THE META-CRISIS IN EDUCATION: TOWARDS A COMPLEX INTEGRAL REALIST THEORY OF EDUCATION AND AFFECTIVE AXIOLOGICAL ORIENTATION

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Abstract

There has been increased attention on the nature of affect and emotion, as well as renewed calls for reconsidering the nature and purpose of modern education in light of the many challenges our species faces at the dawn of the 21st century. Drawing on, and beginning with, the emerging discourse on the meta-crisis, this thesis is a theoretical journey that explores the potential integration of several lines of enquiry to construct a model of affect and emotion to be used within education that could help present and future generations face these challenges.

Theoretical exploration of the challenges faced by humanity at this moment in our history reveals that our current capacities as a species may be insufficient to effectively deal with the complexity of the challenges we face: a meta-crisis. This research argues that one of the dominant underlying causes of this meta-crisis is our perceptual separation between subject and object; mind and body; nature and nurture. Drawing on, and integrating, several meta-theories that attempt to heal this rift in consciousness, this research creates a tentative new theory of education and a new methodology for educational research: a Complex Integral Realism. Utilising this methodology in theoretical research, this thesis explores and presents an embryonic model of affect and emotion to be used in education that attempts to heal this rift and points towards a new approach to educational theory, policy and practice.

The model of Affective Axiological Orientation presented in this thesis draws upon and integrates theories, models and empirical evidence from numerous fields to create a tripartite model of affect and emotion, psychological development, and cultural values. These mutually, co-creating and inter-penetrating layers of affective experience help to explain the ways in which we orient ourselves affectively in our pursuit of knowledge, sociality, and in developing our own agency.

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GLOSSARY OF TERMS

Affective Axiological Orientation: A term originating with this research that identifies an orientation towards or away from something that is formed by affective and axiological experience.

Anthropocene: An unofficial term popularised by Paul Crutzen that is used in geology and associated discourse to indicate a period of geological time that is significantly influenced by human activity.

AQAL: An acronym used in Ken Wilber's Integral Theory that stands for 'All Quadrants, All Lines, all states all types'. It designates a comprehensive and integrated framework for understanding human development.

Axial age: A term coined by Karl Jaspers to designate a pivotal period in human history spanning the 8th to the 3rd century BCE. During this period several of the major religions emerged as well as many great civilisations.

Axiology: The philosophical study of value. As a discipline it encompasses the study of value in its widest sense including its moral, economic, and logical aspects.

Complex Integral Realist Theory: This is a term coined for the purposes of this research. It draws upon, but is differentiated from, the Complex Integral Realisms of Paul Marshall and Sean Esjorn-Hagens. It is a meta-theory that includes aspects of complexity theory, integral theory, critical realism and metamodernism.

Developmental altitude: A term used by Ken Wilber to designate an approximate level of human development.

Epistemology: The philosophical study of the nature, origins and limits of human knowledge.

Existential decompression: This is a term from phenomenology that is used to explain the inner, subjective experience of an expanding interiority, specifically in relation to spatio-temporal experiences that pertain to salience and orientation.

Fractal Holographic: A term that incorporates two notions used to describe phenomena: self-similarity across different scales that show repeated patterns of recursion (fractal), where the whole is present everywhere and each part contains information about the entire system (holograph).

Holons: A term popularised by Ken Wilber that indicates a whole/part relationship. Each holon is a whole and is simultaneously a part of a larger whole.

Metamodernism: A term that refers to a variety of related discourses that attempt to move beyond the movement known as post-modernism. It positions itself within and beyond modernism and postmodernism.

Negativity/Absence: In Dialectical Critical Realism (DCR) this term relates to aspects of ontology that are unmanifest or absent from the actual events under consideration. Only causal traces can be discerned and underlying causal mechanisms can be inferred. In DCR, negativity/absence resides within the domain of the Real.

Ontogeny: In psychology, the term designates the study of individual growth and development from its earliest stage to its fully mature form. It includes cognitive, emotional, social and biological development.

Ontological recession: This is an unofficial term used in this research to designate movement from more to less complex phenomena. It can also denote a movement away from what can be known. For example, one of the limits of epistemology is ontological recession. The more we try to know something, the more it recedes from our capacity to know it.

Ontological Synchronisation: A term to designate the continuous dialogical attunement of people and their context. In terms of educational research, it relates to the need for relevance. Here, it is argued that the ontology of education cannot be separated from the associated ontologies of societal, cultural and environmental change. They must be synchronised for educational research to have relevance.

Ontology: The branch of philosophy that addresses the essential nature of characteristics of being and of things that exist.

Phylogeny: A term borrowed from biology and used here in the context of psychology. It designates the study of a class of relationships (genes within a species within biology) that transcend the individual. In relation to ontogeny, an individual (ontogeny) recapitulates the development of the species (phylogeny).

Postformal: Postformal thought is a cognitive stage of development characterised by increased complexity, flexibility, and contextual understanding in relation to the previous formal operational stage.

Power1: This is a term from Critical Realism that designates power in relation to capacities and capabilities.

Power2: This is a term from Critical Realism that designates power over others, usually in relationships of oppression and coercion.

Praxis: The practical application of any branch of learning. It usually designates using theory in practice.

Retroduction: A process of abductive reasoning that seems to most likely conclusion from a set of inductive and deductive inferences. In the philosophy of critical realism it seeks to identify the underlying causal mechanisms to best explain phenomena.

Techne: A term from ancient Greek philosophy that designates an art, skill or craft in its practical applications. Here it is used to denote the technical or practical approach to education as a process of acquiring external knowledge or practical skills.

INTRODUCTION

This doctoral research stems from the confluence of three overlapping areas of personal interest: social, cultural and existential issues facing humanity; the evolution of consciousness and human development; and education. After spending 10 years teaching in secondary education I began to feel that what we are doing in education is inadequate to prepare current and future generations for the many serious, growing and intersecting crises facing us as a species. An interest in the evolution of consciousness, developmental psychology, and the role played by emotion in learning led me to study for my Masters degree in educational research in 2013: *How will an engagement with emotional intelligence and ego development theory improve my teaching practice?* (Botham, 2013) The results led me to reconsider many of the assumptions of modern education in England, particularly the ontology of education itself: what a student actually is, what psychological processes they go through as they move though the education system and whether our current system, values and philosophical assumptions are a help or a hindrance with this process. It also made me reconsider some of my own assumptions. I felt that my methodology based on Integral Theory (IT) was inadequate to study such a complex phenomenon as emotion. I also felt that my understanding of emotion in light of my engagement with IT and as a result of my own research was also lacking. However, I believe I stumbled upon something significant in that research, followed by a later study in moral psychology (Botham, 2021), and it was something that my research did not cover that led me to this conclusion. Something was missing. Emotion and affective experience play a much deeper role in education than I had previously understood or appreciated. It also seems as though affective experiences play a greater role in overall development, both individual and collective. There were many pieces missing, but this feeling of absence pointed in a particular direction. I had a new affective axiological orientation. And this led me to doctoral research.

OUTLINE

Many researchers across different fields of enquiry have stated their belief that humanity is currently undergoing a major evolutionary shift, transitioning from one epoch to another: a time between worlds (Stein, 2019, Rowson, 2021b). Stein and Gaffni argue that “we are

collectively facing *the second shock of existence*, which is the realization that the survival of the entire human race is in danger" (Stein and Gafni, 2015, p. 270, original emphasis). Several researchers have cautioned that this danger is a convergence of several major crises (environmental, social, cultural and existential). Ord states that "major risks to our entire future are a new problem, and our thinking has not caught up" (2020, 7), particularly as these crises are inter-generational, complex, unprecedented, and are currently generating "an unsustainable level of risk" (2020, p. 31). Furthermore, Ord (2020) argues that these dangers stem from the disjuncture between our technological progress and our lack of wisdom.

Some have argued that our education system is not enabling students to meet these challenges effectively. Stein (2019) argues that this can be seen as a meta-crisis: a situation whereby the complexity of the problems we face outstrip our capabilities to deal with them effectively. I believe this could be because the system is founded on the same structure of consciousness that precipitated these crises. Structures of consciousness have been identified and explored by several researchers outside education (Gebser, 1985, Thompson, 1998, Wilber, 2000) and they roughly define and delineate our experience in terms of worldview, epistemology, experience of space and time, social relations and notions of self and identity. I have found few researchers applying these insights in education. I wondered if we are currently undergoing such an evolutionary shift and what its implications are for education.

This research is conceived as a continuation of the theme of liminality, a time between worlds. As such, I hope to develop a new theory of education that is a movement from where we are now, towards a horizon of becoming. It is therefore not conceived as a static, totalising theory, but more of a new orientation. The project is conceived as a triad, a pivot, that offers an articulation of our present position, a criteria or methodology for a reorientation, and then a brief outline or map towards a new horizon. The first part could be seen as following Akkerman et al.'s principle of actuality, from which they propose that the relevance of educational research requires "*ontological synchronisation*: a continuous dialogical attunement to how people, settings, and their societal landscapes meaningfully move forward" (2021, p. 420). A firm commitment to ontology drives this requirement for relevance as:

> "what is key in the ontology of education is the human and natural world as it is and is becoming. Educational research is concerned with an ontology *in motion* – with transitions over time…" (Akkerman et al., 2021, p. 417).

I see an essential aspect of an ontology in motion following Biesta's call to:

> "articulate critique and provide resources for the wider educational field to engage in their own forms of critique, resistance and re-articulation of what happens in education and should be happening in education" (2020a, p. 1024).

In developing a new theory of education it is necessary to explicate the crisis in consciousness mentioned above and to explore whether the various crises facing humanity are expressions of the deficient mental structure of consciousness first identified by Gebser (1985). Gebser (1985) argues that structures of consciousness enter a period of deficiency when their capacity to engage effectively with changes in the world become exhausted. This echoes Stein's (2019) work on the meta-crisis identified above. I believe this initial exploration is necessary as any theory and model of human development to be researched, developed and realised within education must enable those who have an interest in education to not only better understand the crises we face, but to also help to critique the processes that have given rise to them, provide a means to address them, and finally, point to a way of moving beyond them. Therefore, it is imperative that the theory and model of development is not built upon the foundations of the deficient mental structure of consciousness that precipitated the current crisis now facing humanity.

The second part of this research involves developing a new methodology that not only aims to overcome this deficiency, but one that is also adequate to research emotion and human values that I believe could lie at the heart of this new direction for education. I have reached similar conclusions to Nasir et al., (2020) who propose the need for new theories of education that explore the intersections between neurobiological processes and culture. They offer a metaphor of the "braid of human development" that tries to capture the intricate and complex relationship between brain science, psychology, and culture that, they argue, are the hidden drivers of education. Research in this area will require an appropriate methodology to adequately engage with and capture this complexity.

The third and final part of this research involves developing a theoretical model of human development founded on the study of affect, emotion and human values. While I agree with Biesta that axiology should form a central concern within education, I have reservations when he argues that is there is only a "contextual answer to the question of good education and the good of education" (2020b, p. 1023). Following my commitment to ontology, I hope to explore whether research in developmental psychology and the evolution of consciousness can provide us with convincing evidence that axiology may be "determined *in abstractio"* (ibid., original emphasis).

This leads to the following eight questions that will need to be addressed:

1. What are the major challenges currently facing humanity and do they reflect Gebser's notion of a deficient mental structure of consciousness?
2. Why is a new theory of education founded on affect and emotion needed to face the meta-crisis?
3. What research methodology is needed to build a new model of education based on affect, emotion and values?
4. What is affect and emotion and how does it relate to education?
5. What are the different structures of the self, and how do they relate to affect and emotion?
6. What is axiology and how does it relate to emotion and education?
7. What would an integrative model of these different lines of enquiry contain, and how would it relate to education?
8. What are the potential implications and applications of the model in education?

In Chapter One I will attempt to answer the first research question. I will outline some of the context, contours and content of this meta-crisis through the lens of the 'Anthropocene' and explicate some of the dominant accompanying crises that envelop our present civilization. These crises, situated within the larger meta-crisis, will then be explored as a possible expression and manifestation of the deficient mode of the mental structure of consciousness identified by Gebser (1985). This notion will be explored, drawing on other associated research to assess its validity.

In Chapter Two I will attempt to answer the second research question and provide the rationale for a different approach to education that I will argue is needed to address these challenges in the 21st century. It will focus on the role of affect, emotion and values in human developmental capacities I will claim are needed to address the practical challenges facing humanity. In addition, I will briefly outline the claims of several meta-theories that attempt to address the deficiency of the mental structure of consciousness outlined by Gebser (1985) to justify the need for a new theory founded on an integration of them.

Chapter Three will attempt to answer the third research question in developing a Complex Integral Realist approach to education and educational research. It contains the prefix *towards* as it is not intended to be a complete exploration of the methodology, the scope of which is beyond the means of this piece of research. It is merely *a* particular instantiation of this new approach that I believe is needed. It is also limited by its application within education and with its focus on exploring the literature on affect and emotion, psychological development, and value structures. However, its outline will be established, together with a defence of my ontological position and a development of an integral methodological pluralist approach to methodology that incorporates significant aspects of Critical Realism, Integral Theory, and complexity theory.

Once this methodology has been developed, I will attempt to answer the fourth, fifth and sixth research questions in Chapters Four, Five and Six, respectively, that will proceed in a recursive fashion. A slightly abridged, and idiosyncratic application of the methodology will be applied to each topic, due to the nature of the material under consideration and my own prior knowledge. The justification for this will be explained in the relevant sections. Once I have taken a position on what affect and emotion are, how they are structured, and how they relate to education, focusing on three key domains ('knowledge', sociality and agency), I will transcend and include that material in an exploration of developmental psychology and structures of the self, again focusing on the three key domains. This process will proceed again in relation to the next chapter on value, as a final recursion and integration.

The result should be a new model of affect, emotion and values in education. The potential implications and applications of this emerging model will be explored in the final chapter in addressing the final question.

1.0 CHAPTER ONE: WHAT ARE THE MAJOR CHALLENGES CURRENTLY FACING HUMANITY AND DO THEY REFLECT GEBSER'S NOTION OF A DEFICIENT MENTAL STRUCTURE OF CONSCIOUSNESS?

1.0.1 EDUCATIONAL CRISIS AS AN INSTANTIATION OF A WIDER META-CRISIS

Stein argues that the "mismatch between the demands made on us by the world and the capabilities we have to work with is the great meta-crisis of our time, characterising the struggles of individuals, organizations, and nation-states" and that our current education system is incapable of meeting these demands (2019, p. 18).

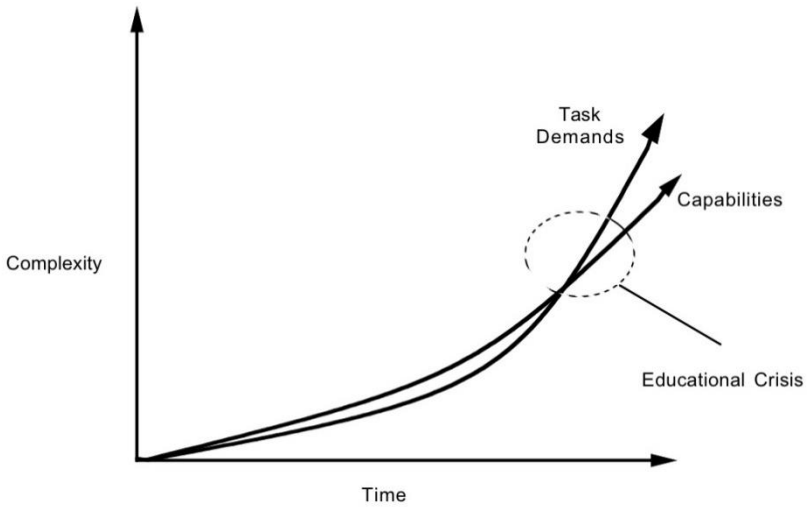


FIGURE 1 - EDUCATIONAL CRISIS (STEIN, 2019)

According to Stein, the current system is founded on a reductive human capital theory which "values only a limited subset of what is possible as human potential" and, as a result, "humanity stands misshapen by radically partial valuations of its own possibilities" (Stein, 2019, p. 135). This chapter focuses on the 'task demands' in Figure 1.

Rowson explores some of the different features or *flavours* of this meta-crisis and argues that "these different features of our world are obscured by their entanglement with each other. It is difficult to orient ourselves towards meaningful action that is commensurate with our

understanding because we are generally unclear about the relationship between different kinds of challenge and what they mean for us" (2021a, p. 16). I will attempt to untangle some of these crises and to explore their relationships with reference to the mental structure of consciousness. This should also help to tease out what this meta-crisis means for education. The analysis below will proceed through the lens of the Anthropocene (Crutzen, 2002) and its associated social crises; the problem posed by modern technology and its associated social and cultural crises; and finally a consideration of a crisis in collective meaning and sense-making.

The following explication of the meta-crisis, the analysis of its relation to education and the exploration of it as a potential expression and manifestation of the deficient mental structure of consciousness is deliberately negative in its outlook and analysis. Gebser (1985) describes transitions between one structure and another as a 'double movement': one structure becomes deficient while another efficient structure emerges. As the dominant structure of consciousness becomes 'deficient' and begins to collapse it is always a crisis as the old world dies. However, at the same time, there is also a rising 'efficient' structure of consciousness. Gebser (1985) and others argue that this new structure is the 'integral' structure of consciousness and it is this structure that will hopefully replace the deficient mental structure as the most dominant within human civilization as we enter this period of 'planetization' identified by De Chardin (1959) and explored by Thompson (1978). Additionally, there are still instantiations of the efficient mental structure within cultural discourse. It is the task of integral consciousness to incorporate these into the new emerging structure and I hope this research will offer a humble contribution in this direction within education.

1.0.2 The Anthropocene: An Existential Crisis

The term Anthropocene is from the Ancient Greek word *anthropos*, meaning "human". Crutzen (2002) is credited with independently re-inventing and popularizing it and locates the beginning of this new epoch at the dawn of the industrial revolution. It acknowledges that humans are the major cause of the earth's current transformation. McNeil (2016) identifies socio-economic and earth system trends that are bound up together and define the most recent period of the proposed Anthropocene epoch during which the rate of impact of

human activity upon the Earth's geology and ecosystems is increasing significantly. This process is known as the Great Acceleration (Steffen et al., 2015) and has been extended to include changes happening in the oceans (Jouffray et al., 2020). It also refers to the rate of change in technology and society as a whole (Colvile, 2017). This temporal aspect is significant, particularly in relation to the mental structure of consciousness, and will be revisited later.

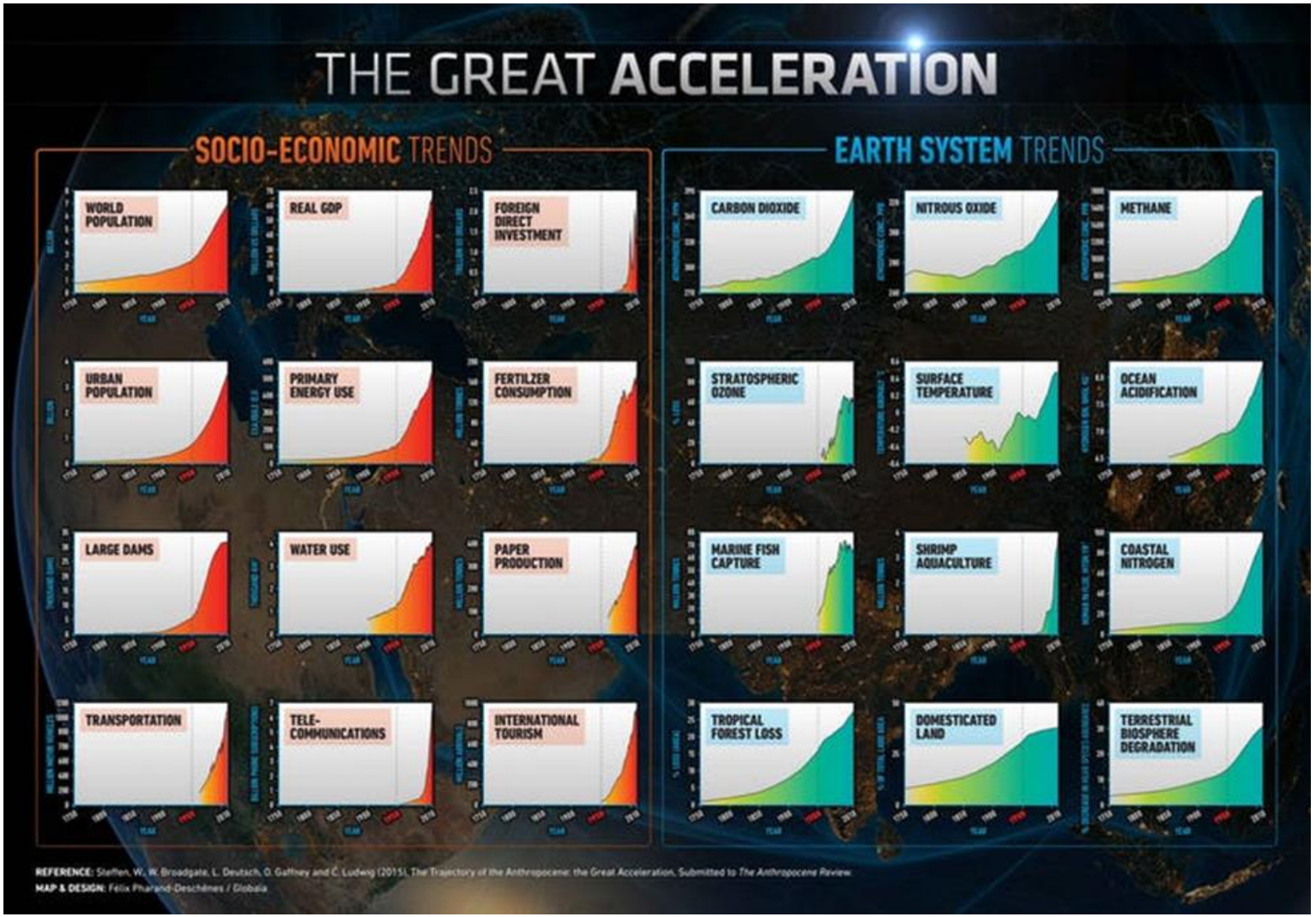


FIGURE 2 – THE GREAT ACCELERATION (STEFFEN ET AL, 2016)

Many scientists view our current environmental crisis as both imminent and existential. Many scientific reports indicate that we have recently entered the sixth major extinction on this planet and that human activity is the primary driver of this event (Ceballos et al., 2015). The seriousness and severity of this has been described as a "biological annihilation" and a "frightening assault on the foundations of human civilization" (Ceballos et al., 2017, p. 6095). Research suggests that plant species are going extinct up to 350 times faster than the historical norm (Le Roux, 2019) and a survey of 73 recent studies on the decline in insect numbers indicate a severe threat to the global food chain that will have disastrous and potentially imminent consequences (Sánchez-Bayo and Wyckhuys, 2019). According to the Our Living Planet Report 2022 by the WWF, wildlife population sizes have decreased by 69% between 1970 and 2018 (Barrett et al., 2022). Furthermore, according to the 2022 Global Report on Food Crises by the World Food Programme states the number identified in 2022 is the highest in the report's six-year existence (GRFC, 2022). Could it be possible that we are witnessing a 'phase transition' (Heffern et al., 2021) as a result of anthropogenic interference with planetary boundaries?

Despite our growing knowledge and public awareness of this existential crisis, our failure to critically address the underlying causes has been described as the 'elephant in the boardroom' (Putt del Pino, 2017). Many argue that the current global business model based on resource extraction and consumption is not compatible with sustainable goals of conducting business on a planet with finite resources (Wiedmann et al., 2020).

As an indication of the potential impact of continuing 'business as usual', one scientific model, developed with NASA funding, indicates that the diminishing returns of the current endless growth model of human civilization will result in increasing economic stratification and eventually culminate in societal collapse (Ahmed, 2017). The meta-analysis by Ahmed (2017) that the present crisis of global civilization is based on a net energy decline in our modern industrial economic processes and that this is also a primary driver of detrimental social changes across the globe. A comprehensive literature review identifies a similar confluence of causes pertaining to social and economic relations to the environment as primary drivers of societal collapse (Brozović, 2023). In addition, Zeihan (2022) reaches a similar conclusion that he argues is leading to the collapse of globalisation.

Several studies, including one conducted for the UN (Järvensivu, 2019), indicate that our current civilizational model that has been dominant since the first industrial revolution is no longer sustainable and we may be entering a 'new normal' of economic stagnation (Jackson, 2018), potentially leading to a Second Great Depression (Maavak, 2021). The unsustainability of the 'business as usual' model outlined in Meadows et al. (1972), and recently updated and supported in Herrington (2021), provides additional support for this scenario. These are often described as 'wicked problems' due to their overarching complexity (Lönngren and van Poeck, 2021), and/or as being defined by their volatility, uncertainty, complexity and ambiguity (VUCA) (Taskan et al., 2022).

Further threats to global stability lie in burgeoning global debt levels (Dienst, 2017, Standing, 2021, Zeihan, 2022); shifting global demographics and global forced migration (Elsheikh, 2017); global inequality and increasing political polarization (Dorling, 2018). It seems that these are extraordinary times of radical uncertainty. Even before the Covid19 pandemic, the impact of this generated a climate of fear (Bude and Spengler, 2018), unease and a sense of foreboding in much of the Western world (Bude and Garnett, 2018).

1.0.3 The Meta-crisis and Technology

In addition to the current destabilization of human civilization presented by the environmental crisis, there are several "radical technologies" that look set to exacerbate these trends across a variety of domains from economics and employment to the nature of human relationships and our personal identity (Greenfield, 2017). Harari (2017) presents an argument for the role of technology in disrupting human civilization through an existential dislocation process he calls the Great Decoupling in which intelligence as we know it becomes decoupled from consciousness and various forms of artificial intelligence (AI) outperform humans in a variety of domains, potentially causing significant social and cultural disruption. A recent systematic review of the risks of General Artificial Intelligence (AGI) (McLean et al., 2021) concluded that AGI poses an existential risk to humanity and warned that there are currently insufficient safeguards and peer-reviewed research being conducted to guide safe AGI design, implementation and management. This view was recently supported by many

prominent scientists within the field who signed an open letter at the Future of Life Institute (2023) for an immediate pause to this research.

Rushkoff (2013) coined the term 'present shock', adapted from Toffler's (1979) 'future shock', to describe our condition of being faced with the accelerating pace of change wrought by technology. Virilio (2006) argues that the increase in the pace of life wrought by technology is leading to the 'death of politics'. This accelerating pace of change and increasing loss of control that is increasingly conceded to machines and algorithms, coupled with the ever-increasing amounts of data being created through increases in technological complexity, could be leading to a new dark age as the human mind fails to keep up and begins to lose its bearings (Bridle, 2018). Despite some evidence suggesting this process is slowing down (Dorling, 2020), many of the changes underway seem to be having deleterious effects on human mental health and behaviour (Ratan et al., 2021).

Our relationship with technology is changing human behaviour in many profound and unexpected ways, particularly in terms of behavioural addiction and in how people relate to each other through the internet (Alter, 2017, Ratan et al., 2021). These changes are impacting an entire generation to such as extent, they have been labelled iGen (Twenge, 2017) and seem to be having a significant and deleterious effect on the mental health of younger generations (Haidt and Twenge, ongoing).

Furthermore, technology is increasingly being used by powerful corporations, governments and other political actors to manipulate the emotional life of millions, particularly in the West, in influencing consumption habits (Davies, 2015) and political participation (Davies, 2018, Davies, 2020, Geoghegan, 2020, Zuboff, 2020).

1.0.4 The Meaning Crisis

Stein argues that the dynamic relationship between extractive surveillance technologies and the (re)production of culture has resulted in a "situation in which there are incentives to systematically distort the educational dynamics of culture itself for strategic advantage" (2021, p. 86), leading to a zero-sum competition in cultural warfare. This is set within a wider

meaning crisis relating to a growing inability of cross-cultural communication, coupled with a loss of central authority and institutional legitimacy.

Rushkoff (2013) identifies a narrative collapse within many aspects and dimensions of western culture that he argues relate to our current experience of 'present shock'. This collapse can be seen more broadly across a range of cultural milieus globally, in terms of a culture war that is creating a Great Divide between competing value systems (Smith, 2016, Wilber, 2017), potentially leading to a legitimation crisis of global capitalism (Ibsen, 2018) and the failure of liberalism as an ideology (Deneen, 2018). This conflict can be seen locally within much of the discourse and voting patterns around Brexit in the UK (Dorling, 2018).

Wheal (2021) argues that we are currently searching for Meaning 3.0 following the collapse of the dominant orienting mythologies of religion (Meaning 1.0) and classical liberalism (Meaning 2.0). Essentially, the challenge to, and potential collapse of, the current dominant cultural paradigm based on liberal democracy is a disorienting and anxiety-inducing cultural landscape for children and young people to grow up in. Our sense of meaning and purpose is being challenged like never before as the coherence of the liberal, meritocratic narrative that has dominated cultural life since the Enlightenment becomes strained under mounting pressure. The social inequalities cited above are one of the driving forces, and manifestations of, this declining trust in our social systems and dominant cultural narrative.

These brief explorations of the role of environmental degradation, social and political strife and the compounding effect of technology highlighted above provide a glimpse into some of the global challenges currently confronting humanity. The picture of this emerging meta-crisis that defines our present era is one of existential catastrophic risk (Ord, 2020), radical uncertainty, increasing pace of change, dislocation and disorientation. This is the larger context that modern education is positioned within, and the challenges which, I argue, it must face.

1.0.5 Summary and proposals

It has been stated that one of the main aims of education should be to prepare students for the world so that they can adapt and thrive beyond the realms of formal education (Pring, 2015, Hannon, 2021). The local and global crises facing children and young people today are

formidable. The environmental crises are existential and the future of human civilisation is potentially at stake. The outline of many of these overlapping crises represent the task demands in Fig.1 above and are only one half of the meta-crisis, but they require complex solutions that have profound implications for education. I present proposals for developing three capacities in education to form part of that solution.

I propose that the students of today and tomorrow will need to learn how to be individually and collectively resilient in the face of these significant challenges. They will need to learn how to become life-long learners as the pace of change increases and our knowledge of the various crises we face continues to grow. They will need to learn how to find meaning and to develop good sense-making in increasingly complex social, cultural and physical environments. I will frame this as a self-motivated search for 'knowledge', and this is the first capacity I will explore.

In addition, they will also need to learn how to connect with others who share very different worldviews and learn how to cooperate to enable them to solve some of the most pressing cultural, social and environment problems facing us individually and collectively as a species. I propose that modern education needs to learn how to harness this capacity for increased sociality. This is the second capacity.

Finally, it is said that human life is anti-fragile (Taleb, 2012) and has the innate capacity to grow in the face of adversity. I argue that this is the foundation of our conception of agency, defined in this research as self-determination (Ryan and Deci, 2017). I propose that modern education needs to cultivate this capacity.

A recent study (Jiang et al., 2022) funded by NASA argues that the challenges facing our civilisation at this moment in our evolution may act as a 'Great Filter' that prevents planetary civilizations from evolving past this stage. It calls for greater collaboration as a species to become more robust, both individually and collectively. This research taps into that same spirit outlined above, and invites us to consider what the implications of this are for education.

However, to paraphrase Albert Einstein, our problems cannot be solved by the same consciousness that created them. While the crises we face are developing and complexifying

rapidly, could our lack of capacity to effectively deal with them stem from a deficient perception of reality? If so, the second, capability aspect of the meta-crisis will also need to be addressed.

1.1 The Meta-crisis and Consciousness

Much of the literature on the meta-crisis, developmental psychology and the evolution of consciousness reach a similar conclusion regarding the source of these various challenges presented to humanity at this juncture in our collective evolution. The same themes and structures underlying and connecting the global and local crises can be seen as a fractal-holographic[1] reflection of the whole. Many theorists of integral and metamodern philosophy identify the connections between these various crises and believe that they form a singular meta-crisis, similar in many ways to Morton's (2013) concept of a hyperobject. In order to understand our human predicament and how we got here it is necessary to explore the relationship between the meta-crisis and consciousness. This addresses the capability aspect of the meta-crisis shown in Fig.1.

It is important to identify the features of the deficient mental structure of consciousness within the meta-crisis and explore whether this may account for the lack of capacity we currently experience in dealing with the crises we currently face. To overcome this crisis, the underlying structure that creates and sustains it must be understood before it can be transcended. If the deficient mental structure of consciousness is found to be underlying our current lack of capability that is driving this meta-crisis, it stands to reason that this structure may also be underlying our current education system, and any new theory will need to overcome it.

1.1.1 Preliminary Considerations and a Caveat

[1] Fractal-holography is a term developed from physics and mathematics that denotes phenomena where there is a recursive self-similarity in which the whole is reflected in the parts and these patterns repeat at various intervals of scale. See Welch WELCH, K. 2020. *A Fractal Topology of Time: Deepening into Timelessness*, Fox Finding Press.

There are some necessary, preliminary explications that need to be noted before moving on to an analysis of the crisis in the mental structure of consciousness, its relationship to the meta-crisis, and consequently its relation to education. First, it will not be possible to explicate the ontology of the structures of consciousness, as identified by Gebser (1985) and developed by others, and their relation to development. These are explored elsewhere (Feuerstein and Gebser, 1987, Gebser, 1985, Johnson, 2019, Marshall, 2016a, Smith, 2008, Thompson, 1975, 1981, 1998, 2004, Wilber, 1996, 2000, Wilber, 2006).

In addition, my development of Gebser's (1985) notion of the deficiency of the mental structure of consciousness, which draws upon the insights of other research that highlight its *rational* nature, will be designated as the *Deficient Mental-Rational Structure of Consciousness* (DMRSC) to delineate my interpretation and development from the original. However, before exploring the possibility of its presence as a constituent determinant of the current meta-crisis, it is necessary to briefly explore the mental structure of consciousness, with reference to developments on Gebser's (1985) original insights.

1.1.2 The Emergence of the Mental Structure of Consciousness

The mental structure of consciousness is founded on the differentiation between subject and object. The previous unperspectival world is characterised by the subject's embeddedness in nature, the identity of which Barfield (1988) describes as 'original participation'. Johnson states that "here the self has yet to differentiate, to stand *apart* from the world, and so the communal consciousness of self-and-world, self-and-animal, self-and-tribe, and self-and-spirits is continuous and predominant" (2019, p. 31, original emphasis). Marshall (2016) characterises the emergence of the mental structure out of the unperspectival world during the axial age as a 'standing back, looking within and looking beyond', and these respectively correspond to the cognitive, moral and spiritual breakthroughs of the axial age. The 'standing back', or cognitive breakthrough, that epitomises the western emergence of the mental structure and, for Marshall (2016), 'sows the seeds of the four biases' of western civilization, describes this emergence of the self as separate from the world. Indeed, Gebser writes that "the conception of man as subject is based on a conception of the world and the environment

as an object" (1985, p. 11) Integral to this separation is the emergence of the rational mind. Gebser comments:

> "This process is an extraordinary event which is literally earth-shaking; it bursts man's protective psychic circle and congruity with the psychic-naturalistic-cosmic-temporal world of polarity and enclosure. The ring is broken and man steps out of the two-dimensional surface into space, which he will attempt to master by his thinking. This is an unprecedented event, an event that fundamentally alters the world" (1985, p. 75)

Both Gebser (1985) and Marshall (2016) identify the emergence of the mental structure in Europe around 500BCE in ancient Greece. Indeed, according to Whitehead, "the safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato" (1979, p. 39). Here we see the emergence of mathematics, the beginning of science and the birth of western philosophy (Tarnas, 2010). These changes are intimately bound up with a literacy consciousness (Shlain, 1998) and a displacement of nature, the body and the feminine (Baring, 2013, Thompson, 1981, Wilber, 1996). Feuerstein states that at this time "humanity had come of age. It had finally separated from the maternal ground of the past, and now it was embarking on a deliberate search for its identity" (1987, p. 99).

Humanity awakened into Euclidian three-dimensional space which coincided with the discovery of causality within the arrow of time. Past and future begin to stretch towards their respective horizons and the "laws of causality [begin to] define connections between things or events that appear inevitable to the rational mind" (Feuerstein, 1987, p. 98). It would take almost 2000 years for the mental structure to develop and mature within western civilization, with large swaths of Europeans not entering this structure until the advent of modernity following the emergence of the perspectival world in 1250CE (Gebser, 1985). It is at this time that the seeds of the four biases sown in ancient Greece, identified by Marshall (2016), reached fruition and the efficient mental structure gives way to deficiency. As Johnson notes, "in the perspectival consciousness, our vision expands to the cosmos in a new measurable light, but proportionate to that opening up of space is a narrowing down of the world to the mere measurable" (2019, p. 45).

1.1.3 The Mental Structure: Efficient and Deficient Modes and Perception

For both Gebser (1985) and Marshall (2016), the initial manifestation of the mental structure of consciousness emerged in ancient Greece in its 'efficient' form, or *menos*, while the later re-emergence of this structure around 1500CE and into the era we characterise as modernity is defined by its 'deficient' form, or *ratio*, as Gebser (1985) refers to it. Marshall (2016) identifies four biases within the western manifestation of the mental structure that were sown by the Greeks and then eventually blossomed in European modernity that further explicate this deficient form of the mental structure.

Building and expanding on Jasper's (2021) notion of an axial age, Marshall (2016) argues that the emergence of the mental structure in the West is characterised by a distortion as it manifests only one of three axial breakthroughs that define the axial shift in other parts of the world circa 500BCE. It under-developed the spiritual and moral dimensions of human experience and instead focussed on the intellectual or cognitive breakthrough. As a result, "this stage or structure possessed an inherent analytical, objective, directive and exterior-oriented focus" (Marshall, 2016, p. 42) and this led to a consolidation of the four biases during the second wave of the mental structure during modernity.

McGilchrist (2019) also identifies a distortion within the rational structure of Western thought throughout the modern period. His study of the confluence between the history of western philosophy and recent findings from neuroscience regarding the right and left hemispheres of the human brain reflect this underlying distortion in perception. Like Gebser (1985) and Feuerstein (1987), McGilchrist (2019) reflects on the relationship between the German words *vernunft* and *verstand* when considering these different modes of cognitive perception. These terms roughly translate into English as *reason* and *rationality* respectively, with reason being associated with the functional perception of the right hemisphere of the human brain and rationality associated with the left. Using this formulation, McGilchrist comments that "reason depends on seeing things in context, a right-hemisphere faculty, whereas rationality is typically left-hemisphere in that it is context-independent and exemplifies the interchangeability that results from abstraction and categorization" (2019, p. 331). *Reason* is characteristic of the efficient mental structure, seen particularly in the philosophies of Plato

and Aristotle, while *rationality* characterises its deficiency and can be seen in most of the philosophies associated with modernity.

Marshall (2016) identifies an associated movement within the western philosophical tradition as philosophy started as a way of life (*askesis*) in Ancient Greece and not just a theoretical discourse (*theoria*), as it became with the advent of modernity. The Logical Positivist movement that emerged with the Vienna Circle in the 20th century also reflects this trend as it argued that philosophy was no longer a valid endeavour in itself and that it offered an inadequate means for acquiring knowledge. The logical positivists argued that philosophy should be tasked with simply becoming the handmaiden to science which could offer more objective and verifiable knowledge (Marshall, 2016). Indeed, they argued that anything that could not be verified analytically or empirically was essentially meaningless. Knowledge garnered from lived-experience (context-dependent – right hemisphere) was suspect and only knowledge acquired through abstraction and representation (context-independent – left hemisphere) was considered true.

Many of the researchers identified above note the increasing tendency towards abstraction within the western mind and connect this tendency to an array of crises and distortions that plague western civilization. The result of this tendency is a centrifugal drift between individuals within western culture, increasing social and cultural stratification and isolation, and a corresponding dissociation between mind, body and nature. They argue that this is the dominant tendency and trajectory within the deficient western mental structure of consciousness, that Marshall (2016) argues led to a consolidation of the four biases in modernity. Could it also be reflected in the emergence of the meta-crisis now facing humanity?

1.2 The Mode of Deficiency and the Meta-crisis

1.2.1 The Anthropocene and the Ecological Crisis

The modern conquest of nature can be traced back to Petrarch's ascendancy of Mount Ventoux in the 1300s and is expressed by Gebser as "when Petrarch's glance spatially isolated a part of "nature" from the whole, the all-encompassing attachment to sky and earth and the unquestioned, closed unperspectival ties are severed. The isolated part becomes a piece of

land *created* by his perception" (1985, p. 13, original emphasis). Morton identifies a similar process or event within the human mind to which he gives the dramatic term "the Severing": "a foundational, traumatic fissure between, to put it in stark Lacanian terms, *reality* (the human correlated world) and *the real* (ecological symbiosis of human and nonhuman parts of the biosphere)" (2017, p. 13 original emphasis)[2].

Nature becomes *created* in a representational and abstract sense within the human mind, which then becomes a replacement for 'the real', a process that is the foundation of Bhaskar's (2016) notion of *irrealism* that, he argues, has become a hallmark of western philosophy and is a result of the epistemic fallacy – our mistake in treating our knowledge of the world for the world itself. This relates directly to the analyses of the western analytical bias and intellectual distortion presented by Marshall (2016) and McGilchrist (2019).

Distortion can sometimes result in pathology and pathology can emerge at any stage of evolution or development. "Transcendence *can* go too far and become *repression*" and "likewise, *differentiation* can go too far and become *dissociation*" (Wilber, 2000, p. 109, original emphasis). Wilber, citing the work of Donald Rothberg, further explores this epistemic distortion and resulting pathology:

> "The content of the other two worlds (the intersubjective [we] and subjective [I] worlds)[3] was increasingly organised according to the structures of the empirical sciences and instrumental or calculative rationality; Habermas links this unbalanced development especially with the powerful influences of the forces of capitalism. Under the 'scientific' influence of positivism and empiricism, there were claims of a

[2] Morton places this event during the Neolithic age. However, such eco-romantic views have many problems (Wilber, 1996). Gebser places this separation of humanity and nature sometime during 1250 with the first "I" - poems written by the Troubadours as "the first personal poetry that suddenly opens an abyss between man, as poet, and the world of nature" (1985, p. 11). However, his adoption of the Lacanian use of 'reality' and the 'real' bare a close correspondence to McGilchrist's interpretation of the perceptual functions of the left and right human brain hemispheres respectively.

[3] These are reflected in Marshall's (2016) analysis of the axial shift and the uneven development of the three breakthroughs in the western world that culminated in the four biases mentioned above. The subjective domain and intersubjective domain in Wilber's model directly relate to the spiritual breakthrough and the moral breakthrough respectively.

> unified empirical science that encompasses all 'real' knowledge" (quoted in Wilber, 2000, p. 427).

Wilber calls this collapse of the interior subjective ("I") and intersubjective ("We") domains to the exterior ("It/Its") domain 'flatland' and connects "part of this dissociation and resultant emphasis on flatland to the strong influence of the techno-economic base of *industrialisation* and the machine mentality". The "techno-economic base supported instrumental-purposive rationality that did in fact build it: a positive feedback loop that sent calculative rationality spinning out of control, precisely in the avowed purpose of gaining control" (2000, p. 427, original emphasis). Elsewhere he argues that it is industrialization that holds 'flatland' in place (2000, p. 251). Wilber argues that the "modern ecological crisis is primarily a result of the Descended grid" (2000, p. 250) of representations and abstractions that are used to exploit nature for utilitarian means. This has significant and profound consequences for the relation between humanity and the world, and within and between human relations.

Wilber views the relationship between "the eco and the ego" the "central problem of modernity" (2000, p. 441). As the mind transcends its embeddedness in nature and differentiates mind from body (internal nature), it becomes dissociated and begins to repress nature leading eventually to conquest and exploitation. The implications of this are summarised by Eisenstein:

> "The root and epitome of separation is the discrete, isolated self of modern perception: the "I am" of Descartes, the "economic man" of Adam Smith, the individual phenotype of Darwinian competition for resources, the skin-encapsulated ego of Alan Watts. It is a self conditionally dependent on, but fundamentally separate from, the Other: from nature and other people. Seeing ourselves as discrete and separate beings, we naturally seek to manipulate the not-self to our best advantage" (2013, p. 7).

1.2.2 Human Relations and the Economic Drivers of the Meta-crisis

In adopting a systems theory approach, in an interview, Schmachtenberger (2019) employs Nick Bostrom's analogy and thought experiment known as the paperclip maximizer[4] and Mumford's (1971) notion of the *megamachine* to describe our current predicament regarding the existential crisis facing humanity. He argues that civilization has a "paperclip maximizing element to it" which has some "mathematically self-terminating processes worked in". He describes capitalism as a "decentralised system of incentives" based on resource extraction and commodification with a "win/lose rivalrous game theoretic environment" as isolated individuals are pitted against each other in the acquisition of finite resources. It creates externalities that become incentivized within a "multipolar trap" as if an agent can benefit from an activity during the short-term, such as through economic gain, but the activity is detrimental to the overall group or the commons long term, they will do it. That activity then becomes incentivized and others follow suit. This leads to a situation whereby "we convert the antifragile complexity of the natural world that evolution brought about into simple, then complicated, fragile, entropic more than syntropic, stuff". This is has become a self-terminating system as modern "technology has given us enough power to make rivalrous dynamics unsustainable".[5] Thompson identified this enantiodromic nature of consumption when he said that "ultimately, the world of consumerism ends up by consuming itself" (1978, p. 68).

Similar inter-personal dynamics are explored from an ethical and moral philosophy perspective in Greene's (2014) elucidation of the relationship between the tragedy of the commons and the tragedy of common-sense morality. Building on Hardin's (Hardin et al., 1973) Tragedy of the Commons, Greene (2014) states that this moral parable illustrates the problem of cooperation between individuals when faced with the logic of self-interest and group access to finite resources. Indeed, "scarcity and the unequal consequences of different

[4] https://wiki.lesswrong.com/wiki/Paperclip_maximizer (accessed 11.12.2023)

[5] It is interesting to note the parallels between Schmactenberger's notion of 'Power1' and 'Power2' principles built into complex, antifragile structures in Nature and the discussion above on McGilchrist's work on the functional perception of the brain hemispheres. Rivalrous zero-sum game dynamics (Power1) reflect Darwinian evolutionary dynamics of individual competition where there is an asymmetry of power relations, but these are contained within an interdependent and synergistic network at a higher level of macro symbiosis (Power2) found in Nature where there is a symmetry of power. Independent competition is contained within a larger context of co-operation. This is a theme that will be explored further, particularly in the conclusion and recommendations.

ways of distributing and using scarce resources continue to rank among the most basic features of economic life" (Unger, 2019, p. 33). However, there is also a larger conflict that becomes more intractable and more difficult to address when scaled up to holarchically (Wilber, 2000) include competition between groups. Greene argues that:

> "biologically speaking, humans were designed for cooperation, *but only with some people.* Our moral brains evolved for cooperation *within groups*, and perhaps only within the context of personal relationships. Our brains did not evolve cooperation *between groups* (at least not *all* groups)" (2014, p. 23 original emphasis).

