The Integrated Metatheoretical Model of Addiction: Towards an Architectonic of a Metatheory of Addiction

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Abstract

In this article I provide the conceptual building blocks or architectonic of a metatheory of addiction, referred to as the Integrated Metatheoretical Model of Addiction (IMMA). I do not present the IMMA as a conclusive metatheoretical framework, but rather as an exploratory attempt at providing the architectonic of an integrative and comprehensive metatheory of addiction, that may potentially provide the conceptual scaffolding in developing a general theory of addiction.

Definitions

Global Relapse
Defined by National Cancer Institute

Cessation
Defined by National Cancer Institute

Transition
Defined by National Cancer Institute

Initiation
Defined by National Cancer Institute

Addiction
Defined by Addiction Ontology

Psychoactive substance
Defined by Addiction Ontology

Ontology
Defined by National Cancer Institute

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Addictions have beleaguered society since human beings first discovered they could alter their consciousness by

ingesting certain psychoactive substances.[1] How a society views and understands addiction has great significance for addicted individuals seeking treatment. Although our explanation of addiction has become more sophisticated, there are still serious shortcomings in our understanding of it (West 2005; Du Plessis 2014, 2017). Many scholars agree that two of the foremost problems in the field of addiction science and addiction treatment are definitional confusion (Shaffer 1997; Shaffer et al. 2004; White 1998) and the ineffectiveness of treatment (Alexander 2010; Shaffer et al.; 2004; White 1998). Consequently, there are those that suggest that a paradigm shift is urgently needed, because there are such an abundance and diversity of addiction theories that the field of addictionology is in "conceptual chaos" (Hill 2010; Shaffer 1997; Shaffer et al. 2004; White 1998).

The "conceptual chaos" that prevails in the field of addiction contributes to the general ineffectiveness of addiction treatment. Although there are a number of diverse options of treatment, there is an ostensibly low efficacy rate for the treatment of the condition (Alexander 2008). "Large population analyses indicate relapse rates following treatment of alcohol dependence orders to be between 70% and 90% and success in treating illicit drugs is even more discouraging, with recidivism rates exceeding 90% in many demographics" (Hill 2010, 4). In *Slaying the dragon: the history of addiction recovery in America,* addiction, and recovery researcher William White (1998) stated: "With our two centuries of accumulated knowledge and the best available treatments, there still exist[s] no cure for addiction, and only a minority of addicted clients achieves sustained recovery following our intervention in their lives" (342).

It is of significance to mention that the inefficacy of treatment is not to be attributed to a shortage of attention or an absence of authentic efforts from concerned parties (Flores 1995; White 1998). Because of the advances in concerns of public health such as emergency medicine, epidemiology, sanitation, and drug therapies, hope that many diseases could be successfully treated has been raised (Hoffman and Goldfrank 1990; Maxmen and Ward 1995). It is unfortunate that the advances made in public health have not been reproduced in the treatment of addiction (Field 1998; Ray and Ksir 2004; White 1998). Bruce Alexander (2010, 2) proposes that, "A paradigm shift is urgently needed in the field of addiction because, while the institutions of global health have expended vast resources over the past couple of centuries to control addiction to drugs, alcohol, and hundreds of other habits and pursuits, the flood of addiction has continued to deepen and spread."

In a recent publication, *The Routledge Handbook of Philosophy and Science of Addiction,* Robert West and colleagues highlight an addition research challenge for more clarity and unity within the field of addiction studies. They argue that "The science of addiction is being hampered by confusion in concepts and terms, and a multiplicity of models and theoretical approaches that make little reference to each other" (West et al. 2018, 160). They further state "that a general theory of addiction has yet to be developed, but a key requirement for such a theory is that it should recognize and accommodate multiple viewpoints on addiction, and not be limited to a single viewpoint such as the 'medical model' (construing addiction in term of a mental disorder, disease or disease process)" (163). West and colleagues (West et al. 2018) propose that ontology is the most viable way to solve this challenge. I agree with West and colleagues, from the point of view that ontology is indispensable in trying to solve the challenge. In this chapter, I will argue that an

understanding of the triadic relationship between ontological, epistemological, and methodological pluralism is also needed to find more unified view.

In this chapter, I provide the conceptual building blocks or architectonic of a metatheory of addiction, referred to as the Integrated Metatheoretical Model of Addiction (IMMA).[2] I do not present the IMMA as a conclusive metatheoretical framework, but rather as an exploratory attempt at providing the architectonic of an integrative and comprehensive metatheory of addiction, that may potentially provide the conceptual scaffolding in developing a general theory of addiction.

Why Integral Metatheory?

In developing the IMMA I applied American philosopher Ken Wilber's integral metatheory as a primary conceptual resource.[3] Wilber's integral metatheory is often referred to as the AQAL model, with AQAL representing all quadrants, all levels, all lines, all states and all types, with these five elements signifying some of the most basic repeating patterns of reality (Wilber 2000, 2006). Integral scholars believe that including all of these elements increases one's capacity to ensure that no major part of any solution is left out or neglected (Esbjörn-Hargens 2009). Integral metatheory is both "complexifying", in the sense that it includes and integrates more of reality, and simplifying, "in that it brings order to the cacophony of disparate dimensions of humans with great parsimony" (Marquis 2009, 38). The strength of integral metatheory is its ability to integrate vast fields of knowledge and, according to Marquis (2008), provides a "meta-theoretical framework that simultaneously honors the important contributions of a broad spectrum of epistemological outlooks while also acknowledging the parochial limitations and misconceptions of these perspectives" (24).

In the next section, I am going to briefly discuss the five major conceptual lenses of integral metatheory (quadrants, line, levels, states, and types) and how this can inform our view of addiction. These five conceptual lenses form the basic building blocks of my proposed integrative metatheory of addiction.

Conceptual Lenses of Integral Metatheory

The Quadrants

Integral metatheory states that reality has at least four irreducible perspectives: the subjective, intersubjective, objective, and interobjective, which must be consulted when attempting to fully understand any aspect of reality (Esbjörn-Hargens 2009). These four universal perspectives are known as the quadrants. This section of the chapter briefly explores addiction and recovery from these four perspectives.

