is a rare substance in that rates of lifetime use actually increase with rises in education and income level. Patterns of marijuana use in Canada are mostly recreational with only 18% of past-year users reporting daily use; about a third of past-year users report inability to control use or a strong compulsion to use.

Medicinal use of marijuana dates to 2700 BC in ancient Asia. Ancient pharmacopeias document its use for treatment in seizures, pain, rheumatism, depression, asthma, nausea, appetite stimulation and alleviating labour pains and menstrual cramps. Today, medicinal marijuana use has increased as a result of patient demands from both the AIDS and cancer movements.

THC (tetrahydrocannabinol), one of the psychoactive chemical compounds found in cannabis, acts by attaching itself to all surfaces of the brain's neurons, suggesting it alters the permeability of the membrane to achieve its drug effect. By inhibiting a neurochemical (cyclic AMP), by slowing the nerve's firing rate, and decreasing neurotransmitter release, cannabinoids alter the communication between nerve cells. THC also causes changes in the dopamine system and interferes with the brain's regulation of acetylcholine – a key neurotransmitter associated with memory function.

The effects of hallucinogens vary by user, attitudes of the culture, and the setting of the use. Perceptions commonly change; time may slow, space expands, senses become enhanced or even blended. Common subjective effects include: feelings of euphoria, relaxation, strong emotions as well as fear and anxiety. The user may become forgetful, and lost in the moment. Sexual functions and sensations may seem enhanced.

Unfavourable effects include reddening of the eyes, drying of the mouth, impaired concentration, slow and inefficient thought, confusion, paranoia and guilt. Some users feel a depersonalization effect – the sensation of feeling unreal, detached from one’s body. This kind of sensation is commonly associated with sleep deprivation and fatigue.

Do hallucinogens damage the brain? This is an area of debate. Recent studies seem to indicate higher rates of psychosis among early and heavy hallucinogen users. Brain imaging indicates lower rates of cerebral blood flow and lower metabolic activity in the brain among chronic users. Chronic long term users may have difficulty processing information efficiently and in “gating”, the act of separating out extraneous or irrelevant information.

Cannabis smokers are at risk for a variety of health issues such as adverse respiratory symptoms, respiratory illnesses, impairment of lung function and depressed immune system function.

RE in Car Nation: Smashed Window, “spiderweb”; Peter J. Hodgkinson, 2007



Part Two: Understanding Drug Action

Part Two: Understanding Drug Action

Apart from the drug, how the drug is used will affect the experience of the user. There are a number of key variables that affect drug intensity and condition the drug experience.

When a drug is introduced into the body, it will gradually enter the bloodstream and be circulated throughout the entire body. Drugs begin, in this way, to act on the brain. At the same time, the body begins to metabolize and eliminate the drug. The liver is primarily responsible for drug metabolism.

Despite the high degree of blood flow to the brain, there is a blood-brain barrier that does not allow free access. Capillary walls of the central nervous system are relatively small and restrict the movement of molecules into the brain. Fat-soluble drugs enter into the brain more easily than those that are water-soluble.

The Brain

The human brain is filled with nerve cells (neurons) that are connected and communicate with each other. Activity and communication between neurons represent the basis of all brain functions.

Information is transmitted using electrical impulses from one neuron to another. Electrical impulses travel between neurons through narrow gaps called synapses. The nerve cells in the brain contain chemicals; when an electrical impulse travels through a cell, the chemicals in it are released to “float” across the synapse.

These chemicals attach to the next nerve cell only briefly, but here something important happens: they “transmit” information. As such, those chemicals are known as “neurotransmitters”. Upon transmitting their information, neurotransmitters are either destroyed or reabsorbed (in a process called re-uptake) by their neuron of origin.

Excitation in the presynaptic neuron (upstream from the synapse) results in the release of neurotransmitters into the synapse and their subsequent binding to sites, called receptors, on the surface of the postsynaptic (downstream from the synapse) neuron. Receptors are very specific; only a certain neurotransmitter

can bind with a given receptor. When the neurotransmitter binds to its receptor cell it is normally deactivated either by re-uptake or by metabolism. Receptors are highly specialized structures which recognize neurotransmitter molecules and when activated, lead to a change in the electrical activity of neurons.

Psychoactive drugs enter the brain and affect neurotransmission. Some drugs stimulate, some drugs block, and others act instead of neurotransmitters.

The action of the drug is the modification of neurotransmitter function at the synaptic level. Drugs alter functioning of the brain at the cellular level. They can disrupt a cell's production, storage or release of neurotransmitters. They may interfere with a neurotransmitter's interaction with its receptor. And drugs may impede the deactivation of neurotransmitters, leaving them lingering longer in the synapse.

Neurotransmitters

The importance of neurotransmitters in human function and in how they contribute to conditions such as depression, anxiety and addiction has been by now well-identified. We have gradually resigned ourselves to recognizing that much of how we feel is the result of how neurotransmitters are functioning (or not) in our brain. Certain key neurotransmitters have been identified, such as dopamine, noradrenaline, serotonin, GABA and the endorphins.

Dopamine is responsible for feelings of pleasure. Dopamine stimulates the nerve receptors in the brain causing sensations of power, euphoria and energy. Furthermore, dopamine is also associated with logical thought processes and coordination of movements. Many drugs primarily affect dopamine, resulting in the "rush". This occurs as large amounts of dopamine are introduced, or if the re-uptake of dopamine is prevented, leaving larger amounts in the synaptic space. Dopamine is associated with positive reward, that "aah, that feels good and I want to do it again" sensation. Such reinforcement is the basis of addiction.

Dopamine is a member of the monoamine family that also includes adrenaline and noradrenaline. Noradrenaline is a natural stimulant and results in increased alertness, mental focus and wakefulness. It may play an important role in the initiation of food intake.

Behind the “fight or flight” instinct (the human stress response) is a series of chemical reactions that result in an increase of adrenaline (epinephrine).

Serotonin is the “happiness” transmitter responsible for reducing depression, alleviating anxiety, elevating mood and increasing feelings of self-worth. Lower levels of serotonin are associated with depression, aggression and irritability. Serotonin helps to regulate appetite, sleep and sexual functions. Hallucinogenic drugs are known to influence serotonin pathways and serotonin is thought to help in the regulation of other neurochemicals.

GABA is the main inhibitory transmitter that prevents the stimulation of neurons by occupying receptor sites. A lack of GABA is linked to anxiety, worry and feelings of stress. GABA calms, but allows us to feel still alert at the level of higher mental functioning. It suppresses hyperactivity. Alcohol and anxiolytics potentiate the effects of GABA.

Endorphins are the body’s own morphine-like substances. They produce effects similar to the opioid drugs. Endorphins play a key role in pain perception and pain relief and are largely associated with feelings of well-being and happiness.

Other important neurotransmitters include:

- glutamate, the principal excitatory neurotransmitter in the brain
- anandamide (the Sanskrit word for bliss), the natural cannabinoid neurotransmitter, associated with the brain’s ability to coordinate and retrieve memory
- acetylcholine, which helps in the transmission of orders to muscular systems and in the formation of memory

Pharmacokinetics

Pharmacokinetics is the study of drug action: how a drug gets from the external world into the body, is distributed to the site where the drug has its effect, and is subsequently modified and eliminated from the body.

How a drug is introduced into the body – the routes of administration – significantly affects the rate at which a drug enters the body and reaches the brain. In general, the faster the drug reaches the brain, the more intense the response. The faster it enters, generally also the shorter its half-life, or the time it takes for half of the drug to be metabolized by the body. Half-life is a measure of the rate of metabolism of a drug. It indicates the length of time needed for a drug's concentration to fall by one-half. The longer the half-life, the longer the duration of action in the body. The shorter the half-life, generally the more intense high and greater abuse potential. The half-life of a drug affects both dosage and the frequency of use. The half-life for many drugs increases with the user's age.

Given its effect on intensity and half-life, route of administration plays a big part in the abuse potential of a drug.

Taking a drug by mouth is a relatively slow route of administration. When a drug

is swallowed, it must be turned into a liquid by its movement through the stomach and into the small intestine, where it penetrates the lining and passes into the bloodstream. How much of the drug gets absorbed depends on its solubility, permeability and the presence of food in the digestive tract (this will slow the absorption). Alcohol is a key exception here; it is absorbed directly through the stomach wall. Liquid drugs taken orally will be more readily absorbed than tablets or pills, which need to be broken down.

A slightly quicker method of ingestion is via mucosa. Mucous membranes under the tongue, in the nose and rectum are richly vascularized with fewer layers of cells, allowing for quicker absorption into the bloodstream. Chewing tobacco and suppositories are examples. Absorption in this route is irregular and unpredictable. Many drugs irritate the membranes and can lead to other health problems.

Injection is a mode of administration in which the drug is introduced directly into the bloodstream, bypassing our natural biological barriers and filters. Intravenous drug use, directly into the vein, produces effects felt by the brain within 10-15 seconds.

Subcutaneous injection, or skin popping, affects the brain within 5-10 minutes depending on blood flow. Intramuscular (IM) injection commonly occurs into muscle of the leg, arm or buttocks. The advantages of injection include

quickness and accuracy of dosage. The disadvantages include the risk of infectious disease, overdose, and the pain of injection.

Inhalation is another rapid method of drug administration. Due to their rich vascularization and the large surface area of the lungs, gases pass through lung membranes very quickly. Drugs contained in small particles are carried in the smoke of the inhaled drug and enter the bloodstream through the lungs; the effect is quick, but not all of the particles pass through the lungs into the bloodstream.

The liver is the body's detoxifier. For a drug to be removed from its site of action and from the bloodstream it must be metabolized by the liver and eliminated from the body by the kidneys or through feces. Drugs must be metabolized, or changed, so they cannot pass from the kidney back into the bloodstream. Enzymes in the liver produce this change. Other sites of drug elimination include: the lungs, sweat, saliva and breast milk.

In addition to route of administration, there are several other factors affecting drug intensity, including:

- classification of the drug
- the dose of the drug (larger dose = greater effect)
- tolerance of the user

-
- social setting of the user
 - psychological profile (set) of the user
 - body weight, age, medical status and drug interactions

The Susceptible Brain

Most of us are familiar with the nature vs. nurture debate. On one hand people argue that behaviour is rooted in our nature: our genes, biology, our DNA make us who we are. On the other hand you have the nurture argument: that it is our social situations, our family structure and our culture that determine who we are. Like most debates, the truth is probably somewhere in the middle.

It is important to recognize (and the drug experience allows us a window into this) that our brains are not static, rigid and separate from the world-at-large. Our brains are organic. They adapt over time; they are fluid and changeable. They are susceptible, vulnerable to the outside world, responsive to events and experiences.

We know now that the brain grows at a remarkable rate in infancy and early childhood, and that many of our neural pathways form during this critical stage of self development. What we tend to forget is how the brain continues to adapt and change over the course of our lives.

It is a challenge for all of us to recognize that our thoughts and feelings, our moods and perceptions, are really the results of a series of electrical stimuli in the brain. Who we are, in terms of our perception of our own identity as a self, is

based in the actions of neurochemicals. That does not mean that we do not have will, or choice, or identity; it is simply a humbling reminder that we are physical beings, soul and psyche embodied.