The tragedy of common-sense morality is a failure of cooperation between different groups with different values, and sometimes different ethnicities, genders and/or religious beliefs. Consequently, our ability to address the meta-crisis is made more difficult and compounded by our inability to avert these two tragedies.

2.0 Chapter Two: Towards a New Theory of Education

2.1 Introduction

In the previous chapter I argued that one of the primary underlying causes of the meta-crisis outlined by Stein (2019) is the influence of the Deficient Mental-Rational Structure of Consciousness (DMRSC) in constructing many of the social structures, practices and cultural values that have directly led to the crisis and our inability to effectively deal with it. Essentially, our modern way of life is built with a reliance upon a perception of ourselves and of the world that can no longer effectively comprehend and create social structures, practices and cultural values to adequately confront and engage with the complexity of the challenges before us.

In this chapter I will argue for the importance of affect, emotion and values in developing a new model for education, both as a crucial element in the foundation of educational processes more broadly, as well as a means for enculturating the three capacities proposed in the previous chapter. In addition, I will present an argument for the need to engage with meta-theory in the formulation of this new theory of education, both as a means of overcoming the influence of the Deficient Mental-Rational Structure of Consciousness (DMRSC), and as a necessary prerequisite in developing a methodology for exploring the literature on affect, emotion and values with a view to integration.

2.2 Affect, Emotion and Values

A growing body of literature indicates that the intersection of affect, emotion and values may offer a significant avenue of research in developing new theories and models of education (Nasir et al., 2020). There are two over-arching practical and theoretical justifications for researching and developing a model of affect, emotion and values for use in education.

The first relates to its potential practical uses in education as broadly conceived, in relation to policy, social structures, practices and discourse, and its significance as a model for understanding and engaging with individual and group psychology in education, pedagogy

and practice. Affect and emotion play a significant role in psychological growth and development (Cook-Greuter, 2021, Kegan, 1982, Wade, 1996, Wilber, 1999), form a basis for personality (Davis and Panksepp, 2018, Fischer, 2018), and provide the foundations for people's basic needs for competence, relatedness and autonomy (Ryan and Deci, 2017). Affect and emotion play a significant role in learning (Barrett et al., 2016, Barrett, 2020, Immordino-Yang, 2016) and our ways of orienting ourselves in the world (Müller, 2019). In turn, our cultural values (Barrett, 2017, Damasio, 2018, Fischer, 2018) and social structures (Scheve, 2013, Slaby and Scheve, 2019) help to shape our affective experiences and emotional life in ways that have fundamental impacts on how we develop, learn, see ourselves, and relate to others. There has been a growing interest in the role of affect and emotion in education (Immordino-Yang, 2016, Zembylas, 2021) and I hope research on a practical model that integrates research on affect, emotion and values could contribute to a deeper engagement with many of these domains within educational policy, discourse, pedagogy and practice, as well as offering novel forms of critique.

The second domain and over-arching justification is theoretical. Affect and emotion seem to lie at the heart of how we relate to ourselves, others and the world. In overcoming the binary dissociation of subject and object in the Deficient Mental-Rational Structure of Consciousness (DMRSC), affect and emotion seem to be situated at the event-horizon of mind and body, self and other. McGilchrist (2021) highlights the critical importance of emotion, as a right-hemispheric form of perception, in relation to understanding implicit meaning, relating to others, and our developing sense of agency. These emotional faculties of the right hemisphere of the brain need to be cultivated and developed to counter the deficiencies of the dominance of the left hemisphere, which I have associated with the DMRSC. In addition, it is these faculties that have a significant impact on our perception and engagement with value:

> "It concerns how we understand ourselves, the world and our relation to it. The prevailing dominant account of a meaningless, purely material cosmos, supplied by a reductionist strategy of the left hemisphere, fails to make sense of value… the result is that values themselves have been devalued" (2021, p. 1164).

2.3 META-THEORY

There are two reasons for engaging with meta-theory in this research. Firstly, the ontology of emotion is complex with multiple, overlapping horizons of both inter- and intra-disciplinary perspectives (Barrett et al., 2016). As my interest is in the intersections of affect, emotion and values in education, I believe that this research will entail an engagement with both qualitative and quantitative epistemologies. The relationship between them is necessarily complex and so it will require an engagement and incorporation of elements of complexity theory, together with a realist understanding of Bhaskar's (2016) notion of stratified ontology. With regard to an integral or developmental epistemology, an "analytico-synthetic integration" would benefit such a theoretical endeavour, particularly with its "two dimensions: conceptual and pragmatic" (Shirazi, 2015, p. 26). It will require a trans-disciplinary approach as it will be "grounded in a fundamental reappraisal and reformulation of the nature of knowledge and inquiry" (Montuori, 2013, p. 53). It will also require a pragmatic focus on education to ground the theoretical model, as well as a conceptual integration of knowledge in multiple fields of enquiry. This is the first practical reason.

Secondly, with regard to the conceptual dimension, the theoretical basis will need to transcend the subject/object dualism at the heart of the DMRSC. This will necessarily involve an engagement with meta-theory as this matter is not always discussed in educational research and, in my view, no satisfactory remedy has been proposed. It seems that some of the core issues in the philosophy of educational research stem from this subject/object dualism, which Pring (2015) refers to as a 'false dualism'. Indeed, this binary between subjective, interpretivist, and objective, realist, traditions still dominate social research today (Clark et al., 2021), despite long standing criticisms and more recent movements towards mixed methods. These criticisms indicate the need for theoretical integration.

3.0 CHAPTER THREE: METHODOLOGY: TOWARDS A COMPLEX INTEGRAL REALIST THEORY

3.0.1 CAVEAT

I have found that a transdisciplinary approach is needed to study emotion and education, and how this relates to the meta-crisis, particularly in terms of finding a way to organise (Hadorn et al., 2008) and integrate relevant knowledge (Pohl and Hadorn, 2008), as well as a means of incorporating and mitigating against uncertainty (Funtowicz and Ravetz, 2008a). However, it also contains features of archdisciplinarity (Barker et al., 2023).

Having initially engaged with integral theory (IT) in previous research (Botham, 2013) and embarked on doctoral research with a Critical Realist Integral Theory (CRIT) in mind and a focus on emotion and ego development, I have found it necessary to include complexity theory in my metatheorizing and to change focus to Affective Axiological Orientation (AAO). To my knowledge, AAO is a term I have coined and emerged as a product of this research. While the rest of this thesis describes and explores the process of its discovery, I use the term here for expediency.

The process of my theorising has also been complicated by the need to present this doctoral research within the confines of a linear, written piece of work and oral presentation, whilst trying to conceptualise and convey non-linear processes and phenomena. With this in mind, I wish to emphasise the *towards* in the title, as well as on its singular *a*. This is *a* particular take on CIRT, both generally in terms of discourse, and specifically in terms of how I personally could have developed and conveyed this constellation of metatheoretical conceptualising. It is also conducted in the spirit of Morin's conceptualisation of his *method* as a "way" or "path laid down by walking" (2008, p. xxv). Following Montouri's (2013) interpretation of his work, this research is enquiry-driven rather than discipline driven. It is inspired by, and conducted in the spirit of exploration as a research design (Stebbins, 2001).

Unlike Marshall's (Marshall, 2016a, Marshall, 2016b) and Esbjorn-Hagens' (2016) Complex Integral Realism (CIR), I will not be giving equal weight to all three meta-theories. My incorporation of CT is done out of necessity which only emerged once I realised that both CR

and IT were lacking some key concepts that I needed to make sense of the subject matter. I have also drawn more widely from the literature on complexity as much of Edgar Morin's work has yet to be translated from French into English. I have focused on sources who have drawn upon his work but who specifically focus on education or social science in general. If I had to quantify the composition of my CIRT I would say it comprises roughly 40% CR, 40% IT and 20% complexity theory[6]. I have also drawn on some of the work inspired by Jean Gebser, Alfred North Whitehead and from the emerging literature on Metamodernism. It is also *towards* in the sense of a movement away from previous social structures, cultural values, philosophical discourse and forms of praxis currently dominant in education, as well as an encapsulation and embrace of what this approach could mean for education in the future. It is not intended as a totalising system of ideas and it does not exhaust its possibilities. It is a tentative step in a new direction: a new axiological orientation.

3.1 The Need for Metatheory

There are several reasons why there is a need for an engagement with metatheory in developing a new theory of education. Firstly, there is the purpose of under-labouring, in "removing some of the rubbish that lies in the way to knowledge" (Locke, 1759, quoted in Bhaskar, 2016, p. 2) and to explicate and remedy many of the presuppositions that modern philosophy has "inherited largely unthinkingly from the past" (Bhaskar, 2016, p. 2). The process of exploring and making explicit core assumptions is a feature of exploration (Reiter, 2017), which I have chosen as my over-arching research design. In addition, Bidell (2020), Mascolo and Bidell (2020), and Valsiner (2020) call for an engagement with, and explication of, underlying assumptions in the process of developing an integrative theory of psychology, which I hope to do. And finally, Reisenzein (2022) argues that any new theory of the psychology of emotion will have to engage in such under-labouring if it hopes to counter a bias towards the empirical.

[6] I will use CT to refer to Complex Thought and 'complexity theory' for the more general epistemology.

If the current meta-crisis is founded on the same deficient structure of consciousness that precipitated the current meta-crisis, it could be argued that any new model of education that seeks to effectively confront the meta-crisis needs to founded on a more integral and efficient structure of consciousness. Hedlund and Esbjorn-Hagens argue that if our shared capacity to make sense of reality and what is happening in the world is broken, then "metatheory is uniquely poised as a force of social innovation and transformation that will play an indispensable role in addressing the sensemaking and meaning crises" (2023, p. 3).

Drawing on the literature on transdisciplinarity would aid in this regard as it marries the need to overcome the Cartesian dualism of subject and object together with a practical focus on "wicked problems" (Bernstein, 2015, Klein, 2004, Kleineberg, 2016). Bidell (2020) argues that this 'Cartesian problem-space' could be overcome through the incorporation of dialectics and relationality, which are key constituents of each of the meta-theories I will explore. In addition, Marshall (2016a) identifies four biases of the deficient mental structure of consciousness and these will need to be remedied in developing a complex integral realist methodology to ensure that such biases are not replicated. This is an ethical responsibility, as well as a practical necessity. If these biases have contributed to the current crisis facing humanity, the it is imperative that that any new theory of education and new model of development is not founded on those same biases and thereby exacerbate the current crisis.

Secondly, both Marshall (2016a) and Gidley (2016) argue that the integral structure of consciousness is founded on postformal psychology, a stage which Wilber (2000) and Gidley (2016) have found in many models of developmental psychology that share a great degree of confluence (Kleineberg, 2021). Maxwell (2017) has identified some of the key features of a corresponding worldview that is arising with the integral structure of consciousness that shares an affinity with the three meta-theories founded on postformal psychology. Not only is it necessary to remedy the four biases of the deficient mental structure of consciousness, it is also important to ensure that the explication of a new theory of education is founded on the integral structure of consciousness and its corresponding psychology and worldview. This corresponds with post-formal psychology and the values of Metamodernism (Barker et al., 2023, Freinacht, 2017).

Third, related to the practical function of under-labouring, there is the need to create the space to meaningfully and effectively integrate three of the leading metatheories of our age: Complex Thought (CT) Critical Realism (CR) and Integral Theory (IT). There are many perspectives on the possibility of their integration (Bhaskar, 2015, Esbjorn-Hagens, 2016, Hampson and Rich-Tolsma, 2013, Marshall, 2016b) and I will need to justify a particular form of integration as a Complex Integral Realist Theory (CIRT[7]). Esbjorn-Hargens (2016) and Marshall (2016a; 2016b) note many of the ways in which a fruitful integration may be possible as they argue for a Complex Integral Realism (CIR). Hedlund (2016) has already made significant inroads towards the integration of CR and IT and I will be relying on his work as, like him, I believe that a non-preservation synthesis is possible. However, there are others who argue that CR and IT are fundamentally incompatible (Hartwig, 2016, Rutzou, 2016) and these positions need serious consideration before adopting and justifying my ontological position regarding the creation of a CIRT.

Fourth, there is a practical need to engage with metatheory in researching emotion, affect and values in education. Some of my methodological dissatisfaction with my previous research (Botham, 2013) is briefly outlined in Appendix A, but much of it relates to my primary methodology, Integral Theory (IT) committing the 'epistemic fallacy' (Hartwig, 2016). IT also gives priority to the individual, as "only individual holons have or *possess* 4 quadrants" (Wilber, 2006, p.253, original emphasis), a focus which Hartwig (2016) also highlights as being problematic. Steenbeek and van Geert (2020) argue that theory necessarily structures choice of methodology, so it could be argued that I need to re-engage with meta-theory and critically accommodate new perspectives to attempt to overcome these limitations.

Finally, 'emotion' is an amorphous and slippery subject to study, particularly if one is attempting to provide a comprehensive or integrated account of it within a domain as broad as education. There many theories on what emotion is (ontology) and how it can or should be studied (epistemology), and these are often in conflict (Scherer, 2022). To create a transdisciplinary model of emotion and axiological orientation in education that attempts an integration of these, it is necessary to ensure that such a metatheory can encapsulate, honour

[7] I will refer to my formulation as CIRT and Marshall (2016) and Esbjorn-Hagans (2016) as CIR to differentiate the two.

and effectively justify this integration with integrity. A framework is needed to build this model that provides a suitable and effective positioning of the various theories and supporting empirical findings within different epistemological fields. Kvernbekk outlines the desiderata for a meta-theory within education that will be used as a guide in its application once constructed:

- "It should tell us what kind of "elements" theories contain; that is, what sort of "things" we find if we unpack a theory.
- It should tell us how these "elements" hang together.
- It should tell us how the theory is related to the phenomenon within its scope" (2021, p. 36)

A thorough grounding in ontology is required to ensure that it has firm foundations and that the empirical data supporting this structure has high validity, particularly regarding its weight and warrant. I agree with both Esbjorn-Hargens (2016) and Marshall (2016a) who argue that CR's strength lies in its ontology and IT's strength lies in its epistemology. The respective strengths of each metatheory in CIR can be seen in the diagram below.

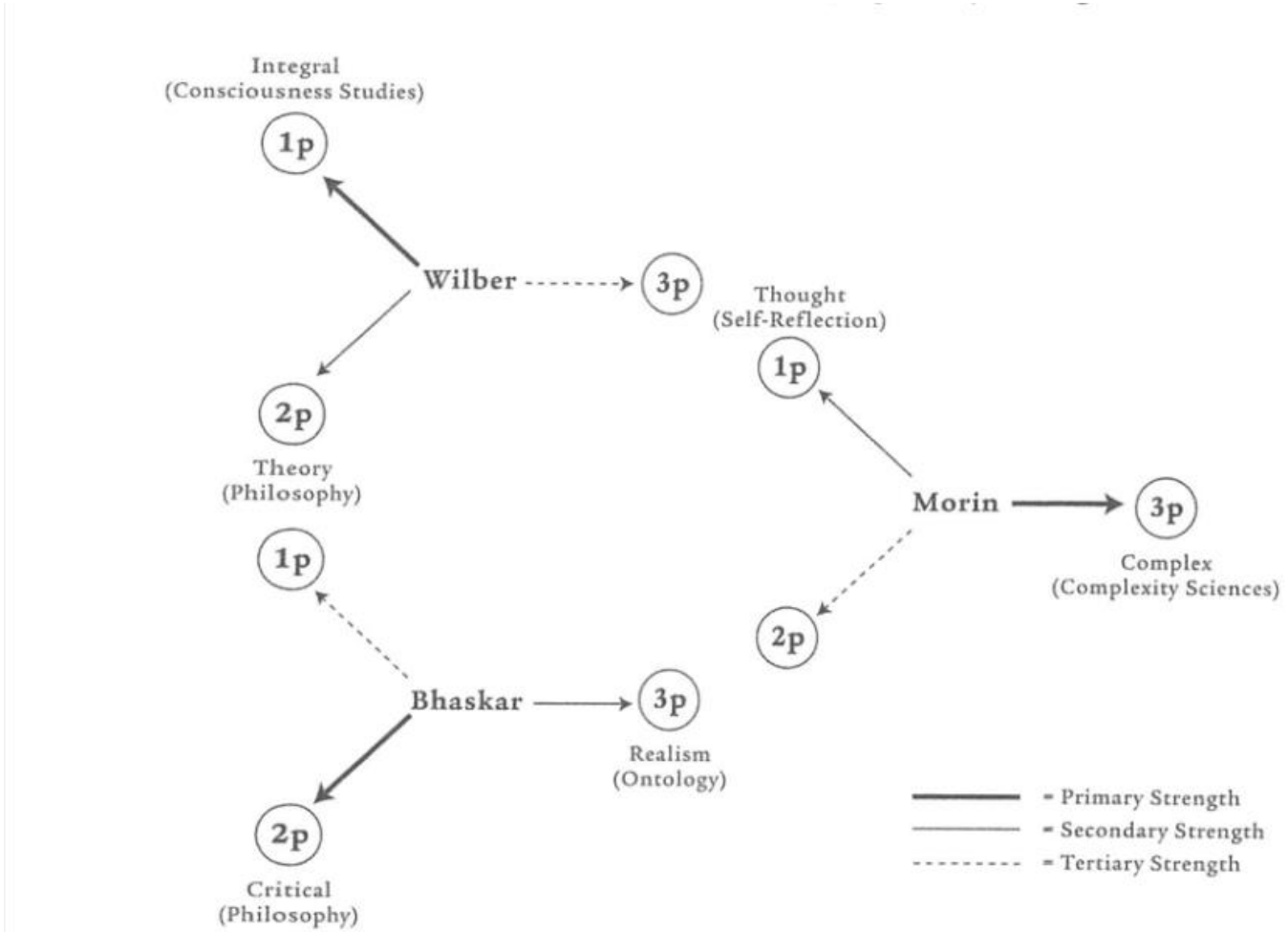


FIGURE 3 - COMPLEX INTEGRAL REALISM'S TRIALECTICS (ESBJORN-HAGANS, 2016)

Therefore, I believe that an effective integration of the two would serve the purposes of this research.

Finally, both Gebser (1985) and Wilber (2006) argue that as a new 'integral' structure of consciousness emerges there is an ethical responsibility to ensure that its foundations are being laid down in a conscious, deliberate and responsible manner. So, this philosophical under-labouring not only serves a practical function, but there is also an ethical dimension integral to this endeavour.

3.2 My Philosophical Position

The following explication will move in a recursive fashion revisiting and expanding on the methodology and model of affective axiological orientation centring on ontology and epistemology. This is a movement from the higher, abstract and theoretical towards the lower, concrete and empirical. This recursive movement is a feature of CT, IT and CR, as well as the integral worldview (Gebser, 1985; Maxwell, 2017). There is also a fractal-holographic feature of reality seen from this integral worldview as patterns can be discerned across different scales (Maxwell, 2017). This will be seen not only in the model to be developed and produced in this dissertation, but also in the process of its formation.

I will begin with my philosophical position regarding ontology, epistemology, judgemental rationality and axiology. Nicolescu (2002), argues that axiology is not needed as a separate pillar for transdisciplinary work. However, I agree with McGregor (2011) that there are strong arguments for its inclusion, particularly as "values provide an axis of orientation for our lives" (Cicovacki, 2009, p. 13) and form a steering function in peoples' cognitive processes (Burger and Kamber, 2003). As my model is based on this insight, it seems pertinent to include it methodologically. In addition, as the concept of development is a thick concept, as it contains evaluative assumptions (Stein, 2020), it is necessary to make these value explicit.

Following Morin (2008), the processes involved in this research have been guided more by *strategy*, as opposed to a *program*, and I have sought to include a modicum of autobiographical contribution throughout to not only position myself as a researcher, something all integral theories include, but to also as a process of "reflection on the

interactional and non-linear dimension of learning" which "bind" me, as researcher, to the phenomena being studied, the theories I borrow or create, and to the ways of knowing I participate in (Alhadeff-Jones, 2009, p. 68).

In crafting this process of research I have drawn upon Alhadeff-Jones's (2013) three moments as a method of personal reflection upon the identification, development, contextualisation and processional movement of four sub-systems: author, system of ideas, object of study, and method, aspects of which will be referred to throughout. A more detailed exposition of this process can be found in Appendix A.

While I will be attempting an integration of all three meta-theories for my meta-theoretical methodology, I will not be attempting to integrate all aspects of them. Such an endeavour is outside the scope of this research. I will only draw upon key concepts derived from each meta-theory for the practical purposes of investigating the subject matter under consideration and in developing a model of affective axiological orientation and education. This practical, tool-kit approach is promoted by all three meta-theorists as well as many transdisciplinarians and metatheoreticians (Barker et al., 2023). However, following Wilber (2006), I view the need to be *integral* as including fundamental perspectives that cannot be ignored or excluded. I will designate all of the metatheories, including transdisciplinarity and metamodernism, *integral* for ease of reference as they contain and express concepts and perspectives described by Gebser (1985), Maxwell (2017) and Johnson (2019).

3.2.1 The Primacy of Ontology

All integral meta-theories highlight the need to first remedy the separation and dissociation between subject and object and view this separation as one of, if not *the*, primary cause of many of the problems affecting philosophical discourse and the modern world (Anderson, 2019, Bhaskar and Hartwig, 2016, Gebser, 1985, Josephson-Storm, 2021, Morin, 2008, Nicolescu, 2010, Wilber, 2000). All provide solutions to this and during reflections on my own spiritual beliefs, theoretical study and speculation I have come to adopt an evolutionary panentheistic, or panexperientialist position similar to Wilber (2006), Whitehead (1979), Segall (2021), and Marshall's (2016a) own position in his CIR. Whitehead (1979), Wilber (2000) and Segall (2021) argue that interiority 'goes all the way down' to the smallest sub-atomic

particle. Whitehead uses the term ‘prehension’ to describe this kind of rudimentary interiority, which is also used in Wilber’s (2006) AQAL framework in the Four Quadrants (4Q):

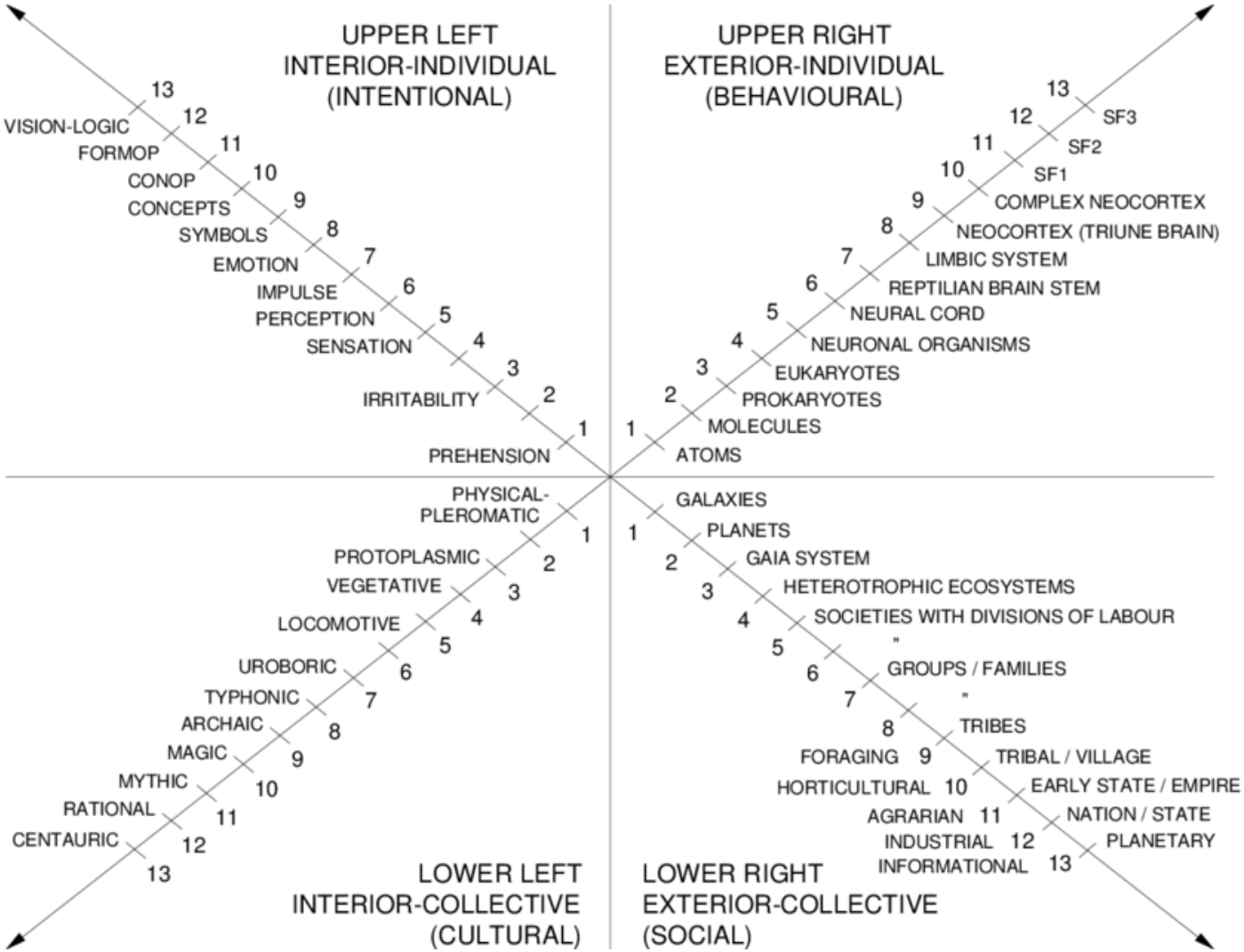


FIGURE 4 - THE FOUR QUADRANTS (WILBER, 2000)

Segall (2021) argues that many of the recent findings of quantum mechanics support this position, and this is resonant with Geber's (1985) notion of 'ever-present origin' (Johnson, 2019). However, unlike Wilber, I agree with Bhaskar (2008) in his assertion of the primacy of ontology over epistemology and that the former over-reaches and includes the latter. In Wilber's position, the tetra-arising nature of emergence in the 4Q gives primacy to epistemology over ontology. Hedlund argues that "maintaining the primacy of epistemology (and methodology) over ontology is closely connected to IT's postmetaphysical attempt to jettison ontology or metaphysics in its precritical or dogmatic form" (2019, p. 262). Despite Wilber's (2019) argument to the contrary, I find his rebuttals unconvincing, particularly as they seem to champion an "ontology of the phenomenal" (Hedlund, 2019, p. 264). I find Bhaskar's (2016) transcendental argument on the primacy of ontology convincing and that Hartwig (2016) is correct in his criticisms of Wilber (2006) in leaving this form of argument out of his post-metaphysical philosophy. Not only are Wilber's rebuttals *about something*, indicating the primacy of ontology, but his recourse to the findings of developmental psychology as a means of defending his position actually indicates the opposite, as I hope to explain below. As Hedlund argues, "the ontological reality and existence of a mind-independent object-world… must be presupposed, on a philosophically a priori level, if a posteriori science is to be intelligible at all" (2019, p. 269). Therefore, Wilber "appears unaware of the *performative contraction* undergirding this so-called postmetaphysical position" (2019, p. 278, original emphasis).

The primacy of consciousness in IT often has unintended consequences in practice, leading to charges of idealism, elevationism and elitism as many followers of IT seem to ignore or discount the importance of social ontologies (Dillard, 2017), an issue I also find in McIntosh's (2020) developmental politics. Cabot (2019) argues that IT also tends towards ontological monism as a result of the emphasis on nonduality at the heart of the evolutionary panentheistic or panpsychist approach of IT. However, following Murray (2016), I do not believe that this is a totalising and catastrophic error in relation to the possibility of integration with other meta-theories. Cabot (2019) draws upon Esbjorn-Hargens' (2010) integral ontological pluralism that I find compatible with Bhaskar's (2008) stratified and differentiated ontology, explored below. As Hedlund states in his criticism of IT's notion of enactment, "there seems to be an implicit presupposition and thus implicit concession of the

ontological existence or reality of at least one object – that is, the being engaged in the process of enactment" (2019, p. 277).

Wilber's IT also gives priority to the individual, as "only individual holons have or *possess* 4 quadrants" (Wilber, 2006, p.253, original emphasis), a focus which Hartwig (2016) also highlights as being problematic. This is an issue that first led me to CR and then onto CT to find conceptual tools to ameliorate and compensate for this bias. I had initially begun by doctoral research with a focus on emotion and ego development, following my previous use of IT (Botham, 2013). However, such a focus could not be sustained following my engagement with the literature, particularly due to its individualistic bias. This seems to be a hangover from modernity (Josephson-Storm, 2021, Tarnas, 2010). I hope the rationale for this will become clearer in my explication of the model itself.

This leads me to a deeper and more comprehensive explication of my position on ontology. While it is important to justify what I, as researcher, am *for*, it is also just as important to state what I am *against*. With that done, I will now move onto my position, thrown as we all are into the world that is stratified ontologically.

3.2.2 Towards a Complex Integral Realist Ontology and Epistemology

Segall (2021) offers a different take on Whitehead (1979) than Wilber and places realism at the heart of his philosophy of organism, particularly with its rootedness in temporal experience that aims to "provide a more coherent account of living experience than that offered by scientific materialism or transcendental phenomenology" (2017, p. 48). As Segall explains:

> "Experience, as Whitehead re-imagines it, is constituted by *interrelated events*. The ontology of an event cannot be captured by the mental representation of material things or structures; rather, Whitehead's process-relational ontology replaces the mediational framework of substance dualism and mental representation with novel concepts of processual polarity and prehensive unification. Mind and matter are thus not conceived of as separate substances but as poles in dynamic tension with one

another, each one contributing to the unification of every actual occasion of experience in the creative advance of nature" (2017, p. 46)

I hope to rescue interiority from the epistemic fallacy by positioning myself within this panexperientialist framework, yet also affirm my commitment to ontology by emphasising the interrelated "democracy of fellow creatures" (Whitehead, 1979, p. 50) who form a "choreography of coexistence" (Maturana and Varela, 1992, p. 248). It is the dance of life into which we are *thrown*, to use Bhaskar's (2016) term.

In the spirit of a metamodern 'fuzzy', both/and approach, and in line with my axial orientation for an affective judgemental rationality using embodied relational metaphor (explained below), IT's developmental epistemology will be ontologised, and CR's ontology will be epistemologised[8]. This involves two stages, respectively.

[8] It is interesting to note that CR almost accepts transitive epistemology as a "given", while IT implicitly accepts absence and negation within its implicit ontology of the development of consciousness. However, it is monovalent as it's 'transcend and include' does not account for malfunction and deformity (there is a positive, upwards deterministic feel to most of Wilber's writing, with the exception of his integral psychology (Wilber, 1999), and the deep structures themselves are treated as a transfactual ontology. They are clearly not a perspective as Wilber claims all "objects" are.

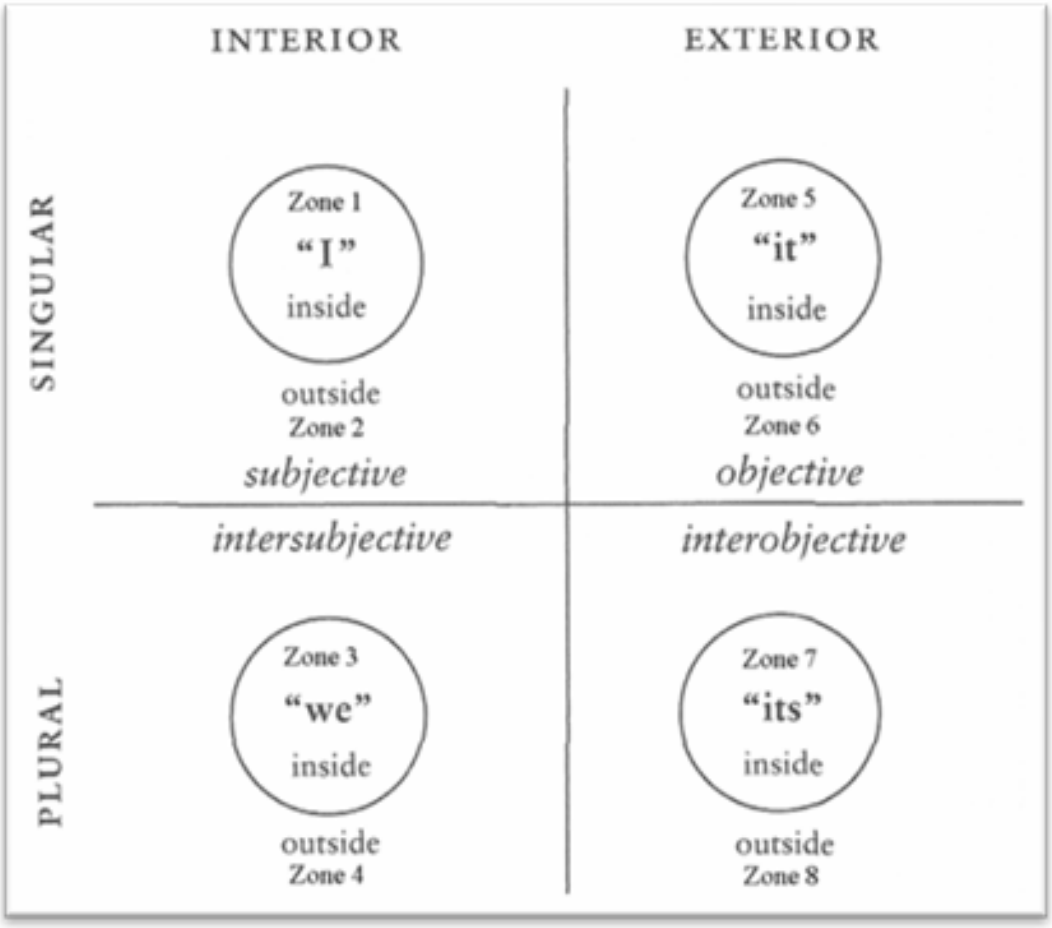


FIGURE 5 - THE EIGHT ZONES (WILBER, 2006)

Firstly, those developmental perspectives disclosed in IT's developmental framework (UL, Zone 2 in the AQAL framework) arise or emerge out of ontological substrates, i.e., the perspectival *centre of gravity* (epistemology, Bhaskar's transitive dimension) is looking out of or through the previous stages of development or emergence (ontology, Bhaskar's intransitive dimension). As can be seen in Wilber's (2000) 20 tenets, integral psychology (1999) and Bhaskar's (2016) concept of 'embodied personality', higher levels of emergence are predicated on the lower but are not explained or completely determined by them. This speaks to the notion that, as far as I am willing to contend with for the purposes of this research, all perspectives are first and foremost embodied perspectives. Therefore, they are ontological. I agree with Hartwig (2016) in his assertion that Wilber commits the epistemic fallacy in his exposition of IT, as he states "all real objects are first and foremost perspectives. NOT "are seen from perspectives", but "ARE perspectives."" (Wilber, 2006, p. 252). This is

clearly a reduction of ontology to epistemology. He also states that "everything from ecosystems to atoms simply *cannot be found* at infrared, magenta, red or amber [his names for the different stages of development]. They started to be disclosed, or exist, only from orange to turquoise, and thus... exist only at an **altitude** of turquoise or higher" (Wilber, 2006, p. 252, original emphasis). Hartwig (2016) presents a detailed and comprehensive argument from a critical realist perspective that, in my view, demonstrates why this philosophical position is untenable. However, Wilber's (1999) model of ego development in his integral psychology and exposition of the levels of consciousness nested within a larger theory of everything (1996), still offers a stable, comprehensive and compelling theory of personal development (Stein, 2016), despite several limitations (Brys and Bokor, 2013).[9] It is an epistemological ontology in the sense that the possible individual perspectives (epistemology, Bhaskar's transitive dimension) are located within an intransitive ontology i.e., those developmental perspectives exist independently of the perceiver. Gebser's (1985) structures of consciousness are non-local, but structure individual perception. Bhaskar (2016) states that ontology over-reaches epistemology as even ideas and illusions have causal relations and so are 'real' in an ontological sense. Josephenson-Storm (2021) makes a similar claim from a metamodernist position. This, I argue, also applies to perspectives and I believe that the vast body of research on this bears this out. All of the different perspectives are grounded in the different structures of consciousness and are contained within Bhaskar's domain of the real. Events in consciousness and empirical data on those events point towards these structures, but are not identical with these structures and are not completely explained or exhausted by them. Both Esbjorn-Hargens (2016) and Marshall (2016b) argue that Wilber has an "implicit ontology", which can be found in his statement that "the Kosmic address [within Wilber's quadrivium] of both the perceiver and the perceived must be indicated in order to situate the existence of anything in the universe" (Wilber, 2006, p. 253). It is this that leads me to part ways with those who charge Wilber's IT with committing the epistemic fallacy and their consequent conclusion that IT is therefore incompatible with CR.

[9] Many of these criticisms relate to Wilber's treatment of religion and spirituality in relation to his integrative model of ego development and, as such, do not impact greatly on this research. However, some relate to his treatment of empirical research generally and the role of emotion. These criticisms will be addressed in the construction of my model below.

I aim to adopt a more metamodern, or "fuzzy" approach offered by Murray (2016) and Hampson and Rich-Tolsma (2013). It is this implicit ontology that leads me to believe a non-preservation synthesis is possible, particularly for the purposes of the present theoretical research. Murray states that "one can find moments within Wilber's and Bhaskar's work that support both ontological and epistemological positions" (2016, p. 274) and I agree with Molz that "an integrative impulse" is present in both metatheories (2016, p. 301). This, together with the emancipatory drives within each, still opens up the possibility for integration.

Secondly, CR's stratified ontological framework can be utilised as an ontological epistemology. The domains of the real, actual and empirical exist in an ontological sense, just as our ideas of them do too. Bhaskar's stratified ontology can be incorporated into an integral epistemology for investigating stratified phenomenon. If perspectives emerge developmentally out of an embodied self, the contours, form and content of the structures of consciousness within the domain of the real, while at times elusive, can be known through retroduction from actual events and empirical data, whilst not being exhausted by them. In both CR's and IT's model of the self, emotion is positioned between cognition or mind and the body. The interaction with, and relationship between, the mind, emotion and the body is complex, with a plethora of theoretical positions and empirical findings dominating the literature and discourse (Barrett et al., 2016). An integral epistemology based on a stratified ontology would be a prime method of investigating this field of research. An emotional event or experience may reside in the domain of the actual and have observations within the domain of the empirical, but retroduction into the real domain of generative mechanisms may not only involve a vertical axis of physio-bio-psycho structures but will also necessarily contain an engagement with structures of consciousness, or memetic value structures along a horizontal axis.

I do not believe that sentient holons tetra-arise (within the four quadrants) symmetrically. By this I mean *subject* and *object* do not emerge evenly. I believe that an integrated view of the evidence from numerous fields of research demonstrates that there is an asymmetrical *tilt* towards the right hand (objective) and lower (collective) two quadrants. Like Bhaskar (2016), I believe that we, as individuals, are *thrown* into the world and it is primarily our relationships with significant others, and our interactions with culture, social systems and our environment that dominate our subjective conscious experience and development. Agency, or power1

relations in CR, develops along with ego development. Cultural *centres of gravity* can pull us up or push us down, and we can be psychologically eviscerated by power2 master-slave-type relations[10] (CR), but it is only through upward transcendence and horizontal integration within individual and collective development that self-emancipation occurs. Bhaskar's (2016) Power1 and Power2 share an affinity with Wilber's (2006) emphasis on the importance of both vertical and horizontal growth and development. I believe both are mediated by emotional experience and that this process can not only be explicated, but it can and should form a central position with education.

3.3 A Complex Integral Realist Methodology

Having stated my philosophical position regarding the integration of CR and IT in relation to ontology and epistemology I will move on to briefly outline the 4 pillars of CIRT as a methodology (CIRM). As mentioned above, this is only a brief outline of the meta-theoretical positions adopted for a CIRT which will serve as the methodology in researching emotion and axiology and in developing a model of affective axiological orientation (AAO), as the model will progress in a recursive process moving from the abstract to the more concrete. There is also a fractal-holographic (Maxwell, 2017) relationship between ontology and epistemology that runs through the different stages of research. Once the meta-theoretical positions have been outlined here, the methodology will be expanded and developed in the application of the study of emotion, which will then be further embellished in a consideration of axiology to form a working model of AAO. The aim of CIRM is to develop the methodological tools needed to study the material, together with a justification for their use, as well as to ensure that the four biases identified by Marshall (2016) are overcome. For this purpose I will be making use of Esbjorn-Hagens' (2016) Metadisciplinary Framework (MF), Integral Pluralism Matrix (IPM) and Ontological Domains Lattice (ODL). These can be seen in the following diagram:

[10] This is Bhaskar's original term denoting relationships defined by domination and oppression. I recognise that some may find this term offensive but have included it to stay faithful to Bhaskar's original insight.

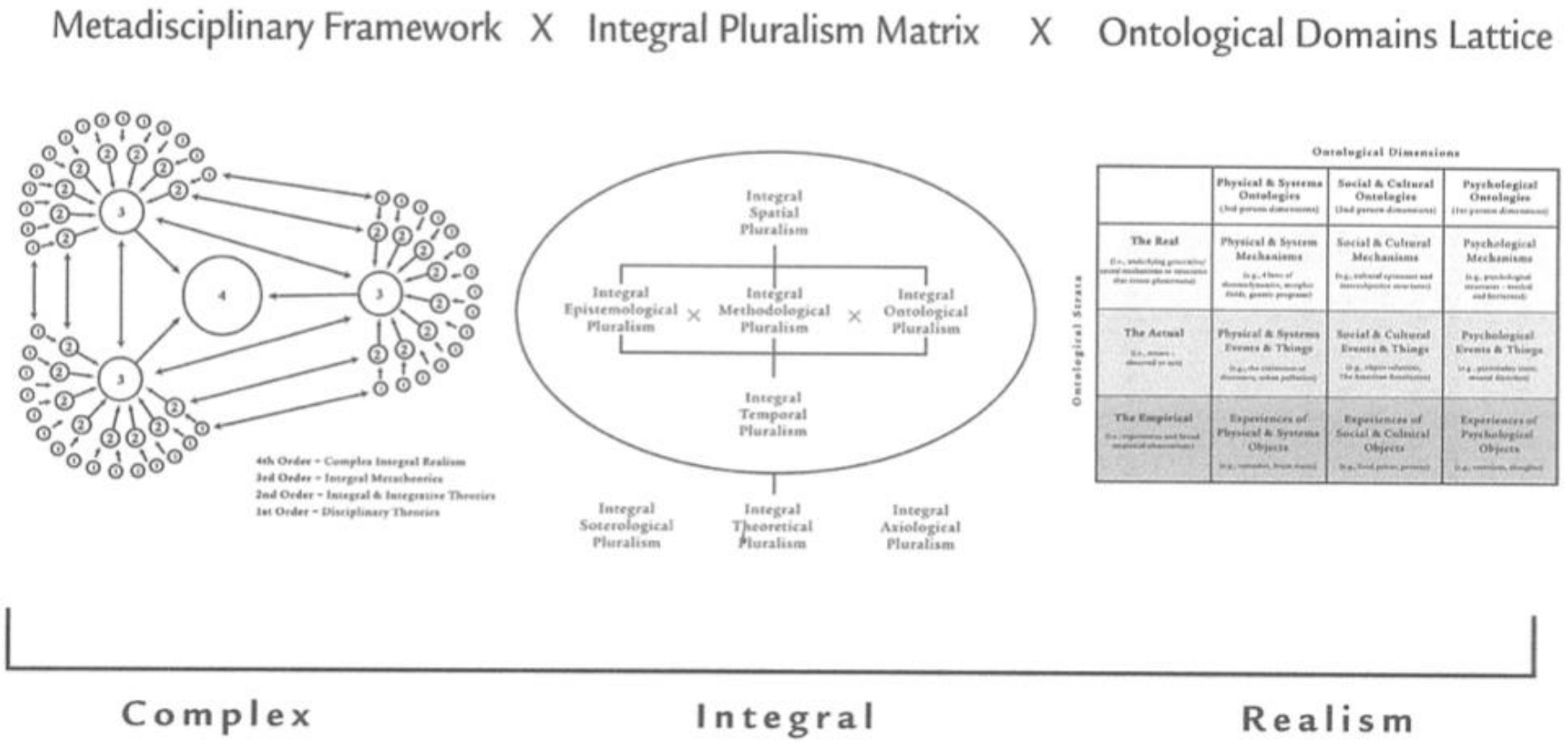


FIGURE 6 - THE ENACTMENT OF COMPLEX INTEGRAL REALISM (ESJORN-HAGENS, 2016)

The Metadisciplinary Framework and Integral Pluralism Matrix will be briefly explored here and the Ontological Domains Lattice will be explored in the following section on ontology. Firstly, the Metadisciplinary Framework will be utilised in a minimalist fashion. As mentioned above, it is not possible for me to explore all theories and related empirical studies pertaining to the areas under investigation. However, following the spirit of Integral Theory's AQAL framework, all four fundamental perspectives need to be included with representative theories brought into conversation with the aim of explicating and developing my model. This will be explained in relation to the diagram below.