Upper-Right Quadrant (objective). In attempting to understand addiction and recovery through exploring objective aspects of an individual–from the upper-right quadrant perspective–we notice all the positivistic and objective perspectives of individual structures, events, behaviours and processes (Marquis 2008). This perspective, highlights the neurophysiological features of addiction. Addiction affects the mesolimbic system of the brain, the area where our

instinctual drives and our ability to experience emotions and pleasure resides. In this area is the medial forebrain bundle, popularly known as the pleasure pathway (Brick and Ericson 1999). The pleasure pathway of the brain is “hijacked” by the chronic use of drugs or compulsive addictive behaviour. Due to the consequent neurochemical dysfunction, the individual perceives the drug as a life-supporting necessity, much like breathing, or meeting the demands of thirst or hunger (Brick and Ericson 1999). Erickson (1989) suggests that for treatment to be effective, it requires a combined physiological and psychological approach.

Upper-Left Quadrant (subjective). Exploring addiction and recovery from the upper-left quadrant perspective includes the subjective and phenomenal dimensions of individual consciousness. Addiction wreaks havoc in the addict’s inner phenomenal world and has disastrous consequences for the addict cognitively, emotionally and existentially. Addicts are known to have turbulent and overwhelming inner worlds. From a psychodynamic perspective, addiction is often referred to as an attempt at self-medicating the addict’s painful and confused inner world (Khantzian 1999). Owing to defects in ego and self-capacities, the substance of choice becomes the addict’s main method of mood management, which temporarily restores inner equilibrium. Flores (1997) believes that addiction can be “viewed as a misguided attempt at self-repair. Because of unmet developmental needs, certain individuals will be left with an injured, enfeebled, uncohesive, or fragmented self ... alcohol, drugs, and other external sources of gratification (i.e., food, sex, work, etc.) take on a regulating function while creating a false sense of autonomy, independence, and denial of need for others (233).

Therefore, an essential component of recovery is learning healthy ways to self-soothe and to cope with stress (Khantzian 1999; Levin 1995). A vital component of a comprehensive therapeutic protocol is some form of psychotherapeutic process that deals with unresolved trauma, family-of-origin issues, shadow work, and the building of emotional literacy. According to Ulman and Paul (2006), psychotherapy can serve as a transitional self-object, dispensing function that serves as “psychopharmacotherapeutic” relief. In other words, a psychotherapist can replace the faulty self-object-like functioning of a client’s drug of choice, and help the client to re-experience “archaic moods of narcissistic bliss” in a therapeutic, rather than an addictive fashion. “Such an altered state of consciousness may eventually supersede and supplant an addicted patient’s dependence on an addictive state of mind” (Ulman and Paul 2006, 63).

Lower-Left Quadrant (intersubjective). Understanding addiction and recovery from the lower-left quadrant, the “we” space or perspective, includes the intersubjective dimension of the collective (Marquis 2008). Addiction progressively erodes relationships and is often caused by eroded relationships. Addiction may be viewed as an intimacy disorder as addicts often have an inability to form healthy intimate relationships. Eventually, many addicts undergo a cultural shift and enter the “world of addiction” with its own rules and cultural norms. Addicts find themselves in a new culture where their addictive behaviours are accepted and often encouraged. They are now given new culturally relevant information and a new set of rules. William White (1996), states, “The physiological, psychological, and spiritual transformations that accompany the person-drug relationship occur within and are shaped by the culture of addiction (xxiii).

It is these cultural and relational aspects of addiction that many addicts find the hardest to give up. American author

William Burroughs says this about heroin addiction: “Junk is not just a habit. It is a way of life. When you give up junk, you give up a way of life” (in White 1996, 2). Any form of treatment that does not acknowledge and understand the principles behind the culture of addiction as well as the need for a healthy recovery culture is bound to be ineffective. “Addiction and recovery are more than something that happens inside someone. Each involves deep human needs in interaction with a social environment. For addicts, addiction provides a valued cocoon where these needs can be, and historically have been met” (White 1996, xxvi).

Scholars who support the self-medication hypothesis believe that addicts often suffer from defects in their psychic structure due to poor relationships when they were young (Flores 1997; Khantzian et al. 1990; Levin 1995). This leaves them prone to seek external sources of gratification, such as drugs, sex, food, work, and so forth, in later life (Kohut 1971, 1977). Khantzian (1994) asserts that “[s]ubstance abusers are predisposed to become dependent on drugs because they suffer with psychiatric disturbances and painful affect states. Their distress and suffering is the consequence of defects in ego and self-capacities which leave such behaviour” (1). For addicts to develop a healthy and stable sense of self, they need to be in a supportive and knowledgeable social environment. The addict’s psychic troubles are born from poor relationships and can only be modified via new relationships (Kohut 1997; Khantzian 1994). Many believe that 12-Step fellowships provide the ideal social environment for addicts to heal their psychic deficits (Flores 1997).

Lower-Right Quadrant (interobjective). Exploring addiction and recovery from the lower-right quadrant includes the interobjective perspective of systems, addressing observable aspects of societies such as economic structures, civic resources, and geopolitical infrastructures (Marquis 2008). Addicts often lose their jobs, get evicted, get into trouble with the law and may be incarcerated. As is said in Narcotics Anonymous, the result of addiction is “jails, institutions and death”. The culture of addiction has its own infrastructure. As addicts progressively migrate from one culture to the next, they start spending more time within the infrastructure of addiction culture. The more addicts frequent and live within the infrastructure of the culture of addiction the more their behaviour is normalised, which ultimately reinforces their denial of the problem.

Maslow (1968), in his theory of human motivation, proposes that motivation is determined by a hierarchy of needs. He suggests that there are at least five sets of basic needs. These are physiological, safety, love/belonging, esteem, and self-actualisation needs. Simply put, these five needs form a hierarchy that orders our urgency to satisfy these needs—for example, a hungry person with no home is usually not that concerned with aesthetic or spiritual well-being until his/her hunger and safety needs have been satisfied. Addiction exemplifies this theory. In most cases, addicts’ addiction needs take precedence over most of their other higher needs. Addiction primarily manifests as physiological/safety needs, with the result that when these are not satisfied, all other needs become much less of a priority, resulting in a compulsive drive to meet the addiction needs at the expense of all other areas of life.