Drug use in its simplest form is the introduction of external substances into the internal theatre of our consciousness, changing who and how we are at any given moment. We can change ourselves, at least temporarily. There is some evidence that not only does drug use change the processes of the brain, but chronic drug use probably changes the organic structure of our brains.

Our brains – the seat of consciousness, home of self-identity – are susceptible. We literally can not stand apart from the world. We are enmeshed in it.

Trauma

Events in our lives likewise condition the formation of neural pathways in the brain and affect how our brains regulate neurochemicals and hormones in the body. In the extreme example, the experience of trauma has lasting impact on how we think and feel. Underneath that are changes to the processes of the brain itself.

Adverse childhood experiences have life-long personal health impacts and create susceptibility to problem drug use, other negative health consequences, and a series of mental health challenges. One of the first things I noticed in my career in working with injection and illicit drug users is how many of them reported early childhood trauma, in particular sexual abuse, incest, emotional and physical victimization. Many have also experienced sexual or physical violence as adults. The argument can also be made that the frequent experiences of arrest, trial and incarceration are experienced as episodes of violence; we know that physical assault and predatory sexual acts do occur behind the walls.

Trauma, by definition, is crisis – the overload of one’s ability to cope with external stressors. Trauma results in the telescoping of consciousness, the separation of self from place known as dissociation. It is the split, in consciousness, between

WHERE you are and where YOU are. And – this is important – it is permanent. Trauma, by definition, is permanent harm.

Trauma is relived not only through flashbacks and memories, but also by the defensive structures we erect in consciousness to protect ourselves from the overload of pain: blocking memory, the creation of alternate selves. Trauma is met by the creation of scar tissue that is palpable. Sometimes thick, sometimes thin, the scar tissues are always there. Trauma marks us forever.

That is not to say that we cannot cope or survive or heal. In fact, in most cases we do go on and we do cope and heal. Sometimes, what we do to cope is to alter our consciousness through drugs or risk-taking behaviour. This may be about control. The very physical nature of drug use, in particular the violent physicality of injection drug use, is an effort to regain control over the body and it is particularly attractive for folks who have had that control violated in their pasts. The rituals surrounding drug use – obtaining the drug, the acts of preparation, the near-sacrament of drug administration – serve to further buttress this control and give a sense of structure to the self.

Drug use is about more than drug use. This is always about that. It points to something elsewhere, something deeper, perhaps hidden.

Trauma results in the disruption of the brain’s “normal” regulation of

neurotransmitters and neurochemicals. It results in surges of adrenaline, the body's response to extreme stress, in an attempt to protect itself. The self is indeed under attack in episodes of trauma. As a society we recognize the trauma of war; the domestic wars against children, and the acts of abuse that occur both inside and out of power structures, also have a resultant post-traumatic stress disorder.

The lasting effect of a traumatized brain is one that is susceptible to addiction, to the lure of intoxication, and to the seduction of less healthy sexual behaviours. The rewards gained from such seemingly harmful behaviours need to be understood for what they are: the stimulation of central reward pathways in the brain that result in enhanced feelings of power, control and pleasure. These pathways are central to our survival as a species; they are likewise central to the psychological survival of individuals who have survived trauma.

Resiliency and Attachment

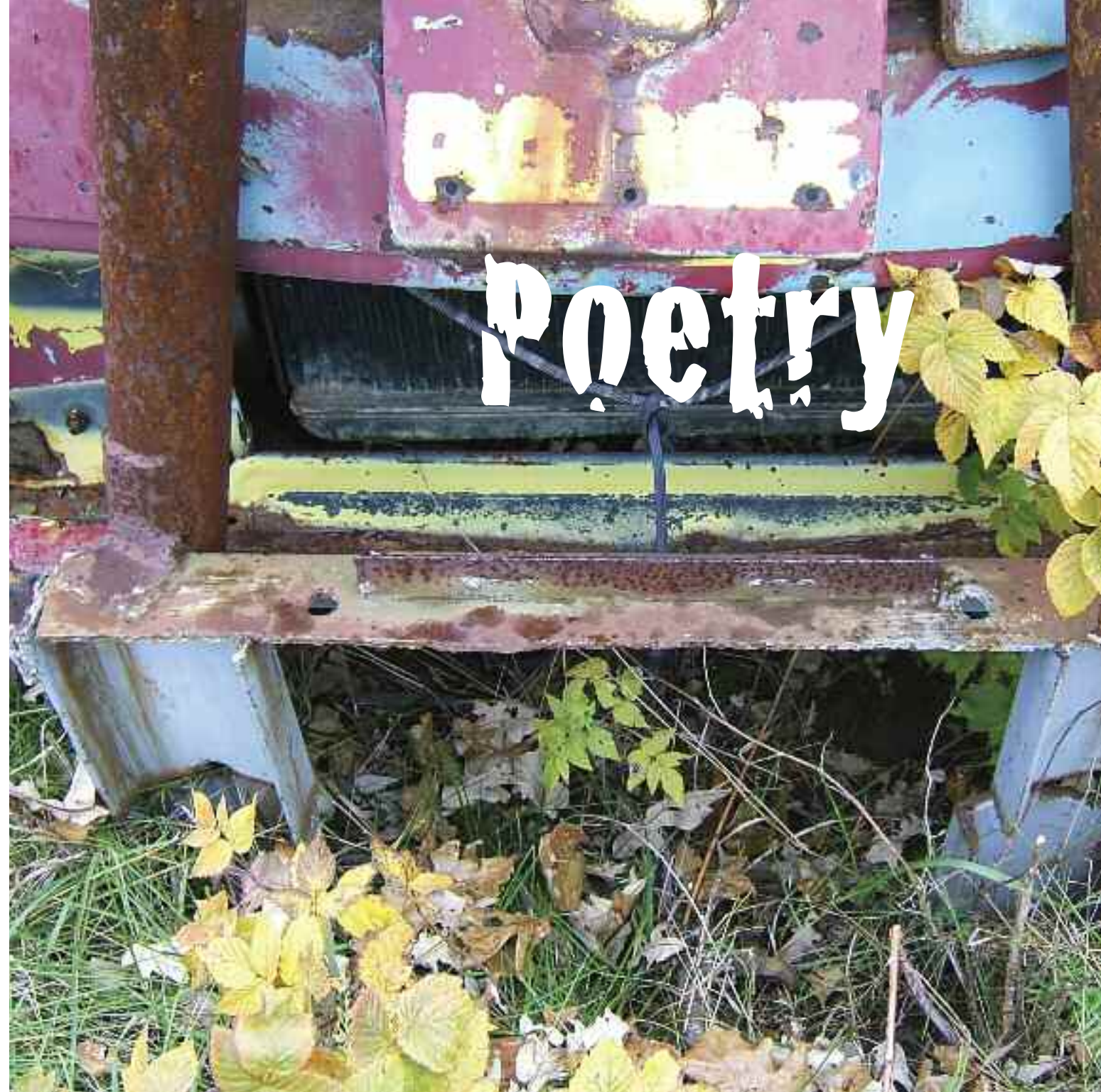
I am often asked "why do some people develop addiction as a result of trauma and others don't?" I certainly don't think it is a straight cause and effect. I do not believe that all people with alcohol and drug problems have been traumatized. Nor do I believe all who have been traumatized will develop addictions.

For people who are resilient (and I must confess I think all survivors are resilient – but here I mean those that really seem to "overcome") there seems to be one shining indication of why they have done as well as they have: attachment. Attachment is at the core of our early childhood development. It is the ability to trust in secure, loving attachments to our care-providers, those on whom we are so dependent. Without healthy, lasting attachments, the self seems to retreat inwards and seeks consolation in substances or problematic behaviours. Lack of attachment may be at the core of much of our anxiety.

Resilient children tend to have at least one strong, lasting, healthy attachment to a care provider. It could be a parent, a relative, or a teacher. But in that relationship is contained the ability to trust others, to be in relationship, and to allow some vulnerability. If you are always in defensive/protection mode, then the world is a threat. For many it is.

But if you have healthy attachments, then the adult relationships that are so central to our long-term health become possible. We can trust. We can know and be known. We can love, and allow ourselves to be loved. We believe we are lovable, and that others around us are worthy of our trust.

RE in Car Nation, "Dodge," Peter J. Hodgkinson, 2007



Holding Water

Swirl up the stars like a celestial shroud and wrap me in comfort
As I look at the rays of the sun through the clouds I know there is
A great power reaching the windows of cold souls, giving hope
I do not know, nor claim to understand what it is...
But I am asking to be welcomed into the peaceful fold, the trust

I feel baffled at my own mind and its ability to flee reason
How it goes into some other realm
Where I flail to grasp so hard I break my nails

As I fend through the demons layered within me,
Like a gymnastic squad they pounce upon one another's backs and
Grow in size and number
I have a vision that my shattered pieces will once again be whole
but I see now that I need some adhesion

By simply placing the fragments in the places where I believe they belong
is not enough
Like a broken vase my pieces do not rest beside one another and function for my
purpose
The vase, unless repaired will fall apart when you try to move it,
Will never hold water for your flowers - which is the purpose of the vase
So, like that vase I must submit to the repairs and cohesion

Trust that what I am unable to do to heal myself
the creator has the power and grace to do so
I will never be the vase before it broke ever
Because time is time and once it's past it's gone
But like that vase, I will be fulfilling my purpose again
The weakened, broken pieces are strengthened and my faith holds water
So that I may continue on and fulfill my purpose, whatever that may be....

– Jennifer Leeder

The Animal Was Slow

Once I lived in a place with five-foot ceilings.
Couldn't really walk around but could sit.
Standing up and stretching would have been nice
but I had to stretch out on the floor or the bed.
Crouching, tidying, in the short house.
You make the best of what you have;
you can justify almost every circumstance.
These things affected me.

Now my ceilings are way above my head.
That issue has been resolved.
Some part of me laughs
enduring or hiding pain.
Animal, you have been with me in everything.
How are you now?

The animal mistrusted and grieved over things
that I thought I'd been over forever.
Historically I have ditched the living body feeling.
It was slowing me down.
Regrettably.
Then I took time to walk at its reluctant pace.

There were struggles to keep what is mine.
The animal fought for sleep
and appropriate nourishment.
We stole from each other
the things we felt we needed.

– Rielly Stares

In The 4th Person

What is this empty socket
where love's eye should be

Which mantra can this small mouth find
to kill the incessant internal chatter

While hands hold bellies bloated
with the things that do not fill us

We wander the imposed wilderness
the earth falling away before us

Now holding each other's dreams
we dare that precipice each day

We are all crying
feeding our hungry ghosts

– R.D. Roy

A Code to Carry

I carry a code
everywhere
every moment
to decipher each gravity
and meaning

The code is hard won
and made to know
the direction of dignity
It is the heartbeat
between all choices

This thing is simple
based on energy and concept
like a compass
compact and fitting
easily in a hip pocket

I have memorized it
learned to test
and to trust it
adjusting the sensitivity
from time to time

And though the code is mine
it can be shared
offered in the palm of the hand
like a photograph
of someone I love

– R.D. Roy

Unkept Corners

Slash me And I'll bleed for you

Drip

Drip

My fluids are dense
and the lies you speak so smugly are spun in cobwebs
threading the walls' unkept corners
Never point a weapon at me

I examine my severed self
trying to dismiss the damage you have done to me

Offer your salt

I need its jagged sting
to purify

to make my flesh my own

As blood slows...