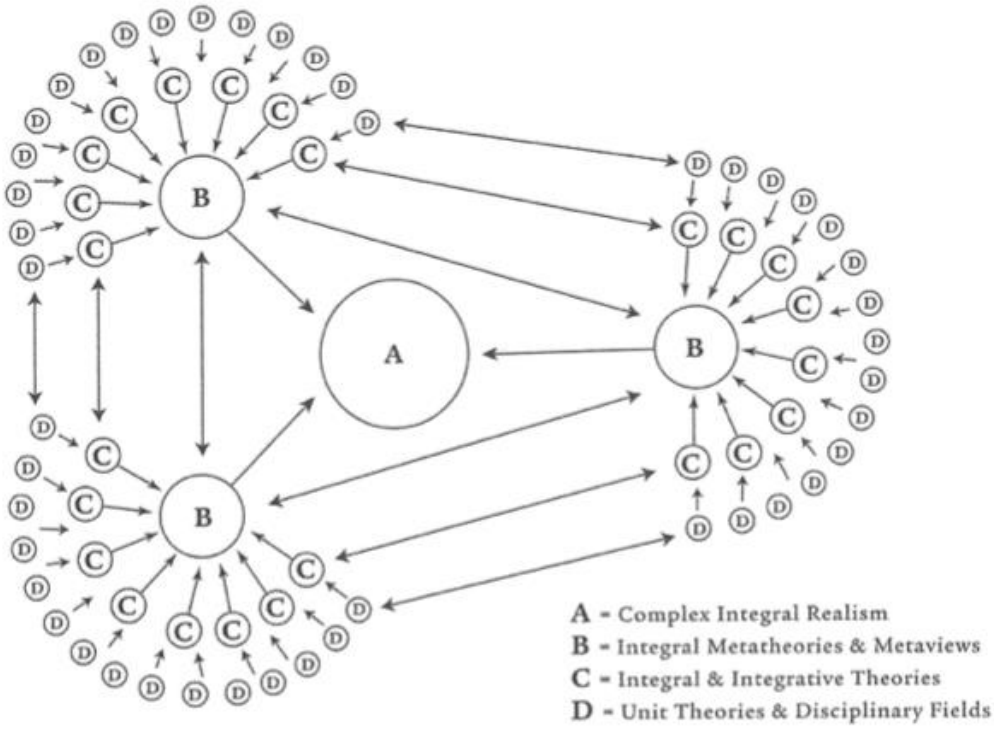


FIGURE 7 - COMPLEX INTEGRAL REALISM'S METADISCIPLINARY FRAMEWORK OF KNOWLEDGE INTEGRATION (ESBJORN-HAGENS, 2016)

As Esbjorn-Hagens (2016) notes, while each meta-theory (B in the diagram above) has a dominant strength in one area, it also has secondary and tertiary strengths. This also applies to many integral and integrative theories (C in the diagram above). For example, Sapolsky's (2017) work (which I would class as an example of C in the above diagram) is grounded in biology (Upper Right Quadrant in the 4Q), but makes use of theories and empirical studies across many other domains represented across the other four quadrants. Within this framework of knowledge integration, "theories from all three orders [B – D] interact in multiple ways (vertically and horizontally) to continually produce as synthetic a view of reality

as possible while still honouring the mystery and multiplicity of that reality which is always receding from conceptual, visual, and linguistic description" (Esbjorn-Hagens, 2016, p. 120). This notion of ontological recession will be briefly explored in the section on ontology.

3.4 Ontology

3.4.1 Towards a Complex Integral Realist Ontology: Stratification

All the integral theories considered thus far have some form of ontological stratification, levels of reality or developmental unfolding as a core feature. The notion of integrative levels as an organising principle has a long history with multiple theorists (Kleineberg, 2021), indicating the notion's validity. Here, Wilber's developmental epistemology will be ontologised in relation the 4Q and I will be developing Esbjorn-Hagens' (2016) ODL, as seen below.

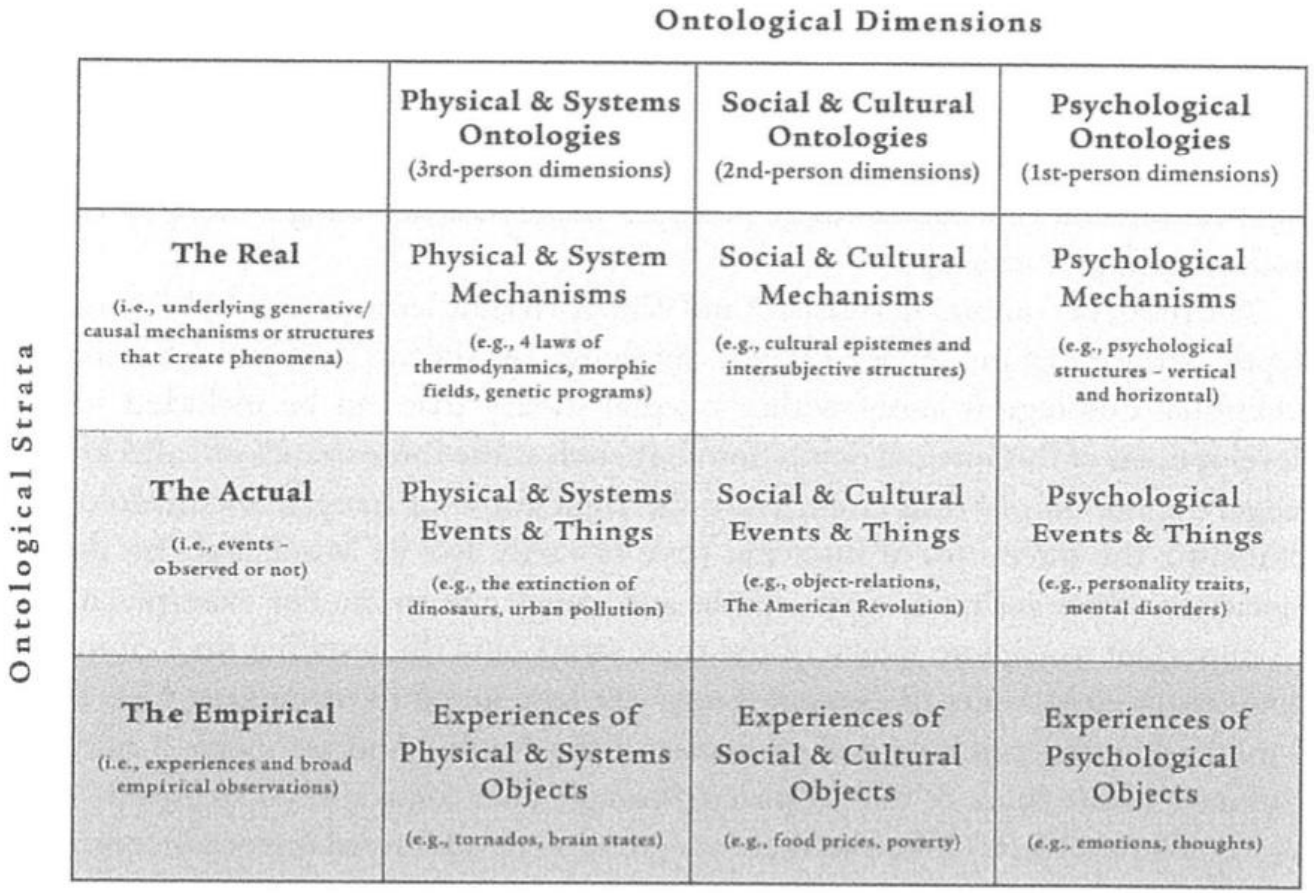


FIGURE 8 - THE ONTOLOGICAL DOMAINS LATTICE (ESBJORN-HAGENS, 2016)

The Ontological Domains Lattice combines Integral Theory's Big Three (I, We, It – a simpler version of the 4Q) with Critical Realism's ontological stratification. However, as mentioned previously, with the vindication and prioritisation of ontology, there is a temporal ontological tilt towards antecedence, in line with Bhaskar's (2016) notion that we are *thrown* into a pre-existing reality that is perpetually on-going. My ontologising of Integral Theory's developmental epistemology is similar to Esbjorn-Hargens (2016) in his creation of this lattice where he states "I am foregrounding 1st-, 2nd-, and 3rd-person *dimensions* (i.e., worldspaces) in contrast to 1st-, 2nd-, and 3rd-person *epistemological perspectives* (i.e., worldviews)" (2016, p. 128, original emphasis). However, for the purposes of this research, due primarily to the content under consideration, not only is there a local temporal ontological tilt towards antecedence, I will argue that there is also a non-local temporal ontological tilt towards antecedence. The first relates to an individuals' sense of *thrownness*. My interior will and inclinations are sculpted and directed by physical, cultural, social and psychological antecedents. This is a *tilt*, as I can move against the tide of antecedence, but the current is typically stronger than my will to change it. As Bhaskar states, "structure always pre-exists any round of human agency and the heavy weight of the presence of the past precludes any voluntarism" (2020, p. 116). Similarly, the second relates to all positive manifestation being sculpted and directed by the procession of ontological emergence in time. All of the metatheories and much of science is in agreement on the emergence first of matter, then life, then mind, with each being constrained and enabled by the former. Even from a panexperientialist position, 'organisms', in Whitehead's (1979) sense, can be found at each level/stage of emergence, but there is a directionality in processual emergence with earlier organisms forming the foundation of later, more complex organisms. Therefore, within the Ontological Domain Lattice, there is also a tilt towards the left. For example, I believe the embodied realism of Lakoff (1999) and Lakoff and Johnson (2003) indicates how our individual psychological mechanisms in relation to perceptions of language and meaning derive, in part, on our use of metaphor (cultural mechanisms), which in turn stem from physical mechanisms relating to our experience of space and time. Our orienting generalisations of 'up', 'higher' etc. are metaphoric and are grounded in our physical orientation according to the physical laws of gravity (Lakoff and Johnson, 2003). Even if these laws themselves evolved within an autodidactic universe (Alexander et al., 2021), emergence is still predicated on antecedence.

Esbjorn-Hargens (2016) notes an affinity between Integral Theory's 4Q, Critical Realism's four-planar social being and Complex Thought's computo-cogito loop. However, due to my philosophical position outlined above, I will treat CR's four-planar social being as having a primary strength in collective phenomena (lower quadrants) and IT's 4Q as having a primary strength in individual phenomena (upper quadrants).

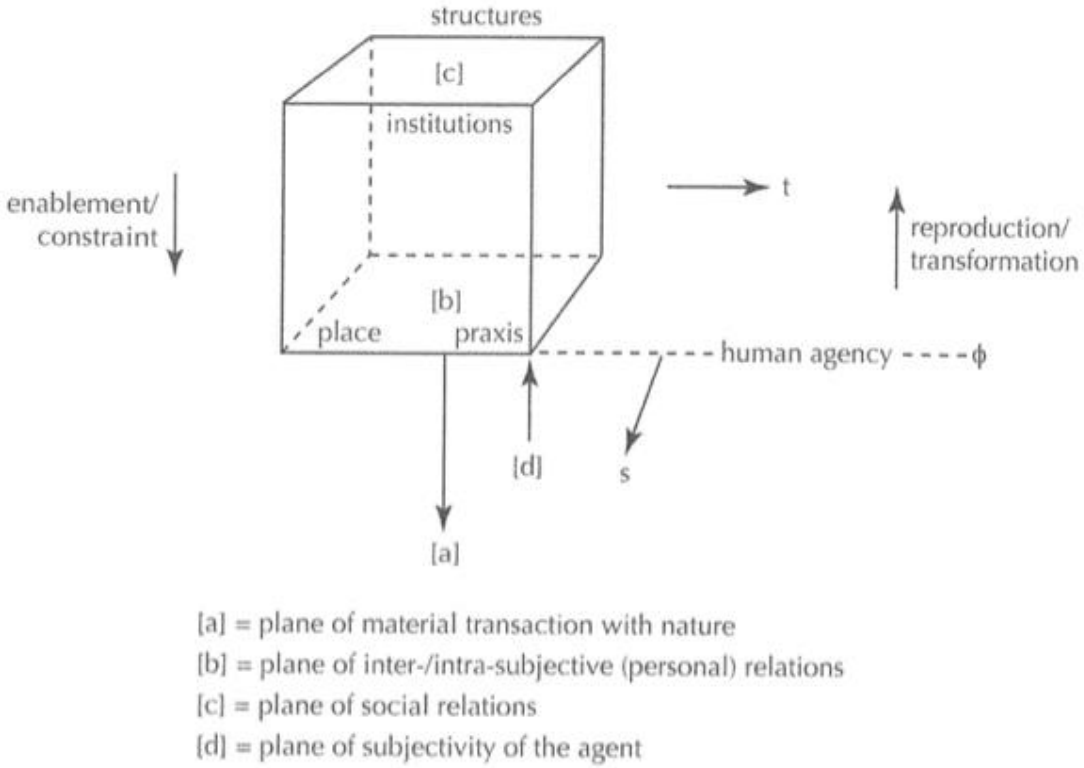


FIGURE 9 - BHASKAR'S FOUR-PLANAR SOCIAL BEING (BHASKAR, 2016)

3.4.2 NEGATIVITY AND ABSENCE

Dialectical Critical Realism (DCR) argues that "we must see each person as a concrete singular, that is as containing a universal element, but always and only in association with specific mediations or differentiations, a particular geohistorical trajectory and a unique irreducible singularity" (Bhaskar, 2020, p. 118). This research will focus on the boundary between what is universal, and the singular of human experience, particularly on the emergence of singularity. This entails an engagement with negativity and absence, and Bhaskar (2008) argues for the priority of the negative in two ways. First, he argues that processual transformation is predominantly a process of negation. According to Norrie,

> "What you see is *not* what you get, for processes of becoming, which transform and negate, reflect what is lacking in things. Processes of becoming respond to what is absent by absenting them. They *absent absences*, hence the overall sense of a negative process of negating a negation." (2010, p. 37 , original emphasis).

Secondly, Bhaskar proposes that "the positive is radically *constituted* by the negative qua formative process and the presence of the absent in the guise of the past and outside" means that

> "this apparent duality is dependent upon a negatively charged asymmetry, in which, especially if we employ a distanciated concept of spatio-temporality (so as to incorporate the dialectics of co-inclusion), so that there remains a negative in the positive in addition to a further negative residue or trace structure, an absent in a present, never co-identical with itself" (2008, p.241, original emphasis).

Norrie summarises the implications of this: "Product and process are irreducible and co-entailing, but absence is present in both. It is present in process since becoming is always a begoing, and in product because the dynamic of 'production' (the development of product-in-process) is one that is infected by what is lacking" (2010, p. 37). However, "change cannot be understood a priori, but it can be understood a posteriori, in terms of pre-existing structures and states of affairs, and social and natural potentials. The world thus imposes its own 'reality principle' on available possibilities" (2010, p.92). DCR thus entails "thinking of totalities as intra-actively changing embedded ensembles, constituted by their geo-histories (and/or their traces) and their contexts, in open potentially disjointed process… in structured open systemic flux" (Bhaskar, 2008, p.126). Totalities are thus subject to a form of holistic causality and through a process of retroduction or abduction, it may be possible to identify the multiple causal mechanisms in the domain of the real to explain events and their traces in empirical experience. However, it must be stressed that only tendenciality can be accounted for due to the priority of negativity, absence and the possibility of genuine freedom, change and emergence. This will remedy the presence and analytical biases identified by Marshall (2016a). Also, by hoping to account for a more genuine appreciation of human freedom and agency in including DCR's emphasis on human intentionality as a cause within a holistic view of causality, it will also remedy the exterior bias.

To revisit the ODL in light of the ontological stratification emphasised in the 4Q seen below,

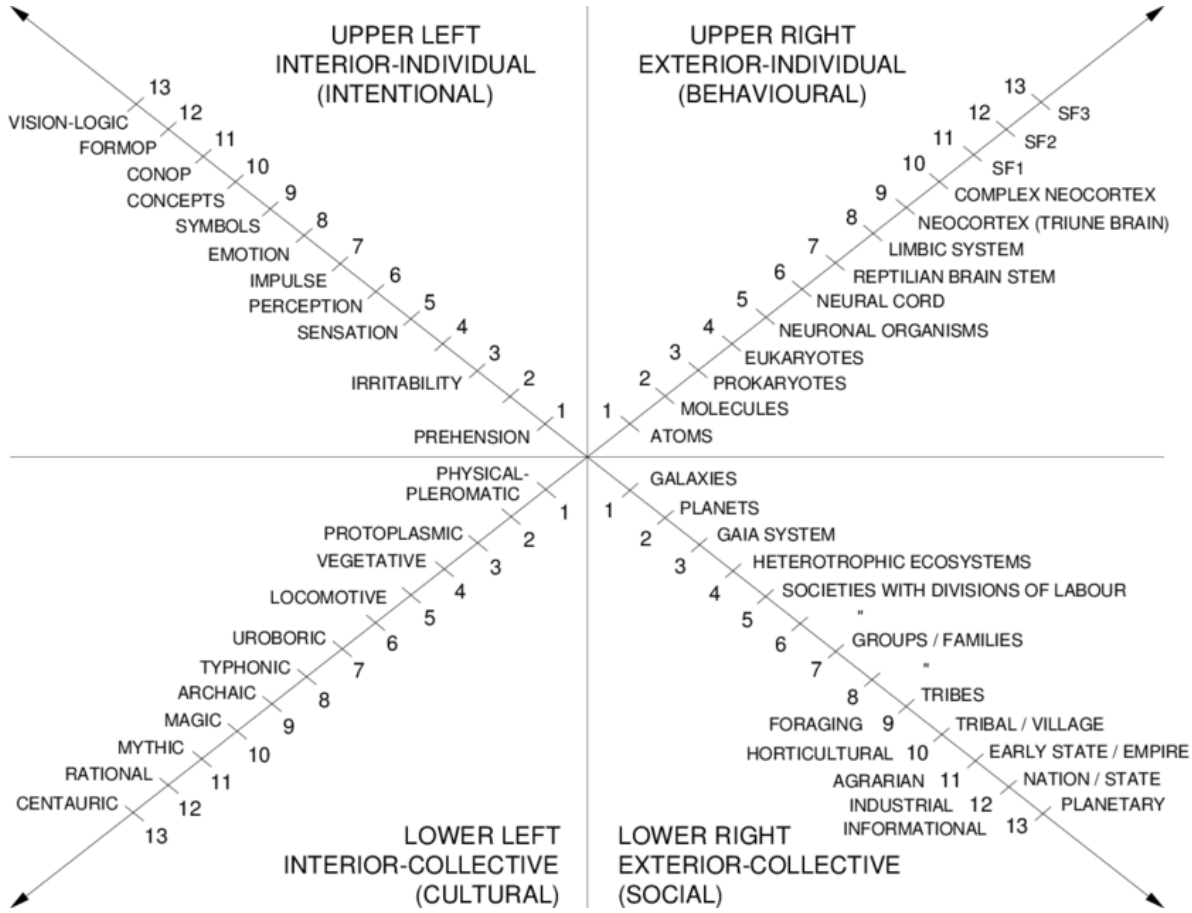


FIGURE 10 - WILBER'S FOUR QUADRANTS (WILBER, 1996)

if we consider the 4Q ontologically and choose a location, say position 8 UL (emotion), and view it epistemologically from Zone 2 in IMP (to be explored more in the section on epistemology) – essentially an individual considering their own emotion, and orient the 4Q multidimensionally as if position 8 were a vector within a tesseract, potentially all other positions across all 4Q could reside in the domain of the Real in the sense of being directly absent from sensory experience (empirical) when considering a subjective emotion (the event), yet they could potentially be an antecedental causal mechanism for the event (emotion) of which we have experience. Furthermore, the process of causation could take any/all of the routes expressed in Morin's (2008) three causalities: linear; feedback loop; recursive. This emphasises the significance of negativity/absence in a DCR sense. While the products of this process consist in events that may, or may not be open to experience, the causal mechanisms and routes of causation reside within the domain of the Real, and are

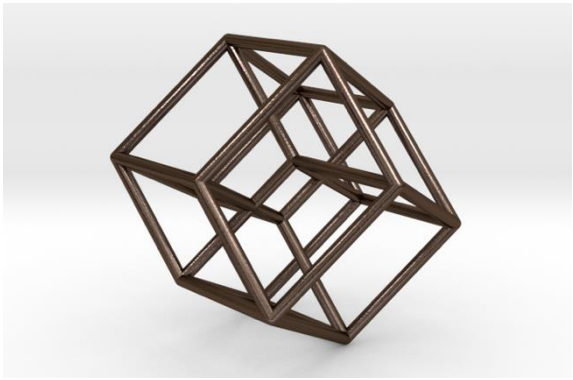


FIGURE 11 - A HYPERCUBE / TESSERACT

largely absent from the event. Furthermore, in terms of emergence, while the potential scope and affective potential of this emotion on those other Real ontological domains remains weak by comparison, the potential for affective impact on localised ontological emergence is stronger. This potential for further emergence also resides in the domain of negativity/absence. It too will inevitably become a causal mechanism as it unfolds in space and time. As a positive manifestation, it emerges from a sea of multidimensional negative causal mechanisms and relations across all 4Q and slips into antecedence within the very sea from which it emerged. It is the crest of a wave. However, human intentionality and agency also reside within the negative potential. These additions to the Ontological Domain Lattice will be referred to as the Multidimensional Ontological Domains Lattice (MODL). This will be explored further.

A brief note before moving onto epistemology regarding the role of negativity/absence in the research process. In drawing on Alhadeff-Jones's (2013) three moments of personal reflection in the research process, much of that is absent from this dissertation, yet it forms a causal matrix from which this research proceeds and is enacted. Representations of these processes are included in Appendix A.

3.4.3 Process and Change

Intimately connected to the notions of negativity/absence is the presence of process and change, both ontologically and epistemologically. Cabot (2019) offers a process-oriented critique of Integral Theory's evolutionary cosmology and advocates an interpretation based on Esbjorn-Hagens' (2010) integral ontological pluralism. Cabot identifies a "tendency towards ontological monism" (2019, p. 197) in relation to Integral Theory's ontologically given non-dual Spirit – the Who in Esbjorn-Hagens' 6Ws above. Wilber has, in effect, "slipped a subjective monism into his metaphysics" (Cabot, 2019, p. 199). He identifies the consequences of this:

> "The real is Spirit and the manifest realm is simply made up of emergent perspectives. This means that the content, manifest realm is relative, while the experiencer is absolute. Change is novative and trans-formative because there is always Absolute Subjectivity that remains constant and continuous" (Cabot, 2019, p. 205).

Furthermore, this means that Spirit is "ultimately responsible for all choice, and so change is actually superficial and novative/trans-formative. If the Who (given) is ontologically distinct from the Whats (enacted) then the Who and the Whats cannot be inter-related" (ibid., p.213). This is a further consequence of the epistemic fallacy explored above. I believe this problem[11] can be overcome by incorporating insights from CR and CT.

If was accept Critical Realism's holistic causality, which includes intentionality and agency, within an open totality, and include Morin's (2008) three causalities of linear, feedback loop and recursive causalities, and incorporate this into the MODL, we may have a more adequate account of process and change. Wilber (2000) develops his twenty tenets that he argues are core determining features of holons (whole/parts), many of which emphasise the open, interconnected nature of all phenomena. There is an affinity between some of them and Bhaskar's (2008) description of sub-totalities and partial totalities. Both emphasise the incomplete nature of emergence, process and change. Bhaskar incorporates process to the Hegelian triad of universality, particularity and singularity to get a "Bhaskarian 'four', or 'quaduplicity'" (Norrie, 2010, p. 114). However:

> "Since in his account of totality the future is open and subject to multiple determination in the structured plurality of partial totalities, the universal in its concreteness is subject to a multiplicity of determinations, and therefore becomes an open, 'multiple quadruplicity'" (Ibid.)

[11] In the spirit of transparency, although spirituality is not a primary feature or concern of the CIRT of AAO under construction, I believe it is important to state my position. In Smith's (2008) natural history of consciousness he speculates that non-dual experience may essentially be a boundary condition relative to our evolutionary capacity to experience the Divine, which may explain the monist, non-dual perception. I find this a compelling argument. Perhaps "eternity is in love with the productions of time" (Blake), "all is Divine" as Meister Eckhart believed, and that the manifest and unmanifest are consorts, like Shakti and Shiva in a Divine embrace beyond our comprehension.

This applies to both manifest and unmanifest phenomena and is analogous to Archer's (2017) notion of morphogenesis in explaining the relationship between structure and agency, Bhaskar's (2016) Transformational Model of Social Activity (TMSA), as well as Sheldrake's (2012) notion of morphic resonance. A similar relationship pertains to Gebser's (1985) structures of consciousness and their mutations. Essentially, local and non-local structures, as spatio-temporalising efficacious rhythmic stratifications, are also open systems, subject to change and subsist as holons or sub-totalities. However, these structures change over a longer expanse of time and are less influenced by singular and particular determinations, when compared with individual human agents. As the primary focus of this research is on individual, cultural and social human holons within a limited spacio-temporal horizon, I will be focusing on delineating which concrete universals, both internally and externally differentiated, structure affective experience and provide a conatus to change. With this in mind, such "totalities may be asymmetrically weighted', and it is an open, and presumably changing, question to be resolved by inquiry as to what degree the different elements enjoy autonomy or dominance in the whole" (Norrie, 2010, p. 94). This leads to the need for a judgemental rationality, discussed below following a discussion of epistemology.

However, before moving on to consider epistemology, a brief note on change and difference. Bhaskar (2008) argues for the irreducibility of both, but both are implicated in negativity and absence. Bhaskar (2008) and Norrie (2010) explore this differentiation in detail and the consequences of their conflation (monovalence, actualism and the epistemic fallacy). Norrie explains the significance of the distinction:

> "Intransitivity, the ontological separation of the referrer from the referent, is transcendentally necessary for discourse, and it relies on difference. This, however, is a state of being that is different from, even if it is connected with, change. Thus, while we may speak of differentiating changes and changing differences, it is important to see that at their heart, there are two categories here that must be analysed separately, and respected for their distinction" (2010, p. 163).

This distinction is particularly important in relation to education as, while producing difference in terms of unique, concrete singular individuals with their own unique powers and capacities is a noble goal, I argue that producing change is the ultimate goal of education. I

would further argue that deep change in terms of aiding in helping to manifest potential powers and capacities should be the primary goal. Difference and change could also be viewed in the light of Wilber's (2000) notions of horizontal translation and vertical transformation and their respective affinities. This will be explored further in the section on axiology and the matter of identifying the distinction between change and difference will be considered in the section on epistemology.

However, before moving on it is important to offer a metamodern critique of Critical Realism (CR) and Integral Theory (IT) on the notions of intransivity and 'Kosmic address', respectively. Josephenson-Storm (2021) criticises CR's notion of intransivity that equally applies to IT's notion of 'Kosmic address' as both notions imply a static ontological location. While both theories emphasise the notions of change and emergence elsewhere, CR's explicit and IT's implicit ontology both hold a residue of stasis that needs to be remedied. Instead, Josephenson-Storm argues that "a process social ontology suggests that the social world, just like theorizing about that world, is in a state of constant change, yet those transformations can be analysed" (2021, p. 104). To extend Wilber's (2006) metaphor of 'Kosmic address', which applies to both perceiver and the perceived (epistemological perspective and ontological referent), both addresses are mobile. So, the snapshot of reality is a representation of one mobile address taken by another. I will refer to 'Kosmic Mobile Address' (KMA) to include trajectory, historical traces and its complex systemic ensemble within the MODL, as well as its position in the AQAL framework.

3.4.4 HOLONS

Complex Thought "supposes and makes explicit an ontology that not only puts the accent on relation rather than on substance but also puts the accent on emergence and on interference, as constitutive phenomena of the object. There is not only a formal network of relations, there are ***realities***, but these are not essences, not of a single substance. They are rather composites, produced by systematic interplay, but at the same time endowed with a certain autonomy" (Morin, 2008, p.30, original emphasis). This illustrates Morin's (2008) dialogic principle. Many of Wilber's (2000) twenty tenets also highlight the relational aspect of holons, particularly tenet 10 on coevolution. Both Morin (2008) and Wilber (2000) emphasise the

dangers of holism/reductionism and instead of the classical either/or distinction recommend both/and, a movement also promoted in metamodernism (Josephson-Storm, 2021). This can be seen in Morin's (2008) holographic principle where the whole is in the part and the part is in the whole, a feature Maxwell (2017) argues can be seen across different scales as a fractal-holographic. Morin's principle of organisational recursion develops this insight in relation to a focus on the whole, "a process where the products and the effects are at the same time causes and producers of what produces them" (2008, p. 49). Both wholes and parts mutually exist simultaneously, but their whole/part circuit is polyrelational and involves elements, interrelations, organisation and the whole. However, in this circuit, "organisation plays a nuclearizing role with which we shall have to come to terms" (Morin, 2008, p.102). This character of complex systems is explained by Byrne and Callaghan as "a consequence of interactions: interactions of parts of the system with each other; interactions of parts of the system with the system as a whole; and interactions of the system with other systems with which it intersects, within which it is nested, and with which it may share interpenetrating components" (2014, p. 173).

Both Morin (2008) and Bhaskar (2016) emphasise the insufficiency of wholeness, as the wholes harbour divisions, splits, internal antagonisms and a multiplicity of scissions meaning they are always incomplete, thus highlighting their partiality. However, "such a system is a multiple totality, a polytotality", and "the idea of totality becomes all the more beautiful and rich the more it ceases being totalitarian, the more it becomes incapable of being self-enclosed, the more it becomes complex. It is more radiant in the polycentrism of relatively autonomous parts than in a globalism of the whole" (Morin, 2008, p.104).

Mingers states that "systems are stratified: that is, they form nested hierarchies" (2016, p. 37), which echoes and is consonant with the position above regarding a stratified ontology. Mingers (2016) also emphasises the importance of positive and negative feedback between systems and their components, which is absent from both IT and CR. Cilliers (2010, p. 8) – in Byrne and Callaghan, 2014, p. 64 – since interactions in complex systems are non-linear, they cannot be reduced. The removal of such relationships distorts our understanding and failure to acknowledge this creates errors which may be ethical as well as technical. However, we must reduce the complexity to say something about the system at all.

However, despite and because of this complexity, classification becomes more important. Byrne and Callaghan, building on the insights of Critical Realism and De Landa's (2006) notion of assemblages, argue that "a crucial component of the complexity methodological programme for us is precisely the classification of things – complex systems – into kinds as they stand at a point in time" (2014, p. 74). The polyrelationship within, without and between assemblages, together with the process of (re)organisation, is governed by their enactment, through movement within the fields of order and chaos.

3.4.5 Boundaries, Order and Chaos

Morin (2008) identifies a complex relationship between order, disorder, interaction and organisation that is at the heart of the processes of change, innovation and emergence. Morin (2008) refers to such dynamical systems as "self-eco-re-organizing systems" to illustrate this. Essentially the order that emerges out of disorder occurs with an open systems interaction with its environment, but increasing complexity is often accompanied by increasing levels of fluctuation. Once a capacity threshold is reached a critical bifurcation point emerges from which a system can move in any one of several directions until a new order is established, either as a higher form of organisation or as a return to a lower level. Similar patterns are found in developmental psychology (Kegan, 1982, Wilber, 1999). A phase space is used to describe the possible states of a system defined by the systems parameters, and a phase shift describes the swapping of one attractor within a phase space to another, which "represents evolutionary change, a change in kind, a metamorphosis" (Byrne and Callaghan, 2014, p.27).

Organisation, or wholeness as such, is always a process involving a relationship with changing parts. It is not something that is fixed and static: "the laws of organization of the living are not laws of equilibrium, but rather of disequilibrium, recovered or compensated, stabilized dynamics" (Morin, 2008, p. 11). The environment is always "at the same time intimate and foreign: it is a part of the system while remaining exterior to it" (ibid.). This resonates with Lickliter and Honeycutt's (2020) critique of preformationsim and the need for developmental science to move toward a dialectical and relational view of development. The whole, as a unit of analysis, is always already "uncertain because we can isolate it with great difficulty, and

can never truly close it off, a system from the system of systems of systems to which it is linked" (Morin, 2008, p. 103).

Boundaries are an event horizon between ontology and epistemology in that the boundary is "neither purely a function of our description, nor is it purely a natural thing" (Cilliers, 2011, p. 141). Essentially, this is to say that "we know systems by defining them in terms of boundaries but that reality has a voice in setting those boundaries and constrains our definition" (Byrne and Callaghan, 2014, p. 33). Murray makes a similar point regarding classification in IT as he warns against our "symbolic impulse", particularly in relation to state and stage phenomena in AQAL, as the "phenomena in question may more accurately be said to exist between categories, outside of them, or in more than one category" (2019, p. 318). Murray (2019) also reminds us of Whitehead's (1979) notion of "misplaced concreteness", just one of the many "epistemic drives", or tendencies of thought that influence what we perceive as true. Lakoff (1999) notes the amplification of this tendency the more abstract a concept becomes. This is a matter of epistemology which will be explored below.

A brief note on the importance of attractors and their relation to order, chaos, organisation, boundaries and wholeness before moving on to consider epistemology. I agree with Byrne and Callaghan that it is important in social science to deploy notions such as attractor and singularity in relation to "reality itself and not to an abstract set of algebras founded on deductive reasoning alone" (2014, p. 157). DeLanda discusses the role of singularities as representing the "inherent or intrinsic *long-term tendencies* of a system, the states of which the system will spontaneously tend to adopt in the long run as it is not constrained by other forces"(2006, p. 14 original emphasis). Within development, these attractors can be considered as being within and between individuals, and must be considered alongside the concept of emergence (Steenbeek and van Geert, 2020). I contend that these *long-term tendencies* of a system reflect internal coherence and constitute one of the ways in which a boundary can be drawn. These long-term tendencies can be the result of holistic causation from antecedence, as the push of history, and intentionality, but also as a pull as, and/or towards an attractor if the system falls within a basin of attraction. However, "attractors have to be calibrated by reference to others" (Byrne and Callaghan, 2014, p. 158). This is best understood with reference to what happens to ensembles of systems as they move through time:

> "If we think of multiple systems as in motion in a state space, then we have to consider that for organized complexity we will not have random locations of those systems within that state space, the disorganised complexity which can be handled by statistical mechanics. Instead the systems may occupy specific limited, *but multiple* domains within that state space. We can think of these domains as attractors and of the location of individual systems within them as a consequence of causal processes which have led to the location of those systems in that attractor at that time point. This allows us to conceptualize change in the system as involving relocation to another domain, another attractor, in the state space which describes all possible states for systems. That is a phase shift. Change is change of kind" (Byrne and Callaghan , 2014, p. 159, original emphasis).

As an individual system is a system of systems there could be multiple domains within the Multidimensional Ontological Domains Lattice (MODL) that influence the trajectory of each (sub)system. The push of holistic causation, including intentionality, and the pull of multiple attractions dictates the boundaries of a potential state space and the trajectory of the system. Too many antagonistic causes and/or attractors potentially leads to disorder, disintegration (partial or total), dispersion and chaos. However, if a dominant negentropic trajectory asserts itself, there is order, organised complexity and clearer boundaries. The position is referenced as the Kosmic Mobile Address (KMA) within the MODL.

A tendential directionality is a feature of all three metatheories and is a core feature of Marshall's (2016) axial vision which will be considered in more detail in the section on axiology. But first, now that I have outlined the ontological framework, I will turn to epistemology.

3.5 EPISTEMOLOGY

Pring (2015) argues that there is a false dualism in educational research between qualitative and quantitative methods with corresponding competing philosophical positions. In attempting to overcome the analytical, epistemological and exterior biases identified by Marshall (2016b), there is a practical reason to extirpate this false dualism. There are two other practical reasons for developing an epistemology based on Complex Integral Realist

Theory (CIRT). The second relates to its necessity in relation to the subject matter under consideration. As I noted previously, affect/emotion is a contested area of research and the relationship between it and values/axiology is under-theorised, particularly in relation to education. A robust epistemology is needed to adequately deal with this complexity. This will be considered next. Once this is outlined, a final practical need will be briefly explored in relation to the current crisis in science.

3.5.1 Towards a Complex Integral Realist Epistemology: Comprehensive Map-making

Both Marshall (2016a) and Esbjorn-Hagens (2016) argue that ITs core strength lies in its epistemological framework based on AQAL. With this in mind, AQAL will be my point of departure in developing a CIR epistemology (CIRE). AQAL stands for all quadrants, levels, lines, states and types, with the emphasis that all need to be considered for a basic, integrally orientated approach to knowledge production.

The eight major methodologies based on the 4 Quadrants (4Q) can be seen here:

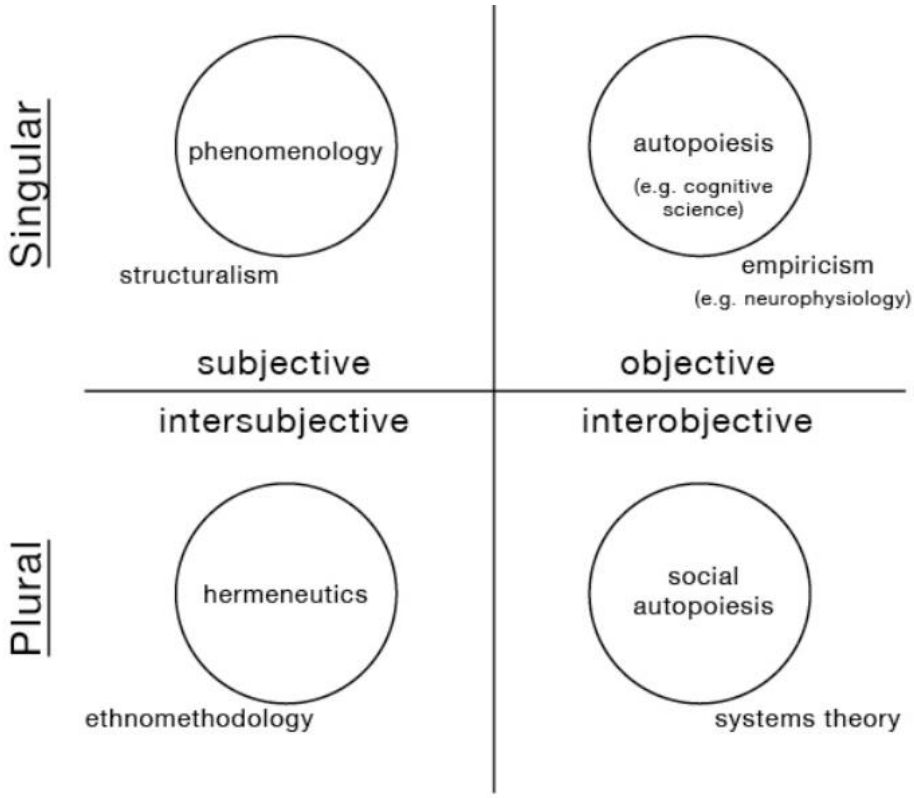


FIGURE 12 - 8 MAJOR METHODOLOGIES (WILBER, 2006)

Wilber (2000) argues that the 4Q provides four irreducible and necessary perspectives on a holon required for an integral approach. This is due to a holon existing in all 4Q. While a holon 'tetra-arises' across all 4Q in that it has correlates across all four ontological domains, as I have argued above with regard to ontological tilt, it will exist or subsist within a primary ontological domain. For example, my own emotional experience (Upper Left Quadrant) will be evident neurologically and possibly behaviourally (Upper Right Quadrant), be embedded within various internal and external environmental systems (Lower Right Quadrant), as well as culturally conditioned interpretations (Lower Left Quadrant) affecting the content of my experience (ULQ). Despite these differing perspectives, the uniqueness and personal intimacy of my experience as a concrete singularity is best captured with a suitable Upper Left Quadrant methodology. That said, if I consider my experience (empirical domain) as a representation of an on-going event that has holistic antecedent causation and attraction within the domain of the Real, to better understand this experience from an integral perspective I will enquire into the other epistemological domains within Wilber's (2006) Integral Methodological Pluralism to explore the event and inquire into potential causes within the domain of the Real. These potential causes may reside anywhere within the AQAL framework as an ontological referent.

While my subjective experience is unique, there are personal histories and concrete universals across all 4Q within the Multidimensional Ontological Domains Lattice that are potential causes of this experience, each ontologically weighted with a causal asymmetry along a gradation of processual manifestation pertaining to the assemblages of complex systems. This also means that any epistemological perspective is embodied (Lakoff and Johnson, 2003). Therefore it is also structured by causal mechanisms within the domain of the Real. It is always already situated, partial and therefore not neutral[12]. Mingers argues that Critical Realism does not pay enough attention to the role of the researcher in the transitive

[12] Epistemologically speaking, my perspective is always already limited and fallible, but I hope to contribute to knowledge production through this research that is open and transparent to aid in the on-going process of discovery and knowledge production within this emerging field. I have tried to make my own ontological position as explicit as possible throughout this research in the hope that any potential personal bias may be identified and compensated for by future research.

dimension and it is “the researcher(s) who, based on their own particular interests and predispositions, carve out the object of scientific enquiry by defining both the time frames and the boundaries of the investigation (the domain of the empirical)” (2016, p. 41). However, by exploring a domain from each of the 4Q, meaningful inferences may be derived and potential biases may be ameliorated.

As Complex Integral Realist Theory (CIRT) is my methodology, the 4Q, together with my on-going reflections (a brief outline of which is contain in Appendix A), is my primary method for selecting theories for consideration, particularly when exploring the literature on affect and emotion. To be comprehensive, or integral, I will try to accommodate as many epistemologies as possible. While the 8 methodologies outlined by Wilber (2006) would be preferable, space and expediency may only permit 4. However, this selection will also incorporate Esbjorn-Hagens’ (2016) Metadisciplinary Framework (MF) in identifying ‘integral’ theories within each field of enquiry, as well as ‘unit’ theories.

In addition, I will incorporate Wilber’s (2006) Developmental Epistemology (DE) where appropriate in cases where perspectives differ in order to best analyse the weight and warrant of their respective validity claims. By way of illustration, and further under-scoring the non-linear nature of this research, there are perspectives in the field of the psychology of emotion that view emotion as an objective, universal, empirically verifiable physiological pattern of arousal. This would correspond with a 3rd person perspective (3pp) in Wilber’s (2006) DE. However, there are also constructivist perspectives (Barrett, 2017) that view emotion as relative, culturally situated, and linguistically conditioned. This would correspond with a 4th person perspective (4pp). Analysing and assessing the validity claims of these epistemologies with a view towards integrating their insights would require a 5th person (or integral) perspective. This would be coherent with Basseches and Brandao’s notion of *epistemic adequacy* in that it is able to resolve contradictions and conflicts within and among the evolving outputs of technical, historical-hermeneutic, and critical forms of enquiry’ (2020, p. 71). This is a core aim of Complex Integral Realist Epistemology and reflects 3pp, 4pp and my own self-reflections (1pp) respectively. There is also a 2nd person perspective (2pp) that values traditional sources of authority within each field and would roughly correspond to a lineage of personal authorities or *received wisdom* within each field. This will also need to be considered.

3.6 Research Design

The over-arching research design is that of exploration as it is well suited to making a tentative, first analysis or foray into a new area (Swedberg, 2020). Despite having a long history and having a close affinity with theorising (Swedberg, 2020), it is a neglected research design (Stebbins, 2001), evidenced by its omission in *Bryman's Social Research Methods* (Clark et al., 2021). However, as it incorporates many aspects of dialectics and positionality, as well as being a means to increase the *conceptual tool box* (Reiter, 2017), it seems the most suitable design for the purposes of this research.

This following process will involve 3 stages:

1. Iterative reflections upon the ontological assumptions outlined above, particularly with regard to the stratified nature of reality, the primacy of negativity, process and change, and the accent on the complexity of boundary formation. This is also connected with the *three moments* in Alhadeff-Jones (2013) and emphasises the importance of including the subject (me) in the research process. Most of this reflection is contained in Appendix A.
2. Once the primary ontological domain has been preliminarily identified, there will be a focus on a *strategy*, rather than a *program* (Morin, 2008) in exploration. As I am already familiar with much of the literature on affect and emotion, as well as the literature on ego development, the following two chapters will consist in exploring each domain using the epistemology outlined above, informed by my ontological assumptions and guided by the axiology outlined below. With a view towards *epistemic adequacy* (Basseches and Brandão, 2020), each epistemology will be evaluated following the standard quality criteria in social research (Clark et al., 2021), with reference to the coherence and correspondence theories of truth (Walker, 2017). These types of truth correspond to Left-Hand Quadrants (LHQ) and Right-Hand Quadrants (RHQ), respectively, in Wilber's 4Q. The chapter on values will proceed with a literature review as I am unfamiliar with the peer-reviewed literature in this domain, particularly in relation to education. Following this, it will proceed

with the same method of evaluation. All chapters will end with a tentative summary of the model thus far utilizing the judgemental rationality, to be outlined below.

3. Once 2 has been completed with respect to the ontological domains of affect and emotion, ego development and value, a further iteration of this process will be conducted with a view towards synthesising the findings of both to create a model of Affective Axiological Orientation with a focus on education. Morin (2008) sets out three stages in developing an epistemology for complexity using an analogy of creating a tapestry: "the whole is at the same time more and less than the sum of its parts. The tapestry itself is perceptible and knowable phenomena that cannot be explained by any simple law" (2008, p.60). The final model of AAO will be an incomplete, but hopefully useful, partial totality.

3.6.1 Science on the Verge

The final practical consideration to be considered before moving onto developing a judgemental rationality relates to the current crisis in science. Bhaskar (2008, 2016) identifies an irrealist ensemble of actualism, ontological monovalence and the epistemic fallacy that plague modern science. These were explored and applied in chapter three in relation to their potential impact on modern education in the UK. However, Bhaskar argues that "even false beliefs and illusions" can be "causally efficacious" (2016, p. 78) and that this also applies to research. In revisiting Esbjorn-Hagens' (2016) 6Ws framework, the Where and When of this research also coincides with a crisis in science that needs to be considered from a practical position in light of the CIRE outlined above, both in terms of the need for it to counter this irrealism to ensure the ontology is explicated accurately or truthfully, and also to be aware of the fallibility of empirical science.

Benessia et al. explore the "rightful place of science" in light of numerous criticisms that indicate "the worrisome, in some ways even terrifying state of affairs in science" (2016, p. iii). It will not be possible to outline all of the criticisms and their implications, but I will briefly discuss a few as they might pertain to this research which highlight the uncertainty of scientific claims. Taleb (2018) condemns what he sees as an attempt to "Platonify" science in a conscious act of hypocognition (Wu and Dunning, 2018). Similarly, Saltelli and Giampietro

(2017) draw upon Rayner's (2012) notion of "socially constructed ignorance": a failure of individual and institutional sense-making, which they argue is at the heart of a wide range of evidence-based policy mechanisms governing the production of scientific knowledge.

With reference to Feynman's (1974) notion of "cargo cult science", Saltilli and Giampietro argue that "we are dealing with an inextricable confusion of physical, biological, social and ethical issues" and "in spite of frenetic activity and all good intentions in the world, "planes don't land" (2016, p. 62). This, I believe, is in reference to the need for certainty and an objectivity founded on the irrealist ensemble noted by Bhaskar, that simply fails to "land". This could be due to fraud, which contaminates multiple fields of research and is a cause for the retraction of scientific papers [13], and/or could be due to the 'publish or perish' phenomenon [14], and/or a lack of research integrity (De Vrieze, 2021). There is also the 'reproducibility crisis' affecting multiple fields (Baker, 2016). Ioannidis goes so far as to say that "simulations show that for most study designs and settings, it is more likely for a research claim to be false than true. Moreover, for many current scientific fields, claimed research findings may often be simply accurate measures of the prevailing bias" (2005, p. 696).