Lines of Development

According to integral metatheory, each aspect of the quadrants has distinct capacities that progress developmentally;

these are known as lines of development (Esbjörn-Hargens 2009). Wilber (2000) has theorised that each person has multiple lines of development. Although the concept of multiple lines of development is a non-dominant notion in developmental psychology, and empirical proof for separate lines of development is inconclusive, it nevertheless remains a useful clinical metaphor (Forman 2010; Ingersoll and Zeitler, 2010). Viewing and quantifying the recovery process metaphorically from a lines of development perspective provides easily accessible insight to therapists and clients as to what aspects of the client's recovery programme can be improved.

Levels or Stages of Development

An individual's lines of development can be understood to fluctuate through a sequence of developmental altitudes, known in integral theory as levels or stages of development (Wilber 2006). An insight into addiction and recovery from a stage perspective is imperative for truly all-inclusive understanding and treatment (Du Plessis 2010, 2012a; Dupuy and Gorman 2010; Dupuy and Morelli 2007). A therapist could incorporate two types of developmental stage models into his/her therapeutic orientation. The first is the client's general stage of development (Piaget 1977; Wilber 2006). A client's overall development or centre of gravity "is a key factor in treatment planning, profoundly influencing which categories of intervention are likely to be optimal, neutral, or contraindicated" (Marquis 2009, 18). The second type is the stage of recovery using recovery-based developmental approaches (Bowden and Gravitz 1998; Whitfield 1991). Depending on the client's stages of development, various recovery practices and therapies are suggested.

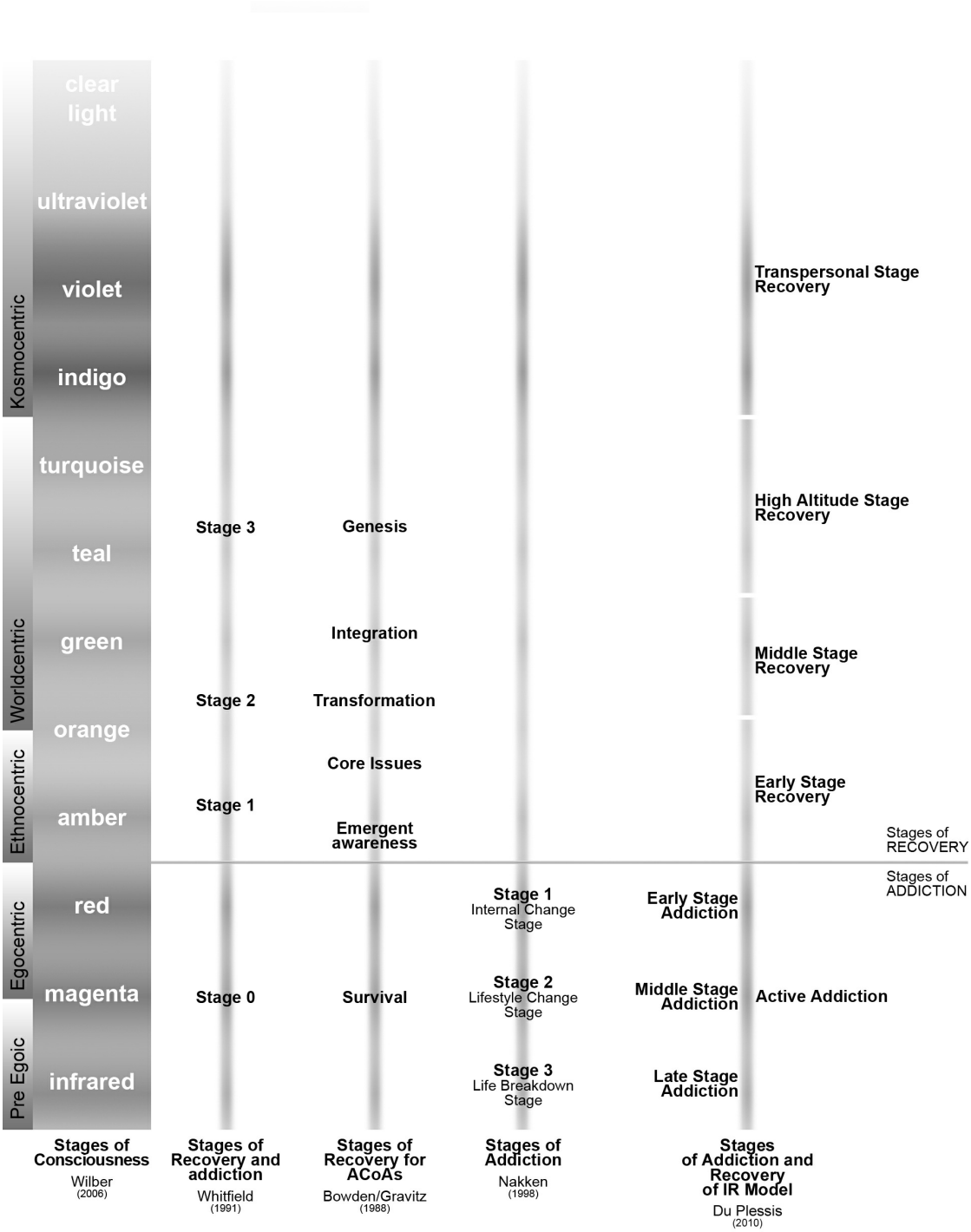

Figure 1: Developmental models of addiction and recovery. From "Integrated Recovery Therapy: Toward an integrally informed individual psychotherapy for addicted populations," by G. du Plessis, 2012a, Journal of Integral Theory and Practice, 7(1), p. 130. Reprinted with permission.

Figure 1 shows various developmental models of addiction and recovery, as well as my own composite developmental model (Du Plessis 2012a).[4]

States of Consciousness

"In addition to levels and lines there are also various kind of states associated with each quadrant. States are temporary occurrences of aspects of reality" (Esbjörn-Hargens 2009, 13). Using substances or engaging in any mind-altering behaviour is an attempt to create an altered state of consciousness (ASC), and the specific psychoactive effect of various drugs and mind-altering behaviour creates various types of ASCs (Milkman and Sunderwirth 2010). It follows that viewing addiction in terms of an ASC perspective is crucial for a complete understanding of addiction (Winkelman 2001).