You run to your naked corner

I contort religiously in the other room

– Benjamin Sheedy

Snow Angels

Spilled from the night's throbbing heart
falling to dissipation below
trees hang as wearied angels
Houses meld without distinction

Bus shelters etch into the milieu
proclaiming themselves cold and vacant
Clouds loom like ghosts
weaving a screen before the night's depth

I want to reinvent myself
strong capable and worthy

I wrap misfortune in a bow

The Christmas ornamentation
strives to be more than what it is

I make snow angels in my backyard
a cold prayer to an indifferent almighty

– Benjamin Sheedy

Respect

As you stare at me and walk on by
You have that evil look in your eye
I'm not sure if it's distance or disgust
But I know for sure you are showing distrust

Can you please tell me if it's how I'm dressed
Or is it my piercings you seem to detest
I've done nothing to you, but still you look
The negativity I feel...I could write a book

You reach into your pocket to hand off some change
Now it's my turn to look with disdain
I don't need your money, it's respect that I need
For if I'm cut, is it not red that I bleed?

– Roy Snyder

Keeping Tabs and Counting With the Eagle's Eye

Maybe I should allow someone to improve me.
Maybe I should keep shrewd scores.
Maybe I should believe in the power of others
to transform themselves.

Maybe I should work on a ballet posture.

Maybe I should openly acknowledge wrongdoing.

– Rielly Stares

Artwork

RE in Car Nation, "Deluxe", Peter J. Hodgkinson, 2007

DELUXE



Self-portrait by Jennifer Serson, multimedia, 2008

Self-portrait

"I'll always struggle with light and darkness. I choose to fill the grey gaps in between with rainbows."

My addictive tendencies are a part of my personality. I try to harness that energy and channel it into my art. It helps me deal with the unhealthy desire to escape from this reality.

Looking inside and creating a visceral expression of myself and my perception of the world around me allows me to symbolically fulfill my desire for something missing by creating it from within.

I'm a firm believer that we create our own reality. I feel by creating beauty in an ugly world it a) reminds me that I dream from what I know is already around me, which gives me hope; and b) I feel I am contributing to raising that awareness in others by engaging them with joyful art.

I chose to paint a self-portrait in a slightly comic style. I wanted to make people smile.

I'm wearing a hat like those I crochet as it represents functional art. My hats keep people warm, giving the work purpose! They also allow them to express who they are. I try to make each one as unique and individual as the person who will wear it. Crocheting relaxes me, I accomplish something material and it allows me to slow down and contemplate where I am and where I want to go.

Visual art, for me, is creating a window to my inner workings which thrive to shine through the darkness.

– JS



Untitled by Robert Drady, painting, 2008

What can we do?

The picture that I submitted shows the three witches around the cauldron full of putrified corrupted flesh. We are all rooted to this earth and there is no escape except through death.

When we first started out to drink, smoke, shoot up etc., we are hooked. Some of us are not as hooked as others but they are still subject to getting caught depending on circumstance.

Some of us fight off the monkey for awhile but it is always close by. Some of the extreme cases end up in a Detox for a few days, get rid of the crap, and stay good for a few days or months.

Three days in the Detox helps for some people but many return again and again seeking some sort of help. Because we have poor self worth and no direction we return to our bad habits. We come from all walks of life with many different skills yet we get weak and fall back into that cauldron of corruption.

It took many years for our addictions to develop into the extreme. To get back on track there is a need for a secondary house after Detox. The secondary house should have a program that lasts at least six months.

I have suggested before that there should be a third step: a farm on the outskirts of each small town. The farm could have gardens for fruits and vegetables, livestock for beef, pork, poultry, etc. All the equipment could be serviced by mechanics on the farm, all maintenance and construction by people that live there. The surplus food that would be produced by the volunteers there would go to the local food banks.

Each evening there would be an AA meeting and a drug addiction meeting. Each day there could be two or three hours of education in different fields. Those that choose to go to the farm could be there from one to three years.

The local Welfare department could help people by giving them a cost of living allowance each month. If the people at the farm stay off the drugs and start to hone their skills they could go back into the workforce and may succeed in life. Not everyone will succeed but the percentage of success would likely be a lot better than just throwing them back out on the street after three days in Detox.

Except for the Administrator all the people that work on the farm could come from the ranks of those that volunteer for the programs. Doctors and dentists could volunteer their time to make sure that those people that are working there are healthy enough to stay. Anyone that they found that was incapable of completing the program they could recommend them for disability pensions or other programs.

I could write a million words on the subject and so could a thousand others. Until there is good solid action taken things will stay the same or they may get worse.

– Robert Drady



Brianna by Felix, pen and ink, 2008

Brianna

Brianna is a meaningful drawing to me in two ways – one artistically and secondly in a personal way.

Firstly, Brianna was my first true “pen and ink” drawing. Principally, my skill has been drawing with pencil and colour pencil. About two years ago, I began drawing with pen. I had wanted to work with ink and brush for a while – but was hesitant to actually attempt it with a serious drawing. For my first piece I consider it a success and one of my most striking pieces ever.

The story behind Brianna is a long one, I guess.

Years ago I lost my brother – he was only 18 (about to turn 19) when he drowned out in B.C.. He had been on a roadtrip with a friend and cousin. I was actually stateside when it happened. What was especially hard about his death for me, was that we had just had a serious fight before I traveled south and him west. I ended up hurting him pretty bad. I never got the chance to apologize. I carried guilt and heartache for many years.

Several years ago I was hitch-hiking west. I was basically wandering wherever the wind blew. I gave serious thought to Golden – where he met his demise – but in the end was too scared to actually go.

A year later I found myself in B.C. again. This time I hiked to Golden and met up with some folks that were a real support to me and my family during the immediate time of the loss of my brother.

They took me out to the Mica Dam. I talked to my brother and also I prayed. I picked up some stones from the river. At that moment I knew that I had to complete my brother's journey. He had always loved the ocean and marine wildlife. Being in B.C., I knew he would not pass up the chance to go to Vancouver Island.

I took the stones with me and went to Long Beach on the western side of the island. Again, I prayed and talked to my bro. I threw the stones I had carried from Golden into the ocean there at land's end. I said goodbye. I had done all I could do to make peace.

On my way back I stopped in Chemainus. Long story short, I was broke without a place to stay and without even direction. One day I walked into a pizza shop hoping to trade a drawing for food. The dude told me to wait for his wife and talk to her so I did. She came and we talked and she packed me off with a pizza and some soda. I hitched back to the next town down the road where my tent was set beside this guy's trailer.

The next day I went back because Michelle had promised me some work. I ended up doing some sign work for them and camping in their yard. They treated me as though I were family.

One day when I was in the house preparing some food, I noticed a photo of this girl. She was really beautiful but had sad eyes. Turns out this girl had recently died at 18 years of age of a drug overdose.

I asked Michelle if I could draw her portrait. I set to work on a piece in colour pencil. Michelle was blown away. Her eldest son had been friends with Brianna and they knew her well. She was a girl very much full of life – and the love of life. She was a very big-hearted person, generous and a good girl – but she dealt with an addiction that took her life.

All this right about the time I was on a journey of healing from my own loss.

I got to meet her mother and Michelle gave her a copy of the drawing. Her mother told me a bit about Brianna and gave me a photo of her. It was the source for the pen and ink I did.

I think Brianna would be glad to know that she is still touching lives in a positive way.

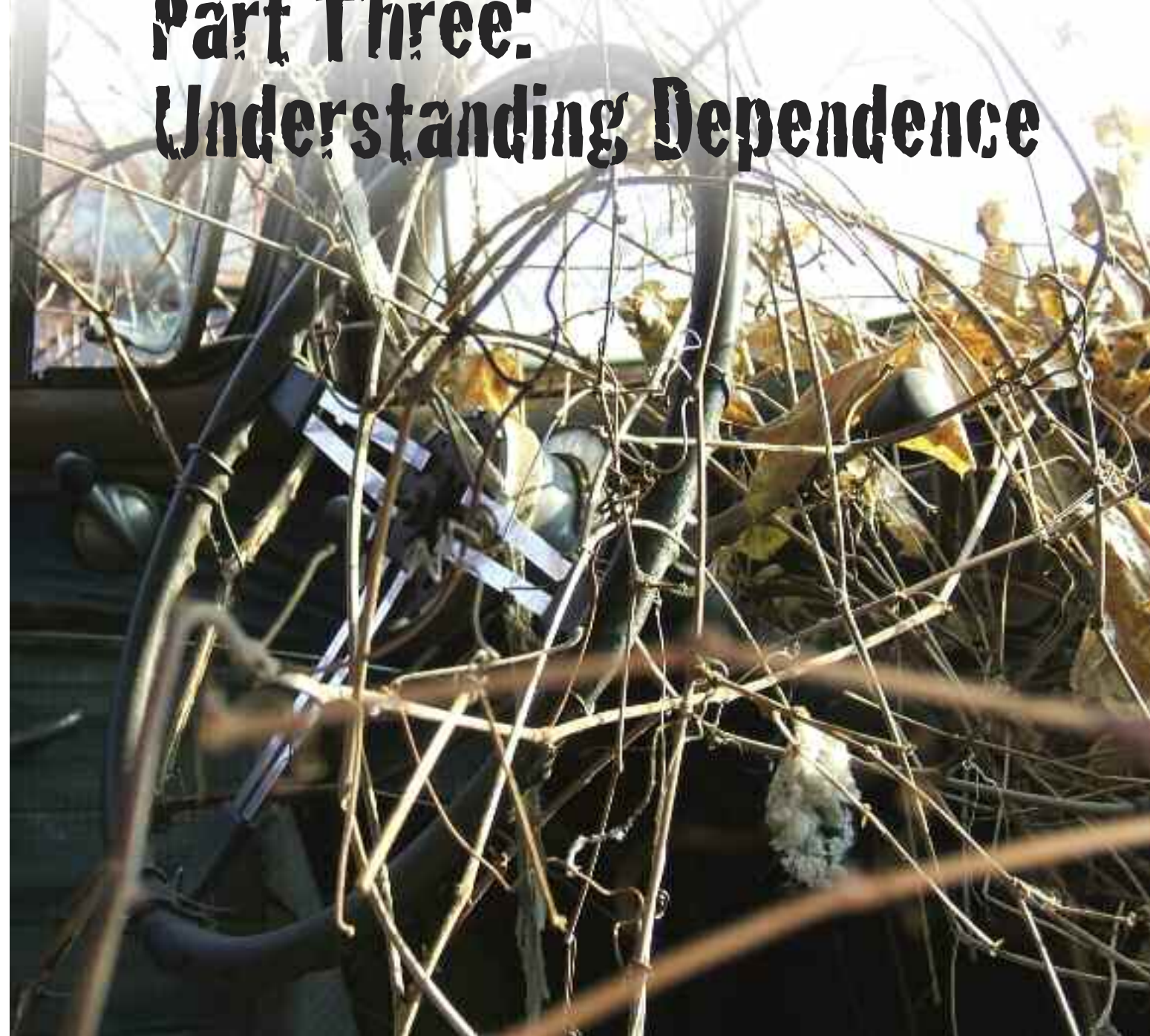
– Felix Q.