To counter this, Funtowicz and Ravetz (2008b) argue for a 'post-normal science' which is needed where decisions are urgent, the stakes are high and values are in dispute. I argue that a CIRT could fulfil this requirement, particularly as it aims to deal with the complexity of doing post-normal science and its inclusion, and accommodation of, uncertainty. To do this involves a complex relationship between ontology and epistemology, a form of judgemental rationality.

3.7 Judgemental Rationality

The evaluation of diverse and often competing claims about the world and the fundamental relationship between ontology and epistemology entails a process of judgemental rationality. The intransitive world serves as the basis for the exercise of judgemental rationality while

[13] See https://retractionwatch.com/ (accessed 24.7.23)

[14] https://en.wikipedia.org/wiki/Publish_or_perish (accessed 24.7.23)

epistemic relativism offers the rationale and necessity. Rutzou (2016) sets out some criteria of Judgemental Rationality (RJ) from a CR position with reference to Sayer's (2010) appeal to "practical adequacy". He refers to a "triple dialectic or triple hermeneutic between question of ontology (or reality), practice (activity) and epistemology (conceptuality), without collapsing one into the other" (Rutzou, 2016).

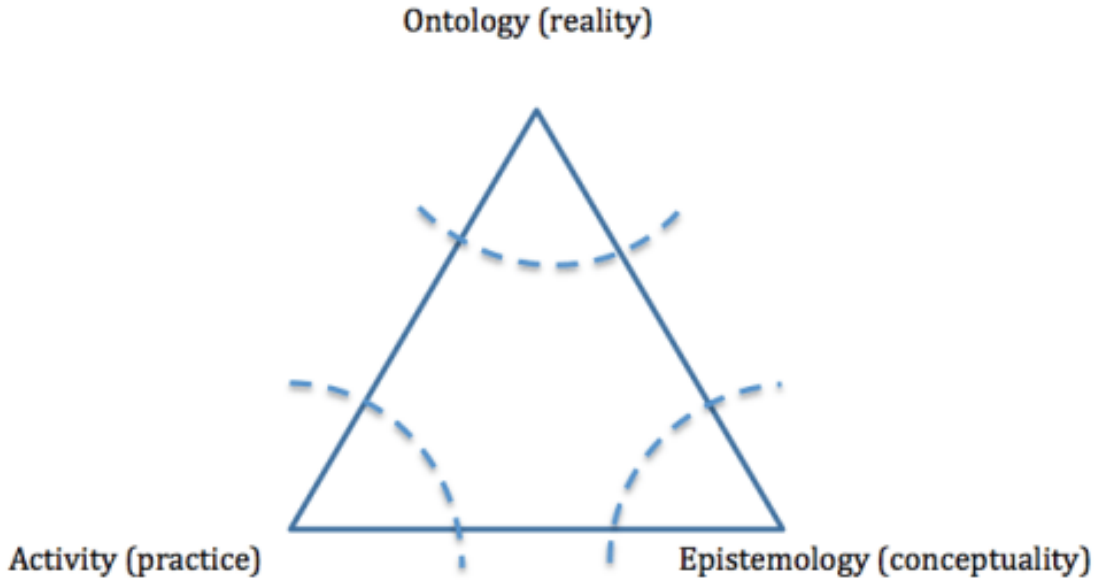


FIGURE 13: JUDGEMENTAL RATIONALITY (RUTZOU, 2016)

Defining the/a boundary of a complex system is itself complex and observer-dependent (Mingers, 2016). This is because "in general, systems can be conceptualised in different ways, generating different boundaries; and the components of a system may be parts of multiple systems" (ibid, p. 61). Following Alhedeff-Jones' (2013) 'three moments', 'system' can include all three references in Rutzou's (2016) diagram above, with each co-constructing all with each iteration. The system is both a phantom and pilot concept (Morin, 2008, p. 107) in this sense. This is an "inquiry into the relation, both hidden and extraordinary, between the organisation of knowledge and the knowledge of organisation" (Morin, 2008, p.109). That said, it does not slide into naïve realism and epistemic relativism: the plurality of perspectives, often with competing epistemic claims, need to be evaluated and assessed, but also integrated.

In Alhadeff-Jones' "moment 3" he argues that embracing "all… methodological dimensions is an impossible task" and that it becomes "crucial to adopt a strategic position and decide,

based on the contingencies, what are the best ways to navigate through those layers" (2013, p. 41). Following Morin (2008), he goes on to suggest that this is mainly a strategic activity and is "mostly a matter of experience" as it "requires… one to be able to tolerate and negotiate uncertainty and unpredictability throughout the research process" (ibid.). It is also a matter of personal choice and:

> "there is always, therefore, something uncertain or arbitrary in the extraction, isolation, and definition of a system: there is always a decision and choice, which introduces the category of the subject into the concept of system" (Morin, 2008, p. 107).

This relies on a qualitative interpretivist approach to governing the relationship within and between Rutzou's (2016) triple dialectic which, I will contend, is best approached through metaphor.

In discussing the role of complexity theory in the social sciences, Byrne and Callaghan emphasise that "metaphor is what we have. We just have to recognise it for what it is and in particular recognize that all descriptions and models of reality *of whatever form* are inherently metaphorical" (2014, p. 43, original italics). This accords with Lakoff and Johnson's (2003) embodied realism. It could be argued that:

> "the logic of explanation of hermeneutic narrative and story-telling is therefore more appropriate for phenomena whose very nature is a product of the strange causal circle between whole and part, with feedback tentacles reaching out into the environment and back in time" (Juarrero, 2011, p. 161).

Following Murray (2016) I will attempt to move "towards softer categories" in the spirit of metamodernism that is "situated epistemologically with (post) modernism, ontologically between (post) modernism, and historically beyond (post) modernism" (Vermeulen and van den Akker, 2010, p. 2).[15] In practice, this means that in constructing the model in the sections that follow, I will focus more on explaining the *story* of development to improve coherence

[15] It is interesting to note that the authors call this a "structure of feeling": a sentiment I feel is befitting for the construction of a model of AAO in education that is in line with, and fractal-holographically resonant with, the current 'affective turn' within the current milieu of conscious evolution.

and readability. While it will be based on, and reference, empirical evidence and validated theories within each particular field, the explication of the relationship between ontology and epistemology (defined by a judgemental rationality) will recede into the subtext of the narrative.

3.8 Axiology

This section includes four subsections that deal with different aspects of axiology and how they relate to the research process. The first section addresses the purpose of educational research and is discussed in relation to current discourse in education to situate myself as researcher within it. The second section considers the ontology of the subject matter to be researched. Evaluative a priori judgements need to be made before examining the literature on affect and emotion, ego development, and values, particularly regarding the need to assert my ontological position within the relevant fields of discourse. The third section addresses the values and orientation towards human agency and emancipation that form the core driver and motivation for this research. The final section will address the evaluative dimension in assessing various epistemological claims. This is particularly pertinent following the discussion above on the crisis in science.

3.8.1 The Purpose of Educational Research

The purpose of educational research in this context is intimately bound up with definitions of educational theory, as developing a new theory is the primary purpose of this research. In Kvernbekk's (2021) overview and analysis of the field of educational theories, she identifies two traits that are intimately connected: reference to educational action or practice, and the perceived need to distinguish educational theories and scientific theories. I will address these in order.

Stenhouse (1985) argues that the purpose of educational research should involve a systematic self-critical inquiry in contributing to the development of knowledge Carr (2007). In addition, Pring (2015) argues that the purpose of education is also bound up with our notions of personal development and human flourishing and that the corresponding ideas of

teaching and learning relate to these over-arching concepts. While Carr (2007) draws out important distinctions within these ideas based on Aristotle's notions of *techne* and *praxis*, he argues that educational research necessarily leans toward a more practiced-based discipline, and this essentially constitutes its main purpose. Despite previously arguing that the pursuit of educational theory should be abandoned (Carr, 2006), I agree with his assertion that it is intimately tied to educational practice.

Kvernbekk (2021) explores many of the issues related to educational practice and, drawing on Miller (1994), argues that such distinctions between *techne* and *praxis* are not useful as theories can employ both. In addition, she calls for an incorporation of the *systemic* concept from complexity theory that necessarily includes students and context within the conceptualisation of practice. In commenting on the discussion between Hirst (1966) and O'Connor (1973), Kvernbekk (2021) shares O'Connor's concern regarding the value judgement and justification entailed in a direct relationship between theory and practice and that such "normative considerations are best left outside the theory" (2021, p. 195). However, Hirst argues that its significance is crucial and is intimately tied to our conceptions about human nature, a relationship also identified by Pring (2015). Kvernbekk's concerns are tied to the "irreducible role of the practitioner", with their own values, the complexity of their local context and needs of their students, and she highlights warnings of the "tyranny of theory" when theory attempts to prescribe specific forms of implementation.

This is in line with my views on praxis which are informed particularly by my own teaching practice and experiences of teaching. However, Carr also notes that:

> "politicians, policymakers and practitioners are only likely to acknowledge the relevance of those forms of educational research which employ methodologies that conceptualise education in a way which is closely aligned to their own values and beliefs" (2007, p. 274).

Furthermore, Hammersley notes the term "educational" is often a normative concept as "we may well disagree about what we treat as its central meaning" (2003, p. 5). This brings the notion of practice into conversation with the domain of relevance.

To bring some clarity to this, Biesta identifies 3 functions or domains of purpose in education and argues that "we can see qualification, socialisation and subjectification as three potential purposes of education" and there is "no complete synergy between the three domains, but rather potential for tension and conflict" (2010, p. 200). I agree with Biesta that our present system is focused on qualification and that the "socialising and subjectivising role(s)" have essentially become part of what is known as the "hidden curriculum" within the school system (2010, p. 201), and that this is also seen within educational research. I also agree with Carr (2007) in that education is, or should be, a practice-based discipline and that this feature is a core determinant of its purpose, particularly with regards to the incorporation of Aristotle's notion of *praxis*. *Techne* is more congruent with the dominant focus on qualification whereas, I argue, *praxis* is more coherent with the two other domains of purpose identified by Biesta, and relates to Kvernbekk's (2021) call for the inclusion of the concepts of system and context.

In offering a useful application of Gadamer's (2004) notion of historical self-consciousness, Carr calls for a deeper engagement with practical philosophy within educational research and calls upon researchers to generate a positive reflexivity, to become more aware of our own prejudices and to "expose and critically revise the presuppositions inherent in their practice" (2007, p. 280). This is also echoed in Acevedo et al, (2015) who, in reflecting upon Foucault's (2019) concept of biopolitics, call for an integration of positionality within an "integral approach to education" as, "when coupled with awareness, critical thinking, and reflective practices, the activity of positioning can be more self-directed, strategically applied, and transformative" (2015, p. 37). In their own reflections upon our position as researcher, Groundwater-Smith & Mockler (2007) argue that there is a "quality of purpose" dimension to research and that there is a "fundamental relationship between ethics and quality within practitioner research aiming towards an emancipatory goal" (2007, p. 204). This is congruent with Biesta's (2010) purpose of subjectification noted above which also includes emancipation. This, however, is at odds with Hammersley's assertion that "researchers do not have any distinctive authority to select value assumptions" as he believes that "educational research should aim to be informative, not educative" (2003, p. 17). I hope this research will be both informative and educative.

In the embryonic model I present below, I present 2 more "domains of purpose" to add to Biesta's (2010) model that incorporates the 1st person perspective (1pp) offered by the

discourse on positionality presented above and an additional 5th person perspective (5pp). Roughly, Biesta's 'socialization' corresponds with the 2nd person perspective (2pp) as it relates to engaging with community, 'qualification' with the 3rd person perspective (3pp) as it denotes the production of objective forms of measurement and certification, and 'subjectification' with the 4th person perspective (4pp) as it seems to be bound up with contextualising human agency with reference to promoting powers and capacities, embedded within their cultural and social contexts. Incidentally, Biesta's domains of purpose can also be mapped onto the 4Q with socialization corresponding to the lower quadrants, qualification with the URQ and subjectification with the upper quadrants, particularly the ULQ with its emphasis on human autonomy and individuation (Biesta, 2010). The purpose of 1pp can be found in disciplines such as autoethnography where self-discovery and self-expression are core aims (Adams et al., 2015), but also in action research as a form of individual professional development to reflect on and improve their practice (Schön, 2017). For example, one of the reasons for me embarking on this research is to develop my own understanding and improve my engagement with education as a form of praxis, as well as my own 'know how' (*techne*). Finally, there is a 5th person perspective (5pp) that integrates these within a teleological developmental ontology of personal and collective development. This, I argue, aligns with the views of Pring (2015) noted above.

All 5 of these perspectives and stages of growth have been explored and empirically verified in individual development (Cook-Greuter, 2021, Kegan, 1982, Kleineberg, 2021, Wade, 1996, Wilber, 1999) and in wider cultural development (Gebser, 1984, Kleineberg, 2021, Wilber, 2000). During the discussion on quality and evidence that follows it will become clear that the dominance of one particular purpose for educational research can result in a distortion of the methods used and what is counted as evidence. I will attempt to accommodate these perspectives in this research. While Kvernbekk argues that the 'is/ought' distinction should be preserved, and that "we are better off viewing it as extrinsic to the theory, as a background assumption, rather than an integrated part of the theory" (2021, p. 27), I will argue that it must be included an accounted for based on what we know about these stages of growth and development. Accordingly, I do not find the distinction between scientific and educational theories useful, the reasons for which I hope to illustrate.

All of the integral theories referenced in this research have some form of ethical framework and I am broadly in agreement with Marshall's (2016a) call for a new axial ethics founded on a more comprehensive view of spirituality. My research focuses more on a redefinition of what it means to be human in light of the emerging integral worldview (Maxwell, 2017), what science tells us about emotional development, and what this might mean for education. Spirituality is not a core focus and so I draw more from Marshall's (2016a) axial model of human nature and the first four of his five principles and combine them with Kvernbekk's (2021) three desiderata for metatheory outlined above:

1. "The model would have to be integrative, non-reductionist and maximally inclusive" (Marshall) and tell us which "elements" each contains (Kvernbekk).
2. "It would need to capture the complex, dialectical relationship between all these different dynamic components" (Marshall) and how these "hang together" (Kvernbekk)
3. "An integrative approach naturally requires inter/transdisciplinarity" and should tell us how it relates to the "phenomena within its scope" (Kvernbekk) in greater detail than either alone.
4. "It would recognize the relative autonomy of the human subject and its transformative powers, as well as the rootedness of human being in, and emergence out of, the cosmos" (Marshall) and relates to practice as systemic and context dependent (Kvernbekk, 2021, p. 163)
   (Marshall, 2016a, p. 197-8; Kvernbekk, 2021, p. 36)

While the first three have been addressed in the above sections on ontology and epistemology, the last principle provides the basis for this research and the axiological orientation that guides it.

Axiology is the heart of this research and forms a core fractal-holographic prism that reflects my own educational journey and ontological position as researcher, as well as the philosophy and worldview that has guided this research so far, including the focus and methodology, and the emerging model of Affective Axiological Orientation founded on it. The following sections recapitulate the previous process of methodology formation beginning with ontology.

3.8.2 Ontology: Towards a Complex Integral Realist Axiology

The Complex Integral Realist Axiology (CIRA) reaffirms my commitment to ontology in that it is guided by research from numerous fields that indicate human development follows discrete sequences or stages/levels/streams/mutations and that each has a different perspective with which it experiences reality. As noted previously, this process of transformation is evidenced in the development across all sentient life, in a fractal-holographic recursive spiral of development (Smith, 2008). Despite decades of critique, the core series of processual transformations at the individual and collective level across numerous lines of development in humans remains coherent across numerous fields of enquiry (Gidley, 2016, Kleineberg, 2021, Marshall, 2016a). An illustration of some of these can be seen below:

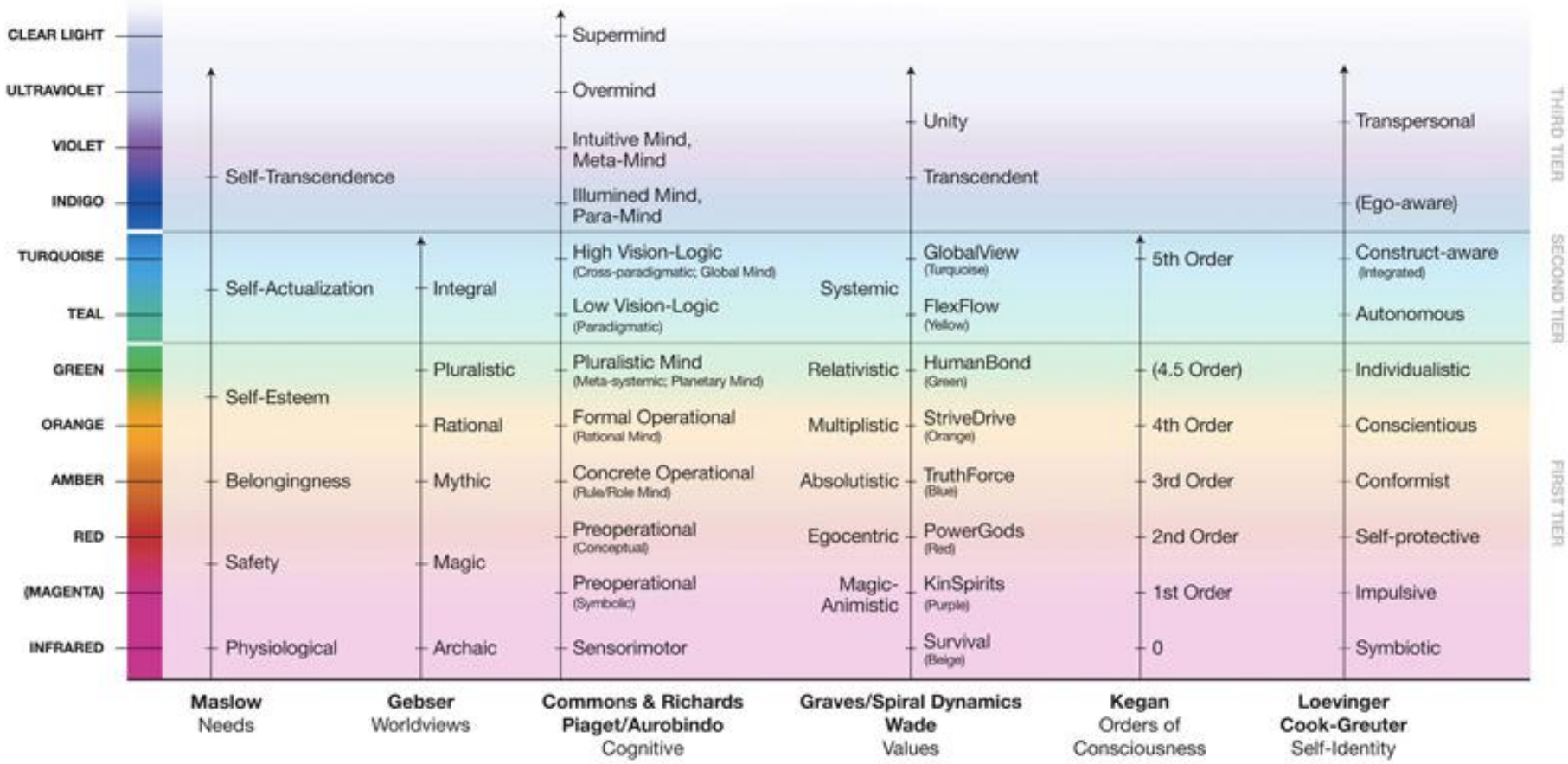


FIGURE 14: SPECTRUM OF DEVELOPMENT (WILBER, 2000)

Marshall (2016a) responds to some of the criticisms of the concept of human nature, and some of the criticisms of some of the different theories have been covered elsewhere (Gidley, 2016), so it is not my intention to cover them here. Some have also noted disagreement with how coherent the different stages or levels are (Gidley, 2016; Marshall, 2016a) and I will explore some of these in the emerging model of AAO. However, the broad outline and agreement with the model of human development (Kleineberg, 2021) points to ontological structures in the domain of the Real that have significant and fundamental implications for education and educational research.

The first implication relates to Integral Theory's Basic Moral Intuition (BMI): "to protect the greatest depth for the greatest span" (Wilber, 2000, p. 640). While in IT this applies to all holons, as a foundational principle for a Complex Integral Realist Axiology of Affective Axiological Orientation, this means that vertical growth and development must be nurtured and preserved as well as horizontal integration. For the collective as a whole it includes an axiological aim to promote and encourage as many individuals as possible to remain open to all their potential developmental pathways. This, I believe, should be a core axiological principle for modern education. I would argue that the ontology of human development outlined above is a teleological framework that shows a natural development and emergence of human capacities and capabilities that must be nurtured and cultivated within education. While there are concerns about the inclusion of such axiological claims in education, I hope that those concerns can be addressed in the discussion that follows.

Kvernbekk's (2021) and O'Connor's (1973) concern about including axiology in educational theories is warranted in a positive sense of direct prescription that totalises the domain of praxis. However, if it can be framed following a commitment to negativity/absence I believe that this concern can be ameliorated and leave room for Kvernbekk's notion of "auxiliary hypotheses" (2021, p. 188) that enables practitioners to be guided by theory, but adapt it according to their own values and context. This could, of course, leave it vulnerable to the "tyranny of experience" (2021, p. 197) in which the aims or goals of the theory are abandoned in favour of moral relativism. If however, the axiological ontology of negativity/absence is framed along the lines of the Hippocratic oath (do no harm), this could be applied in the sense of prioritizing the need for preserving open potentials and maximising capacities and

development, thereby cautioning against action that hinders or obstructs this. This will be addressed in the next section on agency, constraints and emancipation.

Integral Theory also emphasises the need for healthy growth and development across all 4Q at both individual and collective dimensions (Wilber, 2006). This notion of "healthy" and what it constitutes in relation to education will be explored and considered below. In addition, I argue that all pathways of development need to be accounted for and included in education on their own terms.

There appears to be a telos, or directionality, to human growth and development that involves increasing complexity, capacity and integration across multiple levels, lines, states, and types of development. This telos is also recognised by the other integral theories referenced and developed in this research. The notion of emergence that this entails has profound resonances with Critical Realism's emphasis on negativity and absence, explored previously, as well as Complex Thought and complexity theory's insight into the complex, inter-penetrating nature of adaptive systems.

3.8.3 Agency, Constraints and Emancipation

Bhaskar states that desire presupposes absence which, in turn, presupposes a "meta-desire to remove any constraints (including those constraints2 which derive from oppressive power2 relations)" (2008, p. 242). Bhaskar's axiology of freedom emphasises the dual sense of negativity in terms of absenting absence as neutral change and emergence, as well as absenting ills. Bhaskar explains the relationship between what is and what ought to be:

> "The naturalistic transformation from 'is' to 'ought' – which is not only compatible with, but also *grounds*, the moral realist *irreducibility* of 'ought' to 'is' – that is to say, the transition from *fact to value*, presages the transitions between dialectics of *theory and practice, form and content, centre to periphery, figure to ground, desire to freedom,* and to the sensitised solidarity of the totalising depth praxis and the dialectics of de-alienation and emancipation" (2008, p.259, original emphasis).

Bhaskar develops this in relation to human agency and self-determination:

> "Self-determination is normally a necessary condition for self-realisation, and if one's self includes one's potentialities, then one can be reasonably said to be alienated from them. And only a self which, in solidarity, has emancipated itself can be said to have become self-determining, i.e., autonomous. This is at once a prefigurative ('presence of the future') condition on emancipation and a process-in-product ('presence of the past') condition for autonomy" (2008, p. 282).

Morin also highlights the intimate relationship between autonomy, solidarity and its relationship to dependence on others (2008, p. 69). However, Bhaskar seems to suggest that the main possibilities for agency are provided by "reflexivity" and the "meta-reflexive" situation that involve a "perspectival switch to reflect upon her situation, to step in and out of it, and to relate her experience to her broader understanding of the world" (Norrie, 2010, p. 103). This seems to reflect formal operational and post-formal operational cognition, respectively (Cook-Greuter, 2021; Gidley, 2016). While these do seem to increase cognitive capacity in responding to interior as well as exterior conditions, I do not believe that such capacities are solely required for human agency and emancipation. Indeed, in this research I hope to find evidence that this is not the case as I believe children who do not have this degree of cognitive reflexivity can also learn to become autonomous, assert their agency and strive in solidarity for emancipation. This is in line with the aspirations of Alderson (2016) in her application of Critical Realism to childhood studies and shares resonance with key features of Self-Determination Theory (Ryan and Deci, 2017).

However, it must be stressed that this is a strategy and not a program, and relates to Morin's distinction of trivial and non-trivial machines:

> "Human beings, society, enterprise – these are non-trivial machines. A trivial machine is one about which if you know all the inputs you know all the outputs. You can predict the behaviour as soon as you know all that has gone into the machine. In a certain way, we are *also* trivial machines whose behaviour can be largely predicted" (2008, p. 56).

I aim to draw on the insights of evolutionary biology which seeks to frame evidence rather than predict: "pursuing the promise of an epistemology based in evolutionary theory rather than physics, incompleteness in knowledge then does not undermine the claim to science"

(Byrne and Callaghan, 2014, p. 82). Inability to predict is not a failure of theory in this sense. In attempting to provide insight into the "direction and impact of structural forces without being a 'theory of everything'", then the relationship between theory and empirical work becomes dialogical" (Byrne and Callaghan, 2014, p.84). Building on the insights of Bourdieu (1998), Byrne and Callaghan argue that social scientists should treat theory as a "somewhat plastic, tool of explanation. It must be applied in empirical settings to have meaning or validity but is not imposed upon the empirical world so much as developed in relation to the empirical" (2014, p. 109). Following Kvernbekk's (2021) valuation of the roles of description and explanation over prediction for educational theory, I hope to develop postulates that could help practitioners describe and explain the unobservables associated with emotional experience in education.

While the aim of the Complex Integral Realist Theory of education and Affective Axiological Orientation is to identify concrete universals as underlying ensembles of causal mechanisms, the goal is aimed towards the concrete singular within the broader aim of axiological emancipation. As Bhaskar states:

> "the formal desiderata are characterised by an orientation to the criterion of *concrete singularity* – truly the key to the realm of freedom – of each and all, and of each as a condition of all, by absolute reason, autonomy and the absence of heterology, that is, each agent is true of to, to, in and for herself and every other" (2008, p. 264, original emphasis).

The focus on concrete universals for the model is to counter the influence of personalism, defined by Bhaskar as "perhaps the dominant moral ideology for subjects, is characterised by the attribution of responsibility to the isolated individual in the abstract, desocialised, deprocessualised, unmediated way" (2008, p. 265). This focus has significant implications for the ways in which evidence will be selected and evaluated.

3.8.4 Axiological Domain

I have chosen adolescence as the primary ontological domain of investigation as this is a critical period in formal education in England, as well as being a critical period for emotional

development (Hollenstein and Lanteigne, 2018, Sapolsky, 2017) and identity formation (van der Gaag et al., 2020). In addition, it is the age-range I work with in education and have the most experience of. I have also tried to focus on 'typical' development with the hope of being relevant to the greatest number of individuals possible. I have focussed on the 'greatest span' of Wilber's formulation of his Basic Moral Intuition (BMI), as a priority over the 'greatest depth' as there are many other researchers exploring the higher reaches of development.

Finally, in addition to the focus on increasing emancipatory capacities and potential as outlined above, I will focus on affect and emotion relating to 'interest' as the key emotional force for both learning and development (Hardway, 2020). It also seems to be one of the driving forces in cognitive development (Mascolo, 2020a). Hardway notes the similarity between the employment of the constructs 'interest' and 'curiosity' in identifying the underlying emotional processes involved. She describes 'interest' as a complex state that acts as an "emotional propellant accounting for organisms' approach toward unknown information" (2020, p. 235). In addition, she suggests that it is emergent and dynamic in its relation to bio-psycho, socio-cultural and situational contexts. I will be using Hardway's (2020) of 'interest' for the purposes of this research.

This focus emerged out of my initial forays into the research on affect. This focus will be viewed in relation to the process of overall psychological growth and maturity, stimulating and maintaining interest in a person's own learning, as well as an interest in engaging with and maintaining healthy relationships with others.

3.8.5 Assessing Epistemological Claims

Due to the primacy of ontology, any epistemological claim will be considered and evaluated in light of the a priori assumptions explored previously. These are now formulated as principles and will be referred to in the explication of the model that follows:

1. The primacy of negativity/absence. Following the Multidimensional Ontological Domains Lattice outlined above, there will always be absences and omissions due to the nature of the enquiry. However, a tendential directionality will be sought for the phenomena under consideration.

2. A stratified ontology. I expect to find stratified phenomena within a nested holarchy that follows the processes of linear and non-linear causation outlined above. Due to the assumption of asymmetrical weighting towards antecedence, the multiple quadruplicity of causal mechanisms within the domain of the Real will only be indicated within the empirical literature, thus honouring the first principle.
3. The uncertainty present in boundary formation and the relation between holons. I hope to find assemblages or constellations of phenomena that comprise and/or are directed towards an attractor. However, the epistemological nature of these formulations and al that entails as a derivative of ontology must not be prioritised without committing the epistemic fallacy.
4. The tetra-arising of sentient phenomena across all four quadrants. I hope to find coherence following the coherence theory of truth across all 4Q. However, due to the asymmetrical weighting of emergent phenomena, a higher axiological value will be accorded to the correspondence theory of truth. Those theories or positions that are more firmly grounded in an empirically verifiable epistemology will be accorded greater weight and warrant in their validity claims.

The overall process of exploration is described in the section on epistemology above. The evaluative process in relation to the selection of evidence will proceed differently in each of the following sections.

As, in a sense, I aim to build a meta-theoretical model of Affective Axiological Orientation that will also serve as a practical model to be used in educational discourse and practice, this research requires a foundational premise on evaluating existing theories in line with my ontological commitments outlined above. It will require an abductive approach to evaluating evidence (theories) as, while a deductive approach “doesn’t address how researchers should select a theory in the first place”, inductive reasoning from empirical evidence does not “allow researchers to build theory” (Clark et al., 2021, p. 22). Therefore the process of evaluating theories and empirical evidence will involve a process known as dialectical shuttling (Atkinson et al., 2003), a moving back and forth between deduction from theory, and induction from theory and empirical evidence, towards an abductive explication of ontological strata and mechanisms within the Complex Integral Realist Theory outlined above.

Each of the following two chapters will begin with a brief section on methodology, as the process will be different for each chapter, and each will end with a summary of the findings, with the chapter on values building on the chapter before in a reiterative process of stratified construction. This is following the toolbox approach outlined in the sections on epistemology and axiology outlined above. As each of the following three sections consider a different ontological domain and the discourse and epistemologies used to engage with these domains is different, each section will necessarily have a different toolbox of methods. However, the selection of epistemically adequate tools will be selected according to the ontological assumptions outlined above.

4.0 CHAPTER FOUR: THE NATURE OF AFFECT AND EMOTION IN EDUCATION

4.0.1 INTRODUCTION

This chapter focuses on some of the different roles played by affect and emotion in education and uses the methodology outlined above as a basis and resource to explore relevant literature in pursuit of developing a model of education and Affective Axiological Orientation (AAO). While research on emotion and education has grown in recent years, "there has yet been no systematic effort to synthesise the different conceptual and theoretical frameworks as well as research methods while investigating emotions in educational contexts" (Schutz and Zembylas, 2016, p. 3). There is also no consensus on the definitions of affect (Gregg and Seigworth, 2010) or emotion (Scherer, 2022). In fact, the diversity of perspectives I have encountered illustrate Scherer's view that "the number of scientific definitions [of emotion] proposed has grown to the point where counting seems quite hopeless" (2005, p. 696). Similarly, Seigworth and Gregg's argue that there will never be a single, generalisable theory of affect (2010, p. 3). Scherer (2022) argues that one of the reasons for this may be due to the 'toothbrush problem' (Mischel, 2008) as researchers are unwilling to use someone else's theory. Despite this problem, there has been recent calls for a convergence or integration of theories in emotion (Dukes et al., 2021, Scherer, 2022). I hope the research presented in this chapter will make a humble contribution to fill this gap in educational research, as well as potentially contribute to the study of emotion generally.

Echoing the theme of liminality throughout this research, I resonate with Seigworth and Gregg's (2010) characterisation and emphasis of affect's *in-betweenness*, and as such I wish to emphasise that I do not intend to provide a comprehensive synthesis of research in these fields. I hope to explore the connections *in-between* affect, emotion and human values in the context of education with the aim of adding theoretical substance to those connections in a theoretical model. However, I will be taking a position on what 'affect' and 'emotion' are and what the implications for this will be for the model under construction and potential applications and implications for education.

4.0.2 Outline

The first section outlines the methodological considerations and a specific application of the Complex Integral Realist Methodology (CIRM) applied to this study. There is a subsection on ontology that drawn on the Multidimensional Ontological Domains Lattice (MODL), a subsection on epistemology that draws on the Complex Integral Realist Epistemology (CIRM), a subsection on axiology based on a Complex Integral Realist Axiology (CIRA), and a subsection on Judgemental Rationality (AJR). All of these sections outline which methods or tools will be used in the following sections that explore the literature on affect and emotion.

The second section will explore some of the literature on affect and emotion and outline an integrative model of affect and emotion as a precursor and subsection of the model of Affective Axiological Orientation. It will primarily focus on the psychology and neuroscience of affect and emotion, with supplementation from other epistemologies. The justification for this is explained in the prior section on methodology.

The third section will outline some of the ontological and epistemological reflections and considerations on the key findings from the previous section on the literature on affect and emotion. Here I will state my position on what 'emotion' is and position myself within the discourse before moving onto the next section on integration.

The fourth section will attempt a preliminary integration of the findings so far in lieu of a final integration in the model of Affective Axiological Orientation folowing the next chapters on psychological development and axiological structures.

The third and final section will outline its potential impact and relevance for education.

4.0.3 Preliminary Methodological Considerations

Due to the multidimensional and situated complexity of studying emotion and affect in educational settings, Shutz et al. (2016) call for research methods and methodologies to investigate emotions in education to match that complexity. In support of this notion, Kuby argues that "theories demand creative, new tools for studying emotions. Researchers cannot use old tools for new theories if the tools paradigmatically do not align with the theories" (2016, p. 127). This echoes the toolbox approach outlined above in Chapter Three on

methodology. None of the meta-theories used to construct the methodology have a fully developed theory of emotion, due to their meta-theoretical nature. Emotion plays a role in Wilber's (1999) integral psychology and Bhaskar's "components of action" in the "formation of action and agency" (2016, p. 64-5), but both seem to suffer from a dualist remnant in their theorising with Wilber seeming to separate "feeling" and "thinking" (1999, p. 113), which many empirical studies and theoretical research in emotion and cognition call into question (Hoemann et al., 2019). Bhaskar also emphasises the need for "meta-reflexivity" for genuine agency (2016, p. 64) which, as I have argued above, may be influenced by the Deficient Mental-Rational Structure of Consciousness (DMRSC) and not reflect the true possibilities for human agency across development. However, both have an explicit stratified ontology with Bhaskar (2016) employing a range of affect-related dimensions of human agency that include conscious and unconscious processes, and Wilber (1999, 2000) provides a comprehensive model of human development that can be drawn upon in creating a new model. IT also suffers from an individualist bias (Schwartz, 2013), a paradigm that Day and Harris (2016) argue needs to be overcome in researching emotion in the context of education.

I argue that a Complex Integral Realist Theory (CIRT) of affect and emotion in education is needed as most research currently views the ontology of affect and emotion from essentialist or non-foundationalist positions (Schutz and Zembylas, 2016), which I argue suffers from similar issues related to the "false dualism" identified by Pring (2015) and explored in relation to the DMRSC previously. Shutz and Zembylas state:

> "This multidimensional variation in the study of emotion and education is met in virtually all of the disciplines exploring affect and emotion in recent decades and constitutes a source of richness and an indication of the complexity of investigating emotion." (2016, p. 289).

However, due to my axiological commitment to praxis and my ontological framework explicated above, there is a need to make sense of this variation and provide some kind of synthesis in order to provide a minimally integral model of affect and emotion in education. This is needed to not only meet the requirements of relevance in terms of immediate praxis, but also to fulfil my ethical commitment to ensure the robustness and validity of the model as a tool to be used to effectively confront the meta-crisis in education. Echoing my previous

emphasis on liminality, while this model is intended as an embryonic formulation, and simultaneously as an invitation for an orientation towards a new horizon for education, I hope that it meets the requirements of academic rigor and transparency, so that if (when!) it fails, it provides material for further research in this field.

4.1 Ontology

As it is my view that ontology transcends and includes epistemology, my ontological commitments and presumptions guide this research. I anticipate finding a stratified ontology in the related fields of affect and emotion, with a multidimensional array of causal mechanisms across the Four Quadrants (4Q) in all directions, as outlined in the Multidimensioanl Ontological Domains Lattice. Drawing on the relevant literature, I will seek to find evidence of these causal mechanisms and the different streams or trajectories of affect and emotional experience that manifest in recursive, linear and non-linear processes characteristic of complex adaptive systems, and how these relate to ego development and value structure. My intuition from previous research and experience is that the more ephemeral and fleeting nature/s of affect and emotional experience shape these deeper, real ontological structures over time, which in turn further shape their emergence in the domains of the actual and the empirical. I am interested in how these phenomena also orient individual and collective human holons towards motivations for learning and prosocial attitudes and behaviour. These axiological commitments will guide and direct the boundaries of this research.

4.2 Epistemology

The primary epistemological considerations and paths taken for researching this chapter orient around the 4Q of Integral Theory (IT) and the 8 methodologies (Wilber, 2006). These are seen in the diagram below:

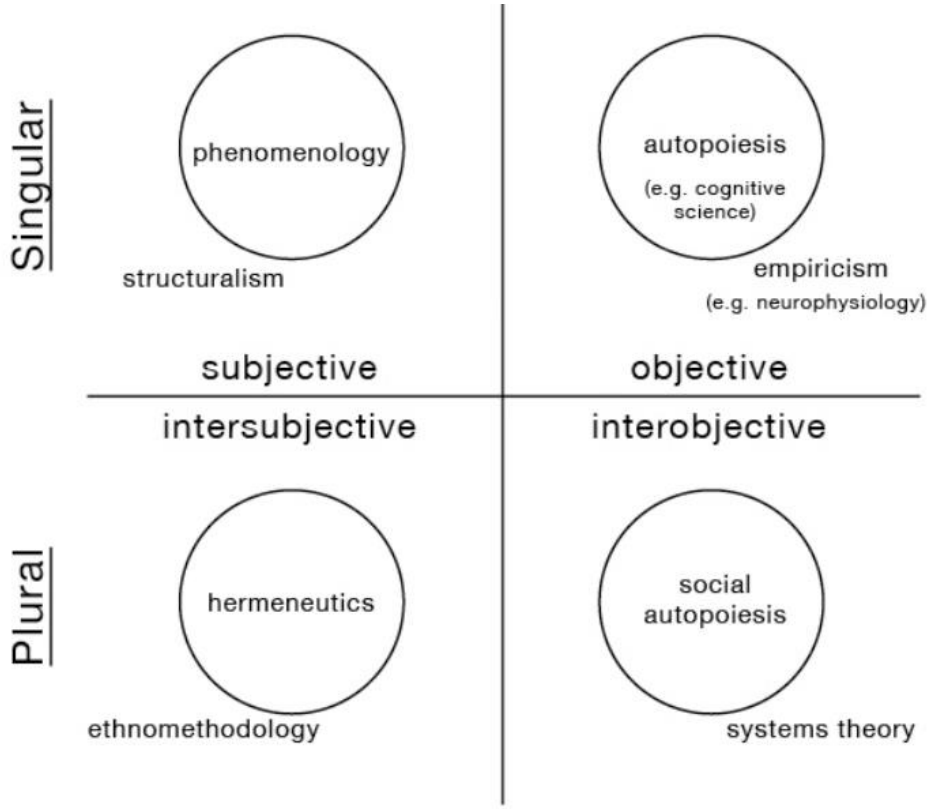


FIGURE 15: THE 8 MAJOR METHODOLOGIES (WILBER, 2006)

I have selected theories and authors from most of the 8 methodologies, however I will initially give greater weight to structuralism in the form of Ego Development Theory (EDT), and of hermeneutics and ethnomethodology, as the two models of human values (Beck and Cowan, 1996, Rose, 2011) and the model of EDT (Cook-Greuter, 2019) I am already familiar with, draw primarily from these methodologies. However, following Esbjorn-Hagens' (2016) meta-disciplinary framework seen in the diagram below, many of the theories that I will be drawing on are *integral* in the sense of drawing from the other domains in the 4Q. As holons tetra-arise (Wilber, 2000) I expect to find the real, actual and empirical domains of affect and emotion across the 4Q. I am hoping to use these integral theories of affect and emotion to drill down into the domain of the real to find the generative causal mechanisms pertinent to my research aims. This will prioritise empirical research due to my commitment to ontology. Then, in areas where these theories are coherent with each other, in accordance with the coherence theory of truth (Walker, 2017), those domains will be afforded higher values of signification within the process of judgemental rationality, to be discussed below.

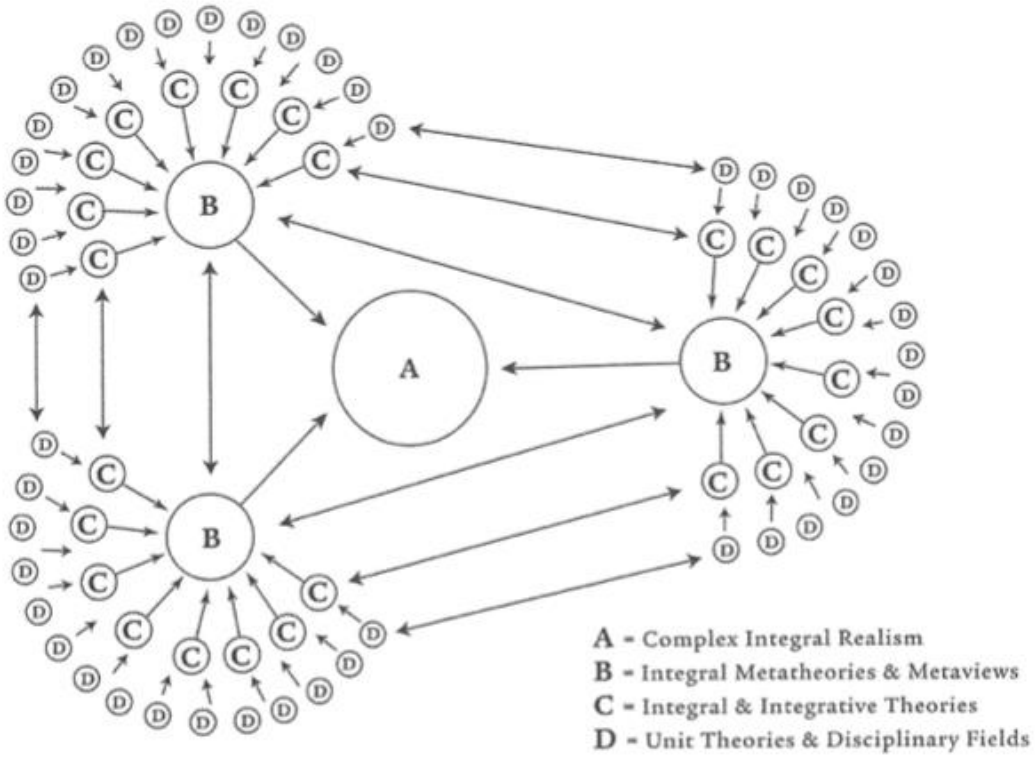


FIGURE 16: METADISCIPLINARY FRAMEWORK (ESBJORN-HAGENS, 2016)

While the main theories to be considered will be selected and evaluated in the manner outlined above, drawing on my own prior knowledge of the field and identifying prominent theorists, I will also explore some of the theoretical and empirical literature in the form of literature reviews in related and relevant fields of research. I will complement my own prior knowledge with a brief exploration of the Oxford Handbooks and Science Direct, searching for handbooks and relevant chapters using key terms such as affect, emotion, and values, to ensure I have identified the key positions and perspectives within the relevant fields. This will also involve a limited snow-balling of core texts, theories, authors and studies that are relevant.

The developmental aspect of the Complex Integral Realist Epistemology will be employed in a reduced manner due to the limited nature of this enquiry. It will not be possible for me to explore the developmental altitude of each theory or ontological position taken in each paper, however I will be cognisant of looking for evidence of dualistic thinking and the presence of the Deficient Mental-Rational Structure of Consciousness. While the perceived

existence of these will not automatically call for epistemic dismissal, it will feed into the process of assessing the weight and warrant of their validity claims. In addition, this whole process will be continually reflected upon following Alhadeff-Jones's 'three moments' (2013). Due to the word limit and spatio-temporal constraints of this research, while these mutually reiterative, co-existing and co-informing processes will proceed and develop in the domain of the actual research and writing of this thesis, they will necessarily remain in the domain of negativity/absence in relation to its final empirical production.

4.3 Judgemental Rationality

As part of the process of judgemental rationality and the distantiation required to distance myself from the model of education and Affective Axiological Orientation under construction, as outlined in the relevant sections above, I will construct the model in the third person (hereafter simply referred to as "the model"). Greater signification will be afforded to aspects of those theories which are coherent with others, as well as those which correspond with convincing empirical evidence, following the coherence and correspondence theories of truth (Walker, 2017) respectively.

4.3.1 Outline of Analysis

The following analysis will incorporate perspectives from each of the 4Q, but will not be referred to explicitly as it will detract from the analysis itself. From each perspective it will be necessary to evaluate different positions and adopt a justifiable stance in relation to each of them.

The literature on affect and emotion is drawn initially and primarily from psychology and neuroscience (third-person perspective (3pp). I drew initially on my own familiarity with the field, as well as searches in the Oxford Handbooks, to identify the dominant theories of affect and emotion. While psychology is primarily considered an epistemology that resides in the left-hand quadrants in Integral Theory (IT), much of the theoretical literature garners support from empirical studies which, like neuroscience, are considered epistemologies that reside in the right-hand quadrants. Therefore, while there is much cross-over across the 4Q in this

literature, unlike the literature on the philosophy of emotion, most of the theories of emotion grounded in these epistemologies are tested empirically (3pp). For this reason, the initial analysis is focused on the psychology and neuroscience of affect and emotion. Once the literature has been briefly reviewed and critically evaluated, an attempt at integration will ensue that draws on some of the other perspectives from across the 4Q.