Some scholars believe that humans have an innate drive to seek ASCs (McPeak et al. 1991; Weil 1972; Winkelman 2001; Ken Wilber, personal communication, January 13, 2011). They believe that addicts follow a normal human motive to achieve ASCs, but they use maladaptive methods because they are not provided with the opportunity to learn "constructive alternative methods for experiencing non-ordinary consciousness" (McPeak et al. 1991, as cited in Winkelman 2001, 340). Milkman and Sunderwirth (2010) state, "In light of the seemingly universal need to seek out altered states, it behooves researchers, educators, parents, politicians, public health administrators, and treatment practitioners to promote healthy means to alter brain chemistry" (p. 6). Addicts have found a dysfunctional way to meet this innate need through substances or certain behaviours to which they become addicted.

Alcoholics Anonymous (AA) acknowledges the importance of an alteration of consciousness for recovery to be effective: it calls for "a new state of consciousness and being" (1987, 106) designed to replace the self-destructive pursuit of alcohol-induced states with a more healthy life-enhancing approach. AA advocates meditation, a change in consciousness, and spiritual awakening as fundamental in achieving and maintaining sobriety.

Types

Mark Forman (2010) states, "The notion of types in the Integral model describes the diverse styles that a person (UL or LL) may use to translate or construct reality within a given stage of development" (231). "Types are the variety of consistent styles that arise in various domains and occur irrespective of developmental levels. As with the other elements, types have expression in all four quadrants" (Esbjörn-Hargens 2009, 15). We can, therefore, have various classifications of different "types" in the context of addiction and recovery in each of the four quadrants. The usefulness of viewing addiction and recovery from a typology perspective is illustrated in the following example.

Milkman and Sunderwirth (2010, 19) state, "After studying the life histories of drug abusers, we have seen that drugs of choice are harmonious with an individual's usual means of coping with stress." Applying this simple typology to a client's drug of choice informs the therapist regarding a number of important factors. It enables the therapist to identify the client's primary mode of stress reduction by correlating it to their drug of choice. When in recovery, the client will continue to use a preferred coping style and will be attracted to activities that produce a similar effect to their drug of choice. For example, an amphetamine user will likely be attracted to high-risk, physically demanding activities that are stimulating.

From Conceptual Chaos Toward Conceptual Integration

The preceding discussion of the five elements of the AQAL model provided a parsimonious framework for major observations of addiction. Although this application and analysis of the five elements of integral metatheory in relation to addiction and recovery is insightful and has assisted in treatment design, it is inadequate to provide a comprehensive schema of addiction or a comprehensive integrative metatheory (Du Plessis 2017). What is additional needed for a comprehensive and integrative framework of addiction is the application of integral enactment theory.

In the next section I will provide an overview of the application of integral enactment theory in the development of an integrative and comprehensive metatheory of addiction.

Integral Enactment Theory

In this section I will highlight how integral enactment theory articulates the phenomenon of addiction as a multiple and dynamic object than can be enacted along a continuum of ontological complexity. Integral enactment theory adeptly points out how etiological models "co-arise" in relation to methodology (methodological pluralism) and enacts a particular reality of addiction (ontological pluralism), while being mediated by the world view of the subject applying the method (epistemological pluralism).

Esbjörn-Hargens (2009) explains that at the core of integral enactment theory is the triadic notion of Integral Pluralism. He identifies three pluralisms that should be explicit within integral metatheory, namely epistemological, methodological, and ontological. Esbjörn-Hargens and Zimmerman (2009) developed a framework for this triadic structure where "epistemology is connected to ontology via methodologies. So, if we are going to have epistemological pluralism (the Who) and methodological pluralism (the How), then we ought logically (or integrally) to have ontological pluralism (the What)" (146). Esbjörn-Hargens call this triadic arrangement Integral Pluralism.

Integral Pluralism is composed of Integral Epistemological Pluralism (IEP), Integral Methodological Pluralism (IMP), and Integral Ontological Pluralism (IOP) (Esbjörn-Hargens and Zimmerman, 2009). Before exploring the three facets of Integral Pluralism, I will briefly discuss the relevance of the concept of "enactment", an essential feature of integral metatheory's post-metaphysical orientation (Wilber 2003a, 2003b, 2006; Esbjörn-Hargens and Zimmerman, 2009).

Enactment

The idea of enactment is vital in understanding why different theories of addiction do not have to be in contradiction to each other, as they are often interpreted, but can rather be understood as "true but partial". Enactment is the bringing forth of certain aspects of reality (ontology) when using a certain lens (methodology) to view it (Esbjörn-Hargens 2010).
In short, reality is not to be discovered as a "pre-given" truth, but rather, we co-create or "co-enact" reality as we use various paradigms to explore it (using paradigm in the Kuhnian sense–which includes the social injunctions associated with a certain worldview). For example, when attempting to understand addiction using objective empirical research methods, we enact a different ontological reality than when using a phenomenological approach. By avoiding what Wilber refers to as the "myth of the given", we understand addiction as a multiple object with no existing "pre-given" reality to be

discovered (Wilber 2003a, 2003b, 2006). Yet it must be noted, we are not referring here to the conception of immaterialism. Wilber (in Esbjörn-Hargens, 2009, 169) says:

> *This is why I use the word sub-sist. There is a reality or a What that subsists and has intrinsic features but it doesn't ex-ist without a Who and a How. So that is where Integral Pluralism in general comes into being: it is bringing forth a reality but it is not creating the reality à la subjective idealism.*

Different research methods in addictionology enact addiction in unique ways, and consequently, bring forth different etiological models. Virtually all etiological models (typically based on a positivist foundation) treat addiction as a single object "out there" to be discovered or uncovered, and therefore, eventually run into trouble attempting to explain a feature of addiction outside of its enacted reality.

For example, physiological models and their accompanying research (naturalistic scientific) methodologies, enact the biological reality of addiction, and are inherently incapable of showing any truth of addiction outside the realm of biology, i.e., societal, existential, and so forth. In acknowledging the multiplicity of addiction's ontological existence, the "incompatibility" of the various etiological models disappears, because we can see that each enacts a different reality of addiction–each bringing forth valuable insights in its specific ontological domain. What one considers real depends in part on the means and apparatus one uses, so objects are therefore "enacted" (Murray 2010).