Self-portrait by A. Butler, acrylic on canvas, 2008

Part Three: Understanding Dependence

RE in Car Nation: In the driver's seat, Peter J. Hodgkinson, 2007



Part Three: Understanding Dependence

In the past, people used terms such as use/abuse/misuse to distinguish less harmful from more harmful patterns of drug use. There is no doubt that chronic drug use leads to changes in the processes, and sometimes the organic structure, of the brain. When drug use becomes chronic, with an element of compulsivity to it, it has changed from mere use into something with an underlying pattern and structure we now call dependence.

I use the term addiction in this resource in a non-judgmental manner and more in tune with its historical origins. The term addiction is rooted in a Greek term *addicto*, meaning bound or devoted to a practice.³ The clinical term in vogue (and most accurate in terms of what we understand as the science behind addiction) is dependence.

The reason that “abuse” is not a helpful term in this study is that it implies judgment and refers to a standard – proper use vs. improper use – that rests on arbitrary distinctions.

³ This historical reference is popularized by Dr. Gabor Maté in his recent work, *In the Realm of Hungry Ghosts: Close Encounters with Addiction*, and in his public lectures.

A person addicted to, or dependent on, opioids does not use to “abuse” herself, nor does she “abuse” medication. If we recognize drug dependence as a classifiable, chronic health condition, then the terms misuse and abuse become unhelpful.

Whatever the term – abuse, addiction, dependence – we can all probably recognize that at some point in time (and it is usually gradual in its becoming) individual acts of drug use can consolidate into a compulsive pattern of behaviour in which a person relies on, or is tied in some significant way to, a relationship with the drug.

There is no one way this happens, and “addicts” can be as disparate as all humanity. Some continue to function at a high level. Depending on the drug, the addiction may not even face social sanction (think of coffee), lessening the harm associated with the dependence. Think of the diabetic “dependent” on a drug called insulin. We properly do not think of this as addiction. There is no chaotic, impulsive use of insulin. There is little harm to self or others. There is or should be no shame or guilt in the use. The person simply depends on the drug in order to function.

So should this apply to the opioid-dependent individual on methadone. Gone is the illegality, the street hustle, the compulsive use and risk of infectious

disease. Methadone converts the opioid “addict” into a person with a chronic health condition simply dependent on a daily medication that normalizes his or her functioning.

So, inevitably this notion of “addiction” is tied to a lot of other issues, such as our perception of drug use, our stereotypes about “drug users”, and our notion that some drugs are inherently “addictive” while others are benign. Inevitably, understanding addiction is complicated and requires a tour through the personal, psychological, sociological and cultural dimensions of human life.

Let’s start with a clinical definition of drug dependence.

Defining Substance Dependence

The Diagnostic and Statistical Manual – Version IV (DSM-IV) is the “bible” of psychiatric disorders. Herein you will find the diagnostic criteria for the identification of disorders such as depression, anxiety and substance dependence. The DSM-IV represents the current authoritative description of mental health disorders and their presentation.

Substance dependence implies both physical and psychological dependence. It is referred to as a “maladaptive pattern of substance use” which leads to clinically significant impairment or distress.

It is marked by the following presentation of symptomology, with at least three of the following over a twelve-month period:

- tolerance
- withdrawal
- consuming larger amounts over a longer period of time than was intended
- marked by a persistent desire to cut down or control use
- a great deal of time is spent in obtaining, using or recovering from drug effects
- important social, occupational, recreational activities are given up or reduced due to drug use

-
- continued use despite knowledge of persistent or recurring physical or psychological problems caused by or made worse by drug use

Here, you have a description of a pattern of chronic, compulsive drug use with an inability to stop using the drug.

Similar to the DSM-IV criteria is the ICD-10 Criteria for Substance Dependence Syndrome. The ICD is the International Classification of Diseases reference manual. In this case, substance dependence is marked by three or more of the following occurring together for at least one month or, if persisting for periods of less than one month, should have occurred together repeatedly over a twelve-month period:

- strong desire/compulsion to use
- impaired capacity to control (onset, termination, levels of use) as in:
 - taken in larger amounts or for longer than intended;
 - persistent desire
 - or unsuccessful efforts to reduce or control use
- physiological withdrawal state, or use of substance to relieve or avoid withdrawal symptoms
- evidence of tolerance; need for increased amounts to achieve intoxication or desired effects; markedly diminished effect with continued use

-
- preoccupation with substance (other pleasures given up or reduced; great deal of time spent in obtaining, taking and recovering from the effects)
 - persistent use despite clear evidence of harmful consequences, as evidenced by continued use when the individual is aware of the nature and extent of the harm

So you can see some of the common ground between the DSM-IV and the ICD-10 criteria. There is general agreement on the principal, observable symptoms of addiction. Common to both are the concepts of tolerance and withdrawal; both are key to understanding the condition of dependence.

Tolerance is a condition by which repeated doses of the same amount of a given drug have diminishing effect. A larger dosage is required to achieve the original effect. As the body adapts, the user becomes more resistant to effect. This is the result of chronic exposure; the body adapts at a metabolic and cellular level resulting in the need to increase dosage. Tolerance is not infinite; at some point the body will plateau and escalation of dosage will stabilize, albeit at a markedly higher place than in the naïve or novice user. It is important to note that tolerance develops to different degrees across drug classifications.

Withdrawal, like tolerance, is a condition created by chronic exposure. It is a “maladaptive” behaviour change with both physiological and cognitive dimensions that occurs when blood or tissue concentrations of a drug decline in an individual who has maintained prolonged use of the substance. Put simply, when someone dependent stops using the drug upon which they are dependent, the body goes into withdrawal. This abstinence reaction may be the opposite of the drug effect. For instance if opioids create a pleasure sensation and result in constipation, a painful withdrawal state marked by severe diarrhea would occur. Protracted abstinence syndrome is the prolonged condition in which psychological withdrawal symptoms such as depression and inability to feel joy last over several weeks or months.

Drug dependence is a chronic relapse disorder. Even after periods of abstinence or reduced usage, drug use can spike again in response to a variety of triggers, stimuli or personal vulnerabilities. Drug use may forever slide along this continuum of abstinence to compulsive use. It is important to view relapse not as failure, but as a learning moment and to appreciate the long-term, chronic nature of drug dependence.

In making the diagnosis of substance dependence, clinicians will use patient history and self-report to gain an understanding of the duration and presentation and perceived harms in the pattern of drug use. They can refer to the symptomatic criteria listed above, or may make use of diagnostic tools such

as the Addiction Severity Index, the Michigan Assessment and Screening Tool, or the World Health Organization’s Audit tool. These last two are available on-line for you to get a sense of how dependence is characterized.

Drug dependence is best understood as a chronic health condition. Drug use itself makes most sense when seen as occurring along a continuum of risks and harms. It is not about abstinence or addiction. It is simply not that binary. Life is messier. Drug use is best assessed against a scorecard of risks and harms. It is the impact to self and upon others that matters. Risks and harms elevate when a condition of dependence occurs precisely because dependence entails the impairment of our ability to control our behaviours.

But harms are not simply the result of the drugs taken. Rather, they exist at the interplay of self and society. Understanding how and why people become dependent brings into focus the role of society in the creation of the individual.

Theories of Drug Dependence

Why do people use drugs compulsively, despite evidence of harm? Here it is worth looking at a few of the explanatory models available.

It is typical of human curiosity to ask “why?” Further, to identify the root cause or the underlying dynamic behind anything normally helps us to understand it better and to develop effective treatment responses. But in the case of human behaviour and in the matter of healthy relations with real people, we cannot allow that kind of forensic curiosity to lead us into seeing a person as an analytical problem. In a way, it doesn’t matter why. What matters is that we accept people for who they are.

However, given the widespread moral judgments about “addicts” and the lack of an informed basis in credible information to make sense of drug use and dependence, it is worth trying to explain some possible “whys” of drug dependence. My hope in doing so is that if the behaviours then make more sense, and if our confusion and questioning are lessened, perhaps we can be more compassionate. Plus, if we can better understand the cause of what we are looking at, perhaps the treatment interventions we offer can improve.

How we “frame” or define a problem will guide our response to it. If we see

addiction as a moral problem, then we are prone to develop policies and interventions seeking to redeem the character of an individual and thereby turn to church and the law. To see addiction properly as a health problem means we are guided by acceptance, empathy and continue to value the integrity and autonomy of the patient. We then offer counseling, support, health care and treatment.

Recognizing addiction as a chronic health problem means we accept the possibility of relapse and limit the amount of blame we assign to the individual. Health reminds us that quite clearly there are things about our bodies and lives that are beyond our immediate, conscious control.

Recognizing drug use as a health issue also breaks down the false divide between “addicts” and “the rest of us”. As surveys indicate, most of us are drug users, and many of us use problematically. Self-regulation of our drug intake is something most of us are constantly engaged in. Drug use is a health issue for any of us who use substances from coffee to cocaine. There is a continuum of use, along which harms increase or lessen. But most of us are on it. Within a health framework, we talk about risks, harms and health; it is not the good or bad of use vs. abuse. Drug use is simply not that simple. Nor are we, as humans.

Addiction as a Human Process

Edward Khantzian is a psychiatrist out of Harvard who has gone a long way to make sense of the seemingly baffling behaviour we see in addiction. Khantzian argues that drug use is an effort to self-medicate, often to quiet or palliate depression, anxiety or the pain of loss. For Khantzian drug use is not so much about pleasure-seeking but a remedial action to modulate pain. If this is true, then isn't there some functionality behind drug use? Doesn't it make a little more sense? And doesn't the addict then display a desire and ability for self-care?

Khantzian argues that drug use needs to be understood within a "triad" of factors: the drug, the person and the pain. Drug use in this context can be viewed as an attempt to cope, allowing us to ask "what do drugs do for you, not to you". If drug use becomes disordered, it is a disorder of self-regulation, Khantzian argues.

We must recognize that within our society addiction carries a significant stigma. We look down upon "addicts", often to the point of incarceration. Social judgment combined with personal frustration, result in feelings of shame and despair for the individual. This further fuels the drug dependence. Getting better, according to Khantzian, is a human process: learning alternative

strategies for coping, building self-esteem and engaging in positive social supports.

"The challenge for the clinician", Khantzian writes, "is to target the suffering in the person and not only brain synapses or symptoms alone".