While philosophy is primarily viewed as a second person perspective (2pp) form of discourse in Esbjorn-Hagens (2016) Complex Integral Realism (CIR), it is evident from the literature that much of the philosophy of emotion is concerned with phenomenology, which is primarily first-person perspective (1pp). Phenomenology, as a mode of enquiry, has faced significant criticisms in recent years from cognitive science (De Sousa, 2022), so analysis of this perspective will be used primarily as a source of enrichment in pursuit of integration. Due to the space limitations of research, it is not possible to explicate my explorations into the literature on the philosophy of emotion. However, I have found that Muller's (2019) *position-taking view* is the most congruent with the other research on affect and emotion and accords with my emerging model. As such, reference will be made from this view, along with other perspectives from the field where appropriate. In addition, the integration will contain some insights garnered from systems and complexity theory (fourth-person perspective (4pp).

4.4 The Psychology and Neuroscience of Affect and Emotion

A number of researchers in the many fields associated with emotion have asked if *Affectivism* is currently situated to become the natural successor to Cognitivism and Behaviourism (Dukes, et. al., 2021). However, unlike the latter, Affectivism is marked by its supplementary and integrative nature as 'it would naturally incorporate both perspectives' (2021, p. 818). There is also an integrative trend emerging within the field itself as some have argued that there are many lines of convergence within many of the theories that populate the field, despite many disagreements (Moors, 2017, Scherer, 2022).

Scherer (2022) identifies three types or classes of psychological theories dominant in the literature, all of which have a great deal of support from empirical studies from psychology, cognitive science, neuroscience and related fields. These three types will be briefly explored,

analysed and evaluated with a focus on the relationship between affect, emotion and value and view towards integration. Scherer notes that surveying a field as large and complex as emotion is a daunting task due to the diversity of perspectives within and between theories, as well as the changes that take place across time. As such, I will focus on one or two dominant voices within each class.

Adolphs and Anderson argue that it "would be premature to have very detailed theories of emotion, at least insofar as the neurobiology is concerned, because the research required to underpin such theories is just beginning" (2018, p. 281). This sentiment is echoed by others in the field (Barrett, 2017, Scherer, 2022). Therefore any inference of dominance or adequacy is currently tentative at best. However, despite this, it may be possible to forge ahead along a path of integration as some such as Scherer (2022) propose.

4.4.1 Basic Emotion Theory

Scherer notes that Basic Emotion Theorists (BET) agree that there are a "small number of discrete, frequently occurring emotions that are considered basic because of an evolutionary prefiguration of prototypical elicitation conditions and response profiles" (2022, p. 161). They also agree that emotion contains motivation and informational functions which is why they are sometimes characterised as *motivational theories* (Scarantino, 2014). Ekman (1999) proposes six basic emotions or affect programs, Panksepp (1998) proposes seven primary process emotions, and Plutchik (1982) proposes eight primary emotions linked to eight biological functions. While there are subtle variations between each theory and they all have a slightly different focus, TenHouten (2021) identifies five criteria for basic emotions that they all seem to share:

1. An evolutionary origin seen as a proto-emotion in a wide variety of non-human animals.
2. A basis in brain organisation.
3. An irreducibility that is not a product of two or more other emotions.
4. A combinatorial feature in which they can form secondary and tertiary emotions.
5. A feature in addressing a fundamental problem of life.

An additional feature could include their universality as they are deemed to be present across all human societies and cultures, and other species (Scarantino, 2016). Despite their differences, TenHouten summarises the view that "the weight of contemporary evidence, much of it from affective neuroscience, suggests that all humans work from a common palette of affective responses" and that there is "impressive evidence indicating that a small subset of emotions are basic or primary" (2021, p. 615). The evolutionary origins of emotion has garnered a great deal of empirical support from neuroscientific studies (Adolph & Anderson, 2018). While the empirical data continues to accumulate in the literature concerning the exact number, form, function, and related neural mechanisms underpinning these basic emotions, some prominent theorists in the field argue that the current weight of evidence is sufficient to indicate that such matters will eventually be resolved as they are largely an empirical problem (Adolphs and Anderson, 2018, Panksepp and Watt, 2011). Although, TenHouten (2021) argues that, when developed conceptually from findings in comparative ethology, "Plutchik has gotten the primary emotions *exactly* right" (2021, p. 624, original emphasis).

Despite the confidence many have in BET, there have been several significant criticisms. Ekman's (1999) theory has been criticised on the grounds that much of the supporting empirical data for his model comes from studies on human facial expressions. Much of the evidence garnered in support for Plutchik's (1982) theory is also founded on findings from animal studies and evolutionary biology and he assumed that "emotions exist in all animals and that the different forms of expressions of emotions in different animal groups reflected the operation of evolutionary forces acting on the same fundamental survival mechanisms" (2003, p. 20). Barrett (2017) presents an overview of numerous studies including 4 meta-analyses looking for physical emotion 'fingerprints' from either the face, brain or body that strongly suggest that "emotion fingerprints are a myth" and that "*variation is the norm"* (2017, p. 23, original emphasis), thus undermining its external validity. Similar findings are presented by Markett et. al., (2018) and TenHouten (2021), although, the studies cited by TenHouten do lend support for the "conceptual distinction between primary and second-order emotions" (2021, p. 618).

BET could also be critiqued from a philosophical perspective as they seem to indicate that emotions are *natural kinds*, defined by Barrett as a "category… given to us by nature…

discovered, not created, by the human mind" (2006, p. 29). Scarantino further describes natural kinds as a form of essentialism as they "have sharp edges and feature in exceptionless laws of nature that hold uniformly across time and space" (2012, p. 365). Such premises, she argues, are unsuitable for biological and social sciences and highlights the example of the term 'species' that is often an unsuitable term in biology to capture the diversity of biological entities across evolutionary time. Essentialism may even stem from a cognitive bias (Berent et al., 2020). This issue with essentialism can be seen in the substantivalist accounts of the self, the idea that there are static, definable essences, which has been thoroughly critiqued as lacking empirical evidence (Oliver, 2020), as well as logical coherence (Beni, 2019).

Panksepp's (1998) theory relies on the homology between the neuroanatomical structures of animals and humans which lends support for the theory on a neurobiological level. However, he also admits that without more empirical data on secondary and tertiary emotions, these findings make it difficult to apply to humans (Panksepp & Watt, 2011). However, Panksepp's (1998) 'nested BrainMind hierarchy' has recently garnered empirical and theoretical support (Asma and Gabriel, 2019). Furthermore, Panksepp and Davis (2018) present a theory of personality based on affective neuroscience and is supported by cross-species empirical studies. They present the Affective Neuroscience Personality Scales assessment that has considerable cross-cultural validation and coherent comparisons with Big Five and Five Factor Model personality assessments (Markett, et. al., 2018), as well as evidence from a growing number of studies that show its accuracy in identifying and predicting psychopathology (Davis and Montag, 2019).

Panksepp's theory may be open to the critiques regarding natural kinds and essentialism, outlined above. However, Scarantino (2012) suggests adopting Boyd's (1991) notion of *homeostatic property cluster* (HPC) as a way of redefining natural kinds to account for the criticisms associated with essentialism. Furthermore, Keltner et. al., argue that basic emotion theory is "arriving at a more nuanced view" that accepts that "emotions vary in their universality" (2019, p. 200). These ideas will be considered in more detail in the integration section below.

4.4.2 Appraisal Theory of Emotion

The Appraisal Theory of Emotion (ATE) focuses on the evaluation of significant events in relation to a persons' goals or preferences that takes into account appraisal dispositions, biases and cognitive abilities. It argues that emotional experience depends on the outcomes of multidimensional appraisal processes containing several modules or criteria that emerge and interact in a recursive fashion. Furthermore, it is often described as a componential theory due to this focus on modules or organismic subsystems or components, and they treat emotions as processes rather than states (Moors et al., 2013). The nature and number of the components is closely related to the number and nature of emotions that the theory wishes to explain. Moors (2014, 2017) presents 2 flavours of ATE based on their positions regarding the ways in which they demarcate the set of emotional episodes and variety within the set:

> "A first flavour of appraisal theories (e.g., Lazarus, 1991; Roseman, 2013) splits the set into a limited number of subsets, corresponding to the specific emotions figuring in natural language (e.g., anger, fear, sadness). Proponents of the first flavour take these specific emotions as the phenomena to be explained. A second flavour of appraisal theories (e.g., Scherer, 2009) splits emotional episodes into a large or even infinite number of subsets, each characterised by a unique situation and hence a unique pattern of appraisal values. This has led proponents of the second flavour to shift the to-be-explained phenomena from specific emotions to (sub) emotional components. For instance… they try to explain the tendencies… without worrying whether the components under study are emotional or not" (2014, p. 303-4).

As different appraisal theories have different components and there are relative weights and degrees afforded to their interactions in relation to producing emotional experience, sharp distinctions between emotional and non-emotional episodes need to be defined based on a chosen threshold. This reliance on subjective choice results in a diversity of opinion across ATE and also means that it is not open to empirical test. This lack of consensus and empirical validity could undermine the heuristic value of their criteria (Moors, 2014) and indicates the presence of the epistemic fallacy. Barrett (2017) critiques Arnold's (1960) and classical appraisal theory (flavour 1) as assuming a degree of essentialism, but notes that Klaus Scherer's views have changed over time to include aspects of non-essentialism (typical of flavour 2).

Despite a lack of empirical evidence for the interactions between components within a complex system, Scherer notes the growing empirical evidence for the separate components proposed, including the testing of theoretical predictions and neuroscientific evidence for the underlying neural mechanisms (2019, 2022). Moors refers to flavour 2 theories, along with constructivist theories, as 'skeptical' due to their opposition to flavour 1 theories and the classical basic emotion theories, along similar lines noted above. However, she proposes a non-preservative integration of flavour 2 theories, such as those proposed by Scherer (2009) and constructivist theories, such as Russell's (2003). This approach will be drawn upon in the integration section.

4.4.3 Constructivist Theory of Emotion

The Constructivist Theory of Emotion (CTE) emerged from the general social constructivist movement that, in turn, emerged as one expression of the broader movement of post-modernism (TenHouten, 2021). Its central premise is that the "experience of feeling, sentiment, and emotion is structured, and made meaningful, through language use in the midst of social interactions" (2021, p. 612). In this way, "emotions are hypothesised to emerge from core affect (raw bodily sensations) and a multi-level categorization process based on prior, present, and possible futural experience mediated by conceptual and linguistic factors" (2021, p. 614).

Barrett (2006) argues that emotions are not *natural kinds* and implies (2017) that Moors (2017) is incorrect in her assumption that her and Scherer's (2009) versions of Dimensional Appraisal Theory (DAT) (flavour 2) are compatible with Russel's (2003) CTE as these, "like basic emotion theories, indulge in Lockean essentialism" (2017, p. 21). This is because, unlike BET, which are guilty of essentialism at the level of emotion, DAT is guilty at the level of "appraisal-as-mechanism" (ibid.) that is used to recognise emotion in a similar way to the 'fingerprint' in BET. Barrett also argues that DAT's emphasis on a differentiation between emotional and non-emotional episodes, which are caused by different appraisals, means it does not acknowledge the existence of *domain general* mechanisms (2017, p. 22).

In contrast, both Russell (2003) and Barrett (2017) state that emotions are subjectively constructed from the feeling of 'core affect', an experience sculpted by culture and language.

Barrett (2017) identifies several similarities between hers and Russell's (2003) CTE that include:

- A lack of essentialism.
- The "hypothesis that an emotion category refers to a population of highly variable, situated instances" (2017, p. 22).
- The emergence of emotion categories from common or domain general processes.

However, there are some significant differences. Russell (2003) suggests that he may be sympathetic to the possibility of scientific essentialism with respect to the components of emotion, while rejecting the essentialism of particular emotions. This relates to what Zachar (2022) highlights as the most significant distinction between the two: Russell (2003) argues for an *interpretative* constructivism, whereas Barrett (2017) argues for a *constitutive* constructivism. In this interpretation, Russell's position is that, "for him, emotion prototypes are concepts that people use to classify a ready-made cluster of components", whereas Barrett's view resembles a Neo-Kantian philosophy that there are no "ready-made phenomena": "all phenomena that we know are "conceptually determined appearances"' (Zachar, 2022, p. 11). This Neo-Kantian position is also evident in her reference to predictive coding and simulation (ibid.), as well as the change in her view about the use of folk psychology (p. 12). This reflects my understanding of their respective differences. My position in this discourse will be outlined below.

Barrett's (2017) CTE also incorporates a concept from biology known as *degeneracy* which "refers to the capacity for structurally dissimilar systems or processes to give rise to identical outcomes, is a property of virtually every level of analysis in biological systems, from systems inside cells to the entire organism" (2017, p. 23). Barrett (2017) presents evidence from numerous empirical studies from cognitive science and psychology to support her hypothesis that the brain simulates all aspects of our experience and that these simulations help to co-construct our emotional experiences. A more detailed explication of her theory will be incorporated into the integration section below.

Arguments against CTE stem from numerous similarities and continuities across emotional experience and expression across situations, cultures and even species of animal (Panksepp, 1998, Adolphs & Anderson, 2018), as well as across human history (Sznycer and Cohen, 2021,

Sznycer et al., 2021). In addition, it cannot account for the ineffability of some emotional experience (Mitchell, 2021) that does not draw on conceptual knowledge, as well as emotion in animals and children who lack developed linguistic and conceptual capacities. In fact, Barrett claims that animals do not experience emotion, only affect (Adolphs et al., 2019). Furthermore, Barrett (2017) does not mention the evolutionary perspective or the adaptive function of emotion, which seems to bypass a great deal of evidence on the biology of behaviour (Sapolsky, 2017). Although, she does state that she does not oppose evolutionary accounts (Barrett and Russell, 2015).

Zachar (2022) argues that many of the criticisms of CTE contain misconceptions due to many mistaken assumptions regarding CTE's position on essentialism. From my engagement with the literature, I have also found that this is one of the core misunderstandings in the field. However, there are also other aspects related to ontology and epistemology that will need to be addressed before any form of integration can proceed.

4.5 Integration Interregnum

4.5.1 Preliminary reflections and considerations

I began this research with a naïve view of the field of emotion studies, despite having read a number of books and articles on the subject. A great deal of clarity has been gained as I have cycled through Alhadeff-Jones' "three moments" (2013). I have found that I am not able to adjudicate or solve many of the disputes within and across related fields of research, partly due to time and resource constraints as a lone individual researcher, and partly because these are areas of research that I have little, if any expertise. As a meta-theoretician, I have traversed the territory but it is not my final destination. I have noticed several patterns recurring across the literature to enable me to draw some tentative boundaries and construct the embryonic stages of a model of Affective Axiological Orientation (AAO).

I will briefly explicate my position on this with reference to the previous discussion before moving on to create the model.

4.6 The Ontology and Epistemology of Emotion

Adolphs (2017) and Adolphs et. al., (2019) illustrate the difficulty in identifying the ontology of emotion from BET and CTE epistemologies. Both views are represented and it seems clear, at least from the personal correspondence between Adolphs and Barrett referred to in Adolphs (2017), that both misunderstand each other's position. This is also evident in the discussion above on the psychology and neuroscience of emotion. One of the reasons stems from a misunderstanding of their respective positions in relation to what constitutes being "objective" (Adolphs et. al., 2019).

It is uncontroversial in much of the discourse on emotion across numerous fields that subpersonal, neurophysiological processes subtend emotion and affective experience (Teroni and Deonna, 2020). Some prominent neuroscientists, such as Damasio (2000) and LeDoux (1996), directly equate emotions with such processes. However, many of the theories discussed above base much of their validity on this neuroscientific evidence which is still in its early stages of being generated. Adolphs states that:

> "We really have very little idea about how to interpret neuroscience data, so whatever evidence it does or does not provide for a psychological theory should be considered extremely preliminary" (2017, p. 24).

Despite this warning, as I will argue below, when a more integral approach is adopted that attempts to incorporate evidence from other sources and perspectives, such epistemological pluralism may enable us to discern a verifiable ontology.

The primary issue to be addressed before moving on to construct the model concerns the subject/object dualism mentioned above. The methodology chapter explicated my position on this in detail so here I will only briefly outline it here in relation to the literature surveyed thus far as a precis to outlining the model. As ontology transcends and includes epistemology and there is a presumption of ontological stratification, epistemology is necessarily stratified within a developmental epistemology.

The implications of this for research on the ontology of emotion suggest that:

- Emotion tetra-arises across all Four Quadrants (4Q) so it has an interior Upper Left Quadrant (ULQ) phenomenology, an embeddedness in culture in terms of its meaning, expression and communication (Lower Left Quadrant (LLQ), a singular external correlate in terms of neurological signatures in the brain, biology and potentially external behaviour (Upper Right Quadrant (URQ), and an embeddedness across other physiological, social and environmental systems (Lower Right Quadrant). Therefore, emotion has correlates across all 4Q.
- Emotion is hierarchically embedded within an ontological stratification across all 4Q. There are components and antecedents that can be seen in each of the 4Q. For example, the subjective experience of emotion (ULQ) is predicated or resonant with prior, similar experiences (Barrett, 2017) (even novel emotions are partly componential from prior experiences) and is predicated on psychological development, is culturally constructed according to (un)conscious forms of meaning-making (LLQ), is physiologically correlated within various nested systems within the brain and body (URQ), and is structurally embedded across prior antecedental physiological, social and environmental systems (LRQ).

The implications of this for research regarding the epistemology of emotion suggest that:

- Emotion can be studied from any one of the 4Q separately, jointly or collectively at different hierarchical levels. For example, using the conceptual framework of primary, secondary and tertiary emotions, basic emotion theory investigates emotion primarily from an URQ perspective, but has recently drawn evidence from other neurological systems within the brain and across species (LRQ), whereas the constructed theory of emotion primarily investigates tertiary emotions using LLQ and RHQ methodologies. In contrast, much of the philosophy of emotion focuses on tertiary emotion and utilises ULQ phenomenology and LLQ linguistics, while appraisal theories seem to focus on secondary and tertiary emotions in relation to modules or components either as singular causal chains (URQ) or as a holistic system (LRQ).
- Emotion is predominantly studied from primarily 2 or 3 developmental perspectives. Those theories that adopt an essentialist presupposition (basic emotion theory,

some appraisal theories) seem to adopt a 3rd person perspective (3pp) as they suggest that emotion exists as an observer-independent phenomena and that either empirical science will eventually uncover the objectivity of emotional phenomena, free of subjective bias. Those theories that adopt a non-essentialist presupposition (some constructivist theories, some appraisal theories) seem to adopt a 4th person perspective (4pp) which views emotion as in some way dependent on (inter)subjectivity and is composed of subjective interpretation. There are also elements of a 5th person perspective (5pp) that attempts an integration of these two, seemingly irreconcilable perspectives.

I believe that much of the confusion over the definition of the word *emotion* and the debate over which position is correct stem largely from misunderstandings related to the outline above. It is not my intention to attempt to adjudicate these various discussions within the field of emotion research. I believe that some form of synthesis may be possible, although it will be a non-preservative synthesis with some aspects of different theories needing to be excluded. Many aspects of the psychology and neuroscience of emotion seem to be compatible. I will align my model with Muller's (2017) Position-Taking View, but will necessarily incorporate some aspects of other perspectives in the philosophy of emotion, as well as perspectives from systems and complexity theory. The justification for this will become apparent in the following discussion.

4.7 Integration: Towards a Complex Integral Realist Theory of Emotion

4.7.1 Preliminary Reflections and Considerations

I will attempt an integration of some of the theories or aspects of them for the purposes of this research. I had initially hoped to include research on personality and resilience, but due to time and resource constraints this has not been possible. However, I will be drawing on research in other related fields that I have prior familiarity with that have a bearing on the focus of my research. As I am focusing primarily on adolescence I will draw upon research pertaining to this stage of development. While I am aware that many of the traditional sociological categories of analysis, such as gender, (dis)ability etc., have a bearing on this

research, it will not be possible to consider their relation to the model here. I am also aware of the Western, Educated, Industrial, Rich, Democratic (WEIRD) bias (Henrich, 2020) in much of the psychological research I will be drawing upon, but I hope to partly ameliorate this in the chapter on axiology.

The first few sections on the ontogeny and phylogeny of affect and emotion are brief and only contain analysis pertinent for the explication of the model focusing on adolescence. It is hoped that it will generate some insight into affective phenomena at later developmental stages and provide coherence for much of the later analysis.

The following integration makes use of *orienting generalisations* (Wilber, 2000) and I will implicitly refer to aspects of the Multidimensional Ontological Domains Lattice and my epistemology in the discussion. I will avoid explicitly referring to aspects of the methodology where possible to improve readability. As I will be covering a great deal of territory from numerous fields it will not be possible to include all of the possible aspects of each theory, all the critiques and all of the potential counter-arguments. I am adopting a *strategy* (Morin, 2008) to navigate the terrain and draw out threads of coherent themes and corresponding structures identified in the literature that is also guided by my ontological commitments and presuppositions defended in the methodology chapter.

4.7.2 The Origins, Ontogeny and Phylogeny of Affective Phenomena

Smith (2008) and Wilber (2000) explicate many of the patterns that structure experience throughout the hierarchical emergence of life on Earth. Smith (2008) draws upon a wide range of theoretical and empirical literature to outline the recurring 0 – 5 dimensions of experience at physical, biological and behavioural levels. Both Smith and Wilber refer to the *holarchical* nature of this recursive, processual emergence of life as each new structure transcends and includes its predecessor. Similarly, Damasio (2005, 2000) presents evidence from neuroscience in his brain model of emotion that consists of hierarchical processing of various representational maps of internal processes. The coordination of these form the basis of affective experience. More recently, Damasio (2018) and Solms (2019, 2021) have argued that this process originates with homeostasis, with Solms (2021) arguing that, following this insight, *affect* is the elemental form of consciousness. These insights are coherent with the

theories of Smith (2008) and Wilber (2000), with the latter focusing primarily on the cognitive, or perspective-taking aspect of this process and Damasio and Solms focusing on the affective aspect.

Both Damasio (2018) and Solms (2021) stress the continuity of the process of homeostasis across all affective phenomena at all hierarchical scales, up to and including human culture. In summary, the homeostatic process in life forms seek a natural upregulation of biological processes conducive to flourishing. It aims at the future of the organism by projecting itself in time and optimising life regulation. This is done by seeking to manage energy to ensure there is sufficient allocation for all of the critical jobs such as repair, growth, defence etc.

Friston (2013) argues that homeostasis arises due to *free-energy minimization*. Self-organising systems can only persist over time by occupying preferred states conducive to flourishing. Therefore, they must resist entropy brought about by being dispersed over all possible states. He utilises the concept of a *Markov Blanket* that establishes the boundary conditions to make this process possible. Solms explains:

> "A "Markov blanket" induces a statistical partitioning of internal and external states, and *hides* the latter from the former. The Markov blanket itself consists in two sets ("sensory" and "active" states) which influence each other in a circular fashion: external states cause sensory states which influence – but are not influenced by – internal states, while internal states cause active states which influence – but are not influenced by – external states" (2019, p. 9, original emphasis).

These include a boundary between internal (self) and external (not self) states; an internal 'sensory state' that monitors the influence of dissipative external forces; and a mechanism that counteracts these forces ('active states') (Solms, 2019). A key feature of the use of Markov Blankets is that external states must be *inferred* as they cannot be 'known' directly. As such, the system must create a *model* of the external world. Solms explains the implications of this:

> "Such models – like all models – are imperfect things. They can (and must) be improved in the light of unfolding evidence. In other words, the inferences the model generates for the system about the conditions outside (inferences formed on the basis

> of the sensory consequences of its actions) take the form of predictions, and these predictions must be constantly tested and revised. Thus, perception and action entail ongoing processes of *hypothesis testing*, whereby the system updates its model – its beliefs – over time. This imperative of negentropic self-organising systems is, in a nutshell, what Friston calls "active inference"' (2021, p. 9, original emphasis).

In humans, both Barrett (2017) and Damasio (2018) refer to the interoception of internal monitoring as *feeling*, and Solms (2019, 2021) puts forward a hypothesis to explain this. Barrett (2017, 2020) and Solms (2019, 2021) present evidence from neuroscience that supports the idea that humans have an interior model of the world that is either supported or disconfirmed on the basis of the accuracy of predictions the system makes in accordance with our interactions with our internal and external worlds. Solms argues that the multiple sources of information coming into the system stem from specialised homeostatic (sub)systems whose demands must be computed differentially. As the accuracy of predictions rise and model evidence is actively increased there is a concomitant rise in complexity. This increase in complexity necessitates a compensatory mechanism to account for the differential demands of specialised homeostatic systems. Solms argues that such accounting will necessarily require compartmentalisation, which can only be achieved "through some form of *qualitative* differentiation between sets of variables" (2021, p. 11, original emphasis). In other words:

> "The requirement for compartmentalisation becomes a necessity when the relative value of different quantities *changes* over time. For example, hunger trumps fatigue up to a certain value, whereafter fatigue trumps hunger; or hunger trumps fatigue in certain circumstances, but not others. Such changes require the system not only to compartmentalise its work efforts in relation to its different needs, but also to *prioritise* them over time.
>
> This imperative reaches its nadir in the active states of the system, which inevitably produce a bottleneck. For example, organisms cannot eat and sleep simultaneously" (ibid., original emphasis).

In developing the work of Maturana and Varela's (1980) view of autopoiesis, and the relation between their work and the notion of *skandas*[16] in Buddhism, Thompson (1998) makes a similar observation with reference to the idea of 'delay-space'. As information from two or more homeostatic (sub)systems converge "the emergent property here is one of *meaning*, and not simply reactivity", so "what feeling is, is precisely this crossing of two channels of information" (1998, p. 35, original emphasis). This requires a 'delay-space' for the incoming streams of information, which may arrive on different time scales, as "to generate an interpretive domain of feeling "now", one has to stabilise the delay-space so that the echoes or afterimages [Damasio's 'representations'] overlap to generate the moire pattern of the interpretative domain [Solms' '*qualitative* differentiation']" (1998, p. 36). I believe this qualitative aspect is consonant with Muller's '*position-taking view'* in his philosophy of emotion in which "the significance of emotional feeling resides in large part in the fact that it constitutes the taking of a positive or negative position on some object or event in response to its value, where this position is crucially informed by our… *cares and concerns*" (2019, p. 8).

In addition, I find resonance with Anton's phenomenological exposition of the embodied self as an existential decompression along spatial and temporal lines: "to decompress is to manifest various phenomenal fields, each of which opens along spatial and temporal horizons" (2001, p. 21). *Feeling* then, is an event-horizon as well as an emergence of a qualitative, expansive interiority. It is a localised process or state with a horizon towards which it positions itself as a 'being-towards-world' (Anton, 2001) which discloses a rudimentary or primary form of intentionality (towards its preferred state). However:

> "Just because all lived world-experience requires and implicates an experiencer, this does not, in any way, reduce world to an experiencer's concept [representation] of it. World, phenomenal fields, and objects, are not simply projections or representations, something an epistemological or transcendental subject manufactures or produces…

[16] "Heap" or "aggregate" is the literal translation from Sanskrit. In Buddhist philosophy humans are composed of 5 aggregates of existence: form, feeling, perception, mental formations and consciousness.

> Both the experiencer and the various phenomenal objects and fields are emergent and upsurging correlates" (2001, p. 26).

Contextual factors become more prescient in novel situations where the organism must *feel* its way through the problem. However, the "qualitatively felt aspect of hedonic value does not *have* to be registered by the self-organising system until multiples of such values must be differentially computed and prioritised in variable and novel contexts, where uncertainty itself becomes the primary determinant of action selection" (Solms, 2021 p. 11). Damasio highlights the cooperative and co-creative nature of this process that "looms large behind the emergence of "general" systems, ubiquitously present throughout multicellular organisms" (2018, p. 55). When scaled up to complex organisms such as humans, much of these homeostatic processes involve unconscious surveillance and only enters conscious experience when deliberation is needed. The overall life of the organism, its *global life*, results from a "high-dimension integration of the contributing lives within it" (2018, p. 67).

This view of affect is coherent with the relational-developmental conception of self and personality (Mascolo, 2020b) and reflects the fractal-holographic, and stratified nature of ontological emergence and development in human psychology. From this perspective, conscious contents such as goals, thoughts, and intentions must arise from outside of conscious awareness (Mascolo and Kallio, 2020). Affect forms the substrate of occurrent emotional processes.

4.7.3 Nested BrainMind Hierarchies

Adolphs and Anderson note that "most theories of emotion… have a kind of layered architecture" (2018, p. 285) and all of the psychological theories have *affect* as the fundamental component of emotion and all other affective experiences. Both Plutchik (1982) and Panksepp (1998) identify primary, secondary and tertiary emotions and Sapolsky's (2017) 'three functional buckets', which makes metaphorical use of MacLean's (1990) 'triune brain' model, shares affinities with this, indicating a verifiable ontology. Panksepp's (1998) insights are employed and developed by Damasio (2018), Asma and Gabriel (2019), and Solms (2021). Below is a diagram of Panksepp's 'MindBrain' model.

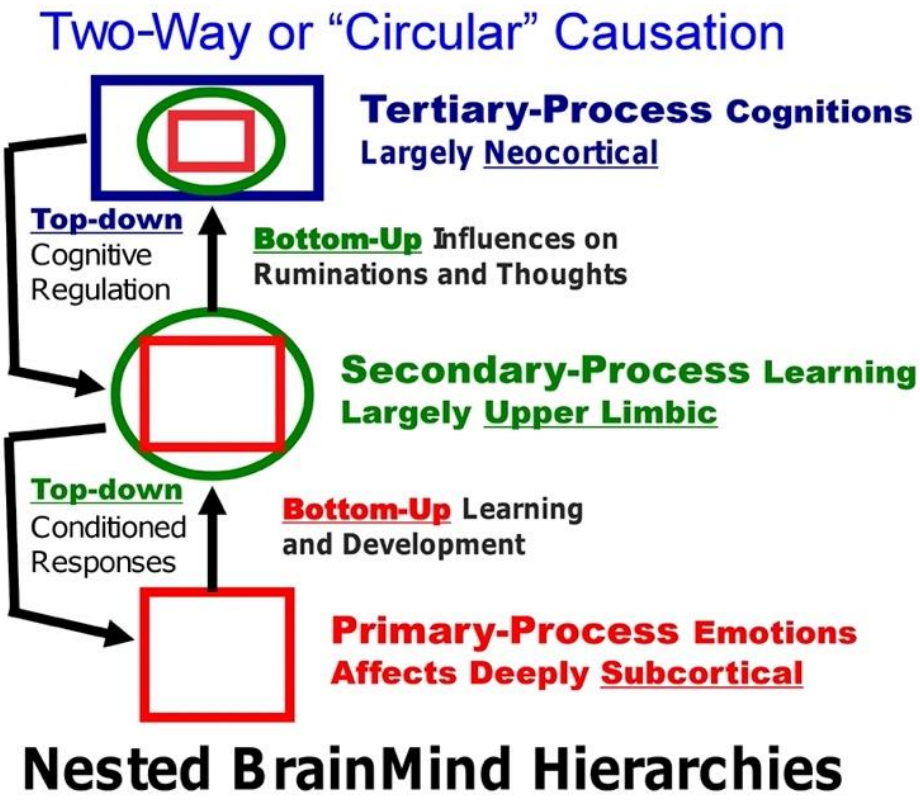


FIGURE 17: NESTED BRAINMIND HIERARCHIES (PANKSEPP, 1998)

Asma and Gabriel argue that the "function of the mindbrain is not easily understood as either behavioural or computational, as it is comprised of a set of bodily abilities and reactions that seem inherently experiential and innate (contra behaviorism) while maintaining fluidity (contra cognitivism)" (2019, p. 27). They describe this model in detail:

> "At the very bottom or the "core" are the instinctual drives, like fight-or-flight, or… intentional seeking. This primary-process layer is housed largely in the subcortical areas of the brain. Panksepp describes primary-process emotions as (1) sensory affects (sensorially triggered pleasant-unpleasant feelings); (2) homeostatic affects (hunger, thirst, etc. tracked via brain-body interoceptors); and (3) emotional affects (emotion-action tendencies). We share these primordial affective systems with all other vertebrates. This layer heavily influences the layer above it, secondary-process emotion, which is more developed in mammals.
>
> Secondary processing includes social emotions, like GRIEF, PLAY and CARE. It is distinguished from the primary level because it can be sculpted by learning and

> conditioning. It is the layer of soft-wiring (part native instinct and part learned association), as compared to the hard-wiring of primary-level emotion. Panksepp describes the secondary-process mind in terms of (1) classical conditioning, (2) operant conditioning, and (3) emotional habits. Emotions in primary and secondary layers are largely unconscious, and even when we are regulating them, we do not have clear, introspective, conscious access to their functioning.
>
> Lastly is the top layer of the mindbrain: tertiary-process emotion. This is the layer of mind that most philosophers and psychologists tend to focus on exclusively. Here the emotions are still connected to the primary and secondary processes, but they are intertwined in the cognitive powers of the neocortex. Ruminations and thoughts, underwritten by language, symbols, executive control, and future planning constitute the tertiary level, though they are energised by lower-level emotion. These ruminations and thoughts also serve as top-down regulators and directors of emotion. At this third level we arrive at uniquely human emotions… Panksepp says tertiary affects and neocortical awareness function as (1) cognitive executive functions, (2) emotional ruminations and regulations (generally located in the medial frontal cortex), and (3) free will, or reflective intention to act (frontal cortical executive functions)" (2019, pp.8 – 9)

Affect could be said to be prior to primary-process emotions, but is transcended and included across all developmentally subsequent affective processing and experience. Affect is usually conceived as being a combination of valence and arousal (Barrett, 2017, Damasio, 2018, Russell, 2003) and has a strong correlation with the homeostatic mechanisms associated with the 'body budget' (Barrett, 2017). This may account for its ubiquity across numerous aspects of experience (Gregg & Siegworth, 2010). The power of affect in influencing perception and decision-making can result in 'affective realism' (Clore and Ortony, 2008) whereby we treat supposed facts about the world that are created in part by our feelings. This can be seen in the studies showing we tend to view others more negatively when it is raining or when we are tired or hungry (Barrett, 2017). While such motive-relevant appraisals (Lazarus, 1991) are often conceptualised as *cognitive*, Mascolo (2020b) argues that they primarily involve *motive-relevant processes*, based in changes in the *status of one's motives* (Roseman, 1984). This interpretation of "feeling towards" (Goldie, 2000) seems to accord with Muller's position-

taking view, but "without assimilating emotional feelings to intellectual phenomena" (2019, p. 100) and adopting a *way of feeling*:

> "in emotional feeling we do not 'take cognizance' of the values of objects; rather we take a (dis)favourable position towards them in response to their value… it recognises emotional feelings as being based or grounded on a prior awareness of value rather than being disclosive of value" (ibid., p. 110).

Asma and Gabriel (2019) state that historically, secondary-process emotions were studied by behaviourism and tertiary-process emotions by cognitive science. Schore (2016) and Sapolsky (2017) present empirical evidence of the emergence, interaction and integration of the biological and psychoneurological anatomical structures that underly these three levels of affective processing. Both highlight the experience-dependent nature of their adaptive emergence in the course of development.

To conclude this section with reference to the model so far, the emergence of affect seems to be the primary source of intentionality, directionality and valuation of experience. It is also structured as an assemblage of different co-created and stratified processes. This process of valuation is one of an emergent, multiple quadruplicity of mechanisms within a stratified ontology with each valuation, beginning with homoeostatic processes and culminating in *affect* as an attractor/mechanism, building within a vertical negentropic cascade of hierarchical processing. The asymmetrical weighting towards antecedence, guides the tendential directionality of assemblages (of attractors/mechanisms) until sufficient feedback mechanisms emerge on a higher level of stratification. This explains why negative affect, as an assemblage of vector evaluations of multiple homeostatic processes, can have such an impact on our 'cognitive' valuations of events until forms of self-regulation emerge within tertiary processes (in Panksepp's model).

4.7.4 Primary-Process Emotions and Primary Existential Orientations

As noted previously, the nature and number of basic or primary emotions is contested. However, there are some commonalities that have significance for the model under

construction that have resonance with some of the themes identified in the previous sections and will be mentioned here briefly.

Plutchik outlines a psycho-evolutionary model of eight primary emotions that relate to eight basic adaptive behavioural patterns (1982) that have evolved as responses to existential problems. Similarly, according to Panksepp:

> "the core function of emotional systems is to coordinate many types of behavioural and physiological processes in the brain and body. In addition, arousals of these brain systems are accompanied by subjectively experienced feeling states that may provide efficient ways to guide and sustain behaviour patterns, as well as to mediate certain types of learning" (1998, p. 15).

In addition, Smith (2008) describes emotions as middlemen that entrain various other adaptive programs in coordinating behaviour. Asma and Gabriel observe that "while their immediate role of facilitating survival, the extent of their functioning is narrow, subsequent associations may be broadened by learning across secondary and tertiary levels" (2019, p. 39). As Panksepp and Watt state: "primary-process emotions, before conditioning, are born "objectless"' (2011, p. 393). This may explain why 'emotion fingerprints' (Barrett, 2017) cannot be found in the brain of humans as emotions may be more like Boyd's (1991) HPC clusters mentioned above. With each phylogenetic and ontogentic iteration, following the neuroscientific principle of degeneracy (Barrett, 2021), different physiological correlates in the brain and body show up for similarly named emotions depending on the context and activation of corresponding networks within the mindbrain. The potential implications of this for education are outlined by Asma and Gabriel:

> "Emotional networks in the midbrain and limbic areas are among the biological founts of affective consciousness; their function is to embody homeostasis and survival via internal affective values. With sufficient feedback linkages to secondary- and tertiary-level processes and engagement with the environment, intrinsic values are then shaped through learning" (2019, p. 42).

Berridge et. al., (2009) describe a brain-based emotional system they name 'wanting' that shares similarities with Panksepp's (1998) 'SEEKING'[17]. Asma and Gabriel argue that SEEKING "is really a master emotion or a drive" whose "intrinsic aspect is flexible – motivating different pursuits at different times" (2019, p. 61) whose neurophysiological correlates span several systems in the brain that reaches into the prefrontal cortex. Similarly, Asma and Gabriel suggest that intentionality is present throughout the brainmind and is "*affective* firstly – grounded in the adaptive emotions – and only derivatively *ideational*" (2019, p. 66, original italics). They set out 4 ways in which affects can be intentional:

1. As adaptations in terms of evolved dispositions involving behavioural responses to regular environmental and social challenges.
2. As mediating and motivating causes that shape behaviour, targeting unconscious goals connected to regulating homeostatic mechanisms.
3. As a "unique intentionality structure that places their raison d'etre outside themselves" as a "not-yet-present final cause organising antecedent behaviour" (2019, p. 72-3).
4. As a "classic conscious structure, as emotions, that agents are aware of". They elaborate:

   "Some of the primary level unconscious subcortical affects (unowned by the agent) become conscious in the secondary level of the core self, where conditioned learning happens only because the animal has subjective feelings (e.g., fear via the basolateral and central amygdala). Here the animal has conscious awareness of emotions, or at least feelings that are meaningful and *about* the external world. Affects at this level of mind are referential. And at the highest level of mind, the tertiary, these emotions are fully intermixed with the executive functions of thoughts and planning. As emotion is shaped by frontal cortex functions, they take on a more typical cognitive referential aboutness – more like propositional belief states. Affects become intrinsic features of judgements and deliberation." (ibid., p. 73, original emphasis).

[17] Panksepp capitalises basic or primary emotion systems to differentiate them from subsequent iterations.

Schore (2016) highlights the critical periods of the growth and maturation of the brain during infancy and his model emphasises the significance of the social environment that activates epigenetic systems and induces the (re)organisation of brain structures. He states that "critical early affective transactions with the social environment are mentally stored in the form of representations of the self emotionally interacting with significant objects" (2016, p. 25). In turn, "internal object relations, stored representations of interaction, therefore have emotional energy – an affective charge – impressed upon them" (2016, p. 25). While affect, or affective qualia, is thought to be the origin of consciousness (Solms, 2021), affect regulation is deemed to be the origin of the 'self' (Schore, 2016). However, as Schore illustrates, normal psychoneurological development in infancy is predicated on an engagement with a primary caregiver who is "psychobiologically attuned to the infants internal state" and "generates an elevation of regulated sympathetic arousal that supports heightened levels of interest-excitement and enjoyment-joy". This is need to help increase the child's capacity to "tolerate higher levels of arousal" (2016, p. 91) continues across development as "your brain becomes tuned and pruned as you interact with others" (Barrett, 2020, p. 84). This experience-dependent impact is believed to play a role "in the ontogenesis of neuroregulatory and self-regulatory processes across the lifespan" (Malatesta-Magai et al., 1991, p. 7). The co-regulation and coherence of homeostatic mechanisms can be seen in breathing, heartbeats and the chemical composition of the blood between people who care about each other (Barrett, 2020, pp. 84-5), as well as the synchronisation of electromagnetic fields generated by the heart and brain (McCraty, 2003).

In relation to learning, Deyoung (2013) argues that the motivation for exploration, or SEEKING in Panksepp's (1998) model, is driven by dopamine, particularly as its primary role is to "make us *want* things, not necessarily like things" (Kaufman, 2020, p. 93, original emphasis). This dopaminergic pathway has a significant impact of personality development (Deyoung, 2013) and various aspects of behaviour (Sapolsky, 2017). It has been proposed that certain dopamine pathways are strongly linked to the reward value for *information* (Deyoung, 2013). Furthermore, there is also a strong association between dopamine and curiosity in relation to social exploration and openness to experience at later stages of development. This is particularly evident in "growth orientation" which is associated with:

> "higher levels of attachment, past positive social interactions, resiliency, commitment toward an important relationship, and self-disclosure in relationship. In contrast, the deficit-reduction orientation [is] associated with various outcomes that stunt growth, including higher levels of social anxiety, social comparison, anxious-attachment style, a need for attention and loneliness" (Kaufman, 2020, p. 95).

4.7.5 Secondary-Process Emotions and Social Orientations

The social, Secondary-Process Emotions (SPEs) are more flexible, adaptive responses to recurring social experiences. Panksepp's (1998) basic emotional systems of CARE and PLAY are found at this level of processing. He argues that PLAY is understudied, but some argue could have significant benefits for education (Koeners and Francis, 2020). This layer is roughly isomorphic with Sapolsky's (2017) 'Layer 2' which is dominated by the activities of the limbic system and is involved in numerous biological systems and processes associated with emotion and learning. These SPEs are learned and felt, but are largely unconscious. However, they seem to offer a bridge to the social world and are co-constructed via enculturation. Due to the impact of culture, our "affective systems can be decoupled (at least in part) from their dedicated targets and recruited to new functions, ultimately giving rise to cultural loops. These bio-cultural loops are made possible by associative learning" (Asma & Gabriel, 2019, p. 114). They explain such decoupling as:

> "The process that cleaves present-tense perceptual indicative percepts from instrumental proto-beliefs. Affect as conative motivational drive is amenable to being decoupleable because it predates – and remains functional – through all evolutionarily later cognitive abilities; that is, its primacy ensures that is has use within any mental context" (ibid., pp. 159-60).

This decoupling of the affective systems can be seen in relation to the CARE system (Panksepp, 1998), particularly regarding the roles of the hormones oxytocin and vasopressin in human bonding. While both facilitate dyadic bonding between couples and families, oxytocin also promotes trust, eye contact, and prosocial behaviours within larger social networks which can sometimes promote a "warm and fuzzy positive feedback loop" (Sapolsky, 2017, p. 113). However, like testosterone it primarily enhances pre-existing traits

and is sensitive to context, so while it makes a significant contribution to the development of bonding and a theory of mind, this prosocial aspect only extends to those who are deemed to be “like us” as it can also promote uncooperative behaviours with outsiders (Sapolsky, 2017, pp. 115-7). This in-group bias can also be seen in research on empathy (Bloom, 2016, Sapolsky, 2017). The significance of this will be explored in the chapter on values below.

Building on the work of Damasio(1996), Asma and Gabriel argue that “primary and secondary-level affective processes create response biases in action outcome selection…” as affective valence acts as a “phenomenal weight in the decision process”, meaning that “affective mechanisms are the core of value generation, of the valence that directs, slows down, speeds up, and gives meaning within decision-making and action release” (2019, p. 32). These form ‘intentions-in-action’ that are grounded in “primary-level affect, which refers to the triggering of innate, sensorimotor programs essential for bioregulation” and “secondary-level processes triggered by the mapping of stimulus features onto acquired schematic structures that have been previously associated, through conditioning, with particular emotional responses” (ibid., p. 35). They review evidence from a prosopagnosic (i.e., face-blind) patient that indicates affective appraisal functions at these unconscious levels and hypothesise that “the purpose of residual affective signals may be as a somatic marker, or an associative mnemonic schema, in the form of a basic preference response” (ibid, p. 36). Sapolsky (2017) reviews evidence of subliminal and unconscious affective cuing in a variety of settings with a range of stimuli, from external perception and interoception, that demonstrates the power of such forms of associative learning. He concludes that “the wealth of [such] information streaming into the brain influences the likelihood of pro- or antisocial acts” means that “in the moments before we decide upon some of our most consequential acts, we are less rational and autonomous decision makers than we like to think” (2017, p. 98).

The notion of somatic markers (Damasio, 1996) is developed with the use of Millikan’s (1995) ‘pushmi-pullyu representations’ (PPR) and Gibson’s (1979) ecological psychology by Asma and Gabriel (2019). Whereas the original PPR relates to the intuitive ways organisms move throughout their environment using descriptive and directive representations, Asma and Gabriel’s (2019) affordance-based PPRs describe the “dispositions given by features of the perceived environment to support behaviours” (2019, p. 157). According to Asma and Gabriel:

> "PPRs are a form of directive and descriptive perceptual signs that fulfil the intermediate role of integrating knowledge from the past into future behaviours. The integration between descriptive and directive aspects is manifested in the mind as valence-weighting within associative networks of option-outcomes (i.e., as somatic markers). A somatic marker structures a creature's response landscape in generally implicit action biases that integrate distal or absent events into current action sequences" (2019, p. 79).

This is combined with effectivities which are "a given animal's dispositions to undertake afforded behaviours in the appropriate circumstances" and reflect the unity of action and perception, the "informational coupling of perceiver and perceived", and the corresponding notion that "proprioception and exteroception imply one another" (2019, p. 157). Asma and Gabriel believe that these are proximate mechanisms that make up social intelligence. They add affect to the perceptual affordances and PPRs of sensorimotor intelligence to generate the notion of "social affordances" in which "affective information gleaned through perception feeds into possibilities for actions in the social realm" (2019, p. 88), although these occur largely at the subpersonal level. This can be seen in relation to SEEKING as:

> "Salience within the perceptual world occurs via affective goads that dynamically covary with homeostatic needs and lead to action patterns, such as information-seeking behaviour… Affect functions as an approach/avoid value in affordance space, whether it be social space… or spatial navigation [of salient] landmarks" (ibid., p. 160).