Is the neurobiologist seeing the same addiction as the existential therapist? Is the psychoanalyst talking about the same addiction as the 12 Step counsellor? Is the biochemist measuring the same addiction as the social scientist? Yes and no. Yes, in the sense that they all attempt to view the socially defined and agreed-upon phenomena called addiction; and no, in the sense that they are enacting different realities of addiction. "In fact, there is not a clear, single, independently existing object, nor are there multiple different objects. There is something in-between: a multiple object ... This multiple object [addiction] is actually a complex set of phenomena that cannot easily be reduced to a single independent object" (Esbjörn-Hargens 2009, 148).

Integral Methodological Pluralism

In the next section I will discuss the relevance of the eight zone extensions of the original AQAL model (Wilber 2003a, 2003b, 2006) in the development of a metatheory of addiction. These Eight Primordial Perspectives (8PP) are derived from an inside (i.e., a first-person perspective) and outside view (i.e., a third-person perspective) of the four quadrants. Each of these perspectives is only accessible through a particular method of inquiry or methodological family, and represents at least eight of the most important methods for accessing reproducible knowledge (Esbjörn-Hargens, 2006). Furthermore, each of these methodologies discloses an aspect of reality unique to its particular injunction that other methods cannot. For a truly integral understanding of any phenomenon, in our case addiction, one needs to include as many of these methods of inquiry as possible. These 8PP are included in integral metatheory own multi-method approach to valid knowledge, referred to as Integral Methodological Pluralism (IMP) (Wilber 2003a, 2003b, 2006). As such, IMP

represents one of the most pragmatic and all-encompassing theoretical formulations of any integral or meta-theoretical approach to accessing reproducible knowledge. Wilber (2003b, 14) states that “any sort of Integral Methodological Pluralism allows the creation of a multi-purpose toolkit for approaching today’s complex problems–individually, socially, and globally–with more comprehensive solutions that have a chance of actually making a difference.”

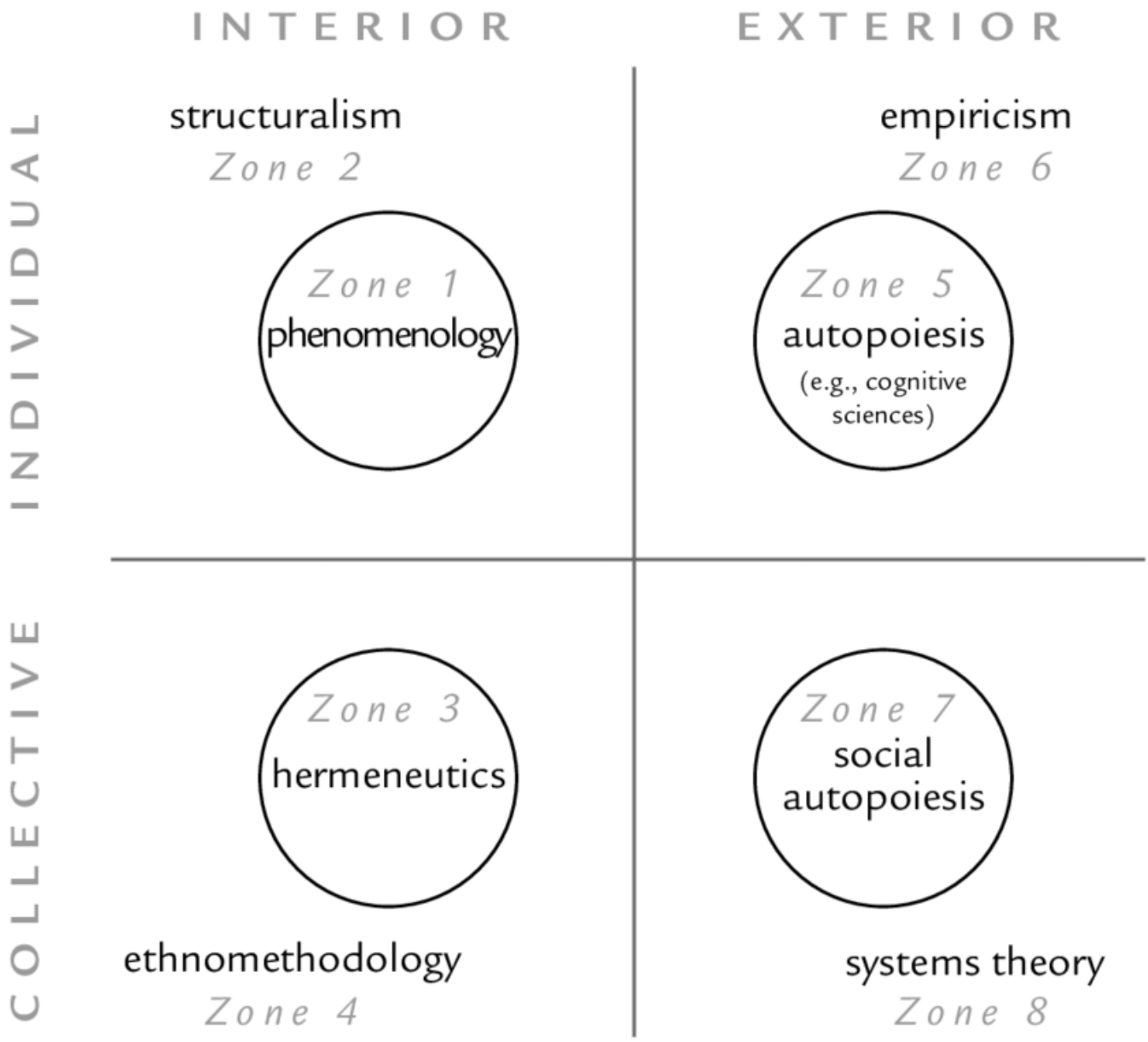

Figure 2. Eight methodological families of IMP. From “An Integral Ontology of Addiction: A multiple object existing as a continuum of ontological complexity,” by G. du Plessis, 2014, Journal of Integral Theory and Practice, 9(1), p. 40. Reprinted with permission.[5]

In the next section, I will provide a succinct description of the most dominant explanatory models and theories of addiction derived from the sociopsychological and biomedical sciences and point out how each model’s theory is enacted by a

particular methodology as represented by one or more of the eight zones of IMP.