Khantzian's theory of self-medication has a number of things going for it. The first is that it fits with the literature documenting high rates of trauma among some addicted populations. It makes sense of drug use as a stress response, an effort at self-calming or coping. It rests on a paradigm of human behaviour in which we are seen as dynamic, autonomous and willful, with choices and self-determination. It fits within a control paradigm, in which a basic human need is to exert control within your life and immediate environment. It also positions the addictive use of substances as a replacement for strong, healthy attachments to people.

Separation, Anxiety and Overcoming Aloneness

Erich Fromm was a psychoanalyst primarily concerned with the interplay of personhood and the cultures in which we live. He argued that any theory about human behaviour must begin with a theory about what it is to be human: a concept of humanity.

For Fromm, being human is all about separateness, the anxiety this creates, and what we do to overcome this aloneness we feel. Our deepest need, Fromm argues, is “to leave the prison of our aloneness”. The experience of separateness, for Fromm, is the source of all anxiety.

We are gifted with reason, we are aware of ourselves, of our being different from others. We are aware of our own mortality, of the limits of our control. We suffer pain and loss. This is uniquely individual – our own. We all crave to reach beyond ourselves and to connect meaningfully with others and with the world.

The human question, for Fromm, is how we overcome our separateness to feel “at-one”. One way of achieving this is what Fromm calls “orgiastic states”. These states, as Fromm describes them, are intense, even violent. They occur in “total personality” involving both mind and body. They are transitory, short-lived, and periodical.

One way to achieve this state of temporary oblivion is through the use of drugs. In such a temporary state, the boundary between self and the outside world may somewhat dissolve and the anxiety of aloneness be replaced with an artificial paradise. If such drug use is bound up with social rituals and undertaken in a communal fashion, this solution becomes even more effective, as a social identity is also confirmed.

When drinking or drug use occurs in a more solitary, individual way, as it does in modern society, such “escapes” tend to result in additional feelings of sorrow, remorse, loneliness, shame and guilt for the user. There is little communal celebration. While trying to escape from separateness, our refuge in drugs results in an even greater feeling of separation after the experience is over, contributing to the possibility of even more intense and frequent use.

Fromm’s alternative is the freedom found in loving relationships. Through loving relationships (with people, with nature, the world, with life), we can overcome our fear, our anxiety and feelings of separateness in a way that is more constant, lasting, fulfilling and true to the nature of what it is to be human.

Again, the possibility that addiction is something of a substitute for loving-belonging relationships is identified.

A Habit that Gets out of Hand

Stanton Peele is a contemporary iconoclast. In 1975 he wrote a book called *Love and Addiction* intended to counter the modern medical or “disease” model of addiction. Peele is provocative, and gets you thinking, even if you don’t agree with his conclusions. I think he really helps us to understand how addiction feels and manifests itself.

Peele’s main point is “that a person can become addicted not just to drugs, alcohol or even food, but to any kind of experience that the person finds sufficiently rewarding and consuming.”

When people become addicted, he argues, it is to the experience, not the object. Drug use takes on meaning only within the context of the person’s needs, desires, beliefs, expectations and fears.

“Compulsive, dependent attachments rise from the contrast between the bareness and anxiety people sense in the rest of their lives and the immediate fulfillment they expect to feel when engaged in the addictive object or sensation.”

Addiction, Peele argues, “is a habit that gets out of hand.” It is an extreme, seemingly unhealthy, outgrowth of normal human inclinations to repeat

meaningful, rewarding behaviours. The activity is reinforced by both the comforting sensation of the drug and the gradual loss of other life pursuits and interests that can occur as a result of dependence. The key is to recognize the function the dependence serves for the individual.

Peele identifies, quite accurately, that the majority of people who develop substance dependence get better on their own, without professional intervention or self-help groups. Self-regulation is an ongoing feature of human life. “Recovery” usually occurs within the natural evolution and growth of one’s own life. If there is any solution to addiction, Peele says, it can most often be found in the circumstances of people’s lives and the ways in which people cope with these.

Again, we are back to relationships, circumstances, and self-regulation.

Reviving the Hungry Ghosts

One of the most significant contemporary contributions to addiction studies is Gabor Maté's *In the Realm of Hungry Ghosts: Close Encounters with Addiction*. Maté is a physician and author who has written extensively on childhood mental health, parent-child attachment, and now addiction. He has spent more than a decade working within the disease and poverty-ravaged downtown eastside of Vancouver. His writing on drug use stems out of his clinical interactions with the severely addicted, hardcore illicit-drug using population living on the streets and within the "hotel"-shelter services of that community.

For Maté, addiction is all about attachment. He takes us on a whirlwind tour of the body and brain to help us understand brain formation, neural pathways, reward experiences, and how compulsive human choices emerge. Maté surveys the existing literature on the link between "adverse childhood experiences" and drug use to find a stirring and obvious connection.

Maté points out that drug use, particularly hardcore illicit drug use, occupies or hijacks the brain's central and primal reward pathways rooted in our need to survive. For individuals who have experienced significant trauma, particularly during childhood, the brain evolves with a mis-regulation of chemicals that predisposes individuals towards compulsivity and the seeking of comfort from

without. They are "hungry ghosts", forever wanting to take in from without what is lacking within.

Without healthy childhood development, without secure, trusting attachments to those upon whom we are dependent, our survival mechanisms of fear and panic take over. Risk-taking, compulsivity and the reward system stimulation found in drug use become the rubric of survival.

So for Maté it is not about "addiction as a brain disorder" or "addiction as a result of faulty parenting", but rather, that addiction makes sense as a human dynamic that evolves in the context of trauma. People choose what is available to them, and drug use is a rewarding behaviour, despite the obvious harms in the downtown eastside (overdose, disease, death, incarceration). Within this context, addiction emerges as a social condition rooted in injustice, abuse and poverty. It requires individual intervention, but also social change. It is a health condition, but like health itself, it is not simply about the absence of disease. It is about community, belonging, healthy families and strong relationships. Maté reminds us that addiction is about more than the individual, but also that the individual behaviour makes sense within the history and context of that person's life.

It is something to build on.

Drug, Set and Setting

Perhaps the most useful model to understand drug use is that proposed by the American psychiatrist Norman Zinberg. Originally published in 1984, Zinberg's *Drug, Set and Setting* has had a lasting impact on addiction studies.

Zinberg's book is subtitled "the basis for controlled intoxicant use" and in his introduction he describes the purpose of his investigations,

"...in order to understand how and why certain users had lost control I would have to tackle the all-important question of how and why many others had managed to achieve control and maintain it."

Often we assume that addiction lies within the drug itself. We are forewarned about the addictiveness of heroin or cocaine. It is widely believed that experimentation or occasional use of these drugs will inevitably lead to addiction. But the truth remains that only a minority of people who use these illicit drugs become addicted.

Zinberg's book made wide use of the study of American enlisted men returning from the Vietnam war. Within Vietnam, American troops had access to cheap, high-grade heroin and within the context of the trauma of war, many turned to drugs. 85% of enlisted men were offered heroin; 35% of them tried the drug.

54% of those who tried heroin became addicted. Here, the heroin was largely smoked, and not injected. It was commonly used in a group setting and not privately.

A large number of individuals "became addicted" at an identifiable time, in a distinct place. When these thousands of enlisted men returned home to the United States, what would become of them? Many of us would believe that their addiction would, almost by definition, continue. They were after all, controlled by this drug.

The longitudinal studies of these heroin-addicted enlisted men found that after three years back home, only 12% remained dependent on heroin; that, despite the fact that over half of them tried heroin upon return.

So what happened? If addiction is a powerful, will-robbing syndrome of powerlessness, why did so few remain dependent? Zinberg was fascinated by this, as most of the previous addiction studies had ignored the phenomenon of moderate, occasional or controlled use of illicit drugs. Occasional controlled use had been seen as largely impossible, or as a mere stage towards full-blown addiction.

For Zinberg, you can only understand drug use within a “triad of drug action”.

The three necessary variables are:

- the drug itself, with its inherent pharmacological effects
- the set, or personality, of the user
- the social setting in which the drug is consumed

Of these three, Zinberg argued, the role of social setting had been least understood. Zinberg explores the power of the social setting (in the case of the Vietnam vets, the condition of being in an unpopular, awful war in a foreign country) and the combined influences of cultural and social attitudes and how those influence the drug effect.

Zinberg argued that the interest of the enlisted men in heroin was directly attributable to the specific social setting in which they found themselves. Clearly, this was a stressful, traumatizing situation with profound emotional impacts and a clear lack of basic safety. Further, controlling social sanctions and rituals had not had the chance to develop. In most situations, Zinberg argues, social settings, through the development of sanctions and rituals, brings the use of illicit drug use under control.

Social rituals are the socially sanctioned and prescribed behavioural patterns conditioning the use of a drug. They include how the drug is used, the setting and circumstances under which it is used, the activities associated with the drug

use, and the ways and means of protecting against untoward effects. These social sanctions become learned behaviour, absorbed by individuals and shaping their expectations of drug use. Such a social sanction today would be the expectation to not drink and drive.

So, drug use is not merely about the individual and the drug. Zinberg reminds us that individuals live within a knitted fabric of society, social norms and rituals. Our setting can determine our beliefs about a drug. Our setting can also make it more likely for us to seek comfort through intoxication. Social setting is perhaps the single most important variable in why and how people become dependent. Simply look at the fact that only a small minority of those addicted continued to use heroin upon removal from the war-setting.

If setting has such an impact, and if our environment, upbringing and social conditions can influence our use of drugs and the harms we experience, then drug use again reminds us that “no person is an island”. To reduce the harms associated with drug use we clearly need to address and improve the social settings contributing to addictive, harmful use of substances.

Sociological Issues: Stigma and Moralisms

History is filled with examples of health conditions that elicit social judgment. Particularly when we do not understand the cause of a disease, or of a certain kind of behaviour, we tend to assign blame or judgment to certain conditions. Our fears are further elicited if we cannot “cure” or eradicate the condition. In such cases humans tend to invent stories about the disease, and add layers of meaning and social significance that go far beyond the medical facts.

At one point epilepsy was such a condition. Sufferers were treated as if possessed, and generally the condition carried great social stigma. The same was true about cancer until very recently. These are examples of disease taking on a meaning that is socially constructed and not an inherent part of the condition. Diseases can also be romanticized, as was the case with tuberculosis in 19th century society.

Susan Sontag experienced this when she was diagnosed with breast cancer in the 1970s. Her essay “Illness as Metaphor” describes her voyage into illness and what she describes as the “metaphors with which it has been landscaped”. A metaphor is a meaning or story or a symbol or an emblem used to represent something else. It creates a meaning beyond the thing itself.

Sontag argues that we create and apply social significance, often negative significance, to diseases we don’t understand or can’t cure or that frighten us

because they demonstrate our vulnerabilities. One of the “metaphors” we tell ourselves is that illnesses are caused by sufferers themselves. In ancient societies, plagues were viewed as the result of the immorality of a people, a result of straying from religious law. Today, we assume people are completely responsible for their own behaviour. We fear the recognition of our own limits. We like to think we are in control.