The manner in which such social affects are encoded remains controversial as some evidence suggests it requires a cognitive infrastructure (re: Cognitivism), while other evidence suggests that conditioned processes are sufficient (re: Behaviourism) (Asma & Gabriel, 2019). However, it seems clear that both require some form of social affective experience (Barrett, 2017, Sapolsky, 2017). This view resonates with affect control theory (ACT) which views emotions as being "derived from the affective meanings of identities, which fluctuate in response to various social experiences" (Rogers et al., 2014, p. 126). It highlights the role of emotion in sustaining the social order and shares some of the views from constructivism (Scheve, 2013). In ACT, many of these affective meanings stem from the rules and roles of society, a theme developed in the chapters on ego development and values below.

Asma and Gabriel review evidence to suggest that SPE, based in the limbic system, is implicated in the categorical computation of associative meaning. They claim that:

> "Childhood development is where that affective salience is first coded and where nontrivial meaning is established. Ontogenetic development is where each of us acquires an affective style; the world itself (the semantic environs) is thus shaped (via somatic markers, vertical associations, schemas, scripts, and affordances) in this early development" and the "meanings are stable enough that we all have a more or less shared affective world" (2019, p. 152).

They suggest that this affective world involves a "dynamic reconsolidation process where affective tags (or landmarks) can be shifted and learning in an implicit, unconscious format at the level of secondary-level affective processes" (2019, p. 166). However, as I will argue below, this shared affective world is also partitioned as it also involves the (un)conscious accommodation and reconsolidation of affective value systems.

Asma and Gabriel's (2019) notion of social affordances resonates with accounts in phenomenology and Anton's (2001) employment of 'intentional threads'. Anton states that "emotions are not simply inner states which I express outwardly, but rather, they are intentional tissues through which world and self are concernfully disclosed and tended" (2001, p. 42). Furthermore, the "various affective intentionalities ecstatically modify the spatialization and temporalization of lived-through world experience" (ibid., p. 43). Anton offers the example of the "depressed affected body [which] discloses a world in which time drags and space shrinks up" with a corresponding disclosure of a "world horizon" which is similarly "depressing" with "the past being severed from meaningful relation to the present, and a meaningful future appearing dismally unimaginable, absolutely unreachable" (ibid., p. 44). In this sense, interior and exterior spatio-temporal horizons covary and reflect each other in affective experience. A connection can be made between this feature of affective experience and the temporal myopia exhibited by children who fail the Marshmallow Test (Mischel, 2014). Children who fail the test for delayed gratification have a much more present-oriented temporal horizon, compared with those who pass possess a broader future-oriented temporal horizon (Wittmann and Butler, 2017). While the original Marshmallow Test has been heavily criticised (Watts and Duncan, 2020), this feature of affective experience and

a restricted sense of temporality has been confirmed by studies in emotion regulation (Hollenstein and Lanteigne, 2018) and self-regulation (Billore et al., 2023). This may indicate that their intentional threads do not extend to or disclose a perceived future populated with affective landmarks to help orient them. This view is consonant with Muller's notion of "construals as a form of epistemic access":

> "The images, concepts, perceptions, thoughts and concerns which may inform one's awareness of a given object in acts of construal supply a standard of comparison or congruence relative to which that object is apprehended as (dis)similar or (in)congruent" (2017, p. 133)

To conclude these last two sections with reference to the model so far, the unconscious nature of PPEs and SPEs, sub-personally navigates and orients the self within physical, social and conceptual space. Affective tags act as attractors/mechanisms within dynamic social and spatial perceptual systems and once landmarks are tagged they become salient motivational vectors for affective orientation in relation to stratified goal states. The PPE of SEEKING is channels through the SPEs of CARE and PLAY and these govern how the self learns in relation to others and how the self orients itself towards its environment. This affective ecological web is connected via intentional threads whose salience is governed by affordances and effectivities. Much of this orientation occurs at unconscious (PPE) and preconscious (SPE) sub-personal levels.

Primary-Process Emotions (PPE) are afforded the greatest absolute affective weight, followed by Secondary-Process Emotions (SPE) but these are sculpted over time through enculturation and socialisation – learning the rules and roles in relationship. SPE is the site of decoupling which begins with associative learning. Tertiary-Process Emotions (TPE) are available to cognition and so are more malleable and can involve the direct, conscious participation of the agent in their co-construction. There is an antecedental cascade via learning to prime prior Process Emotion (PEs) affiliations and schematics. This can occur at the SPE or TPE level, although much of the learning at SPE is unconscious.

4.7.6 Tertiary-Process Emotions and Culture

Asma and Gabriel state that the tertiary-level emotions are primarily linguistic and are "imbued with cultural significance but remain tethered to the first two levels of affect" (2019, p. 28). They argue that "language is probably the most effective decoupler we have" (ibid., p. 203), but they locate the process of abstraction in the use of language and the concepts they entail as embodied and embedded representations at the tip of a negentropic, vertical cascade of prior representational maps ascending from the layered affective systems explored thus far. This corresponds with the embodied realism of language development (Lakoff, 1999, Lakoff and Johnson, 2003) mentioned previously. While affective processing is dominant in PPE and SPE, which are largely unconscious, cognition and language seems to be dominant with Tertiary-Process Emotions (TPE). While Asma and Gabriel (2019), like Panksepp and Watt (2011), identify this as the primary epistemological domain of social and psychological constructionism in emotion research, Asma and Gabriel criticise the constructionism of Barrett (2005, 2017) for seeming to ignore the significance and iterative complexity of these prior layers of affective processing on the relationship between language, cognition and emotion. In contrast, they argue that, as primary affective "representations are constructed in part by an automatic, unconscious bundling process" of non-conceptual content, with the emergence of language, "the bundling is upgraded by a syntactical system that allows for more complex sorting and recursion" (2019, p. 155). This 'bundling' corresponds with the notion of assemblage as I have been using the term.

This process of recursion can be seen in relation to SEEKING which, as an initial "powerful source of motivated directionality", receives its own "cultural channelling… into a feedback loop of social learning" (2019, p. 99). This shares resonance with Barrett's assertion that "emotion concepts are goal-based concepts" and that the "goal is the only thing that holds the [emotion] category together" (2017, p. 92). Barrett (2017) explores the significance of the socio-cultural impact on emotion, particularly highlighting the diversity of emotional experience in different cultures. Her work illustrates the power and significance of culture and language on the emergence of discrete emotions and affective experience at this level of affective processing. Barrett asserts that "emotions are constructions of the world, not reactions to it" (2017, p. 16). This seems to ignore the significance of, and empirical studies

supporting, the existence of innate affective systems (Asma and Gabriel, 2019, Sapolsky, 2017).

In the theory of constructed emotion, “a concept is a collection of embodied, whole brain representations that predicts what is about to happen in the sensory environment” (Barrett, 2017c, p. 16). Elsewhere, Barrett (2016) explicitly connects the need for a conceptual system and language in the formation of emotional experience, but admits there may be instances where emotion concepts can emerge without words (2017, p. 105). However, in the developmental, evolutionary model of Asma and Gabriel *concepts* stem from “non-linguistic prototypes as pre-modern concepts (similar to perceptual symbols) and propositional concepts as a later form of decoupled linguistic representations” (2019, p. 199). This is in line with the analysis thus far and the Model posits emotion on a continuum of affective representations along a negentropic, vertical cascade of representation, categorisation and finally abstraction, following Smith’s (2008) model of the dimensions of experience, Damasio’s (2018) work on affective processing, and Lakoff’s (1999) exploration of the embodied mind in philosophy. Although, interestingly, Barrett acknowledges the neuroscientific evidence for this process in relation to the role played by information compression by reducing redundancy in the brain’s neural networks: “your brain makes a big, fat, compressed summary of summaries of summaries” that culminates in the potential for “your brain to think *abstractly*” (2020, p. 116, original emphasis).

Asma and Gabriel (2019) trace the affective roots of language and abstraction in analogy, which, they argue, is “an early form of decoupling” (2019, p. 202) and is congruent with Lakoff and Johnson’s (2003) work on the embodied and relational nature of metaphor. The identification of internal emotional experience through the use of language and its reliance on the intersubjective nature of this process in acculturation and communication resonates with Barrett’s (2017) development of the notion of emotional granularity outlined below.

Both psychological construction (Russell, 2003) and the theory of constructed emotion (Barrett, 2017) differentiate the emotional episode into ‘core affect’ and the subsequent construction of emotional experience. Despite both accounts of core affect being developed with reference to corresponding empirical literature, the dimensions of valence and arousal have been criticised as being too simplistic to account for the complexity of affective

experience arising from the Mindbrain (Asma & Gabriel, 2019). However, the Model can proceed by *leaning on* some of the key features of these theories that can account for, and are coherent with, corresponding literature and associated theories at this level of affective processing.

Emotional meta-experience is defined as a "perception of oneself" (Russell, 2003, p. 163) and entails several functions that entail the "construction of a coherent narrative, interpreting, packaging, and labelling the episode with general knowledge" (2003, p. 165). Furthermore, this experience entails the use of concepts and categories that are heavily influenced by learning, culture and language, particularly with regard to the social rules and roles of a given society and culture. However, while the relativistic impact of culture is significant:

> "much of the scripts are defined around universal human scenes and dilemmas, such as sexual infidelity, danger, dependency, and so on. The concepts expressed by a natural language mix the universal and the culture-specific in ways that are difficult to untangle" (2003, p. 164).

This view is coherent with the insight from some basic emotion theorists that emphasise the universal source of, and relation to, recurring biopsychosocial matrices of affective experience. This can be seen in the work of Plutchik (2082), the universal ethogram (TenHouten, 2021) and the reward and punishment feature of many emotional experiences (Rolls, 1999). Further iterations of this meta-emotional reflection and construction in response to universal themes relativistically reworked within the domains of human society and culture can be seen in relation to ego and values development below.

The further refinement and development of these universal themes can be explained by Barrett's (2017) work on *concept cascades* and *emotional granularity*. Concept cascades relate to the summary of summaries of summaries notion outlined above in relation to generating "ever more detailed predictions, which are checked against actual sensory input at each stage" (2017, p. 120). In this model, emotion concepts and their corresponding experiences are simulated even before this process of categorisation is complete as multiple cascade pathways, incorporating resonant, antecedent experiences, as well as multisensory stimuli, cohere in preparation for a coordinated response to an event. Barrett argues that "this explains why an experience like happiness feels triggered even before categorisation is

complete" (2017, p. 121). Emotional experience is based on our internal simulated model of reality, checked and updated against external, incoming information (Wilkinson et al., 2019). These cascades continue in iterative recursions forming feedback loops until the brain hits upon a 'winning instance' of the correct corresponding emotion category (Barrett, 2017, p.121).

Barrett (2017) describes emotional granularity as the ability to identify and accurately read internal emotional states. This can be significantly aided through the use of language to correctly and more precisely construct emotional experiences. Koenig's (2021) *Dictionary of Obscure Sorrows* could be viewed as a venture in increasing this emotional granularity by combining emotion concepts to open up and deepen emotional experience through language. Barrett states that this "preciseness leads to efficiency; this is the biological payoff of higher emotional granularity" (2017, p. 121). The process of acquiring higher emotional granularity is predicated on *emotional enculturation*, an engagement and integration with the surrounding culture with the corresponding acquisition and habituation of new emotion concepts. In this sense, "words represent concepts, and concepts are tools of culture" (2017, p. 146). While this enculturation initially taxes the body budget, it can result in higher emotional intelligence (EI) and overall health (Barrett, 2017). Numerous models of EI begin with this identification of emotion from which EI can be developed (Botham, 2013). In addition, "emotional communication happens… when you and I predict and categorise in *synchrony*" (Barrett, 2017, p. 195, original emphasis) and "we likewise synchronise our concepts for emotion" (ibid., p. 196). However, Barrett (2017) also draws upon research that illustrates the many ways on which we infer intentions in others based on our value system. This will be explored in more detail in the section on values below.

There are significant relations to the increasing capacities for human agency, particularly considering the role of the imagination and its relation to the unconscious PPE and SPE layers of affective processing and the conscious layer of TPE:

> "The voluntary mode of imagination does not *replace* (phylogenetically or ontogenetically) the involuntary mode, but rather *subsumes* it. When the simulations can be stored, accessed, and manipulated by voluntary control, then the system rises

> to the authorial level that we readily recognise as the imagination" (Asma & Gabriel, 2019, p. 181).

This notion of an *authorial level* is echoed in Moors' (2017) integration of appraisal theory and Russell's (2003) psychological construction. Drawing on dual process theories in psychology (Kahneman, 2011), Moors argues that there is a "trade-off between optimality and automaticity" with the "stimulus-driven mechanism… seen as simpler, which makes it more automatic but also more rigid [corresponding with the unconscious PPE and SPE], and therefore more prone to produce suboptimal behaviour in some cases [particularly in relation to accommodating social rules and roles]". In contrast, the conscious, authorial "goal directed mechanism", which she posits at the level of cognition (corresponding with TPE), "is seen as more complex, and therefore less automatic, but also more flexible and therefore more apt to produce optimal behaviour" (2017, p. 9).

Moors advocates stretching the notion of appraisal to include the goal-directed mechanism and to recast it as a broader form information processing (2017, p. 15). Furthermore, the "goal-directed mechanism can also be automatic", with the additional complexity of positing the notion that "agents have multiple goals" (2017, p. 11) that can be in competition with each other. Barrett (2020) advocates a view of human agency that seems to be congruent with this and seems to suggest a feedback mechanism whereby this authorial mechanism could, with practice, seed conscious behaviours into automatic responses. She states that:

> "you can challenge the beliefs that you were swaddled in as a child. You can change your own niche. Your actions today become your brain's predictions tomorrow, and those predictions automatically drive your future actions. Therefore, you have some freedom to hone your predictions in new directions, and you have some responsibility for the results" (2020, p. 82).

However, this notion of freedom may also develop over time. This will be explored in the next section on the self.

To conclude these last sections with reference to the model so far, the conscious nature of TPEs should be seen in relation to their covariance with language and cognition. The upgrade of the SEEKING drive into goal-based concepts, with their roots in analogy and metaphor,

helps to instantiate emotional meta-experience in the perception of oneself as a coherent narrative, partially defined by scripts inherited (un)consciously from culture. It is at TPEs that the self can develop emotional granularity and begin to author ones' own emotional experience. Such attempts at self-authorship can result in a feedback loop whereby this higher-order assemblage can 'pass down' new affective interpretations along the conceptual cascade towards the more automatic and rigid SPEs. Many of these processes will be expanded on and developed in the following chapters on ego development and values.

4.7.7. Affect and Emotion: Implications and potential applications to educational theory and practice

This section provides an answer to the fourth research question: What is affect and emotion and how does it relate to education? It also situates the answer in relation to the meta-crisis discussed in chapter one and why a new theory of education is needed, as outlined in chapter two.

From the discussion and proposed integrative model of affect and emotion outlined above, affect seems to be the origin of conscious, subjective experience and arises as a qualitative homeostatic mechanism that coordinates and integrates quantitative information from biological subsystems according to their respective values along axes of valence and arousal. The implications and potential applications of this for education arise from its primary, or foundational nature. Before any consideration of a higher purpose or aim of education, it could be argued that consideration of the nature and formation of affective experience is of vital importance, particularly its embeddedness within bio-psycho-social and environmental contexts. According to this view, all educational processes are primarily affective processes and should be understood and engaged with accordingly. It could be argued that modern education is founded on a *cognitive* approach to education, and that an orientation towards a more *affective* approach is warranted in light of this.

Emotion is much more difficult to define. Emotion seems to be a process of hierarchically organised homeostatic mechanisms that transcend and include affective experience. It contains sub-personal, pre-personal, personal and transpersonal elements and is formed by a confluence of physical, biological, cultural, situational and contextual processes. Every

instance of emotion is a concrete singularity in its uniqueness because of this, but it also reflects all other instances of that emotion within individuals, cultures and across species within a fractal-holographic prism of evolutionary experience. For example, my current experience of anger is unique, but it also shares a self-similarity with every other instance of anger I have personally experienced, as well as other humans and other species capable of similar emotions. The potential implications and applications of this to education could be profound.

The 'lower' emotional processing of primary process emotions supercede all others as they are indeed primary. If they are strong, any other higher engagement with educational processes may be significantly hindered until there is sufficient and adequate engagement with that level of emotional processing. This makes sense on a practical common-sense level to anyone who has ever attempted to teach someone anything when they are experiencing rage or fear. However, as secondary process emotions are largely subconscious, preconscious and associative, this could help explain the significant impact educational processes have on self-identity (Ferrer-Wreder and Kroger, 2019) and self-determination (Ryan and Deci, 2017). How educators and educational systems treat students emotionally has a significant and lasting impact on core affective and emotional processes. However, at the level of tertiary process emotions, educators and students could learn to co-create and shape these processes in a recursive fashion towards more educational aims. This could include a movement towards individual and collective self-emancipation, as outlined in the section on axiology in chapter three.

To confront the predicament of the meta-crisis, it could be argued that affective and emotional experience needs to be nurtured, cultivated and guided towards educational experiences that foster an interest in knowledge, an on-going orientation towards personal and collective growth and development, as well as a more positive orientation towards others to collectively find adequate responses to the problems we face, as outlined in chapter one. Fostering a greater understanding of the view of affect and emotion as outlined here could also potentially aid in overcoming the Deficient Mental Rational Structure of Consciousness (DMRSC). An understanding and appreciation of the embedded, all-encompassing and foundational nature of affect and its complexity reveals a subjectivity that is stratified and partially shared amongst all sentient life. Much of this resides within the domain of the Real,

beyond our comprehension and appreciation. Not only does this 'objective' view of affect and emotion undercut its static and reified nature, but it also infuses it with a nascent subjectivity, ultimately collapsing the subject/object dualism that is the hallmark of the DMRSC.

5.0 Chapter Five: Developmental Structures of the self

5.0.1 Introduction

This chapter explores developmental structures of the self, with a specific focus on Ego Development Theory. The connection between the previous chapter on affect and emotion relates to the notion of assemblage and attractor/mechanism outlined in the ontology section in chapter three on methodology. Both appraisal theories (Clore and Ortony, 2008, Moors, 2017, Scherer, 2009) and psychological construction theory (Russell, 2003) propose components of emotional episodes that require some kind of coordinating feature of psychological life. In this chapter I propose that this coordinating feature is the ego. There is evidence for this connection in Beni's (2019) Structural Realist Theory of the Self (SRTS), which draws on empirical evidence from biology and neuroscience, as well as systems theory. In SRTS, the Cortical Midline Structure (CMS) "partly integrates the autobiographical and emotional aspects of the self and connects them with the first-person perspective" (2019, p. 133). Furthermore, the CMS is supplemented with the Mirror Neuron System (MNS) as "the model of social cognition that is based on the operation of MNS [and] explains mindreading, affective mechanisms, action understanding, and empathy". These systems also account for a range of other "unconscious and automatically simulated re-enactment[s]" and provide a basis for a "meaningful account of the goals and purposes that motivate the actions of others" (2019, p. 136).

Furthermore, SRTS incorporates Friston's (2013) Free-Energy Principle (FEP) which offers an informational theoretic structure of the self that is infused with the structure of environmental information, outlined above in relation to Solms' (2021) theory of affect and consciousness, thereby highlighting the embodied and non-secluded nature of self and environment. Beni's (2019) SRTS provides empirical and theoretical support for the notion of the assemblages of affective and emotional experience and their inextricable connection to the notion of self and subjectivity seen throughout the discussion above.

5.0.2 Outline

The first three subsections outline which methods will be used drawing on the toolbox approach outlined in chapter three. These focus on ontology, epistemology and axiology. This

is followed by a brief caveat before exploring and outlining the different stages of emotional development.

The next three subsections outline the three main stages identified in the literature. These are Self-protective/Opportunist, Conformist and Conscientious or Achiever. These are the most detailed sections and include most of the analysis in this chapter.

The final subsection considers the potential applications and implications in relation to education.

5.0.3 Ontology

While Beni's (2019) model provides a robust connection between affective experience and subjectivity, for this Model, I propose that the psychological processes relating to the concept of 'self' or 'ego' and its development are best explained by Ego Development Theory (EDT) (Cook-Greuter, 2021), in relation to Maslow's (1958) hierarchy of needs, supported and developed by Kaufman (2020). This proposal is premised on the ontological assumption of stratification. While affective and emotional experience is stratified, as outlined in the previous chapter, other lines of research within psychology indicate that psychological notions of the 'self', or 'ego' are also stratified. While boundary formation is 'fuzzy', following the discussion on boundary formation and holons in chapter three, the attractor/mechanism within the assemblage is deemed to be the 'ego' or 'self', explored below.

5.0.4 Epistemology

This will be explored in this chapter with an initial emphasis on the coherence theory of truth (Walker, 2017) (Left Hand Quadrants within the 4Q) and supplemented with the correspondence theory of truth in drawing on coherent empirical evidence from other areas of related research, such as emotional development and adolescence.

Wilber's work (1999, 2006) identifies and explores the confluence of many developmental theories, particularly from psychology, and illustrates many of the ways in which these are isomorphic maps of underlying ontological structures of the human personality. These can be seen in the diagram below:

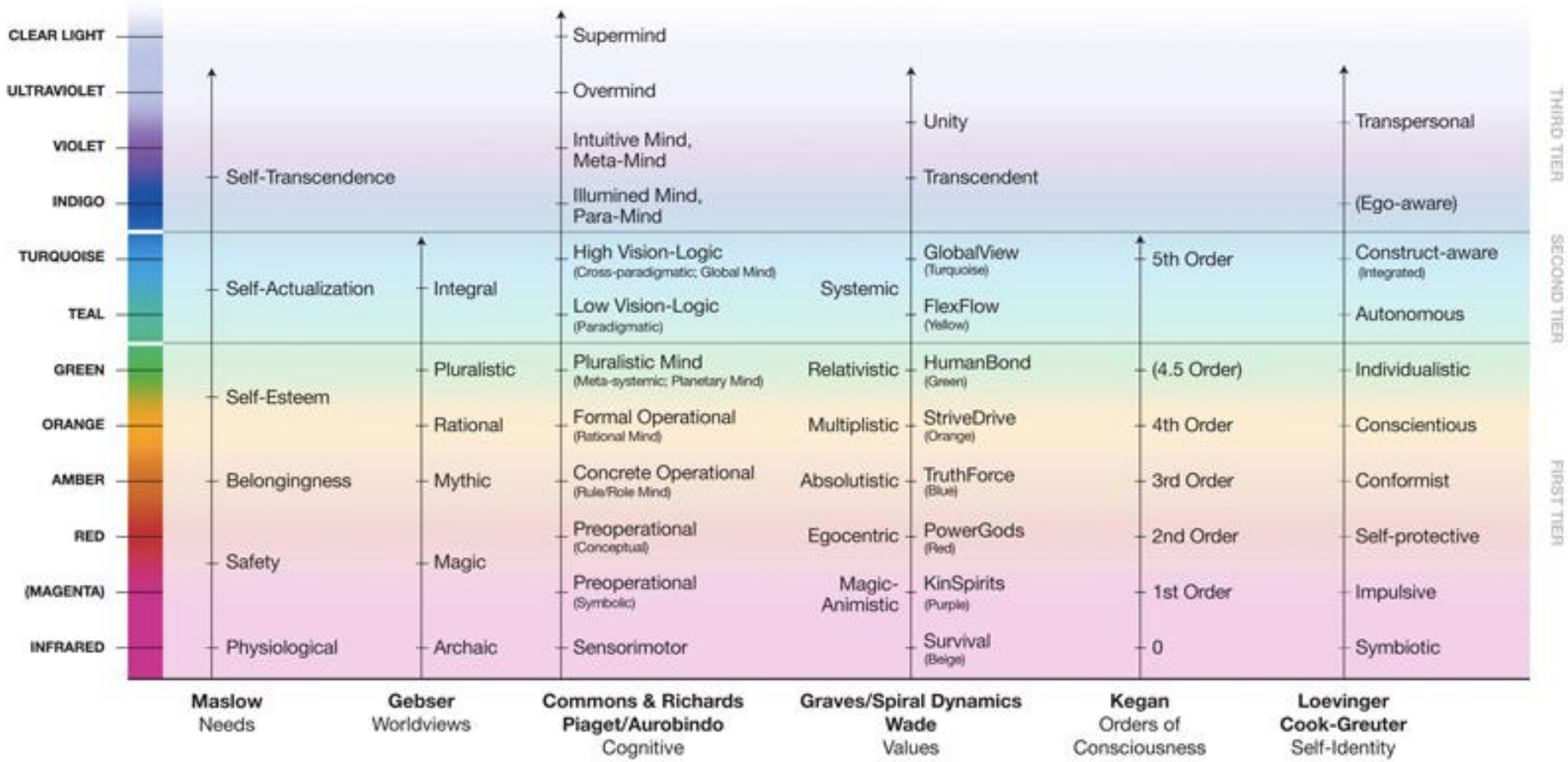


FIGURE 18: EVOLUTION OF CONSCIOUSNESS (WILBER, 2006)

This will be used as a basis from which to draw comparisons between the work of Wilber (1999), Wade (1996), Cook-Greuter (2021), Kegan (1982) and Kaufman's (2020) development of Maslow (1958) with a focus on the psychological orientations towards human agency, defined here as 'self-determination' (Ryan and Deci, 2017), learning and cooperation. While the models I will be drawing upon have different epistemologies and consider different ontological structures, here my focus is on affective orientations in the sense of directionality, action-tendencies and dispositions, particularly as they pertain to the model of affect and emotion considered previously. Following the fractal-holographic principle and the notion of holonic, developmental recursion, I view the orientations referred to within these models as representations of associated affective orientations. As such, my purpose here is not to consider the main ontological domains considered by each respective theory per se, but rather to tease out what each of them have to say about the affective orientations regarding agency, learning and cooperation in the hope of illuminating how different underlying mechanisms contribute to the different developmental integrations, management and production of these affective orientations.

5.0.5 Axiology

This section outlines my value commitments for the purposes of this chapter. Due to my focus on late childhood to adolescence, I will be focusing primarily on those stages of development that correspond with those biological ages. However, I recognise that psychological development is often a non-linear process and that there are several associated features of psychological life such as defence mechanisms, pathologies, different lines of development etc. that have been identified and explored in the models under consideration that do not develop in accordance with chronological age (Basseches and Brandão, 2020). Here I am simply seeking to find evidence for the orienting generalisations identified above. Most of the models I will be drawing on also have substages or transition stages. For ease of reference and with a focus on pragmatism, these will be omitted where possible. I will also be using Cook-Greuter's (2021) model and her names for the different stages as it contains a specifically emotional dimension and I am familiar with it from previous research (Botham, 2013) and engagement in my teaching practice. I will also draw upon research in other fields

associated with emotional development, such as emotion regulation, where appropriate and make reference to research in the previous chapter.

5.0.6 CAVEAT

From much of the literature surveyed below, and in relation to the language used in the previous chapter on affect and emotion, each stage is a mean along a scattered distribution of coherent, organizational processes of psychological experience. The organising locus, or attractor/mechanism of the self, in co-ordinating all of the 'lower' affective and emotional processes is here referred to as the 'ego' in EDT. But when an individual is predominantly inhabiting a stage of development, it simply means that most responses to the day-to-day tasks of living emanate from that particular stage, but can inhabit, and exhibit behaviours from across the spectrum of development, sometimes even within a single day. For example, a student may be at the Conformist stage, but show behaviours typical of the Conscientious/Achiever stage in some contexts when they are at "their best", but signs of responding from the Self-Protective stage following a period of increased stress. In this sense, the ego is simply a higher-order manifestation of the biological homeostatic mechanism in psychological life. This caveat should be used for a contextualisation of the descriptions that follow.

5.1 SELF-PROTECTIVE/OPPORTUNIST STAGE

Imperial (Kegan)/Egocentric (Wade)/Safety Needs (Maslow) (Pre-conventional)

This stage is "familiar to most people from watching or dealing with young children before they enter kindergarten" (Cook-Greuter, 2021, p. 43), although Wade notes that "many characteristics of this kind of awareness commonly linger through late childhood and early adolescence (Wade, 1996, p. 97). It is a stage typified by the dominance of a first-person perspective (1pp) and those at this stage find it difficult to adopt and sustain another's point of view. Their sense of time is often dominated by the present tense in satisfying their most pressing and basic needs. Children at this stage are often considered "normal", but if this stage dominates into adolescence and into adulthood individuals are thought to be "dysfunctional rather than developmentally arrested" (1996, p. 98).

Cook-Greuter identifies *Self-protective* and *Opportunistic* expressions of this stage with Opportunists often using "physical strength and size (or status power)" to "get what they want" (2021, p. 43). To them "life is a zero-sum game" (Ibid.). In contrast, those with the Self-protective expression are often "shy and physically less strong", which is why it is often "women who inhabit this world" (2021, p. 44). They often try to hide to protect themselves and feel a greater sense of vulnerability. Both expressions view the world as a "hostile place rife with danger" and they get "into trouble" when a boundary is crossed, but they do not yet understand the connection between action and consequences. Feelings are often projected outwards onto others. Wade expands on this level of affective experience:

> "Representation of emotion is possible for the first time, and the quality of affect may change from a somatic to a psychological experience. Emotional states tend to be pervasive and unambivalent. They have an absolute either/or quality, and subjects seem to lack the capacity to experience multiple affects as part of a single emotional reaction. The range of emotions is considered limited and unmodulated. Children at this stage are not believed to perceive others as having emotions or an internal life, but instead see them as different primarily on the basis of external characteristics" (1996, pp. 103-4).

As adults, who are rare, they tend to view experience in "simple dichotomies – good/bad, right/wrong, fun/boring" and often "only strong negative affect is expressed", with only the "simplest of feelings such as sick, upset, excited, and mad" being identified (Cook-Greuter, 2021, p. 46). It could be said that individuals have a rudimentary degree of agency at this stage as they are beginning to develop the "capacity to take command of one's impulses (to have them, rather than be them)" (Kegan, 1982, p. 89). This could indicate the beginning of a process of identifying Secondary-Process Emotions (SPEs), but there is limited degree of emotional granularity.

Kaufman (2020) combines Maslow's (1958) physiological and safety needs here as psychological processes are dominated by the need to maintain homeostasis. There is confluence with the work on Primary Process Emotions (PPE) in the previous chapter, particularly regarding the homeostatic and allostatic nature of affective processing. Kaufman refers to *psychological entropy* in which "we experience uncomfortable feelings such as

anxiety and distress" (2020, p. 9) in response to too much chaos and unpredictability in meeting our basic physiological and safety needs. He states that when we regress to this level of psychological processing "our sense of possibility shrinks, and we are dominated by an exquisitely narrow repertoire of emotions, thoughts, and behaviours" as we "act in quite specific ways to restore balance, or homeostasis" (2020, p. 11).

Building and integrating work on attachment theory, Kaufman traces the origins of our "internal working models" of others and the self at this level and states that "as children we don't yet have the cognitive brakes of reflection that allow us to halt the attachment behavioural system (2020, p. 14). This indicates an associated impact of PPE and SPE discussed above in relation to the unconscious, modulatory process of socialisation on affective priming, and the impact of this on our internal working model. While "modern research suggests that there is no such thing as a completely securely attached person", Kaufman draws upon research indicating that "secure attachment doesn't just set the stage for more satisfying relationships; it also sets the stage for many other aspects of growth" (2020, pp. 18-9). Kaufman sets out the importance of this for developing human agency and the motivation to learn:

> "The latest research suggests that the passivity and feeling lack of control is actually the default response in animals, an automatic, unlearned reaction to prolonged adversity. What must be learned is *hope* – the perception that one can control and harness the unpredictability in one's environment. The capacity for hope relies on development of the medial prefrontal cortex, which is not completed until early adulthood" (2020, pp. 27-8, original emphasis)

Kaufman (2020) cites numerous studies illustrating the contextual nature of this sense of a lack of control and the associated negative affective experiences. Most individuals regress to this level of affective processing given the right socio-cultural or environmental context. This highlights and finds resonance with the importance of others in affect and emotion regulation associated with PPE and SPE respectively. In addition, Kaufman highlights research from the educational field of "possibility development" that indicates an improvement in a sense of agency and attitude to learning when students are encouraged to have a "voice" in their own education and are encouraged to see themselves as having control over their own education.

This shares a strong resonance with this need for control and Self-Determination Theory's (SDT) emphasis on the need for competence, relatedness and autonomy as basic psychological needs (Ryan and Deci, 2017).

In terms of social relations, "friendships blow up easily" (Cook-Greuter, 2021, p.45) as the lack of a second-person perspective (2pp) means that how another feels "is not a part of the very source of my own feeling or meaning-making" (Kegan, 1982, p. 91). As such:

> "Without the internalisation of the other's voice in one's very construction of self, how one feels is much more a matter of how external others will react, and the universal effort to preserve one's integrity will be felt by others as an effort to control or manipulate… The absence of a shared reality names the structural limits of [this] stage" (Ibid.)

5.2 Conformist stage

Interpersonal (Kegan)/Conformist (Wade)/Belongingness Needs (Maslow) (Conventional)

The psychological structures for this stage are developed between late childhood and late adolescence (Cook-Greuter, 2021, Wade, 1996) and initiate the beginning of the *conventional stages* with the vast majority of adults operating at these stages in most Western countries (Cook-Greuter, 2021). This stage is typified by a developing adoption of a second-person perspective (2pp) and an identification with the group. Cook-Greuter expands:

> "The boundaries between self and others, however, are confused, literally fused and blurred. On the one hand, there is total acceptance of the family and in-group (such as peer groups in adolescence), on the other hand, we see blind rejection of defiance and out-groups" (2019, p. 49).

There is coherence in this description with an indicative analysis of the dominance of the SPEs outlined above. The associative learning of SPEs (Asma and Gabriel, 2019) and the influence of oxytocin and testosterone on the "like us" and not "like us" dynamic of social relations (Sapolsky, 2017) is evident. In addition, recent literature reviews highlight the emerging dominance of peer bonding as the primary driver of psychological development during

adolescence (Brown and Larson, 2009, Delgado et al., 2022, Moretti and Peled, 2004), with early adolescence being a time of increased conformity (Laursen and Veenstra, 2021).

At this stage individuals "don't have their own opinions to assert although they may be good at expounding the values and beliefs of their group" (2019, p. 50). Individuals are keen to uncritically adopt and accommodate the rules and roles of the group (Wilber, 1999). This does not mean that an individual loses her sense of self, "it is more that there *is* no self independent of the context of "other people liking" (Kegan, 1982, p. 96, original emphasis). The importance of narrative is highlighted, with Wilber identifying "script pathology" (1999, p. 124) as one of the major pathologies at this stage with psychological splitting and dissociation of the *bad self* that does not meet these social expectations the result in extreme cases. Agency at this stage could be viewed as the emerging ability to meet social expectations and develop coherence within group roles, rules and narratives. The presumption here is that appropriate and optimal social expectations are needed to ward against any potential script pathology. A second aspect of potential agency at this stage relates to an improved emotional processing.

Cook-Greuter notes that the "vocabulary for feeling states is simply, undifferentiated" (2021, p. 54) and they tend to express "simple "acceptable" feeling states: sad, happy, nervous, upset, but do not differentiate feelings into subtler gradations" (2021, p. 53). This indicates an undeveloped emotional granularity (Barrett, 2017) and a dominance of Secondary-Process Emotions (SPE) as emotional life is primarily fused with group affective orientations that are experienced largely unconsciously. This relates to Panksepp's (1998) CARE affective system at this stage and is also evidenced in the emergence of potential delayed gratification to behave in a socially acceptable manner (Wade, 1996, p. 119). The rudimentary identification of discrete emotions indicates the presence of the developing Tertiary-Process Emotions (TPE), which would be expected during emerging adolescence.

Research on the emotional life of adolescence indicates an early experience of increasing negative affect from early to mid-adolescence (roughly 10-14 years of age) (Somerville, 2016). This is coherent with studies that show greater emotional instability during this time (Bailen et al., 2019), with both instability and negative affect declining towards late adolescence (roughly 14-19 years of age). In addition, research in emotional regulation dynamics in adolescence shows that "emotional reactivity due to underlying limbic activity develops

nonlinearly, peaking in early adolescence, and the top-down capacity of cognitive control to regulate that arousal progresses linearly, eventually achieving dominance in late adolescence" (Hollenstein and Lanteigne, 2018, p. 162). These findings correspond with the analysis above indicating that the emerging dominance of the CARE system during the conformist stage of ego development causes conflicting goals (due to dissonant assemblages around different attractors: one to the prior opportunist stage and one with the emerging conformist stage) producing the prevalence of negative affect and emotional instability. This is supported by research that indicates that secure attachment during adolescence is more positively associated with more adaptive emotion regulation, coping, and access to one's own emotions (Zimmermann and Iwanski, 2018). Like TPE, effective emotion regulation requires development of the Pre-Frontal Cortex (PFC), which is also a prerequisite for abstract reasoning and is required for the next stage.

At the Conformist stage, the rules, roles and narrative of the group are beginning to be internalised and followed without question. This has potentially significant implications for the motivation to learn. Rather than completing school work to "not get into trouble", learning becomes more of a process of affirmation and a sense of belonging to the group in joint activity. As the self is merged with the group, intrinsic and extrinsic motivation are not yet differentiated. Respect for authority, rules and routines determine the contours of the motivation to learn within the context of social expectations, so long as the group with which one identifies conforms to the educational venture enacted. This explains why, in my experience, most groups of students in mainstream education conform and meet expectations, as well as potentially explaining why those who inhabit a subgroup antithetical to mainstream schooling, or particular educational authorities, sometimes do not. The boundary of their group does not extend to the educational authority.

Research on emotional development in adolescence shows a conflicted picture in relation to orientation towards novelty (a re-emergence of the SEEKING system discussed above), perhaps due to adolescents not revealing these tendencies in all situations (Somerville, 2016). This could be due to changes in interest corresponding to group identity and affiliation associated with this stage of ego development, a more individualistic orientation to learning typical of the next Conscientious stage, a result of differential developmental timing (Somerville, 2016) or simply due to idiosyncratic variation.

While the emergence of a 2pp is a significant leap in development, the cooperative dimension at this stage is initially fraught with difficulty. The need for control re-emerges but "uncertainty and conflicting feelings cannot yet be registered as they threaten the very being of a Conformist" and "feedback is experienced a critique". This is coherent with research on emotional development in adolescence (Somerville, 2016). As a result, they "don't like to be singled out" (Cook-Greuter, 2019, p. 50). In reviewing the neuroscientific literature on this phenomena, Sapolsky concludes that "rejection *hurts* adolescents more, producing that stronger need to fit in" (2017, p. 166). The term 'imaginary audience' is often used to describe the increasing awareness that others have the capacity to evaluate them and sometimes results in adolescents imagining a critical audience of their peers during salient activities, even when none is present (Blakemore, 2018). This tendency is particularly exacerbated with current generations with the impact of social media (Twenge, 2017). In relation to this, shame is a common emotional response when individuals feel they have transgressed and these feelings are often countered by "demonstrations of overly positive feelings and enthusiasm" (Cook-Greuter, 2021, p. 52). Their identity depends heavily on the approval of the group and the coping mechanisms associated with their interpersonal style are typically projection and introjection:

> "They imagine that others think, want, feel what they themselves think, want, or feel (projection) and then try to fill those imagined needs. They also swallow others' definitions, norms, values and opinions without questioning (introjection)" (cook-Greuter, 2021, p. 52).

This almost fusion-like identity with the other, as a member of the group, is often seen as being particularly pronounced during adolescence "where the intensity of feeling *as* the other can border on *being* the other" (Sapolsky, 2017, p. 168, original emphasis). Kaufman states that this underlying need for connection consists of "two subneeds: (a) The need to belong, to be liked, to be accepted, and (b) The need for intimacy, for mutuality, for relatedness" (2020, p. 38). He draws on research that illustrates the powerful negative psychological effects of social isolation and the potential arbitrariness of group cohesion, particularly among children. However, the in-group bonding can increase in intimacy and mutuality with the associated role of oxytocin, particularly when all members of the group share the same beliefs and values (Kaufman, 2020, Sapolsky, 2017). Loss of group cohesion and the emotional

experience of being accepted can result in a catastrophic experience of isolation and grief (Ibid.), which is particularly acute during adolescence (Blakemore, 2018). The need for connection seems to straddle this stage and the next as the need to belong is not yet accompanied with the satisfaction of the need for intimacy as the self-other boundary is still blurry and relationships often have a "dependent, "sticky, I-need-you" quality" (Cook-greuter, 2021, p. 52). As Kegan notes, "there is no self to share with another; instead the other is required to bring the self into being" (1982, p. 97). Wade develops this insight as "appreciation of others' emotional experience is rather unidimensional, even less differentiated than the individual's own subjective experience" (1996, pp. 124-5).

5.3 Conscientious or Achiever Stage

Institutional (Kegan)/Achievement (Wade)/Self-esteem Needs (Maslow) (Conventional)

Cook-Greuter describes the Conscientious or Achiever stage as:

> "the target stage for much of Western culture. Our educational systems are geared towards producing adults with the mental capacity and emotional self-reliance of the Achiever stage, that is, rationally competent and independent adults" (2019, p. 59).

In Cook-Greuter's model, the previous Self-conscious or Expert stage is a stage of differentiation from the prior Conformist stage with the Conscientious stage one of integration. As such, both will be referred to. The Expert stage sees the emergence of a third-person perspective (3pp) which is consolidated and integrated at the Conscientious stage. Here there is a "clear separation of subject and object, knower and known" (2021, p. 60), a differentiation that can lead to dissociation; the hallmark of the Deficient Mental-Rational Structure of Consciousness (DMRSC) discussed previously.

Whereas the Self-conscious stage engenders the beginnings of reflection and self-awareness, with the "need for constant comparison and measuring" (2021, p. 54) a sense of specialness begins to emerge that seeks distinction from the group in which the individual was once embedded. However, these center around a "cluster of external attributes" as most of the Self-conscious individual's "energy is externally focussed" (Ibid.). Cook-Greuter states that "the transformation from being a part of a group identity to finding one's separate identity

and finding one's voice is in many ways the task of healthy adolescence" (Ibid., p. 55) and this is bound up with the growing need for popularity and status that is a hallmark of adolescence (Blakemore, 2018, Laursen and Veenstra, 2021, Sapolsky, 2017).

The beginnings of the process of developing a reflective sense of agency brings more stability and depth at the Conscientious stage which begins to see internal traits instead of merely external attributes, as well as beginning to view the "self as it should be (goals, ideals)" with its greater expansion of time and space perception. Now, "five to ten years backwards and forwards is… a regularly envisioned timeframe" (2021, p. 60). This aligns with an intensification with Anton's (2001) conception of 'existential decompression' in phenomenology. Conscientious individuals are beginning to also reflect upon the rules, roles and narratives of their group and are now longer exclusively identified with them (Wade, 1996, Wilber, 1999). As such, they can accept feedback without "necessarily agreeing with it or feeling one's whole identity is diminished" (Cook-Greuter, 2021, p. 62). This is accompanied with an increasing emotional granularity, capacity for introspection and emotion regulation.

This capacity for adopting a 3pp on self and other can potentially increase agency as a form of "self-government" (Kegan, 1982, p. 102). This capacity is seen in the corresponding development and maturation of the prefrontal cortex (PFC) in the brain during adolescence (Blakemore, 2018, Sapolsky, 2017). They can begin to experience the distinction between appearance and feelings and become more familiar with their "own proclivities and defences" (Cook-Greuter, 2021, p. 63), which corresponds with an increasing ability for introspection during adolescence (Blakemore, 2018). Conscientious adults have often fully internalised society's standards but also want to "live according to their own ideas and self-chosen values" (Cook-Greuter, 2021, p. 64). The domineering experiences of shame and embarrassment from perceived failure to fit in at the previous stage is often replaced by feelings of guilt for having made the wrong choices, or regret for missed opportunities; internal acts of affective calibration against a reflective understanding of one's actions in contrast to one's values and goals. However, these values and goals are often "the ones most currently most salient in the cultural surround" (2021, p. 68). This aspect will be explored in the next chapter. Conscientious individuals are beginning to tolerate emotional ambiguity and contradictory traits. They are developing a strong super-ego. Their sense of unique individuality comes with

"elements of contrast, self-criticism as well as explicit ownership of responsibility" (2021, p. 69).

The Conscientious orientation towards learning begins in the Self-conscious stage and the need to "stand out from the crowd" (2021, p. 56). They often feel that they have "it all figured out" and they "know what to believe" (Ibid.) as they, paradoxically, wish to stand apart from the group in believing they have fully internalised the rules, roles and narrative of the group to the extent that they can chastise those who do not do things correctly according to accepted norms and standards. At the Conscientious stage they "cherish self-knowledge and work at increasing it. They generally have positive self-regard based on their capacities and successes" (2021, p. 60) and are able to prioritise goals and evaluate the importance of knowledge relative to internalised standards. Their self-image and self-esteem are based on their accomplishments and progress towards their chosen goals. Independence is often the over-arching goal and "being in control is a powerful aspect of being an Achiever and losing control is a major threat to one's well-being and self-identity" (2021, p. 67). They become curious about reasons, causes and motivations and the expanded perception of linear time entails and appreciation and potential understanding of linear causality.

In relation to cooperation, individuals can now comfortably have affiliations with different groups without exclusive identification to either (Cook-Greuter, 2021). The affective bonding needed for Kaufman's (2020) second sub-need for connection: intimacy, begins to be satisfied at this stage. It is associated with SPEs such as CARE and PLAY and can be seen in the "neural coupling" of individuals and groups that can result in "high quality connections that furnish opportunities for self-disclosure, emotional intimacy, trust and openness" (Kaufman, 2020, p. 42). This form of deep connection "enhances the effects of other sources of well-being, such as good physical health, self-esteem, optimism, constructive coping, and perceived control over the environment" (2020, p. 43), which can all develop positive feedback loops with agency. Kaufman expands in the significance of this need:

> "When we feel secure and satisfied in our relationships, we are much more likely to develop a stable sense of self-worth and mastery. However, when our need for connection is severely thwarted, we tend to display a much more insecure need for belonging and care more about status and popularity" (2020, p. 52).

The regression highlighted here resonates with Cook-Greuter's (2021) differentiation between the Self-conscious and Conscientious stages, with the prior stage focusing more on external attributes. The need to be *liked* from the Conformist stage re-emerges with the emphasis on externalised tokens rather than a deepening, interpersonal intimacy. It seems the latter is needed for secure attachment at this stage of development. Wilber, building on the work of Erikson (1959), highlights potential pathologies he terms "identity neuroses":

> "Is it strong enough to break free of the rule/role mind and stand on its own principles of conscience? Can it, if necessary, summon the courage to march to the sound of a different drummer? Will it dare to think for itself? Will it be overcome with anxiety or depression at the prospect of its own emergence? (1999, p. 125).