Genetic/Physiological Models. The genetic and physiological models explore biology in an attempt to identify causality between biological markers and addiction (Hesselbrock et al. 1999; Blume 2004; Volkow et al. 2002). From an IMP point of view, we will notice that the genetic/physiological theories understand addiction from a zone 6 perspective.

Social/Environment Models. The social/environment perspective highlights the role of societal influences, social policies, availability, peer pressure, and family systems on the development and maintenance of addiction (Sher 1993; Coleman 1980; Chassin et al. 1996). It is clear that social/environment models have relevance in our understanding of addictive behavior at a population level, but they often fail to explain individual initiation or cessation in any comprehensive manner (DiClemente 2003). The social/environment models attempt to understand and study addiction primarily from a zone 4, 7 and 8 perspective.

Personality/Intrapsychic Models. Proponents of the personality/intrapsychic perspective link personality/ intrapsychic dysfunction and inadequate psychological development to a predisposition toward addiction (Levin 1995; Kohut 1971, 1977; Flores 1997; Khantzian 1994; Ulman and Paul, 2006). A personality/intrapsychic approach obviously makes a valuable contribution toward a better understanding of addiction, and personality as well as intrapsychic factors appear to contribute to the development of addiction. However, as DiClemente (2003) points out, personality factors or deep-seated intrapersonal conflicts account for a possibly important but relatively small part of a comprehensive explanation needed for addiction. The personality/intrapsychic models attempt to understand addiction primarily from a zone 1 and 2 perspective.

Coping/Social Learning Models. Some theorists indicate that addiction is often related to a person's ability to cope with stressful situations (Bandura 1977, 1986). Although coping and social-learning perspectives have become popular in addictionology, generalized poor coping skills cannot be the only causal link to addiction. The coping/social learning models attempt to understand addiction from a zone 1, 3, 4, and 5 perspective.

Conditioning/Reinforcement Behavioral Models. Reinforcement models focus on the direct effects of addictive behaviour, such as tolerance, withdrawal, other physiological responses/rewards, as well as more indirect effects described in the opponent process theory (Barette 1985). Today there is significant evidence for the role of conditioning and reinforcement effects in the addictive process, and, as with all of the previously mentioned models, it offers insight into the nature of addiction. However, the conditioning/ reinforcement behavioral models do not explain all initiation or successful cessation of addiction (Marlatt and Gordon 1985). They predominantly attempt to understand addiction from a zone 1, 5 and 6 perspective.

Compulsive/Excessive Behavior Models. Theorists who link addiction to compulsive behaviors either come from an analytic or a biologically based view. Some theorists view addiction as excessive appetite (Orford 1985). Both the compulsive and excessive behavior models add some explanatory potential to some of the existing models. However,

they do not highlight all the variables needed in order to adequately explain the etiology or why individuals continue addictive behavior. The compulsive and excessive behavior models attempt to understand addiction from a zone 1 and 6 perspective.

Spiritual/Altered States of Consciousness Models. Some theorists have suggested that addiction is a spiritual illness, a disorder resulting from a spiritual void in one's life or from a misguided search for connectedness (Miller 1998; Weil 1972; Siegal 1984; Winkelman 2001). The spiritual/altered state of consciousness models attempt to understand addiction from a zone 1 and 4 perspective.

Compound Models. Dissatisfaction with the fractional explanations proposed by the previously described single-factor models has prompted some theorists to propose an integration of these explanations (Donovan and Marlatt, 1988). The biopsychosocial model is the most widely recognized compound approach to addiction. DiClemente (2003) believes that proponents of the biopsychosocial approach have not explained how the integration of their tripartite collection of influences occurs. Without an orienting framework that can explain how these various areas co-enact and interlink, the biopsychosocial approach often represents merely a semantic linking in terms and exhibits limited integration. The biopsychosocial model attempts to understand addiction from a multitude of perspectives (i.e., zones 1, 3, 4, 5, 6, and 8).

In an attempt to find commonality among the diverse models of addiction and seek integrative elements, DiClemente and Prochaska (1998) propose their Transtheoretical Model (TTM) of intentional behavior change. Although this model indicates an integrative principle that is common to all the previous models, and although it highlights the dynamic and developmental aspects of addiction, I do not believe it provides a metatheoretical framework that truly accommodates all the previous perspectives into an integrative framework. The TTM predominantly focuses on one dynamic integrating principle found in all the prominent addiction models, but does not provide the meta-paradigmatic framework needed for a metatheory of addiction (Miller 2006; Miller and Rollnick 2002). The TTM attempts to understand addiction primarily from a zone 2 perspective.

An Integral Taxonomy of Etiological Models of Addiction

In Figure 3, an integrative taxonomy of etiological models of addiction is provided, using the eight zones and methodological families of IMP, into which etiological models can be grouped. By viewing addiction through the quadrants and its 8PP, we can see that all these perspectives with their respective methodological families need to be acknowledged, and as many as possible should be included to gain a truly comprehensive view. This avoids what Wilber (2006) calls "quadrant absolutism," where all realities of a phenomenon are reduced to the perspective of one quadrant.

Zone 1	Zone 2	Zone 3	Zone 4
Phenomenology • Conditioning/Reinforcement Behavioral models • Compulsion and Excessive Behavior models • Spiritual/Altered State of Consciousness models • Personality/Intrapsychic models • Coping/Social learning models • Biopsychosocial model	**Structuralism** • Transtheoretical model • Personality/intrapsychic models	**Hermeneutics** • Coping/Social Learning models • Biopsychosocial model	**Ethnomethodology** • Social/Environment models • Coping/Social Learning models • Biopsychosocial model • Spiritual/Altered State of Consciousness models
Zone 5	**Zone 6**	**Zone 7**	**Zone 8**
Autopoiesis Theory • Conditioning/Reinforcement Behavioral models • Coping/Social Learning models • Biopsychosocial model	**Empiricism** • Genetic/Physiological models • Conditioning/Reinforcement Behavioral models • Compulsion and Excessive Behavior models • Biopsychosocial model	**Social Autopoiesis Theory** • Social/Environment models	**Systems Theory** • Social/Environment models • Biopsychosocial model

Figure 3: Taxonomy of etiological models of addiction within the eight major methodological families of IMP. From "An Integral Ontology of Addiction: A multiple object existing as a continuum of ontological complexity," by G. Du Plessis, 2014, Journal of Integral Theory and Practice, 9(1), p. 43. Reprinted with permission.