We continue to stigmatize certain health conditions: top among those are the “diseases” of mental health. Nothing scares us more than the recognition of our own vulnerability and the fact that we are truly not in full control of our senses. We blame addicts for becoming addicted. We tell stories to justify this and create metaphors about the addict as weak, self-destructive and immoral. We judge, and we stigmatize.

It is worth pausing here to fully understand this idea of stigma. Perhaps the greatest help on this subject is the work of the sociologist Erving Goffman and his classic work, *Stigma: Notes on the Management of a Spoiled Identity*.

The notion of stigma originated with the ancient Greeks, referring to bodily signs designed to signify something bad, dangerous or weak about an individual. Literally, marks were cut or burned into the body, advertising that the bearer was a slave, criminal, traitor – a blemished person, polluted and to be avoided, especially in public.

Stigma, according to Goffman, is an attribute that makes a person different from others, and lesser. The stigma acts to reduce the importance and humanity of the bearer, conditioning us to see that person as tainted, discounted, and less than whole or usual. They do not command our respect. They are deeply discredited. The stigma is not just an attribute, but a consuming and total identity, lessening the claim that individual has on us to be treated as an equal, like us. We see the person with stigma as not quite human, justifying any manner of discriminations and resulting in reduced life chances and opportunities for the stigmatized.

“...an individual who might have been received easily in ordinary social intercourse possesses a trait that can obtrude itself upon attention and turn those of us whom he meets away from him, breaking the claim that his other attributes have on us. He possesses a stigma, an undesired differentness from what we had anticipated. We and those who do not depart negatively from the particular expectations at issue I call the normals.”

So we have the normals and the others. A theory, or stigma-identity, is created to justify this discrimination. It is the story we tell ourselves about this person to excuse our own behaviours. In the case of addicts, the stigma is that we see the behaviour as chosen, as self-willed, as evidence of weakness and moral failing.

But that is just a story we tell ourselves. And recognizing it as a stigma-construction is the first step to freeing ourselves from this untruth.

Self-efficacy, Control and Ritual

There is a body of literature in psychology which views self-efficacy as the root of mental health.⁴ People who believe they are capable, who view themselves as effective actors in the world and leaders of their own life, tend to be happier and healthier. Intuitively, this probably makes sense to most of us. To feel powerless does not boost our self-esteem. This is definitely true in the workplace: employee satisfaction is largely rooted in one's ability to make decisions and exert some degree of control within one's own work environment. We need this in order to feel self-actualized.

Self-efficacy is not only the perception that you possess agency or the ability to decide for yourself in this world. It is also the belief that one can act, and that those acts will have a predictable outcome and make a positive difference for you. It is the assurance that your decisions have an impact on your fate and the recognition that your acts impact upon others. It is the deep belief that cause leads to effect and that you have a certain element of control in your life and environment.

Control is a basic human need. While we are all limited in a fairly dramatic fashion, and there is clearly much about the world that we cannot control, we do need and rely upon a sense of ability within our immediate environment. Think of a life

⁴ For a fuller exploration of self-efficacy, read the work of Canadian-born psychologist Albert Bandura.

without any control and you will probably arrive at a vision of some kind of hell. An individual with no capacity for self-control oneself is sociopathic; a society in which you have no control is totalitarian. Childhood development, particularly in infancy, is largely measured in milestones of increased bodily and self-control.

Implicit in control is the idea of predictability. Predictability not only assumes a certain logic through time and space, but also that things make sense. Again, it is the belief in cause and effect. It is a forecasting into the future and an understanding that life is temporal, unfolding along time. The future harvest is literally rooted in the seeds of the past sowing.

Environments without predictability cause anxiety and fear. If we cannot predict what will happen next we tend to be more hyper-alert. It is a survival mechanism. This is why early childhood development within a stable, secure environment is so important. It lays the groundwork for personal security and being at peace.

Living within contexts of chaos, we inevitably develop rituals or mechanisms to help us feel more secure and in control. We count in our head. We develop habits and lifestyle rituals to mark our passage through the day and to give us boundaries and a sense of identity and purpose. It is the creation of form out of a background of formlessness.

Drug use is like this. It offers the user a sense of control over one's body,

perceptions, consciousness and environment. Even if it leads to an impaired ability to control use, the user experience is that of subjective control. I am doing this to myself.

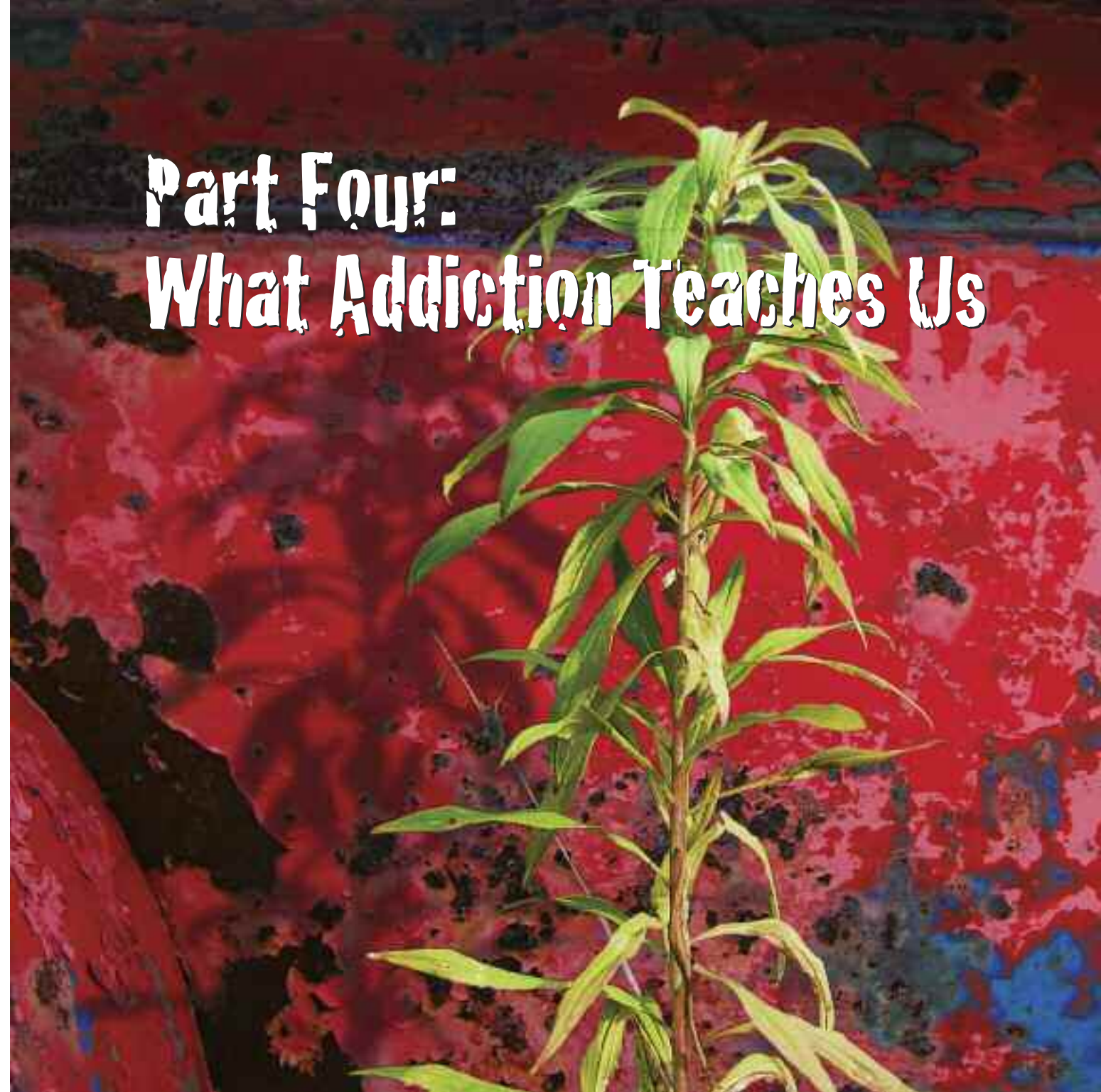
Drug use also involves clear elements of ritual. Drugs are obtained, prepared and ingested along ritualistic lines. It is not ironic that many religions involve some element of ritualistic alteration of consciousness, be it through communion wine, meditation, vision-quests or the use of hallucinogens by medicine people. Needle use in particular involves all the elements of ritual: processes, patterns, tools and techniques that go so far in the creation of the drug experience that often what people miss and long for if they go clean is the act of injection itself.

It may seem counter-intuitive that drug use, which involves the possibility of impaired control, is all about control. But consider that individuals who have lost control over their body through acts of victimization, in particular through acts of abuse, are more susceptible to high-risk drug use. I think the seduction of drugs in this context unfolds along two axes: one is the desire for pleasure and escape from pain; the other is that we repeat what we know.

Drug use is a form of dissociation, more pleasurable but similar to that which occurs when we suffer trauma. We escape inside; we seek a sense of control and self-efficacy through rituals, obsessions and habits. We always assert ourselves; we aim for our self-preservation even when it appears self-destructive.

Part Four: What Addiction Teaches Us

RE in Car Nation: Study in Contrast, Peter J. Hodgkinson, 2007



Part Four: What Addiction Teaches Us

There is a clear way forward in understanding addiction. It is a path that makes use of the extensive, current scientific literature. It is a way forward that is based on the key values of compassion and respect. It is a way that allows, indeed calls for, both individual and social change. It is a way of hope.

I have seen this hope in practice for more than 15 years. It is borne out in the lives of all of the “addicts” and “drug users” I have known and worked with since I started in this field in 1991. It is a hope that is borne out of the huge social progress we have made since “harm reduction” emerged as a health and social policy in the late 1980s.

And what about drugs? They invite us to recognize that life is relational. Like food and not unlike spirituality, they are a real-world physical reminder of our interconnectedness with plants and substances. The external becomes the internal. What we take into us affects us, in temporary and sometimes more lasting ways. They can change us physically. We can become dependent on them so that in their absence we cease to function normally. We can crave them, desire them, hunger for them in a way that obliterates other passions, pursuits and obligations.

We can crave drugs to make us feel whole (again). We can use drugs to change the feelings we have, to change how we are experiencing ourselves, how we think of our present, and as an alternative to our otherwise states. And we do this because it works. Drugs fundamentally work. That is why they are addictive. That is the first principal in understanding addiction.

Addiction as Exile

The modern, lonely experience of addiction is that of exile. It is a removal from one's homeland, a separation from where we belong.

In some ways, it is a continuation of the trauma experience. We are drawn to and repeat what we know. There is comfort and a sense of control in that. It is predictable. Familiar. Drug use is a created means of dissociation.

Addiction is exile in that it removes you from where you are. It dissociates you from your surroundings and it puts your emotions a degree removed. You experience life through the chronic filter of the substance.

Addiction is lonely. The internal world trumps the external and your subjective drug experiences overpower the call of external relationships with the world and with others.

Where there has been the exile of a people, forced from their homeland, there is a common experience and shared longing to return. Stories, songs, myths and religion can bind people together. Even within loss there is a belonging with each other and an experience of consolation.