The implications of this for agency are developed by Kaufman (2020) in relation to self-esteem. He expands on Maslow's (1958) distinction between "dominance feeling", associated with a feeling of competency or mastery in handling social interactions and acquiring skills and knowledge, and "dominance behaviour" which occurs in the absence of feeling confident and secure; an overcompensation for "dominance feeling" (2020, p. 57). He states that "a close reading of the psychological literature suggests that the problem isn't with self-esteem but the *pursuit* of self-esteem" (2020, p. 69. Furthermore:

> "the latest research suggests that healthy self-esteem is an outcome of genuine accomplishment and intimate connection with others, and of a sense of growing and developing as a whole person" (Ibid.)

This "healthy self-esteem" is in contrast to "unhealthy self-esteem" which is "highly insecure, unstable, and highly dependent on the validation of others" (Ibid.). Kaufman distinguishes between two facets of healthy self-esteem: self-worth and mastery. The concept of self-worth is explored with reference to Leary et. al., (2014), who identifies *relational social value* (pertaining to personally valuable and important relationships) and *instrumental value* (pertaining to how and whether others perceive us as possessing important characteristics and/or resources for the benefit of the group). Those with a high self-worth "tend to like themselves and view themselves as having high relational value" (Kaufman, 2020, p. 61). However, Tafarodi and Swann (2001) highlight the strong connection between this value and the degree to which this is a result of the positive regard and internalisation of the view of

others. This is particularly significant in adolescence where social rejection can result in catastrophic consequences for self-esteem (Blakemore, 2018).

Mastery relates to the evaluation of your own overall sense of agency (Ryan and Deci, 2017, Tafarodi and Swann, 2001) and to the individual experience of yourself as an intentional being capable of achieving desired goals (Bandura, 2006). Kaufman notes the connection between mastery and social value:

> "Since we are a social species, mastery also tends to be linked to social value. Those with high mastery tend the have traits that confer greater social status in their society due to their usefulness to others – not necessarily the characteristics that are valued in a friend, family member or social group" (2020, p. 62).

It must be noted here that what is deemed to be useful to others in a given society heavily depends on the value structure of that society, a topic which will be explored in the next section on values. These cultural values can also be incorporated into our notions of what constitutes self-worth and mastery, as well as competence and autonomy (Ryan and Deci, 2017). However, Kaufman highlights the fact that self-worth and mastery "can come apart. It's possible to view yourself as a wilful agent in the world, capable of accomplishing your goals, but not really like or respect yourself. And vice versa, it's possible to like yourself while not feeling very effective in reaching your goals" (Ibid.). Both are needed for healthy self-esteem.

A final potential pathology needs to be considered: narcissism. Developmentally, both narcissism and self-esteem usually start to develop around the age of 7 (Kaufman, 2020) and are associated with the emergence from the prior Conformist stage and the need to feel special (Cook-Greuter, 2021, Wilber, 1999). Kaufman expands on the developmental aspect of this coupling:

> "At this age, children draw heavily on social comparisons with others and start to evaluate themselves along the lines of "I am a loser", "I am worthy", and "I am special". Children come to view themselves as they are seen by others. However, the development of narcissism and high self-esteem show the *mirror image* of each other throughout development: whereas self-esteem tends to be at its lowest in

> adolescence and slowly increases throughout life, narcissism tends to peak in adolescence and gradually declines throughout the life-span" (2020, p. 63, original emphasis).

Kaufman explores the two faces of narcissism as "two unhealthy attempts at regulating the need for self-esteem". Both "share a common set of features, including entitlement, exploitativeness, and grandiose fantasies" (2020, p. 64). Those who exhibit tendencies of grandiose narcissism "tend to be antagonistic toward others for reasons relating to their desire to increase their social status and dominance (instrumental social value)" while those scoring high on vulnerable narcissism "feel hostility and distrust in reaction to their negative ideas about themselves and others" (Ibid.). He cites Smith et. al.'s (2016) meta-analysis indicating that "vulnerable narcissism is significantly linked to an obsessive concern over whether one is coming across as imperfect to others, as well as perceiving others as demanding perfection of oneself" (2020, p. 69). He outlines some of the therapies available that bear a strong resemblance to Wilber's (1999) concept of "script pathology" in relation to the previous Conformist stage. An introjection of negative, perceived-as-perfectionist, scripts from cultural messaging in relation to external standards seem to thwart the acquisition of healthy self-esteem at this stage and can lead to an identity crisis.

While vulnerable narcissism primarily involves unhealthy coping mechanisms, grandiose narcissism can reflect healthy aspects of assertiveness and ambition. However, there is a "strong drive for instrumental social value" and a tendency to "care little about their relative social value" (Kaufman, 2020, p. 73). There is an overemphasis on simplistic dichotomies such as winners/losers, good/bad, successful/unsuccessful etc. with a strong focus on external, overt indicators of success such as awards and rankings (Ibid.). Whereas vulnerable narcissism introjects perceived perfectionism onto oneself, grandiose narcissism tends to project perfectionism onto others (Smith et. al., 2016). However, some research indicates a tendency for grandiose narcissism to turn into vulnerable narcissism once a tipping point is reached (Jauk and Kaufman, 2018), indicating an underlying vulnerability in the absence of a strong sense of self and a degree of psychological entropy. This could be due to grandiose narcissism over estimating its abilities, in contrast to vulnerable narcissism which has a more accurate self-impression of emotional ability (Zajenkowski et al., 2018).

Kaufman argues that “the key to healthy self-esteem is cultivating genuine relationships, skills, and competencies” (2020, p. 78). This argument is supported by an array of empirical studies found in Self-Determination Theory (Ryan and Deci, 2017) that indicate the significance of the psychological needs of autonomy, relatedness and competency, all of which seem to develop throughout ego development with relatedness being a priority for the Conformist stage and autonomy and competency being a priority in the Conscientious or Achiever stage. However, it has been noted that each of these stages and associated psychological needs rely on a cultural transmission of values. This will be explored in the next chapter.

5.4 Potential Applications and Implications for Education and the Meta-crisis

This chapters provides an answer to question 5: what are the different structures of the self, and how do they relate to affect and emotion. Each stage is outlined using the model from Ego Development Theory (EDT) as a basis for exploration and draws upon several other models from developmental psychology, as well as associated research from biology, neuroscience, and psychology. In addition, connections have been made between these different stages of psychological development and findings contained within the previous chapter on affect and emotion.

There are several potential applications and implications for education regarding the insights gleaned from the model so far. Only two will be mentioned here before outlining how this relates to the meta-crisis. The first relates to the teleological nature of psychological development. Wilber (1999) outlines several potential pathologies that may emerge as a result of dysfunctional development. If affect is the primary or fundamental feature of educational experience, following the insight from the previous chapter, it could be argued that the axiological commitment contained within chapter three that follows the Hippocratic Oath of “do not harm” applied to natural developmental pathways becomes more salient. It provides conatus towards a preventative approach within education to ensure that educational processes do not disrupt or prevent these natural developmental pathways that result in pathology or developmental arrest. For example, Wilber (1999) identifies script pathology as a potential process of dysregulation and identify formation that is strongly

correlated with the authorial self of the Conformist stage. I have met many students in my teaching practice that have developed such script pathologies (e.g., “I’m not very clever”, “I’m not good ar reading” etc.) that could potentially have been prevented had this been more of an educational focus.

Secondly, the different stages could be used as a diagnostic tool to help particular students in their development and identify potential pathways for more positive orientations towards learning. For example, a genuine interest in ‘knowledge’ does not seem to emerge until the Conscientious or Achiever stage, however this interest can be dampened by a focus on external rewards or signifiers associated with learning (winning competitions, gaining qualifications for the sake of titles etc.). Such a developmental perspective could help in promoting more intrinsic, as opposed to extrinsic, motivation as outlined in Self-Determination Theory (Ryan and Deci, 2017).

Finally, in relation to confronting the meta-crisis, a reified notion of subjectivity is undermined by this view of development as the self is clearly stratified and distributed across several assemblages and scales of psychological processing. Such an understanding is contrary to the Deficient Mental-Rational Structure of Consciousness and its perception of a strict demarcation within the subject/object dualism. Ona. More practical level, the model above indicates that there are different stratified scales of development and these need to be appreciated and accounted for in a any coordinated response to the several crisis that we face as a species that are outlined in chapter one. In addition, the different orientations towards developing agentic capacities, an interest in ‘knowledge’ and learning, as well as orientations towards other with a view to promoting increased cooperation, require a differentiation of strategies according to different stages of development. This could have profound implications for the process of differentiation in education.

6.0 Chapter Six: Axiology and Value Systems

6.0.1 Introduction

Many of the theoretical perspectives and empirical studies outlined in the last two chapters point to, either implicitly or explicitly, notions such as 'values', 'culture' and/or 'social environment'. However, none of them seem to explore what this entails, how it is structured and how it specifically relates to the phenomena explored in its primary focus. Asma and Gabriel note the *decoupleability* of affect from our "cognitive maps" that implies "levels of control" in the "context of the environment" (2019, p. 164), but do not say how this is accomplished. I believe the *levels of control* aspect can begin to be explained with reference to the model of needs and ego development outlined above. In addition, they also note that "the affective systems mark everything automatically through conditioning, but the values of such markings are not a priori or always significant" (2019, p. 181). However, they seem convinced that "social norms are our most efficacious form of emotional management" (2019, p. 213), without going on to explore such 'social norms'. Russell notes similar dynamics whereby he discusses "feeling rules" by which society proscribes the emotions appropriate to certain situations and roles. Emotional meta-experience serves to evaluate and therefore regulate oneself with respect to those rules" (2003, p. 165). Similarly, Beni's Structural Realist Theory of the Self (SRTS) states:

> "organisms have to keep their surprisal low, in order to maintain a nonequilibrium steady-state with their environment (i.e., generalised homeostasis). To do so, the organisms have to generate reliable models of their environment and update their models and reduce their errors so that the models become reliable" (2019, p. 178).

This can be done by updating their models to match the environment or by changing their environment to fit the internal model. It seems clear that this 'internal model' is composed in large part by the social norms and forms of affective conditioning that we acquire through our engagement with others through culture. These seem to form a large part of the process by which we affectively tag landmarks in our internal and external environments through which we orient ourselves affectively. I believe that last two chapters account for a great deal of this *affective orientation.* In this chapter I hope to explore its relationship to cultural values, or *axiology.*

There are many different conceptualisations of 'culture' (Raeff et al., 2020), and it is often viewed as a "fuzzy concept without fixed boundaries" (Causadias, 2020, p. 310). However, with this in mind, I will focus on the "substance" of culture (DiBianca Fasoli, 2020), particularly beliefs and values.

6.0.2 Outline

The first three subsections briefly outline the application of my methodology with regard to the ontology, epistemology and axiological commitments regarding the focus of this chapter.

The next, and largest subsection focuses on the findings of the literature search and review: towards an integration of research pointing towards identifiable axiological structures. It includes subsections on the theories of Hofstede, Inglehart and Schwartz, as well as outlines of previous attempts at integrating some or all of these models.

The following section is a brief discussion of the models by Rose and Beck and Cowan, before moving onto an outline of the main three structures identified as a result of the integration process.

The penultimate subsection focuses on a discussion of methodological issues and considerations before moving onto the final subsection that addresses potential applications and implication of the model in education.

6.0.3 Ontology

The ontological assumptions outlined in chapter two in my methodology remain the same, particularly with regard to the stratified nature of ontology and the process of boundary formation. However, as noted above, it is evident from the outset that the attractor/mechanism of any potential axiological structure as an assemblage with permeable and transient boundaries will have a larger ontology than the individual 'ego' explored in the previous chapter. It will also have a much broader spatio-temporal horizon than anything considered so far in this research. In this respect, they have more in common with the structures of consciousness referred to in chapter one than affect, emotion or ego, but as it

will become clear from the discussion that follows, there is be a great deal of overlap and interpenetration in their respective boundary formation. It is clear from the analysis and discussion that follows that value systems, while located firmly in the Lower Left Quadrant (LLQ) in the 4Q, greatly influence affective experience and ego development across different timescales and locations. However, with that in mind I still hope to find identifiable ontological structures.

6.0.4 EPISTEMOLOGY

The literature search and review process for this section can be found in Appendix B, along with assessments of the weight, warrant and validity of different epistemological claims. Several models on values have been identified over the course of the several searches within and beyond the existing literature on education. A limited snow-balling search was conducted to find foundational texts for each of the models under consideration. During this search, two previous attempts at integration of different models was found. These attempts, as well as the models and research from moral psychology mentioned earlier, together with associated research from the third literature search, will be briefly considered with a view towards integration.

Following the ontological commitments highlighted in the chapter on methodology, initial prioritisation and consideration will be given to those models grounded in empirical, peer-review literature, particularly when supported by evidence from across the Four Quadrants (4Q). Once ontological axiological structures have been identified, models that lack such empirical grounding will be analysed, evaluated, and discussed to see if any of their features are coherent with those that are empirically grounded, following the coherence theory of truth (Walker, 2017). If such coherence is found, it may be possible to form a tentative assumption that such models are also pointing towards a grounded, verifiable ontology. Discursive moves will be made in the following analysis and evaluation to avoid the epistemological fallacies discussed previously, and any attempts at integration will follow the ontological presumptions and methodology outlined in the chapter on methodology.

6.0.5 AXIOLOGY

The search for value structures begins with a value commitment placed with an emphasis on those theories and models that are supported by empirically validated and peer-reviewed processes. While I began this research already aware of two models that do not have a presence in the peer reviewed literature, the decision was made to place greater emphasis on empirical validation in the hope of improving the weight and warrant of any epistemological claims I make regarding the ontological nature of value structures.

In addition, I have chosen to focus on the Western and Eurocentric expressions of these value structures as it is the culture I am most familiar with, and I assume that they have the greatest impact on the education system I work in. However, I hope to find evidence for universal structures common to all human experience.

6.1 TOWARDS AN INTEGRATION OF RESEARCH POINTING TOWARDS IDENTIFIABLE AXIOLOGICAL STRUCTURES

6.1.1 IN SEARCH OF AXIOLOGICAL STRUCTURES

It is said that "values are the building blocks of cultures" and that:

> "Culture is a *context* phenomenon, a shared system of meanings. Once a culture is formed, it is transmitted from generation to generation through six agents: family, school, religion, media, leadership, and the law. Hence, culture is not simply a *psychological* variable, because it is not just located within the individual's mind. Culture exists as more than the sum of individuals' values" (Basanez, 2016, p. 14, original emphasis).

Culture is not only a system, with all of the connotations regarding boundary formation explored previously, but it is also shared, and therefore emerges, is structured and is (re)produced, through interaction. Basanez makes the distinction: "culture occurs *outside* the individual's mind and becomes internalised" (ibid., p. 15), and elaborates using a musical analogy: "values are the *notes* while cultures are the *symphonies*" (ibid, original emphasis). In

addition, he goes on to state that this conceptualisation of culture yields four essential elements with the fourth, "internal norms" synthesising the three former elements of "identity, language, and external norms" (ibid.). The foundational nature of these 'notes', or 'building blocks', of 'internal norms' that become internalised through interaction with the larger social and cultural milieu, is what I will refer to as axiological structures. In following the homeostatic metaphor, and as a continuation of the increasing, permeable stratification of affective and emotional experience, culture could be said to be the homeostatic mechanism of the collective. While the ego could be said to be the individual homeostatic mechanism co-created with other individuals and groups via culture, axiological structures could be said to be the homeostatic mechanism of the collective, co-created over longer spatio-temporal horizons with individuals and the collective. The exact nature and ontological status of these structures will be considered in the final section.

Three dominant models have been identified in the empirical literature in contemporary values research: Hofstede (2001, 2011); Inglehart (1977, 1990); and Schwartz (1992, 2012). All three models use worldwide survey research with cross-sectional, longitudinal design studies and make international comparisons. All three claim to identify distinct, broadly defined cultural constructs that can be identified along key dimensions or value axes. It is around such dimensions or axes that each culture orients itself. Hofstede (2001) proposes four separate axes (later increased to six (Hofstede, 2011), Inglehart (1990) proposes two, and Schwartz (1992) proposes three. Both Hofstede and Inglehart adopt an approach more in line with grounded theory and move from empirical data collection to theorising, whereas Schwartz began with theorising, moving from a theory of individual values to the national and cultural level (Basáñez, 2016). However, while the Schwartz Value Inventory has become the most widely recognised system of values measurement in psychology, its data sets remain limited to Europe (Beugelsdijk and Welzel, 2018), and as such has limited application in the search for universal axiological structures. All three will be briefly outlined and some criticisms discussed before moving on to recent attempts at comparison and synthesis.

6.1.2 Hofstede's Six Dimensions

Hofstede (1980, 2001) refers to the structures he has identified as 'software of the mind' that can be found inside people, but believes that values are not universally constant. They are mediated by history, a nation's cultural unity and the interaction of cultural and social institutions such as language, law, education, family, religion etc. He originally identified four dimensions within which the cultures of different countries might be identified: power distance; uncertainty avoidance; individualism versus collectivism; and masculinity versus femininity. A fifth dimension of short and long-term orientation was identified by Bond (1991) and confirmed by Hofstede and Minkov (2012) during a replication of Hofstede's (1980) original study conducted across 93 countries. In addition, Hofstede and Minkov (2010) identified a sixth dimension: indulgence and restraint.

The first is linked to the impulse to dominate (Hofstede, 2001, p. 79). Hofstede identifies 'hierarchical' societies as being characterised by a significant power distance, while 'egalitarian' societies have a relatively small power distance (2001, pp. 107 – 16). The second (uncertainty avoidance) measures how societies manage anxiety about the future and their respective tolerance for ambiguity. Drawing on the work of Fromm (1994), Hofstede notes that low toleration of uncertainty creates more authoritarianism, and less openness to change. The third dimension (individualism versus collectivism) describes the relationship between the individual and the community. Collectivist nations are culturally authoritarian, and tend to have greater power distance scores, whilst individualist countries are more culturally egalitarian and tend to have less power distance scores.

The fourth dimension (masculinity versus femininity) shows key differences between home, work, school and public life compared with the other dimensions and emphasises stereotypical gender differences. In general, in masculine cultures fathers are responsible for facts and mothers for feelings and fathers make most of the decisions and have the most power and control in public life. In feminine cultures there is more equality between the sexes and there is greater emphasis on consensus (2001, p. 318). Masculine societies tend to value strength and competition whereas feminine societies tend to value kindness and cooperation (Hofstede, 1080). Interestingly, Lakoff (2002) identifies a 'strict father' model as a basis for conservativism and a 'nurturing parent' model as a basis for liberalism.

The fifth (long-term versus short-term orientation) differentiates future, long-term orientations which tend to be more pragmatic and change-orientated, with past and/or present short-term orientations which tend to value tradition (Hofstede, 2011). In the sixth and final dimension (indulgence versus restraint) "indulgence stands for a society that allows relatively free gratification of basic and natural human desires related to enjoying life and having fun. Restraint stands for a society that controls gratification of needs and regulates it by means of strict social norms" (2011, p. 15).

Hofstede's data has been criticised for being too 'U.S-centric' (Javidan et al., 2006) and the underlying 'individualism versus collectivism' dimension has been questioned for lack of rigor in its underlying construct validity (Minkov, 2018). In addition, Smith et. al. (1998) found that 'Individualism' and 'Power Distance' merge at a single pole, further undermining its construct validity. Furthermore, recent studies have shown that the 'uncertainty avoidance versus acceptance' and masculinity versus femininity' dimensions do not replicate empirically (Minkov, 2018, Minkov and Kaasa, 2021). Finally, Beugelsdijk and Welzel (2018) cite numerous studies in which the temporal stability of national culture, claimed by Hofstede (2001), is questioned. Henrich's (2020) work, as well as the models from developmental psychology explored earlier, could also be used to bolster this criticism.

6.1.3 Inglehart's Theory of Cultural Change

Inglehart (1971) draws on Maslow (1970) in his creation of the binomial axes of materialism-post-materialism and shows a strong correlation between a nation's economic prosperity and generational values (Inglehart, 1990). His findings show that if a person's family economy is weak during preadolescence, she is more likely to develop a materialistic orientation, whereas if the economy is strong, a post-materialistic orientation develops. Inglehart and Welzel (2005) posit that there is a general shift from materialist to post-materialist societies as time progresses, moving from needs associated with physical security to needs associated with self-

expression, but these can change under conditions of material scarcity and affect generational changes. This process is accompanied by a movement of values from self-restraint and obedience to self-expression and autonomy, following Maslow's (1970) needs-based model of individual motivation.

Inglehart (1990) added a socio-political axis of traditional values to secular values to the economic axis outlined above. Research plotting these axes show that it is possible to verify that, not only do cultures change over time, but there is a directionality to that change. This general directionality has been confirmed in subsequent research, despite evidence of greater national variation over time (Inglehart and Baker, 2000). Inglehart and Welzel (2010) show that along a two-dimensional continuum of two axes: survival versus self-expression and traditional versus secular-rational values, cultures tend to move towards the values of secular-rational and self-expression as time progresses, as long as economic prosperity, increases in availability of education and generational replacement continues. This also accords with an increase in more post-materialist values. However, the underlying construct validity of 'post-materialism' has been challenged (Inglehart and Flanagan, 1987, Welzel, 2007), as well as the distinction of 'Traditional versus Secular-Rational' and 'Survival versus Self-Expression' values as both are highly convergent (Li and Bond, 2010).

6.1.4 Schwartz's Theory of Basic Human Values

Schwartz and Bilsky (1994) proposed a universal psychological structure of human values and presented a hypothesis which they tested using survey questionnaires developed by Rokeach (1973). They initially found seven individual-level motivational domains which was expanded to ten by Schwartz (1992) following further research including more countries. Schwartz (1992) argues that these ten value domains can be found in two groups along two axes called "higher-order value types". The first is "openness to change versus conservation" and the second is "self-enhancement versus self-transcendence" (1992, p. 43). The data sampling bias towards European

populations has already been noted, but the validity and reliability of data collection has also been questioned (Lindeman and Verkasalo, 2005). Despite these limitations, attempts at comparison and synthesis with the previous two models has been attempted.

6.1.5 Integration: Analysis, Evaluation and Discussion

There have been numerous attempts at integrating two of the three models outlined above, in different combinations, both empirically and conceptually, and these attempts are reviewed elsewhere (Basáñez, 2016, Beugelsdijk and Welzel, 2018, Kaasa, 2021, Kaasa and Minkov, 2022). Here I will focus on two attempts at integrating all three and discuss the implications of the synthetic models created for the purposes of this research. Basanez (2016) presents 'the axiological cube' and Kaasa (2021) presents a 'single system'. Both systems adopt a conceptual approach and utilise three axes in their construction, following a preservative synthesis of Hofstede, Inglehart and Schwartz. Both build on the attempts of previous researchers and try to provide empirical and theoretical justifications for their methods. However, both outline potential limitations of their integrative models and these will be briefly considered before comparisons are made.

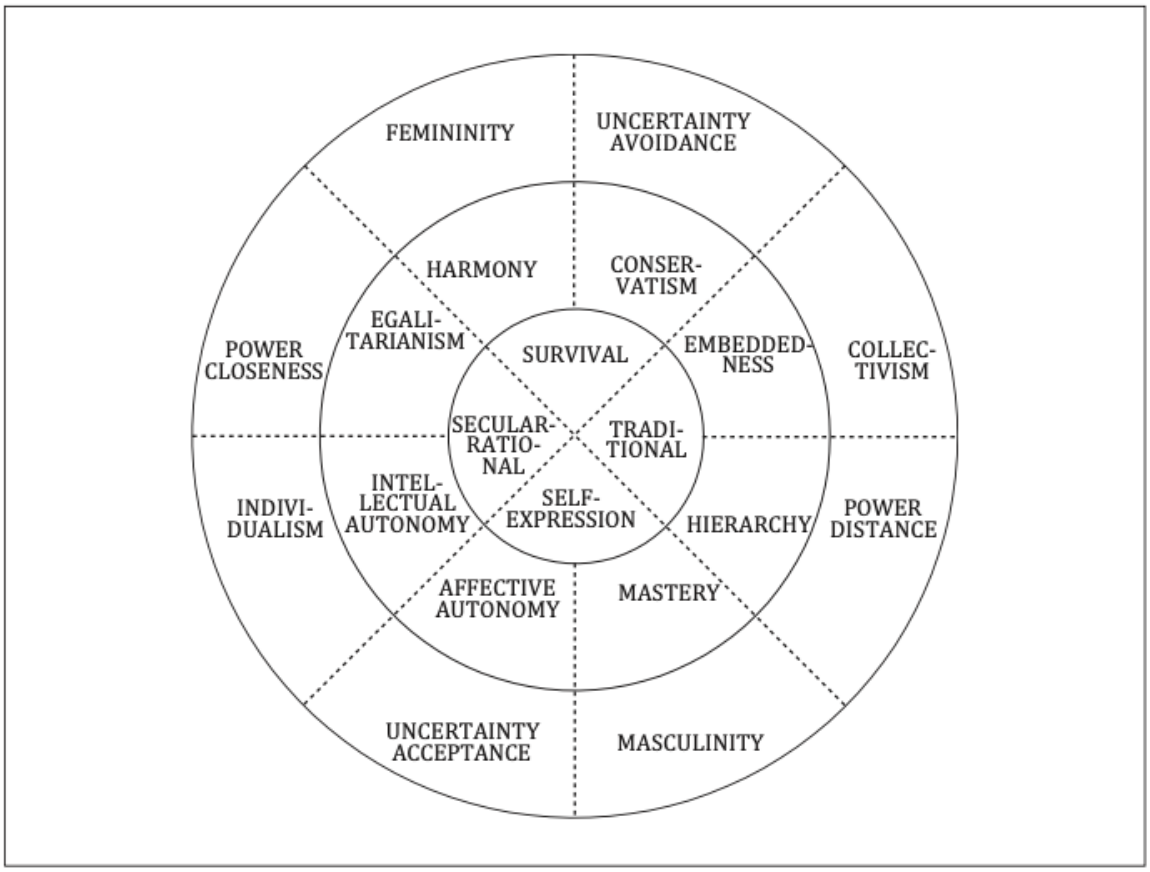


FIGURE 19: ONE SYSTEM OF CULTURAL DIMENSIONS (KAASA, 2021)

A simplified overview of Kaasa's (2021) one system is given above. Building on previous empirical and conceptual research, the dimensions of each contribution is aligned according to conceptual similarities. The three axes are represented by the dotted lines and plot poles between dimensions and axes of the three models, drawing on correlational data from empirical research and conceptual data from theoretical research. It is based on the assumption that dimensions from different sets overlap (Taras et al., 2009). Kaasa (2021) notes that the spatial orientation is arbitrary and that the coherence proximity between axes is not considered, just their conceptual proximity indicated by the closeness on the diagram.

Kaasa stresses the purpose of the model is not to show which of the respective models "provide the best explanation". The purpose is to provide utility for research. She also highlights the artificial nature of the model: "dimensions of culture are not

a real thing" (2021, p. 350) and calls for further empirical research to assess its validity.

It is interesting to note that 'Secular-rational' (Inglehart), 'Intellectual Autonomy' (Schwartz), and 'Individualism' (Hofstede) align along one pole, whereas 'Traditional' (Inglehart), 'Embeddedness' (Schwartz), and 'Collectivism' (Hofstede) align towards the opposite pole. It is also interesting to note that the 'Secular-rational' alignment cohere with 'Uncertainty Acceptance' and 'Egalitarianism', whilst the 'Traditional' alignment coheres with 'Uncertainty Avoidance', 'Conservatism' and 'Hierarchy'. There is a resonance here with Basanez's (2016) model considered next.

Unlike the predominantly preservative synthesis of Kaasa's model, Basanez offers a non-preservative synthesis that focuses more on the compatibility and coherence of Inglehart and Schwartz. Basanez creates a three-dimensional map using Schwartz's axes labels: 'economic', 'political', and 'social', with 'six axiological walls' seen in the diagram below.

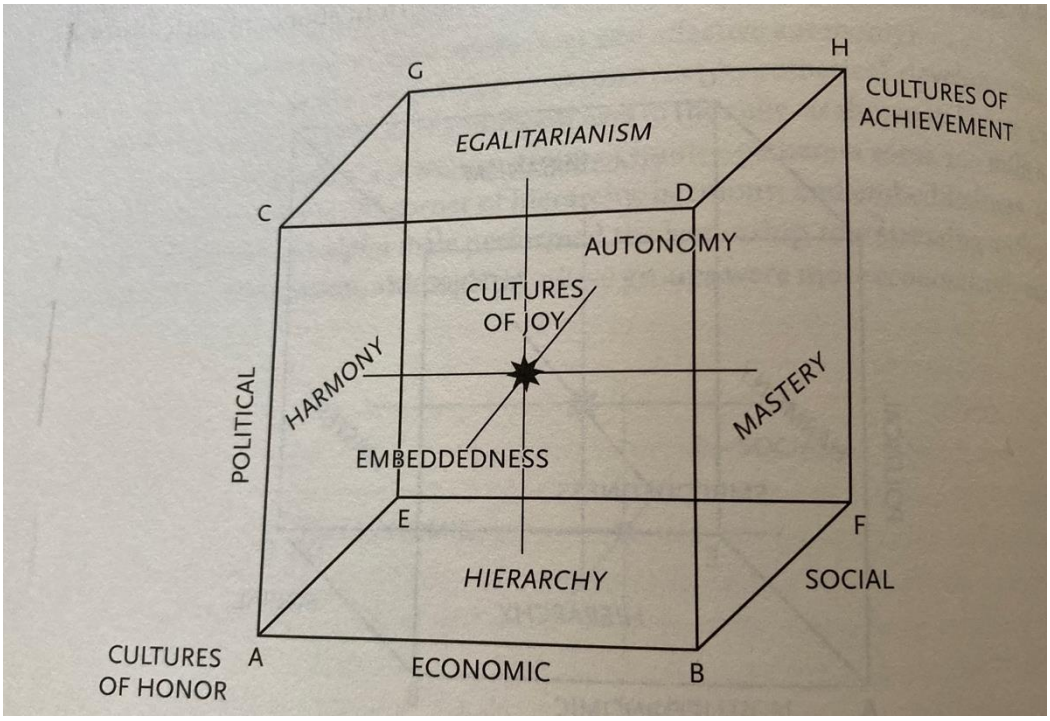


FIGURE 20: THE AXIOLOGICAL CUBE (BASANEZ, 2016)

Basanez identifies ‘three cultures’, which he terms ‘hyper cultures’, defined primarily by their respective legal systems and supported empirically. Building on the cultural geography of Minkov (2012) and utilising empirical data from the United Nations and World Values Survey, Basanez locates the ‘cultures of honour’ at one pole, the ‘cultures of achievement’ at the other, with ‘cultures of joy’ in between. These cultures will be discussed below, together with Basanez’s (2016) evaluation, with reference made to the other models I am already familiar with.

However, a point to note before moving onto a comparative analysis of the different axiological structures emerging form the different models is that Basanez problematises “conventional Western thinking” that has “assumed that the entire world should keep moving toward the H corner, seen as progress”. He argues that this is a “mirage, founded in the success of past colonization, which is unsustainable in today’s world” (2016, p. 73, original emphasis). Elsewhere, he argues that “the conventional linear concept of development and the mirage of achievement produce a false assumption that development is an open-ended continuum – that it goes on without limits. That is not true” (2016, p. 77, original emphasis). He goes on the cite Meadows et al. (1972) and Diamond (2005) in support of his thesis regarding the impact of environmental limits to growth. However, research provided in chapter one could also indicate support for this assertion. The implications of this will be considered towards the end of the chapter. Before that, I will briefly compare and contrast the models under consideration and move towards a tentative synthesis.

6.1.6 The Possibility of Axiological Structures, their Ontology, and Possible Orientations

During the comparisons made between the three empirically validated models outlined above (Hofstede, Inglehart and Schwartz), the two integrations (Basanez and Kaasa), and the two models I am already familiar with (Beck and Cowan, 1996, Rose, 2011), some remarkable similarities emerge that indicates at least two axiological structures. The ontology of which is verifiable both empirically and

conceptually from research on cultural values, as well as from research from anthropology, developmental psychology, moral psychology, and political psychology. Additionally, Mendez (2017) reviews numerous studies of genetics suggesting that the development of political attitudes, strongly correlated with these axiological structures, is partially inherited genetically. The existence of these two axiological structures seems self-evident from the literature and are most commonly referred to as:

- Traditional/Collectivist/Conformist/Conservative
- Modern/Individualist/Progressive/Liberal

A third axiological structure is more contentious, although there is evidence for this from numerous fields of enquiry. The political orientation of 'Libertarianism' is sometimes found between the two structures along a continuum, as well as 'cultures of joy' (Basanez, 2016), but there are also those labelled 'post-modern' that follow from 'modern' as found in philosophy and developmental psychology. There are some conceptual affinities between Basanez's (2016) 'cultures of joy' and the two structures beyond the 'modern' in Beck and Cowan (1996) and Rose (2011) and these will be briefly considered.

Furthermore, as the relationship between the 'traditional' and 'modern' axiological structures is problematised by both Basanez (2016) at the national and international level, and by moral psychology at the individual level (Haidt, 2012, Greene, 2013). This, together with findings and perspectives from genetics, neurobiology and political psychology, further problematises their ontology. This will be discussed in the final section which critically evaluates the nature and ontology of these structures.

6.1.7 A Brief Note on Beck and Cowan (1996) and Rose (2011)

Beck and Cowan's (1996) 'Spiral Dynamics' and 'vMeme' system (***www.spiraldynamics.org***) is based on the work of Graves (1970) and Csikszentmihalyi

(1993) and has, following the influence of Integral Theory, become known as Spiral Dynamics Integral (SDi), with multiple applications (Christensen, 2015). Graves' (1970) work shares a confluence with Loevinger (1976) and Erikson (1976). It is also used as a basis for recent iterations of Integral Theory (Wilber, 2006).

Rose's (2011) 'Values Modes' are based on the work of Maslow (1958) and share confluence with Schwartz and Inglehart. It forms the basis of research and services conducted at Cultural Dynamics (***www.cultdyn.co.uk***) and has been conducting quantitative survey research in the UK since 1973. It has recently been compared with Haidt's Moral Foundations Theory (***www.moralfoundations.org***) (CDSM, 2021).

While both systems lack presence in the peer-reviewed literature, both claim to have quantitative research validating their systems. They are included below as both systems draw on other research which is grounded in the peer-reviewed literature and their models contain striking resonances with the three empirically validated models outlined above (Hofstede, Inglehart, Schwartz) and the models produced by the two known attempts at integration (Basanez, Kaasa). As such, they are considered below but treated with caution as to the weight and warrant of their validity claims. However, following the coherence theory of truth (Walker, 2017) and the weight of empirical evidence pointing towards the existence of the axiological structures under consideration, their respective contributions pose some constructive insights and potential lines for further validation and enquiry.

The following comparisons and analysis of the ways in which the different models are coherent regarding the two axiological structures under consideration will proceed with reference to the affective, axiological orientations towards others (social), knowledge, and agency. It will also draw upon research found in the third literature search, particularly drawing on empirical studies and perspectives from moral and political psychology.

6.2 The Traditional Axiological Structure

The Traditional/Collectivist/Conformist/Conservative Axiological Structure

There is significant coherence between Basanez's (2016) 'cultures of honour' hyper culture, Rose (2011)'s 'Settler' Values Mode, and Beck and Cowan's (1996) 'Blue' vMeme. This structure will be referred to as the Traditional Axiological Structure (TAS) for ease of reference.

The TAS is a structure that values traditional authority and hierarchy (Basanez, 2016, p. 117). It is tradition oriented and group-centric with a distinct focus on the values of loyalty, discipline and obedience (2016, p. 120). As such, one of its defining features is its close family and social bonds (2016, p. 119). This resonates with Hofstede's 'collectivism' and Schwartz's 'embeddedness' (Kaasa, 2021). These close social bonds are associated with belongingness needs (Rose, 2011, p. 46) which Rose associates with adolescence and is supported by the age-related developmental research highlighted in the previous chapter on ego development. As such, there is a strong emphasis on conformity (Rose, 2011, p. 29), rules, duties (Beck and Cowan, 1996, p. 231-2) and honour in fulfilling them (Basanez, 2016, p. 117). The boundary between in-group and out-group ('other') in traditional, conservative cultures is strong and is supported with evidence from biology (Sapolsky, 2017), moral psychology (Haidt, 2012, Greene, 2013), political psychology (Lakoff, 2002, Stewart and Morris, 2021), political theory (Deneen, 2018), and anthropology (Curry et al., 2019, Henrich, 2020). Although, there is some contention whether modern 'conservative' politics has drifted away from this more 'traditional' value system (Deneen, 2018, 2023).

The 'other' can include non-conformist gender roles, different races, nations, sexual orientations and/or religions (Basanez, 2016, Sapolsky, 2017), and there is some evidence to suggest that such 'other' formations can even be arbitrary (Greene, 2013). The moral emotions of shame and guilt for sticking out and being ostracised from the group are also distinguishing features.

Additional support for this axiological orientation can be found in research exploring Moral Foundations Theory (MFT) (Graham et al., 2013, Haidt, 2012) which finds a stronger correlation between the 'binding' moral foundations of Loyalty, Authority and Purity with espoused political conservatives when compared to political liberals (Stewart & Morris, 2021), as well as "epistemic and existential needs to reduce uncertainty and threat and system justification tendencies" (Strupp-Levitsky et al., 2020, p. 1).

Despite some reservations and criticism of MFT, Mendez finds some "emerging [neurobiological] evidence" of a "right-sided anterior "conservative-complex" in the brain that offers some correlational support for some of the features of the 'binding' moral foundations of political conservatives, particularly regarding the "preservation of the status quo and the anterior cingulate cortex (ACC) and left prefrontal cortex (PFC) role in responding to change" (2017, p. 87). Leong et al., (2020) and Kim et al., (2020) find further neurobiological evidence that conservatives are more sensitive to threatening/anxious situations and are more likely to conform to social rules when compared to liberals.

Basanez (2016) highlights the 'uncertain future' orientation of this culture, which is also highlighted by the 'tradition'-centric orientation noted by Kaasa (2021), and extended by Beck and Cowan (1996) and Rose (2011) to include a connection with the tradition orientation towards the past (Beck and Cowan, 1996, p. 235), routines, the familiar and the predictable (Rose, 2011, p. 33-41). Due to the 'uncertainty avoidance' orientation (Kaasa, 2021) and this aversion to novelty and change, with members being described as "followers, not early adopters" in terms of emerging trends (Rose, 2011, p. 61), it is only possible to speculate how this relates to an axiological orientation towards 'knowledge'. More research is needed. However, it seems as though an axiological orientation towards knowledge production and acquisition (learning in formal education settings), would be grounded in the routine requirements of acquiring the familiar and fitting into one's group – going along to get along. 'Knowledge' may only have instrumental value as a means of enabling someone to fulfil their duty or role within their community, even if that is simply

done for obedience and deference to educational authority. Stewart and Morris (2021) review evidence that suggests a significant impact of authority figures in intergroup processes. This would be coherent with the analysis above on social orientations and on agency, considered next.

Due to the often, strict gender roles and emphasis on familial authority (particularly the father which resonates with Lakoff (2016), individuals inhabiting the TAS are "more likely to feel that they do not have a great deal of choice and control over their own lives" (Basanez, 2016, p. 119), and hence do not promote or value human agency. This is coherent with Beck and Cowan (1996) and Rose (2011). Beck and Cowan describe the worry about "shunning and isolation" (1996, p. 233) and the need to "sacrifice self for the greater good" (1996, p. 231). Similarly, Rose comments on the "low sense of agency" (2011, p. 32). This resonates with the 'embeddedness' (Schwartz) and 'collectivism' (Hofstede) identified by Kaasa (2021). The focus on "impulse control" (Beck and Cowan, 1996, p. 229) and "sacrifice now to gain later" (1996, p. 242) orientations towards group identification and cohesion are coherent with this analysis.

However, Kim et al., finds neurobiological evidence of "greater psychological resilience and self-regulations capacity that were attributable to greater impulse control and causal reasoning" (2020, p. 1) in conservatives when compared to liberals and moderates. This finding problematises the initial conceptualisation of 'agency' and questions the underlying construct utilised by Beck and Cowan (1996), Rose (2011) and Basanez (2016). The implications of this will be explored below.

The TAS structure tends "not to place much value on gender equality" (Basanez, 2016, p. 110) and values the stasis of rigid hierarchies to maintain the routine familiarity of the repeated and predictable (re)production of the past. While the TAS structure provides greater social cohesion than the other axiological structures identified in this research, they are highly exclusionary and non-adaptive to social change and unpredictability. While these cultures seem to have a much lower prevalence of mental health issues and loneliness than other, less conformist

cultures, this difficulty in adapting to change seems unsuited to today's meta-crisis. This will also be discussed below.

6.3 The Modern Axiological Structure

The Modern/Individualist/Progressive/Liberal Axiological Structure

There is significant coherence between Basanez's (2016) 'cultures of achievement' hyper culture, Rose's (2011) 'Prospector' Values Mode, and Beck and Cowan's (1996) 'Orange' vMeme. This structure will be referred to as the Modern Axiological Structure (MAS) for ease of reference.

The MAS structure values individualism, rationality and materialism (Basanez, 2016, p. 122). It also prioritises horizontal and egalitarian relationships, with a focus on freedom and personal choice (2016, p. 123). As such, the axiological orientation towards others is primarily governed by equality of opportunity and competition. While this focus on economic life through individualism and competition ("job over family" (Basanez, 2016, p. 17) clearly promotes national wealth and prosperity over time, as many have noted, there seem to be natural limits to this process (Basáñez, 2016), particularly in relation to income inequality (Inglehart, 2018), which has increased in recent years (Dorling, 2018, Piketty and Goldhammer, 2017), and has been exacerbated since the Covid-19 pandemic (Trust, 2022).

The 'other' has a greater chance of inclusion as the circle of equality widens beyond the immediate community to include other races, sexes, religions etc. (one of the cultural benefits of the modernisation thesis), but these are often viewed as a means of equality of opportunity in competition. Different perspectives are valued and considered (Beck and Cowan, 1996, p. 250), and this corresponds with the Individualising foundations of Harm and Fairness in MFT (Graham et al., 2013, Haidt, 2012). However, the drive for affluence and influence (1996, p. 247) often results in elitism (Basanez, 2016) and inter-personal distance (Beck and Cowan, 1996, p. 250).

Basanez (2016) finds a strong connection between the view of education as a means for economic development. Many have found this to be the dominant purpose of education in most Western societies (Ball, 2009, 2018, 2017, D'Agnese, 2017, Means, 2018). Authority becomes dis-embedded from the group (parental, educational authority) and must be earned through experience and qualification. The axiological orientation towards 'knowledge' seems to shift from the instrumental value towards the group, to instrumental value towards the self with Basanez (2016), Beck and Cowan (1996) and Rose (2011) frequently using the term 'personal achievement' to describe this orientation. As noted elsewhere in the discussion on the Deficient Mental-Rational Structure of Consciousness (DMRSC), Beck and Cowan identify the intrinsic value of "objective truth" (1996, p. 247) and Basanez highlights the emphasis on "rationality" (2016, p. 122). The concept of education as a process to gain qualifications for social mobility and economic advancement as a form of meritocracy has been discussed elsewhere (Bloodworth, 2016, Exley, 2019, Jin and Ball, 2020, Milburn, 2019).

Finally, in terms of the axiological orientation towards agency, the focus on 'success' and 'achievement' denotes a positive valuation of developing individual autonomy and personal competency. While this is often viewed as a more 'intellectual autonomy' (Schwartz) tied to a 'secular-rational' (Inglehart) 'individualism' (Hofstede) (Kaasa, 2021), there are other associations with "self-esteem" (Rose, 2011, p. 76), "active health" and "confidence" (2011, p. 80-9), as well as focus on "entrepreneurship" (Beck and Cowan, 1996, p. 255) and personal "status" (1996, p. 253). An additional focus on "productivity" and personal "goals" (Basanez, 2016, p. 17), together with a future orientation towards "opportunities" and "challenges" (Back and Cowan, 1996, p. 254; Rose, 2011, p. 97-105) highlight a positive orientation towards agency. These findings are supported by a strong correlation with neuroimaging studies that seem to have identified the underlying neurobiological mechanisms for tolerance of ambiguity and uncertainty most strongly associated with self-identified liberals compared to conservatives (Kim et al., 2020).

The many limitations of this axiological structure and its orientations have been explored earlier. While its promotion of a more abstract social equality and a decentring of authority seem to indicate a growing loss of social cohesion through competition, there are advantages over the TAS with its increasing emphasis on knowledge acquisition and its (re)valuation in light of a more positive orientation towards the future and its own agency.

6.4 Comments on Post-modernism and 'Cultures of Joy' (A Post-Modern Axiological Structure?)

While Basanez refers to development as a "spiral" (2016, p. 111) his comparison of 'cultures of joy' with Aristotle's 'golden mean' or Buddhism's 'middle way' (2016, p. 124) seem undertheorized beyond it simply occupying the "middle ground between the cultures of achievement and honour, while avoiding the extremes of either" (ibid.). The two-dimensional model of Kaasa (2021) would make it difficult to identify other axiological structures beyond those mentioned above, as the two axes that seem to converge on the two structures outlined above leave the third, between 'masculinity' and 'uncertainty acceptance' at one end, and 'femininity' and 'uncertainty avoidance' at the other, undertheorized. This is supported by the lack of conceptual coherence and empirical support mentioned earlier. In addition, there are some logical contradictions between some of the features of 'cultures of joy', such as the combination of "low levels of trust" (2016, p. 125) with the "high priority on quality of life" and a "carefree type of joy" (2016, p. 126), that seem to undermine construct validity.

Despite these reservations, there are some affinities with the more 'post-modern' value systems of Beck and Cowan's (1996) 'Green' vMeme and Rose's (2011) 'Pioneer' Value Mode. Some of those connections will be briefly explored. For ease of reference this potential axiological structure will be referred to as the Post-modern Axiological Structure (PAS).

There are several affinities between the descriptions of these models that indicate a coherent, potentially verifiable axiological structure. In both Beck and Cowan (1996) and Rose (2011) the PAS structure seems to value subjectivity and emotion, which is congruent with the affective turn associated with Post-Modernism and social critique (Kim and Bianco, 2007, Wilber, 2000), as well as theorising in education (Zembylas, 2023). This is also in accordance with the view of 'postmodernism in political theory (Gibbins and Reimer, 1998). Basanez's (2016) finding of 'post-materialism' is also resonant with the affective turn associated with post-modernism and the focus on "harmony", "spirituality" (Beck and Cowan, 1996, p. 265) and being at one with "Nature" (Rose, 2011, p. 128). It also resonates with the increasing value placed on language, communication and appreciating context. However, both Beck and Cowan (1996) and Rose (2011) report high levels of trust, whereas Basanez (2016) reports low levels. However, both Basanez (2016) and Kaasa (2021) highlight the declining levels of trust reported in public institutions and between 'most people'. This may indicate that the data supporting the models of Rose (2011) and Beck and Cowan (1996) may be outdated.