Figure 3 illustrates how IMP applied to models of addiction can possibly account for the different existing models, without reducing one model to another. By applying IMP to explanatory addiction models, it is highlighted how each of the single-factor models understands addiction from a specific zone(s) because it applies a specific methodological approach, whereas the more integrative models view addiction across several of these zones. Figure 3 highlights how each of the models brings valuable insight from a specific paradigmatic point of view and enacts certain features of addiction by virtue of applying particular methodologies. It allows us to honor all the existing theories of addiction, with their respective methodologies, by acknowledging that they all have something valuable to offer through enacting certain aspects of the complex and dynamic process of addiction, and at the same time highlighting their respective inadequacies.

From an IMP perspective, none of these models or perspectives has epistemological priority because they co-arise and "tetra-mesh" simultaneously. Each of these explanatory models has certain advantages in describing certain features and

etiological determinants of addiction, but also its limitations. Therefore, these models are all valid from the perspectives they use to understand and study addiction, but are also always partial in their approach to the whole. This implies that a model is not correct or incorrect, but rather that it is more suited to explaining addiction from a certain perspective, and more limited from other perspectives. For instance, the genetic/physiological models are better at explaining the biological determinants and function of addiction than the personality/intrapsychic models, whereas the personality/intrapsychic models are better at explaining the phenomenological determinants and experience of addicted individuals than the genetic/physiological models. Yet both illuminate important and interlinked aspects of the same phenomenon.

Integral Epistemological Pluralism

Integral Epistemological Pluralism (IEP) refers to the multiplicity of perspectives or worldviews on how we can "know" a phenomenon. Each of the methodologies of IMP has a correlated epistemology. In other words, each method of studying addiction has its own belief regarding how we can "know" addiction.Murray (2012, 35) points out that "Integral Pluralism says that what is perceived to exist depends on the methodology used to inquire and the developmentally-determined capacity of the observer/inquirer to perceive [epistemological pluralism]." Wilber's (2006) stages of development are an example of epistemological pluralism within integral enactment theory. From a moral developmental perspective, an easy way to understand stages is to describe their progression from egocentric (pre-conventional) through ethnocentric (conventional) to world-centric (post-conventional). This is an example of how IEP accounts for a developmental understanding of addiction as well as recovery, and can account for the many empirical observations relating to addiction and the process of change described in developmental models such as the TTM.

Integral Ontological Pluralism (Ontological Breadth)

Most addiction models, including the compound models, are not based on a pluralistic ontological foundation. This may be one of the pivotal reasons that conceptual integration has not yet been achieved in the addiction sciences. Ontological pluralism underscores the 'ontological breath' of addiction and that is not a single "pre-given" entity, but rather a multiplicity of third-person realities. Moreover, the miscellany of the ontological realities of addiction has a special 'enactive' relationship with etiological theories and their respective methodologies. Without acknowledging the ontological multiplicity of a complex phenomenon like addiction, conceptual integration cannot be achieved. Esbjörn-Hargens (2010) says that "theory is not merely interpretive but constitutive: theoretical pluralism lends itself to ontological pluralism" (p.498). Integral enactment theory adeptly points out how etiological models "co-arise", in relation to methodology (methodological pluralism) and enact a particular reality of addiction (ontological pluralism), while being mediated by the worldview of the subject (epistemological pluralism) applying the method.

Addiction as a Third-order of Ontological Complexity (Ontological Depth)

An essential feature of integral enactment theory is the notion of ontological complexity. In a 'depth' view of ontological complexity,

> *the first order is characterized by phenomena that we can more or less 'see' with our own senses. The second*

> *order is the result of using various extensions of our senses (instruments, computer programs, charts) to see the phenomena … The third order cannot be seen with our senses nor indirectly by our instruments, but only by indications" (Esbjörn-Hargens 2009, 159).*

So, addiction "is two steps removed from our direct experience (the first order) and our perception of it relies on many abstract indicators (the second order), which are epistemologically distant and ontologically complex" (Esbjörn-Hargens 2010, 159).

When understanding addiction as a third order of ontological complexity, it highlights its 'ontological depth' and we begin to understand why certain models of addictions, especially the single-factor models, give rise to such partial and reductionist explanations. They are good at explaining certain simpler features of addiction in the realm of its enacted first or second order of ontological complexity but methodologically and epistemologically, they are incapable of enacting addiction on a third order of complexity. Technically, a third order is actually the level of ontological complexity where the notion of addiction exists. (A first or second order cannot articulate a complex phenomenon like addiction). Heather (in West 2005, 2) points out certain features of the ontological complexity of addiction, and the problem faced when etiological models do not include a perspective of ontological complexity.

> *A]ddiction . . . is best defined by repeated failures to refrain from drug use despite prior resolutions to do so. This definition is consistent with views of addiction that see decision-making, ambivalence and conflict as central features of the addict's behaviour and experience. On this basis, a three-level framework of required explanation is (needed) consisting of (1) the level of neuroadaptation, [1st order ontology] (2) the level of desire for drugs [2nd order ontology] and (3) the level of 'akrasia' or failures of resolve [3rd order ontology] . . . explanatory concepts used at the 'lower' levels in this framework can never be held to be sufficient as explanations at higher levels, i.e. the postulation of additional determinants is always required at Levels 2 and 3. In particular, it is a failure to address problems at the highest level in the framework that marks the inadequacy of most existing theories of addiction.*

Esbjörn-Hargens (2009) points out that

> *the more epistemological distance and ontological complexity increase, the more methodological variety will increase. Thus, the more multiple an object becomes (the What), the more methods and disciplines you will need to study and make sense of it (the How), and the more perspectives there will be on what is or is not the nature of that object (the Who) (162).*

Conclusion: Architectonic of the Integrated Metatheoretical Model of Addiction

In my discussion of Wilber's integral metatheory, I highlighted the conceptual lenses of the 8PP, as well as the

perspective of lines, levels, states, and types as being possibilities within each of the 8PP. A comprehensive and integrative metatheory of addiction will therefore incorporate permutations of all these conceptual lenses.