Does addiction have the same consolation of solidarity with others?

In some ways, it does. This may be what lies beneath the power of a self-help group. Street-involved drug use certainly has a whole subculture of language, codes and rituals that help define people's sense of identity. There is even a term for individuals who do not belong to this subculture: square john.

If addiction is a kind of exile, what is the homeland? What do we wish to return to? I think we can all relate to the idea of a homeland in which we are at peace with ourselves and our fate. There is an overall sense of acceptance, even resignation, to what is. Fromm characterized this as a state of love: of living at love with one's fate. Chronic drug use, because it is about exercising control and seeking solace, removes us from our ability to accept what is.

So in recognizing the connection between trauma and addiction, does it not make sense that some things are simply too difficult to accept? How does one come to terms with abuse, with neglect, with loss?

But that is a journey we all share. Healing is the common calling of being human and returning home.

Drug Use is not Metamorphosis

Many of you may know the famous Franz Kafka story about the man who wakes up to find he has metamorphosed into a cockroach. He is still, in his interior consciousness, himself, but his body and his identity have fundamentally changed into something else. Many of us think of addiction this way: as a metamorphosis that fundamentally changes someone's identity. It alters how we perceive them and feel about them.

But substance dependence is not really this transfigurative. It does not alter your identity. Yes, social responses to addiction can create stigma, which is indeed identity-altering to the perceiver. But to the person beneath, they are still themselves; they did not wake up a cockroach. Our lives may be transformed by drug use, but not to such a significant degree that our category of being is changed. We are still human. Drug use is not that different from a range of other self-stimulating and self-regulating behaviours we engage in to improve or alter the way we feel.

Long ago, a standard belief was that an addict was an addict, and no good could come from this person without abstinence. I remember encountering professionals who stated quite sincerely that addicts were retarded in their personal development to the age they started chronically using. If you started injecting at 15, you remained a 15-year-old in your social, personal and

intellectual development. This is an example of the addiction as metamorphosis theory. By this theory, you wake up a cockroach. Which is absurd.

While addiction is a primary health condition that can be quite consuming, the addict does not relinquish their personhood, their rationality or their abilities to develop. He or she will certainly face escalated personal challenges and will encounter many barriers to personal health and well-being. But people who chronically use substances and are dependent on them can obviously still experience life, learn from it, make choices about it, strategize, prioritize, create, respond, plan, grow and mature.

People who have struggled and been the object of social stigmas can often be wisdom-teachers for the rest of us. In many ways this echoes Jean Vanier and his remarkable work building communities with people who are developmentally or intellectually disabled.⁵

There is something quite bare and primal about the addiction experience. It points to the limits and desires of human nature.

⁵ See Jean Vanier's remarkable *Becoming Human*.

Addiction is a struggle over our undeniable vulnerability. It is prolonged wrestling with our limits, our incompleteness. Add to that the stigmatization experienced by “the addict” and the result is often an honesty about life and our own incompleteness.

Not only can people with substance use dependence “disorders” learn, grow and develop, they often have something essential to teach the rest of us. The first is that they are just like us. Either they are not, after all, cockroaches; or we are all cockroaches. The point is, you can never relinquish your humanity. You can run from it, you can live in distraction from it, but you cannot metamorphasize out of it. We only think that other people do because in our desire to simplify that which challenges and scares us, we translate the very human struggles we see in others into a language or a myth that comforts us to think that could never be us! And in doing so, we sever ourselves from each other and so reinforce our own exile from each other and from that part of us we need to accept in order to feel at home: our own brokenness.

Building Blocks

The twenty years of progress in understanding addiction that have occurred as a result of harm reduction initiatives have left us with an understanding of what works. These, I suggest, are the main building blocks in a healthy framework to understanding addiction.

About Drug Use:

Drug use is normal human behaviour.

We use drugs to regulate, or modify, our mood.

Our attitudes towards drug use and drug users are often irrational, guided by fear and not consistent with current scientific understanding.

About Drug-Related Harms:

Drug use occurs along a continuum of harms, from lesser to greater.

These harms can be modified, or modulated, both by individual change and by changes in the social setting of the user.

Much of the harmfulness of drug use is artificial, created by the social setting of the user.

About Drugs and Society:

Social settings are elastic and change with the evolution of attitudes and with changes to the socio-economic bases of the settings.

Poverty, abuse, neglect and trauma create susceptibility towards addiction.

We stigmatize “people who use drugs” or “addicts”.

Drug users are marginalized and stigmatized. To rebuild our sense of community requires the suspension of judgment and the acceptance of drug use as typical human behaviour.

People face barriers to health as a result of the determinants of health; isolation, education, poverty and housing are all as relevant to addiction as the drug itself.

Overcoming the Myths:

Drug use does not mean weakness or a desire for self-destruction.

People experiencing drug dependence do not forfeit their rationality or ability to change and grow.

Healthy changes and choices can be made even while people continue to use; it is not about abstinence or nothing.

Finding the Patterns

Drug use makes sense if we understand the underlying dynamics and the triad of drug, set and setting.

Drugs themselves do not have the power to addict. It is about the relationship to the individual, and their relationship with their social setting.

At the centre of it all is the individual, but not the lone individual struggling under the weight of all their worries and loneliness. At the middle of it all is the person living in community. There is always relationship. Drug use cannot be understood simply as an individual behaviour and understood in isolation. People cannot be understood in isolation.

Drug use is about people in relationship.

Relationship with each other, and with their world. That is the only way in.

Drug use can only be understood within a social and natural context. It is about people and their experiences with others, about the social stressors they face

and overcome (or do not). It is about our interaction with the plants, chemicals and substances of our world.

To understand drug use we also need to admit to our fears and the powerlessness of being human. Addiction forces us to come to terms with the fact we are not ultimately in control. We die. We get ill. We get hurt. So much is beyond our conscious control. We are vulnerable. And mostly, we are vulnerable to each other. We crave, we require, secure attachments to people we can love and trust. We all need to be accepted.

And in acceptance is healing, a way forward. By understanding addiction we can better understand ourselves in our singular, naked humanity.

While there remains enormous work to be done, this way forward has emerged, tested in the field and validated in science, which allows us to understand addiction. And the framework is really as complex and as simple as this:

We are all human. To be human is to have limits, to be vulnerable, to suffer loss and to cope and to struggle and to choose. To be human is to live in society with others. To be born to parents and social setting we did not choose and which have enormous impact on who we become. It is to be in constant growth. It is to have basic undeniable needs: to belong, to be in relationships with others, to love and be

loved, to be safe. Understanding addiction requires that we understand what it is to be human.

There are things about being a person that we can all recognize. While “we hold these truths to be self-evident”, the implications are massive. Much of our psychological distress comes from these fundamental truths; conversely, the path to happiness may be in recognizing, accepting and embracing some basic truths.

To understand addiction, we need to throw out the stereotypes and examine ourselves. To better understand the social phenomenon of drug use, we need to better understand the lonely individual in the middle of it all. And that could be any of us.

Being Human

Being human means to have limits. We are born and we die. Our strength has limits, our time is finite, and our knowledge is forever incomplete. We are not all-powerful, all-knowing and all-present. That is not what it means to be human. Being human means we are incomplete.

Being human means we have feelings of separateness. As humans, we are always looking outward, in relationship with the world and with others. But our internal world is known only to us. Our consciousness is ours and ours alone. We can never completely know what is going on “inside” another person.

Being human means being individual. While we are separate from others and from the world, we are also, totally one-of-a-kind. Each and every one of us is unique.

Being human means being an animal hard-wired for survival. Millions of years of evolution have prepared us for this, and there is no escaping the need for safety in its most primitive terms.

Being human means having feelings of anxiousness. To be anxious means to feel uneasy, to worry, to have a sense that bad things do and can happen.

Being human means that we are creative, that we are makers, doers. We are active subjects in the world, and as such shape the world around us. The world in turn shapes us. We make choices and decisions.

Being human means being rational. That does not mean that all of our decisions make sense, but rather that we have the ability to reason, to have preferences. This is the basis of being responsible, and the foundation of our ethics and legal systems.

Being human means that we are relational. We exist in relationship to the world, to other people, to the universe. We require healthy attachments as affirmations of how we are and that we are loved. We interact, change and are changed by others.

We are social animals, and exist within social structures and at unique periods in history that shape the conditions and opportunities of our lives. The norms, sanctions and rituals of our social world go a long way in shaping our identity.

Being human means being sovereign over ourselves. As we are rational, we are also responsible. While others can influence us, and our social conditions definitely affect what we think about and how we think, we are “the pilot” of our lives.

Being human means having an ego. An ego is that second self, the “who we think we are”. As animals we are unique in that we are more conscious of ourselves. We can reflect upon ourselves. We have thoughts, emotions, relationships with which we identify. We think we ARE those things. But we are more.

Being human means suffering, but not passively. It is human to feel loss, to experience pain and to endure life’s trials and tribulations. But it is also in us to respond, to cope, to survive and sometimes, to overcome.

Being human means to heal. The body heals. “Time heals.” We always strive to get better.

Inclusion: A Philosophy of Care

Understanding addiction and working with people who have substance dependence calls for a model of care that is premised on, and builds pathways towards, inclusion.

Inclusion is a two-way street involving both a path of affirmation, and one of belonging.

Affirmation is the act of the provider in building an environment in which the individual is accepted and understood. It starts with the suspension of judgment, progresses through acceptance of the individual and their behaviours, and ultimately leads to a higher level of understanding.

If you stop, and actually listen to people, they will make far more sense to you.

When we accept and understand people, we create an environment of belonging. Belonging is a basic human need, and as we have explored, is often at the root of the addiction experience. Creating communities of belonging not only results in the engagement of people with drug dependence, but also creates the opportunities for relationships that may lessen the negative or harmful impacts of drug use.

Belonging begins with acts of invitation. People need to be called to. Doors need to be opened. Efforts need to be made to reach out. The invitation needs to be written, and delivered to where people are at, in a language they understand. And don't be surprised if they remain suspicious. What grounds do they have to trust?

After invitation, when people arrive, they need to be made to feel welcome. This is basic hospitality and is all about making people feel welcomed, safe, and accepted as they are. We need to reduce the changes we expect from others and not foist on them our own expectations and demands. From relationships based on unconditional acceptance will grow the reality of retention. People will stay; they remain.

Finally, after retention we can move gradually towards inclusion. Inclusion is about tearing down false divides, recognizing the commonness of being human, and valuing people for their fundamental uniqueness as individuals. In doing so, we become fully human.

Public Policy and the Social Determinants of Health

Drug use is a public policy problem. We don't quite know how to handle it. The model of individual autonomy that underlies our legal, political and economic systems says that each of us is capable, rational, and responsible for our choices. We think we know our own preferences best. Our choices play out in the market of available options and we are free to choose, to consume, to buy, to vote and to act as we see fit so long as it doesn't cause harm to others.

To paraphrase John Stuart Mill, your right to swing your arm ends at my nose.

So what about drugs? Are we free to choose, and to use, as we prefer?