In a research monograph by National Institute on Drug Abuse (NIDA), the authors present the question “What is a theory of drug use/abuse [substance use disorder], and what are its components?” They “viewed a theory as something which addressed at least several of the following topics: (1) why people begin taking drugs [Initiation], (2) why people maintain their drug-taking behaviors [Continuation], (3) how or why drug-taking behavior escalates to abuse [Transition], (4) why or how people stop taking drugs [Cessation], and (5) what accounts for the restarting of the drug dependence behavior or cycle once stopped [Relapse]” (NIDA 1980, xiii). Therefore, according to NIDA the five components of a theory of addiction are Initiation, Continuation, Transition, Cessation, and Relapse, which highlights the temporal aspect of addiction.

I will apply NIDA’s organizing framework of the components of a theory of addiction within the context of an integrative metatheory of addiction. I suggest, therefore, that a comprehensive metatheory of addiction highlights that each of the five components of a theory of addiction (Initiation, Continuation, Transition, Cessation, and Relapse) can be viewed through each of the 8PP and its accompanied methodologies. Therefore, we have 8PP multiplied by the five components of a theory of addiction. This equates to what I call forty ‘ontological zones,’ which, according to my model, will represent various ontological domains of addiction. Moreover, each of these forty ontological zones can include the lenses or perspectives of lines, stages, types, and states of the AQAL model.

In figure 4 below I provide a taxonomy of how the forty ontological zones can be represented as an organizing conceptual scaffolding for a metatheory of addiction. On the *x* axis the components of a theory as suggested in the NIDA monograph, and the *y* axis the 8PP perspectives as articulated in IMP.

8PP (y) Components of a Theory (x)	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8
Initiation	InZ1	InZ2	InZ3	InZ4	InZ5	InZ6	InZ7	InZ8
Continuation	CoZ1	CoZ2	CoZ3	CoZ4	CoZ5	CoZ6	CoZ7	CoZ8
Transition	TrZ1	TrZ2	TrZ3	TrZ4	TrZ5	TrZ6	TrZ7	TrZ8
Cessation	CeZ1	CeZ2	CeZ3	CeZ4	CeZ5	CeZ6	CeZ7	CeZ8
Relapse	ReZ1	ReZ2	ReZ3	ReZ4	ReZ5	ReZ6	ReZ7	ReZ8

Figure 4. A Taxonomy of the Forty Ontological Zones of the Integrated Metatheoretical Model of Addiction

Therefore, my proposed Integrated Metatheoretical Model of Addiction (IMMA) highlights that the ontology of addiction can be presented as consisting of forty ontological zones, each with the probability of a line, level, type, and state lens or perspective. We can now articulate how any model of addiction can be situated within the IMMA organizing metatheoretical framework. This framework allows for addiction to be viewed through the perspective of ontological breadth and depth, as well as incorporating a perspective of temporality.

We can use the formula of OA = [(x), (y), (i)] to indicate the 'ontological address' (OA) of any model of addiction. The OA of a model of addiction situated within the metatheoretical framework of the IMMA is articulated: where (x) indicates the component of the theory, ([In] Initiation, [Co] Continuation, [Tr] Transition, [Ce] Cessation, [Re] Relapse; and (y) indicates the primordial perspective [Z1-8]; and (i) indicates [Li] Lines, [Le] Levels, [Ty] Types, [St] States of the AQAL model.

For example, in an altered states of consciousness model of addiction the researcher applies Zone 1 (phenomenology) [Z1] and Zone 4 (ethnomethodology) [Z4] methodologies to study why people start taking drugs (Initiation [In]) and include a Levels [Le] and States [St] perspective. According to the OA formula, the ontological address of our example model is: [(In), (Z1,4), (Le, St)].

Therefore, this framework can help show how any model of addiction is situated, according to its OA, within this organizing metatheoretical framework, and how it relates to other models, and therefore which aspects of addiction (ontology) it explores via a specific methodology and epistemology. Some models will attempt to explain (or enact) addiction across multiple ontological zones, (epistemic depth and methodological variety), with an OA spanning several ontological zones, while others may explain addiction at only one ontological zone (for example, single factor models). It must be noted the IMMA, and the OA formula are not scientific tools, but rather to be seen as 'orienting generalizations.'

In conclusion, my proposed IMMA is an attempt at Robert West and colleagues' (West et al., 2018) addiction research challenge for more clarity and unity within the field of addiction. I do not present the IMMA as a conclusive metatheoretical framework, but rather as an exploratory attempt at providing the architectonic of an integrative and comprehensive metatheory of addiction, that may potentially provide the conceptual scaffolding in developing a general theory of addiction.

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Endnotes

[1]In this chapter I use the terms ‘addiction’ and ‘substance use disorder’ (as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, DSM-5, American Psychiatric Society, 2013) interchangeably.

[2]The IMMA represents a culmination of all my previous research on the topic (see Du Plessis 2012b, 2013, 2014, 2017).

[3] Metatheory can simply be understood as referring to a type of super-theory built from overarching constructs that organize and subsume more local, discipline-specific theories and concepts (Edwards, 2008b). In short, whereas a theory within a discipline typically takes the world as data, meta-theory typically takes other theories as data.

[4] It must be noted that the figure is speculative regarding how the stages of recovery and addiction relate to other developmental models, and is best used as a clinical metaphor.

[5] The eight methodological families identified by Wilber (2003a, 2003b) are zone #1: phenomenology (the insides of individual interiors); zone #2: structuralism (the outsides of individual interiors); zone #3: hermeneutics (the insides of collective interiors); zone #4: cultural anthropology or ethnomethodology (the outsides of collective interiors); zone #5: autopoiesis theory (the insides of individual exteriors); zone #6: empiricism (the outsides of individual exteriors); zone #7: social autopoiesis theory (the insides of collective exteriors); and zone #8: systems theory (the outsides of collective exteriors). Wilber (2003a) uses each of the names of these methodological families as an umbrella term which includes many divergent and commonly used methodologies.