We are free to choose alcohol and nicotine but with restrictions on age, point of sale and associated behaviours – we may not drink and drive, smoking is forbidden in public buildings, and alcohol may not be sold to people who are notably intoxicated. Such regulations are policy tools meant to limit the harms of these particular substances. Caffeine, despite being a stimulant, faces no such policy restriction. Children may buy high-octane, caffeine-loaded “energy” drinks at corner stores.

We regulate pharmaceutical drugs – those prescribed with the authority of

science and medicine – through a variety of regulations and restrictions. Not just anybody can use these substances as they see fit. They must be prescribed by authorized agents (physicians) for designated uses only and at doses determined by a mixture of regulators, scientists and clinicians. They must be dispensed by the legitimate supplier: the pharmacist. Behind each pill swallowed is the history of medicine, science and the social regulation of both. That is what gives these drugs their legitimacy. What we overlook is the economic underpinning to this trade.

The illicit drugs seem to pose even greater quandaries. They are harmful; they are dangerous; they are addictive. They are not ingested within the forum of social legitimacy. No doctor has authorized their use. Dealers are not your benevolent pharmacist and no quality control has gone into the production of crystal methamphetamine or crack cocaine. Gangsters are not regulated by any professional college.

Given their power and addictive potential, we need to protect our children, and ourselves, from these substances so they are placed outside the law. We spend an enormous amount of public sector dollars on the enforcement of drug laws and the incarceration of users and those who traffic in the forbidden substances. Drugs cause crime, we think, so *ipso facto* to reduce crime we fight drugs.

Drugs are not a consumable good like food by this logic. We are not free to

choose certain drugs, to prefer them, or to access them in a free market. We are, in a way, protected from this choice. We, the rational consumers, can not be trusted. The power and the responsibility are taken from the individual and handed over to the drug. It is the drug that is powerful, demonic, and will-robbing. The individual cannot be left alone to wrestle with these demons, so we forbid them. Only, that doesn't stop the use. And where there is demand, the laws of economics dictate there will be supply, even if it is on the black market.

So what of those who continue to use these substances, despite prohibition? Quite simply, they face even greater risk. Much of the harm associated with illicit drug use results from our public policies and not the drug itself. Overdose is commonly the result of unpredictable purity; diseases are transmitted in the back rooms, shooting galleries and crack houses that result from criminalization. The behaviours are sent underground. This is precisely why safer injection sites are so explosive in the public policy debates: they bring the private risks into public purview.

Substance dependence is a chronic health condition. The hallmark of dependence is the impaired capacity to control; it is a classifiable mental health condition. While only we can make choices and changes to regulate our own individual drug use, in many ways it is not a level playing field of risk. Some folks are simply more susceptible than others to becoming substance dependent.

And much of that susceptibility, as we have seen, is beyond their individual choosing. It may be the result of biology or of harm done by others.

This is where we need to recognize the determinants to health. Health is simply not just an individual phenomenon that is the due result of our individual choices.

Much of health is beyond our control, and much of individual health is socially determined. Folks who are poor will, on the whole, live lives that are shorter and sicker than those who are not. Individual health is a social good that is created by the interplay of economics, biology, socialization, community and the environment. Recognized determinants of health include:

- income
- employment
- education
- housing
- isolation
- inequality

Recognizing the role of society in determining health reminds us of our responsibility to one another and of the need for a just society. It is hard to tease out the individual culpability of “the addict” within the morass of social failings that much of our addicted population lives within.

Yes, there is individual responsibility. Individuals retain the ability to change, to grow and to overcome. We must never lose that hope. That is part of what makes us so beautiful. But the idea that each of us is an individual island that is self-reliant and that we get what we deserve has limited coherency. We are simply too bound up with each other, with history with kinship for this to be true. We need to get to a place where we do not assign individual blame for addiction without taking social responsibility.

There is no other chronic health condition I know of where this model of responsibility-blame-punishment holds as with dependence on illicit substances. The fallout is not limited to the individuals who are subsequently criminalized and stigmatized and who literally pay with their lives. The harm befalls us all, both by the immense cost and social fragmentation caused by this model, and by the way it skews our perceptions of drugs and drug use in general.

Drug use challenges us to see that we are limited and vulnerable; that we seek solace and comfort; that we are independent on each other and entangled with the physical world in which we live. We are situational, historical, physical, conscious beings. Who we are is conditioned by the world we are born into, by what others do to us, by our class standing and by the opportunities we are afforded and by the limits that are placed on us. Our health and well-being is interdependent with that of those around us and by the health of our environments.

The healthiest societies are those with the smallest gaps in inequality. Until social equality is achieved, the moral imperative we face is to understand and rectify the reasons why so many fall behind in the rat race. We need to level the playing field if we are to be treated as equals, free and equally responsible for our fates.

This brings us back to policy. Public policy is supposed to be the applied intelligence of the people. It is what we have decided to do with the public and governmental resources we have. Policy measures should have:

- a clear idea of what problem they are trying to address
- a rationale explaining why this problem is a problem
- an explanation of what the problem is and its impact on society
- what we plan to do about it
- why we choose this and not other options
- an idea of what are the intended outcomes
- evidence to support what we are doing
- ways to monitor, evaluate and adjust our efforts as need be

At the core of public policy is the problem definition. Everything else flows from this. When it comes to drug use, and the public policy measures we put in place to limit the possible harm of consciousness-altering substances, we are better off to know what we are talking about.

Methadone is an example of a socially-legitimized substitution for illicit drug use that has clear, demonstrated and sustained positive health and social outcomes. Heroin prescription programs go one step further in bringing even the more refractory and hard core into social care. Medicinal marijuana brings social approval to certain kinds of and times for hallucinogenic drug use. The hash bars of the Netherlands have established that the careful decriminalization of small amounts of illicit substances do not lead to higher rates of problematic drug use.

Each is an example of a policy initiative that recognizes that drug use does not occur outside the lives and times of real people. Each also recognizes the opportunity cost of any social policy we choose; if we allocate resources to option A, then fewer dollars remain for options B, C or D. Other choices lose out.

Given the fact that public resources are scarce and that there is a multitude of other social, health and economic needs to address, it may make sense to revisit the extravagant expenses of a punitive model which is not only costly to the taxpayer, but provokes the need for drug-related crime, lays the breeding ground for disease and results in the marginalization of thousands.

It is time for our idea of the criminal addict to end.

Fear of an HIV epidemic pried open the grip that held onto drug use as a criminal problem. We began to see it as a health issue necessitating a range of health interventions from prevention and education to effective treatment. The very real current epidemic of hepatitis C, with its reminder that people who inject drugs even once may be tagged for life, shouts out even louder that drug use is best treated within a health policy context.

Risks, Harms and Harm Reduction

If we are looking for an overall conceptual framework that fits with this evidence-based and humanitarian approach to drug use, then we need to look no further than to the idea of harm reduction.

Harm reduction is a viable, common-sense, empirically-validated and compassionate approach to understanding and working with people and drugs. It can be seen simply as accepting people for who they are and where they are at. It really is no different than good medical or therapeutic practice. It prioritizes the client and requires that we understand the function of their “problematic” behaviours. It is about putting our own wishes, judgments and expectations on the back burner. It is about understanding our own responses to the people and the issues we work with, and challenging ourselves to practice what is based on evidence and respect. It is about being humble about the power we may have as professionals. It is about celebrating small successes and about gratitude.

Harm reduction requires that we respect the key behaviours of “people who use drugs” and recognize that while “risk behaviour” is real, for that individual it is part of a fabric of life experiences and choices that are uniquely their own. Harm reduction allows us to engage in relationships with people who are marginalized and stigmatized. It allows us to plant the seeds of community inclusion, to bring people back into the fold of belonging.

Harm reduction is first and foremost about healthy relationships.

In less personal terms, harm reduction requires us to own up to the fact that drug use is pervasive and normal of human behaviour. Put simply, harm reduction consists of

...measures taken to address drug problems that are open to outcomes other than abstinence or cessation of use. (Canadian Centre on Substance Abuse, 2007)

It is about acceptance. It is about humility and standing beside instead of above. It is about taking social responsibility for socially-created health problems for which the individual pays a price. Addiction is a socially created disorder, as much as it plays out on the level of individual choice.

As such, our response needs to be comprehensive.

Harm reduction involves a range of non-judgmental strategies and approaches aimed at providing and enhancing the knowledge, skills, resources and supports for individuals, their families and communities to be safer and healthier. Harm reduction works through policy and programming to reduce the harmful effects of behaviour. (British Columbian Centre for Disease Control, 2004)

For the individual, harm reduction can mean a whole host of possibilities, ranging from healthier ways to use drugs to improved control of drug-using behaviours. It includes something called “substance use management”, the ongoing self-regulation of drug-using behaviour. Substance use management⁶ is a harm-reduction based approach based on three key principles:

- being honest with yourself about your use and the impact your drug use is having on your life
- being open to change, and willing to make some changes
- learning the skills you need to help you make concrete, positive changes in the way you use drugs

In this way, there is no contradiction between harm reduction and abstinence. Abstinence is a health goal among many beneficial change possibilities. It is simply not the only goal we can discuss, and not always an immediately achievable or realistic goal. The fact is, most of us are not abstinent. For people who have had significant problems in regulating their drug use, abstinence may very well be a prudent choice to keep them out of harm’s way.

A healthy approach to drug use is one that acknowledges both the harms and perceived benefits to this quite typical human behaviour.

⁶ Taken from *Over The Influence: The Harm Reduction Guide for Managing Drugs and Alcohol*, by Pat Denning, Jeannie Little and Adina Glickman, 2003

It respects the individual choices and autonomy of the individual, while understanding how these choices come to be. It values both individual honesty and social responsibility. This approach is consistent with modern science, but also informed by the key values of respect and inclusion. It is a framework I have outlined in this manual, and that has been lived out by countless numbers of people around the globe who have practiced harm reduction as a health measure and so improved not only their own lives, but ours as well. We are better for them.

Harm reduction reminds us that we are creative and resilient while at the same time limited and vulnerable. Harm reduction calls us towards self-honesty, towards believing in our own ability to make choices, change and grow. It reminds us that we are fundamentally all tied up together and need to be responsible for each other as well as ourselves. It is in this way that harm reduction is not just about drugs, or disease; it is all about what it is to be human, and together.

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About the Author



Ron Shore grew up an army brat in Petawawa, Trenton, Kingston and Ottawa, Ontario. He returned to Kingston in 1987 to pursue an undergraduate degree in philosophy at Queen's University.

After dropping out following his third year, Ron found employment as a needle exchange and prison outreach worker with the Kingston AIDS Project. His was the first federally-funded HIV prevention and support program for prisoners in Canada.

That small needle exchange eventually became a multi-service community health centre known as the Street Health Centre, now a part of Kingston Community Health Centres. As the program grew, Ron returned to school part-time to complete first his undergraduate degree and later a Masters in Public Administration at Queen's University.

Ron is the Program Director of the Street Health Centre and the Ontario Harm Reduction Distribution Program. He also loves teaching part-time in the School of Kinesiology and Health Studies, Queen's University.

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