In terms of social orientation, the PAS values "social life" (Basanez, 2016, p. 17), "social engagement" (Rose, 2011) and a focus on "interpersonal skills" (Beck & Cowan, 1996, p. 261). This is approached with a universal emphasis on diversity, inclusion and justice. It is "consensus oriented" (Beck & Cowan, 1996, p. 260) with a "fuzzy" sense of needing to have "room for everyone" (ibid., p. 265). The post-material orientation corresponds with an increased need for personal intimacy (Rose, 2011) and quality relationships (Basanez, 2016, p. 124).

The orientation towards 'knowledge' expands from the pursuit of utilisable 'objective' knowledge of the MAS, towards a knowledge of "inner being" (Beck and Cowan, 1996, p. 260) and personal "authenticity" (Rose, 2011, p. 135). This is coherent with a post-materialist view and resonates with Wilber's (1996, 2006) interpretation of this vMeme as having a greater focus on self-knowledge and personal growth where such knowledge of the 'self' becomes an important axiological orientation (Beck and Cowan, 1996, Rose, 2011).

There is also an increase in a sense of agency and personal autonomy (Basanez, 2016, p. 128; Rose, 2011, p. 140; Beck and Cowan, 1996, p. 260), that emerges in tandem with a greater sense of inclusion and social responsibility (Beck and Cowan, 1996, p. 123; Rose, 2011, p. 261-5; Basanez, 2016, p. 127). This corresponds with an even greater tolerance for change and uncertainty.

6.5 Discussion: Towards a Complex Integral Realist Axiological Framework?

There are several issues that need to be addressed before considering the nature and ontology of the axiological structures under consideration. The first pertains to methodology and a cautious examination of the reliability of survey data in light of other lines of research, as well as the ontological and epistemological assumptions and commitments of this research. The second consideration requires a contextualisation of these findings within a larger ontological framework that takes into account the model constructed so far, as well as an engagement with data concerning the nature and prevalence of these structures within the chosen age-range and how malleable these structures are given recent historical changes. These two lines of enquiry will the converge on a tentative conclusion regarding the nature and ontology of axiological structures.

6.6 Methodological Considerations

There are two main issues in relation to the validity claims of the models outlined above and previous attempts at integration and these relate to the correspondence and coherence theory of truths respectively. Both of which will be explored and problematised before considering relevant evidence from fields of research beyond cultural values research. First I will consider how well the empirical data corresponds to the ontology of the domain of enquiry.

As mentioned, self-report survey data is the primary method used to create the large data sets that support the three empirically validated models outlined above, as well as the model

of Rose (2011) and Cultural Dynamics Systems Management (CDSM)[18]. Bryman et. al., (2021) outline some of the limits to generalization regarding the survey methods used in cross-sectional, longitudinal, and comparative research designs. This limitation is potentially applicable here as the main age demographic under consideration is adolescents in England, whereas many of the large data sets such as the World Values Survey range from 18yrs+. However, a 2011 CDSM data set used in an analysis of the 2011 riots in England (Dade, 2011) shows a strong correlation with recent data from the Policy Exchange (Kaufman, 2022) indicating that 15-17 year olds are on the cusp of transitioning from the TAS to the MAS with the majority of 18-21 year olds inhabiting the MAS, and a sizable minority inhabiting the TAS. While both Kaufman (2022) and Twenge (2017, 2023) highlight the cultural and social differences between recent generations, recent findings from the Policy Exchange are outlined by Kaufman:

> "The 18-21 group is slightly more conservative than those aged 22-32, who lean left by a somewhat greater 70-30 margin, but is still heavily left-leaning. The slight conservative tilt among the 18-21s compared to those over 22 helps explain why the 18-24 group shows a left:right ratio closer to 77-23 in 2019 election surveys" (Kaufman, 2022, p. 10).

The directionality of change, while problematised by Basanez (2016) and Inglehart 2018), is congruent with the research on ego development outlined above, as well as that proposed by the models of values discussed previously. This indicates that the data may be applicable and generalisable to the age demographic under consideration.

In considering the reliability of the data and the underlying construct validity of the proposed axiological structures, Hofstede and Inglehart are two of the world's most frequently cited social scientists (Google Scholar) and their findings have been successfully replicated (Kaasa & Minkov, 2022). There has been some success in comparing some of the respective axes or dimensions used in their models (Basanez, 2016, Beugelsdijk and Welzel, 2018, Kaasa, 2021), as well as in comparing their respective data sets in comparative research (Malnar and Ryan,

[18] http://www.cultdyn.co.uk (accessed 7.8.23)

2022). In addition, as there is considerable convergent validity (Bryman et al., 2021) between the various measures and models outlined above, it seems that the underlying construct validity is sound. However, despite this, there is some incongruence between the vectors of integration conducted thus far, and how well these models compare with findings from other studies, and models constructed in moral psychology.

There is an affinity between the limitations of all types of self-report and interview methods in gathering qualitative data in that all are prone to subjective bias in one form or another (Bryman et al., 2021). Incidentally, this progressive, stage-like developmental model is used by Wilber (1996, 2000) and was problematised previously. Research in moral psychology (Haidt, 2012, Greene, 2013) cast doubt on the findings of Kohlberg (1984) and Piaget (2013) due to the overly cognitive bias of their data collection methods, particularly self-report data.

Building on Margolis (1987), Haidt (2012) argues that the moral dilemmas presented to the participants in the studies supporting their models considers a type of reasoning referred to as "reasoning why", which is a conscious and rational judgement, as opposed to "seeing-that", which is a more automatic and intuitive judgement. Similarly, perhaps the methods used to support the models of cultural values research also assess the former type of value judgement and neglect the latter. Both Haidt (2012) and Greene (2013) argue that the latter type of judgement has been neglected in research in moral psychology and review research highlighting its importance in understanding moral values and moral psychology. Sinnott-Armstrong and Cameron (2022) reach a similar conclusion regarding the insights of these dual-process theories of moral judgement. However, they go one step further and argue that our current methods for exploring these automatic and intuitive judgements are insufficient: "Until we know more about them, we cannot say how implicit moral attitudes are related to moral intuitions as understood variously by philosophers and psychologists" (2022, p. 566).

It is interesting to note that the "reasoning why" and "seeing that" dichotomy, along with the research in dual process theories of cognition, highlight the two modes of perceptions explored by McGilchrist (2019, 2021), which I associated earlier with the Deficient Mental Rational Structure of Consciousness (DMRSC). It could be possible that this deficiency is influencing research in this area, making more firmer conclusions difficult to ascertain.

In conclusion, while there is a great deal of coherence between the various models and from associated research on the values structures I have labelled TAS and MAS, as well as empirical research from large, international data sets, their nature and structure as verifiable ontological structures remains tentative. I argue there is even less certainty regarding the PAS as a verifiable axiological structure, despite its prevalence as a moniker for various aspects of perspective and discourse across diverse fields such as philosophy, art and social science. However, despite this uncertainty, it seems that there is enough weight of evidence to posit a tentative outline of these axiological structures to be of use within an embryonic model of Affective Axiological Orientation.

6.7 Potential Application and Implications for Education

This chapter attempted to answer the question: What is axiology and how does it relate to emotion and education? In summary, it seems clear that axiology is structured and that these structures, like the ontological structures relating to emotion and ego development, are stratified and emerge sequentially over time. It is also evident that they mutually overlap and interpenetrate each other in a similar fashion. However, their ontology is much harder to identify according to the literature surveyed in this chapter and their nature, form and processual emergence in space and time is also difficult to discern. This could be due to the methodological considerations outlined above. However, despite this, it could be argued that there is sufficient weight and warrant in the evidence accumulated so far to provide a conatus towards further research and for application within education and associated fields. The axiological structures identified above clearly help individuals and communities to orient themselves in relation to an interest in knowledge, different aspects of human agency, and they each have different relationships with sociality.

In terms of the implications for education, they provide the beginning of an affective map of the cultural milieu that education finds itself within, and could have a significant impact on the ways in which culture and values are understood within education. I will briefly outline two potential applications in relation to policy and practice. First, political messaging with regard to the promotion and implementation of education policy may wish to take into

consideration these different axiological structures and whether the values contained within a particular policy are antagonistic or congruent with those of the wider community. It could be used to pre-empt or predict potential resistance, indifference and/or support for education policy within different affected communities. Secondly, in terms of teaching and learning practice, this model of axiological structures could be used to analyse, reflect upon and/or utilised in curriculum design and implementation. For example, as a classroom teacher I have noted recent changes to national guidance relating to the national curriculum that is infused with values from the Post-Modern Axiological Structure (PAS), particularly regarding messaging around race and gender. I have personally seen students with a more Traditional Axiological Structure (TAS) be very resistant to this messaging. An analysis using this model could help to ameliorate such potential conflict and resistance.

Finally, in relation to facing the meta-crisis within education, the model can be used as a way in which messaging on the significance and severity of the many different crises we face as a species, as outlined in chapter one, could be tailored to different axiological structures within education to promote cooperation, provide conatus towards learning about potential solutions, and to encourage different communities to promote and encourage developing human agency. It also further undermines the subject/object dualism at the heart of the Deficient Mental Rational Structure of Consciousness (DMRSC) by illustrating the ways in which subjective values and beliefs are shaped by cultures and affective environments that transcend, yet include, the individual subject.

7.0 Chapter Seven: Towards a Complex Integral Realist Theory of Education and Affective Axiological Orientation

7.0.1 Introduction

This chapter addresses the question: what would an integrative model of these different lines of enquiry contain, and how would it relate to education?

This research began as a proposed extension and exploration of my initial findings in Botham (2013). I had hoped that I could create a Critical Realist Integral Theory of Emotion and Ego Development in Education. However, I had concerns about the current education system and ethical concerns about how this model may be used. In addition, I encountered confusion with my initial forays into the research on affect and emotion, and how it related to ego development and education, particularly in how these complex systems interact and how they could be modelled. I had a fortuitous encounter with some of the work on the meta-crisis (Stein, 2019, Rowson, 2021a), when juxtaposed with the literature that forms and inspires the methodology of this research. This led to a moment of serendipity, and a new orientation towards this research in which I decided to position myself within this discourse of the meta-crisis, use it as a critique of modern education in England, and then coin the term 'Affective Axiological Orientation' as a moniker for the phenomena I saw coalescing within my growing understanding of the multiple connections I began seeing.

The potential implications of this research, as well as applications and limitations will be considered below.

7.1 Towards A Complex Integral Realist Theory of Education and Educational Research

In my methodology chapter, I have only indicated a direction *towards* a Complex Integral Realist Theory of Education (CIRTE) and educational research. Further research would be needed in its explication. What started as an initial methodology to overcome the Deficient Mental Rational Structure of Consciousness (DMRSC), and to help me make sense of multiple, overlapping areas of discourse in affect, emotion, psychology and education, led to an archdisiplinary approach (Barker et al., 2023) in combining aspects of three meta-theories

(Complexity theory/Complex Thought, Integral Theory and Critical Realism) that invites further exploration and explication in what it potentially portends for educational theory, research and practice. In addition, by extending and developing Gebser's (1985) notion of a deficient mental structure of consciousness, it also includes a potentially fertile avenue of critique of the many forms of educational theory, structures, discourse and practice in modern education.

7.2 Towards a Complex Integral Realist Theory of Affective Axiological Orientation and Education

As a subset, or branch, of a Complex Integral Realist Theory of Education, a brief outline of a Complex Integral Realist Theory of Affective Axiological Orientation and Education (AAO), as primary product of this research, as well as its potential implications will be considered below.

7.2.1 Affective Axiological Orientation and Education

*"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel." — **Maya Angelou***

As a fractal-holographic reflection of the axiological orientation of a Complex Integral Realist Theory of Education, with its focus on negativity/absence and potentiality, together with its emphasis on a new orientation in relation to the meta-crisis facing humanity, and with a view to overcoming the Deficient Mental-Rational Structure of Consciousness (DMRSC), the theory of Affective Axiological Orientation and education (AAO) begins with an axiological claim regarding emancipation and emergence. From this research on affect, emotion, ego development and cultural values, it seems there is a discernible ontology of processual emergence that is structured, complex, and teleological. There is a directionality to human development that is hard to pin down, but brings forth developmental capacities that are co-created via complex networks of biology, psychology and culture. These are intimately entwined within complex, stratified, affective and emotional networks of assemblages that are composed of attractors/mechanisms across the multidimensional domains found within

the Multidimensional Ontological Domains Lattice (MODL). When plotted within this MODL, AAO contains an irreducible complexity contained within at least three stratified domains that mutually influence and co-create each other over different space-time scales, but have an asymmetrical weighting towards antecedence. The AAO model explored here has a primary focus on the affective axiological orientations regarding 'knowledge', sociality, and the developmental capacities relating to agency, defined in relation to affective and emotional capacities pertaining to existential decompression.

Potential, emergent capacities must be cultured, nurtured, and chosen within social and cultural networks of affective and emotional affordances provided by educational systems, dynamic relations, and institutions. I believe that these capacities, oriented toward knowledge, increased positive regard for sociality, and continual developmental unfolding along prospective lines of psychological and cultural development through an on-going existential decompression of affective and emotional affordances in experience, will enable us individually, and collectively, to effectively face the challenges posed by the meta-crisis at the dawn of the 21st century.

7.2.2 Outline

The following subsections will summarise and review the model developed as one of the primary products of this research. The three, overlapping, and mutually inter-penetrating domains of affective and emotional developmental pathways found within this research are summarised below in their respective sections on affect and emotion, the developmental structures of the self, and axiological structures. As each section builds upon the next, it is presented in a sequential manner. I hope that its explanatory power increases as each respective layer is presented and integrated into the one that precedes it. This is the *transcend and include* feature common to all the meta-theories I have used in its research and construction.

After each section I present a stratified instance of an *Affective Axiological Cartography* of a fictional student. Complementing the written explication, it is built up and developed in a transcend and include fashion that continually adds layers of analysis. This is done for illustration purposes and is not meant to be an exhaustive description, just an indication of potential application.

7.3 *AFFECT AND EMOTION*

The model of AAO begins with *affect*, as an emergent, negentropic, process of a biological system seeking homeostasis as the quantitative aspects of informational streams from antecedent sub-systems require a qualitative emergent process of calibration. The creation of a subjective delay-space, and corresponding existential decompression, forms the primordial beginning of *subjectivity*, as such, with an inner experience and emergence of spatio-temporal horizons, that affords potential for expansion and intensification as development unfolds, and hierarchical structuration occurs, with each successive level transcending and including its predecessor.

The emergence of the first internal models of the relationship between self and environment, with its co-operative and co-creative nature, in forming fuzzy boundaries between self and environment, as well as dominant and recessive sub-systems of affective processing leads, initially, to a largely unconscious surveillance of homeostatic affective processing until high dimensional integration within the BrainMind (Panksepp, 1998). The emergence of SEEKING, as early representations get an affective charge that form the beginnings of our construction of an affective cartography of our inner and outer worlds, are inextricably linked to an on-going growth orientation for continual existential decompression. This Primary-Process Emotion (PPE) provides the organic impetus, or conatus, to increase the complexification of agency, SEEKING affordances from a co-creating sociality, and SEEKING novel, affordance-providing environments for continual growth and expansion.

The emergence of the Secondary-Process Emotions (SPEs) of CARE and PLAY form the basis of our impetus for social interaction and engagement with our environment. Affordance-based Pushmi-Pullyu Representations (PPR) (Asma and Gabriel, 2019) intensify and expand on the earlier affective charges of an embryonic affective cartography of inner and outer experience, and form the basis of complex environmental, social and ideational affordances. While initially, and primarily sub-personal, in early life, they provide pathways for group bonding and form early templates for future on-going affective axiological orientations.

These initial, unconscious and pre-personal processes of affectively tagging and charging the affective cartography of experience along agentic, social, and environmental pathways through associative learning, connected via intentional threads (Anton, 2001), and centred around the SPEs of CARE and PLAY, provide the formal structuration of later, more conscious engagements with affective experience.

With Tertiary-Process Emotions (TPEs) and the more overt influence of culture, SEEKING is upgraded into goal-based concepts with the emergence of emotional meta-experience and emotional granularity. At this more authorial level, scripts initially defined by culture, can be reflected upon, and enabling more flexible behaviour and orientations. The more expansive, inner and outer spatio-temporal horizons afforded through greater existential decompression, generates an intensification of consciousness with a corresponding, increasing ability to consciously choose one's affective and emotional experiences. By reflecting on the inherited cultural scripts, expanding the repertoire of emotional granularity, and choosing to pursue which forms of knowledge one finds interesting, the self is beginning to consciously steer through, as well as consciously co-(re)create the affective and emotional cartography of experience.

The affective topography of the emotional landscape is a combination of several features of affective and emotional experience that are co-created between the self, sociality, and the environment. Depth represents positive valence and arousal.

The deep valleys represent pathways of SEEKING. The lodestars, or attractors/mechanisms (represented by the blue water), lie in the direction of travel. But the landscape, directionality of travel and the lodestars themselves are always shifting, with the changes being experience-dependent.

For example, the initial blue line at the bottom represents SEEKING, while the pool in the top left represents CARE. In the early years of life there is a canalizing, directionality of SEEKING (PPE) towards CARE (SPE) during primary socialization and persists during the secondary socialization process of adolescence.

The pool at the top right represents PLAY. The PPE of SEEKING is driving towards PLAY in the early years of life and the canalization of this pathways will only intensify and become more prominent during the progression into childhood.

FIGURE 21 - AN AFFECTIVE TOPOGRAPHY OF THE EMOTIONAL LANDSCAP

7.4 Developmental Structures of the Self

The model begins from the proposition that there are many selves, but that there is a centre of gravity known as the ego in Ego Development Theory (EDT) (Cook-Greuter, 2021) that co-ordinates the different sub-systems of the self as it becomes more complex and differentiated over time. It begins with the Self-protective stage dominated by Primary-Process-Emotions and Secondary-Process-Emotions. Here, social relationships are strained as inner space to accommodate a second-person perspective (2pp) is not yet stable. However, secure attachments governed by the Secondary-Process-Emotion of CARE are of vital importance. The co-construction of affective axiological orientations through emotional and affective enculturation is very important. The inner SEEKING for control and power dominates awareness, with an often, reluctant engagement with sociality, and a SEEKING of knowledge that accords with one's own personal preferences for PLAY dictate these orientations.

The Conformist stage, typical of late childhood to early adolescence, in which the roles, rules and narratives, dominated by the increasing intensification of Secondary-Process-Emotions, dictate the affective axiological orientations. The adolescent peer bonding, of SEEKING through the Secondary-Process-Emotion of CARE, is defined by the need for the other like me to validate and give meaning to the self. The need to succumb to the requirements of the Secondary-Process-Emotion of CARE makes this engagement more conscious, with many relationships being more consciously co-created and pre-personal. The cognitive expansion afforded by a developing prefrontal cortex (PFC) gives rise to the ability to garner an imagined audience who, together with the external peer network, is engaged with in exploration of SEEKING to satiate the CARE needs for belonging and intimacy. However, this affective and emotional fusion with the other makes cognitive and affective distantiation difficult, affecting the unfoldment of agentic, and self-determining capacities.

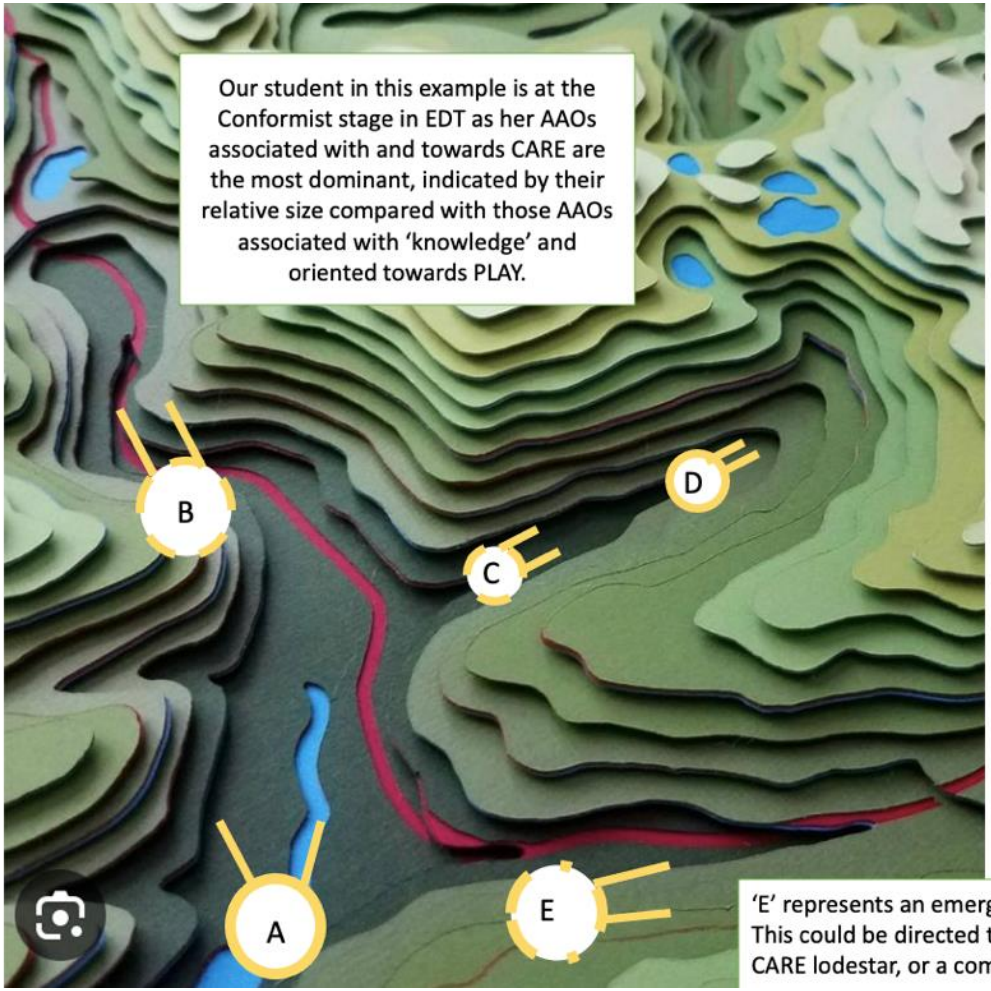
With the emergence of the Conscientious/Achiever stage, the importance of Tertiary-Process-Emotions (TPEs) and the beginning of reflective experience become more prominent. Positive feedback loops are beginning to be established, partly due to increased emotional granularity (PFC development) and the axiological structures of culture becomes

more significant. The newly emergent focus on self-image and self-esteem, explained in association with Self-Determination Theory's (SDT) (Ryan and Deci, 2017) notions of autonomy, competence and relatedness, begin to dominate emotional experience. However, with the increased SEEKING for self-worth and mastery come associated dangers of the influence of external rewards, a focus on rankings and narcissistic competition.

Within the affective topography of the emotional landscape are anchors (represented by the yellow circles) that represent different affective axiological orientations (AAO) of the self, that are also core constituents of aspects of ego development and personal identity.

Their size represents their degree of intensity within personal experience, particularly in terms of identification. The boundary represents how stable they are. For example, a solid line indicates stability whereas a broken line indicates instability. This instability could be due to it being a new or old formation within the self, or an aspect of the self under stress. Like the affective topography and the emotional landscape, each AAO changes in responsive, dialectical relationship between self, sociality, and the environment.

The lines represent directionality and openness. For example, 'A' has a broader focus than 'B'.



In this example, the AAOs represent an individual student entering secondary school. 'A' represents an open, positive orientation towards sociality (due to a combination of personality, biology, primary socialization etc.) and 'B' represents an emerging peer-group bonding experience (early secure attachment portends to more positive peer attachment in late childhood).

'C' represents the subject English at school (formed through positive teacher-student-class-school relationships, interest and engagement etc.). It is less stable than 'D' which represents her interest in becoming a writer as 'C' is emerging and at the moment both 'C' and 'D' are in alignment with PLAY. However, these orientations are not as strong as 'A' and 'B' due to the developmental unfolding are prioritization of late childhood AAOs towards CARE.

FIGURE 22 - AFFECTIVE AXIOLOGICAL ORIENTATIONS AND STRUCTURES OF THE SEL

7.5 Axiological Structures

The relationship between the following axiological structures and the self, outlined above in relation to EDT, is best understood beginning with Bhaskar's Four-Planar Social Being, seen below.

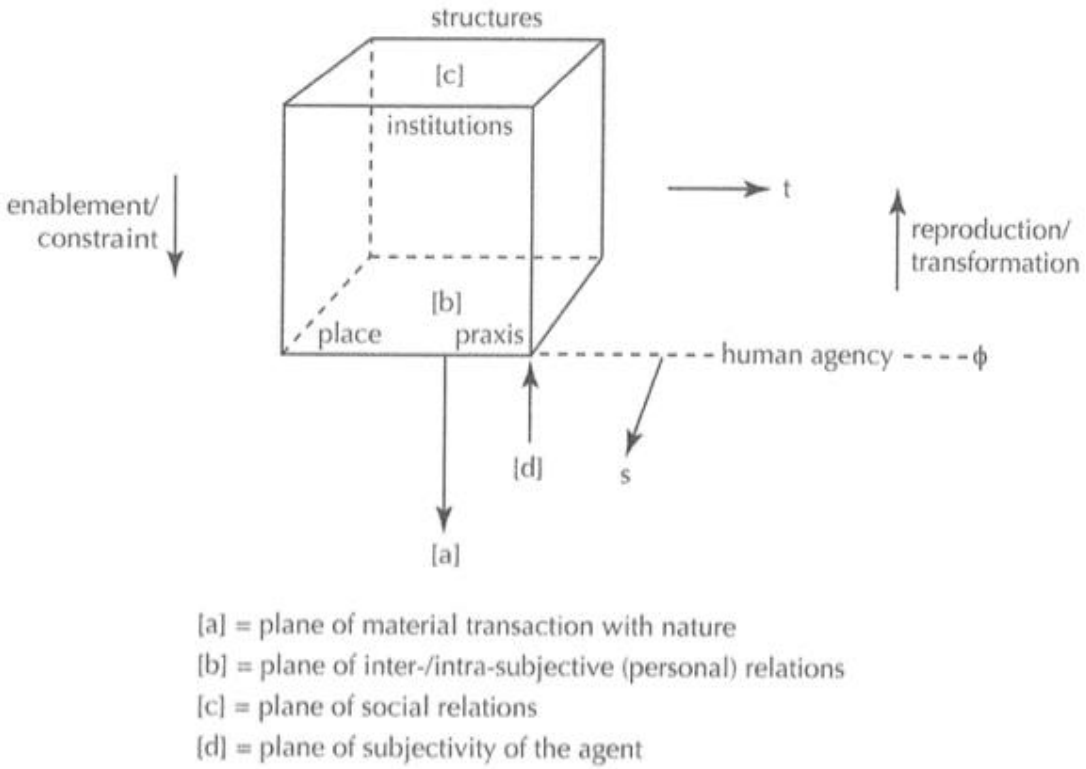


FIGURE 23 - BHASKAR'S FOUR-PLANAR SOCIAL BEING

However, while these axiological structures are more firmly identified on *plane 'C'* in the diagram above, they also interpenetrate and co-create all of the others along different timescales and spatio-temporal horizons. These will be alluded to in the following overview. Bhaskar's Four-Planar Social Being points to the enablements and constraints of familial, local, regional and inter/national cultural institutions (family, peers, school, associated agencies, education system). For this model, these enablements and constraints are enacted through culture.

The Traditional Axiological Structure (TAS) is the culture of the Conformist in EDT as it has been constructed over thousands of years by individuals predominantly at that stage of development. However, due to cultural drift, now that the Modern Axiological Structure (MAS) is dominant, most modern Conformists conform to the values of the MAS, but in a Conformist, rather than Conscientious/Achiever manner. Some argue that this traditional structure is no longer aligned with the values of many modern conservatives (Deneen, 2018). This notion will be explored briefly below.

The TAS is composed of the primary values of tradition, duty, honour, loyalty, hierarchy, and conformity with the in-group. There is great value placed on social cohesion, but it is highly exclusionary. It places emphasis on routine, the predictable, and is oriented towards repetition of the past. In addition, it seeks to reduce threats and uncertainty. As such, it places great value on in-group sociality, knowledge in the forms of passing on cultural heritage and the preservation of local tradition, and de-emphasises individual agency unless it is in service to the group.

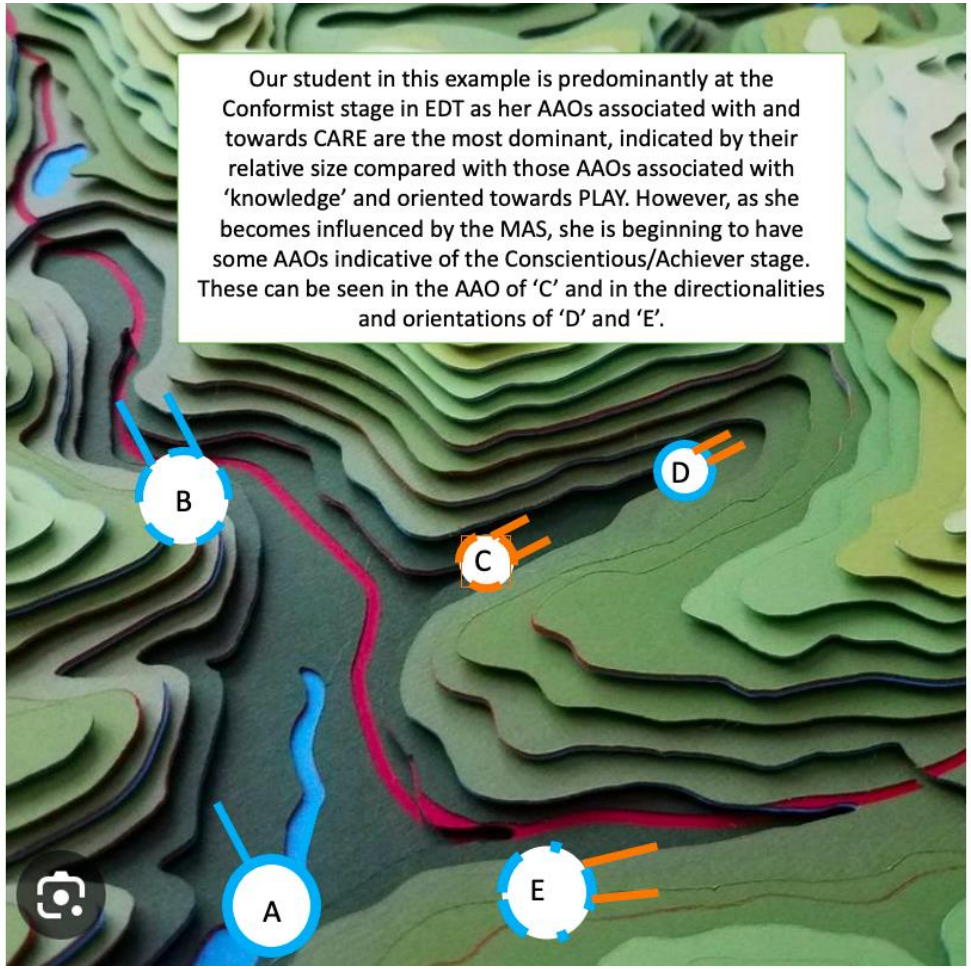
The MAS is the culture co-created by Conscientious/Achiever individuals beginning with the Axial Age, specifically ancient Greece, and came to fruition during the Enlightenment. According to research highlighted in Chapter One(Wilber, 2000), it dominates much of Western Civilisation and is currently exhibiting signs of deficiency, under the influence of the Deficient Mental-Rational Structure of Consciousness. The MAS is composed of the values of individualism, rationality, materialism, and horizontal egalitarianism. It valorises freedom of choice, equality of opportunity and competition, and personal achievement and success, often defined in terms of materialism. As such, it places great value on meritocracy and social mobility, external representations of worth and social status (together with elitism), an instrumental view of knowledge defined in relation to notions of objectivity, empiricism and rationality, and prioritisation of human agency defined in relation to capacities for social and personal advancement. It is future oriented with a focus on providing challenges and opportunities afforded to the individual.

The Post-Modern Axiological Structure (PAS), while less empirically secure as a separate axiological ontology, possibly due to its relatively recent emergence around the 1960s, is slowly becoming more culturally dominant, particularly in academia. The PAS is composed

of the values of subjectivity, emotion, identity, post-materialism, harmony, and social justice. It is consensus-oriented, with an emphasis on inclusion, diversity and communication. There is a greater tolerance for ambiguity and change and it has a temporal orientation towards the present, but with a greater, albeit de-emphasised, appreciation for past and future. As such, it places great value on social justice and promoting harmony with Nature, as well as an increased need for personal intimacy and meaningful relationships. The concept of knowledge expands to include inner knowledge of the self, with an emphasis on spirituality and personal growth. There is an increase in the promotion of personal agency, but with the emphasis on personal interests, autonomy and meaning. Whereas agency for the MAS focuses more on the external orientations of socially validated achievement and success in the future, for the PAS agency includes more emphasis on the internal orientations of personally meaningful growth and experience in the present.

Within the affective topography of the emotional landscape the anchors (represented by the circles) that represent different affective axiological orientations (AAO) of the self, are also influenced by axiological structures. These are indicated by the separate colours. Blue represents the Traditional Axiological Structure (TAS) and Orange represent the Modern Axiological Structure (MAS).

Her open and positive orientation towards sociality ('A') is co-created with the TAS influence emanating from close-knit family structures. The peer-group AAO at 'B' is strongly influenced by the "like us" orientation of TAS and the directionality of both is inline with the TAS. The strong AAO towards "horses" ('E') and the relatively weaker AAO of "being a writer" ('D') are both heavily influenced by TAS due to strong family associations. An influential grandmother is a "writer" and she owns horses which her granddaughter loves so much.



However, with both 'D' and 'E', the directionality is influenced by the MAS. 'D' is influenced by the notion of 'achievement' and 'success' orientations regarding participating in a writing competition at school (school in this instance has a predominantly MAS orientation). This is influenced by 'C' which is influenced by MAS (as a subject within school), and both the directionality of 'C' and 'D' are in alignment towards PLAY. However, both orientations are quite narrow due to the MAS notion of "success" promoted by the school (winning the competition).

'E' is also being influenced by MAS in relation to a 'riding competition'. However, the directionality is more open relative to the 'writing competition' as 'winning' in this context also includes simple participation within a riding association with others "like us" which reinforces and aligns with the MAS influence of 'E'. There is also little awareness of 'losing' in opposition to 'winning' here.

FIGURE 24 - AFFECTIVE AXIOLOGICAL ORIENTATIONS AND AXIOLOGICAL STRUCTURES

8.0 Chapter Eight: Conclusions

This, final chapter addresses the final research question: What are the potential implications and applications of the model in education?

8.1 The Value of this Research

The value of the integrative model of Affective Axiological Orientation, as well as the integration process of meta-theory applied in this research more broadly, lies in its ontological and axiological claims. I hope that the research presented in support of this theoretical model of human development shows that affective experience is a primary or fundamental ontology in education and this primacy lies in the weight of evidence gathered from numerous fields of enquiry. Embedded within and co-constitutive of this ontology lies an axiological claim regarding teleology and the relation of this affective process to human development. I argue that there needs to be a fundamental reorientation in the purpose of education. If the model is correct in asserting the primacy of affective experience in education, then it naturally follows that it should also become a primary focus in education more broadly, particularly in providing a conatus towards education that is conducive towards human flourishing and emancipation.

I argued in chapter one that there is a meta-crisis facing humanity and that this is composed of two parts. First, there are the multiple, over-lapping crises relating to environmental degradation, resource depletion, social and cultural fragmentation and the threat of exponential advance of technology. I argued that one of the purposes of education should be focused on developing our sense of agency, in terms of increasing our potential capacities and capabilities, promoting an interest and engagement with 'knowledge', and an improved approach to sociality. This, I believe is needed to help humanity face these practical challenges of the meta-crisis. However, I also argued that at the heart of the meta-crisis lies a faulty perception of reality founding on a strict subject/object dualism that I call the Deficient Mental-Rational Structure of Consciousness (DMRSC). Using Gebser (1985)'s foundational idea of a deficiency found in rationality, I found many other researchers who identified similar aspects of deficient perception that I argued were congruent and indicated a discerable ontology. I argued that a meta-theoretical framework was needed to overcome this

deficiency and that a new model of education founded on affective experience could potentially be used to extirpate this within education. I hope my efforts in this were successful on both fronts.

The discussion will now move onto more practical applications and considerations before a consideration of potential limitations.

8.2 Potential Applications and Considerations

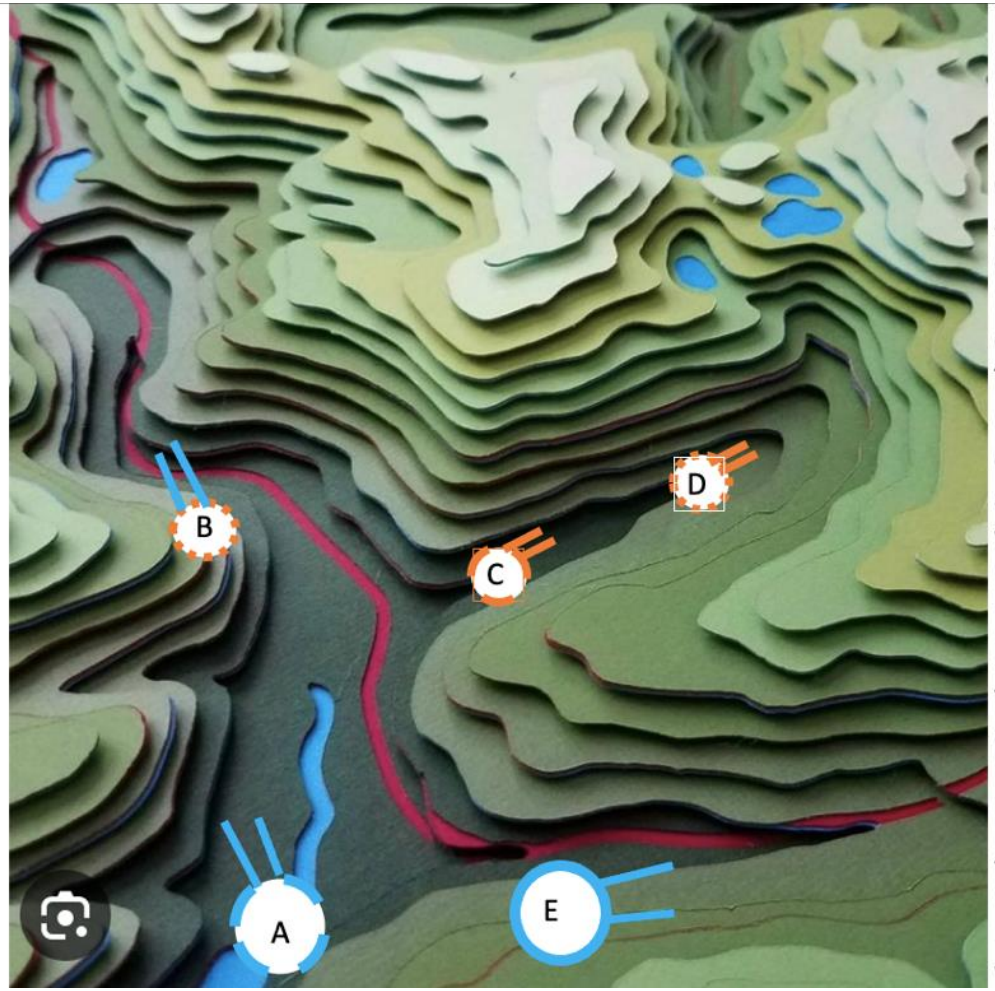
While there is a great deal of scope for exploring, developing and applying a Complex Integral Realist Theory of Education (CIRTE) and educational research more broadly, as well as using the notion of the Deficient Mental-Rational Structure of Consciousness (DMRSC) as a means of critique within educational discourse, policy and practice, here I will briefly highlight some potential applications and considerations for the model of Affective Axiological Orientation (AAO) in education.

First, it could be used as a descriptive, and potentially proscriptive, form of analysis for those involved in education who deal directly with individual students. It could also be used for Continual Professional Development (CPD) for a wide range of individuals and groups involved in education. More specifically, in terms of CPD for educators who work in a school or university setting, training could be provided to help educators better understand affective experiences within education and the model could applied to specific instances from local settings and circumstances to illustrate its explanatory power.

I will illustrate a potential application, drawing on my own experiences teaching Year 7 students (11-12 years old), that focuses on a fictional student's AAO in relation to school attachment. They build on the fictional examples used previously in the description above, but with markedly different outcomes. Both build on my own experiences of the impact of high stakes educational assessments and school-work surveillance, and the impact of 'getting-to-know' your students and showing an interest in their lives, as well as witnessing the consequences of various forms of poor and strong school attachment.

Weak School Attachment

In this scenario, the peer group bonding ('B') becomes fractured (dotted boundary) due to arguments and disagreements (competition over "looks" and popularity, leading to a weak Conscientious/Achiever stage AAO), leading to a decrease in intensification (size) and a narrowing of orientation (lines) reflecting a weaker alignment with CARE. As a result the overall disposition of sociality at 'A' becomes narrower and the AAO becomes less secure (lack of solid boundary). This may result in anxiety and associated mental health issues as this core SPE orientation becomes weakened.



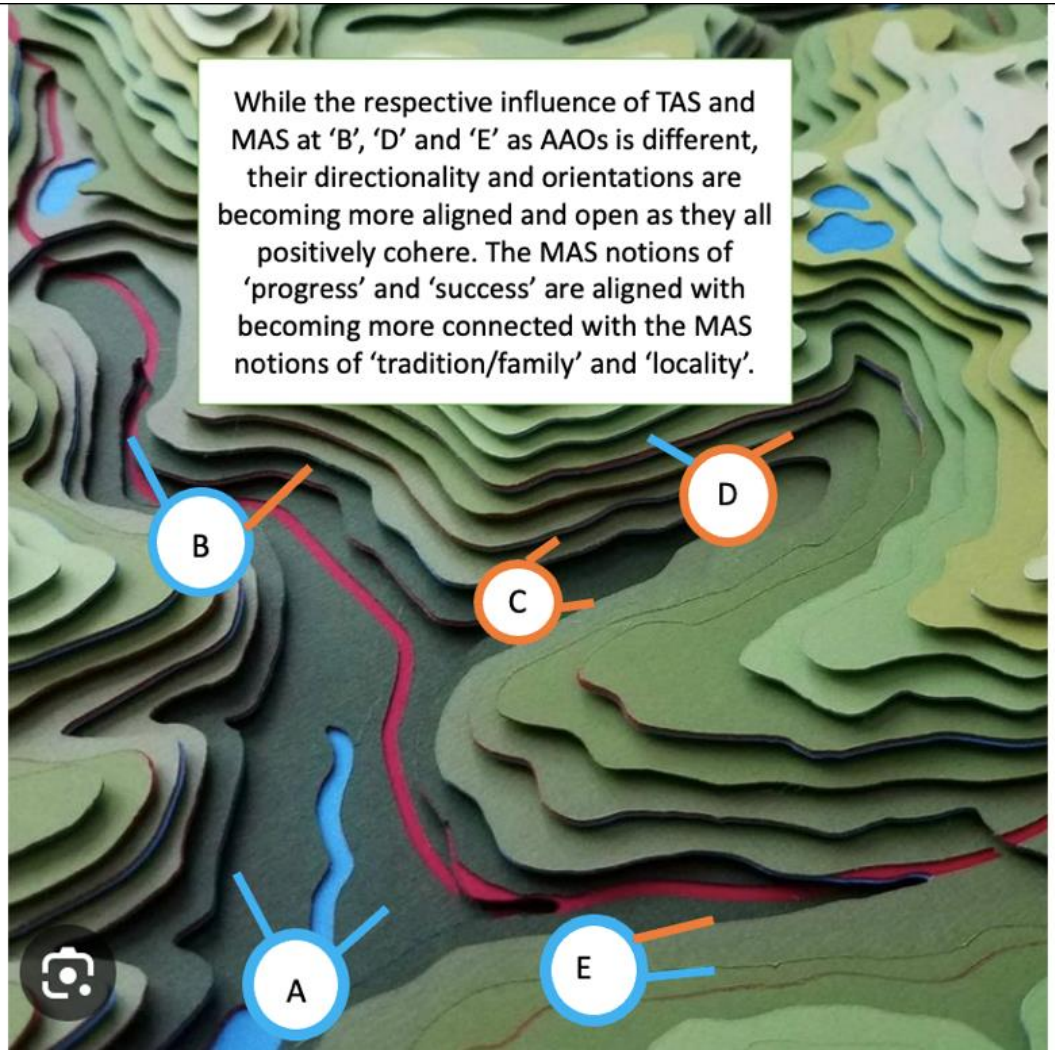
Peer and institutional bonding is improving at 'E' (solid boundary) and the loss of interest in competition towards socializing changes the directionality from TAS to MAS and it becomes more open.
The schools increases more zero-sum competitive assessments and surveillance of school work (including more homework) in which she performs poorly relative to her peers. As a result she feels less self-determined and competent.
Directionality towards PLAY narrows and her AAOs of becoming a writer ('D') and her love of English ('C') becomes weaker.

FIGURE 25 - AN AFFECTIVE AXIOLOGICAL CARTOGRAPHY OF WEAK SCHOOL ATTACHMENT

Strong School Attachment

In this scenario, the peer group bonding ('B') becomes strengthened (solid line) and the directionality and orientation expand towards both CARE and PLAY as many of her friends chare her interest at school. In addition, there is an expansion of directionality at 'A' as her family like the school.

The school encourages her to write about her love of "horses" and her grandmother for the competition (increasing solid boundary formation at both 'E' and 'C').



Due to a more secure AAO at 'E', due in part to it becoming more aligned with the school, she embarks on riding competitions (MAS directionality and orientation). Due to the school's interest in her love of "horses" and making the connection with her 'becoming a writer' ('D') and her AAO towards English ('C'), both have more stable orientations. The school focuses less on competitive assessment and school work surveillance, allowing her to maintain her interest and engagement with English and 'becoming a writer' that is more oriented towards PLAY.

FIGURE 26 - AN AFFECTIVE AXIOLOGICAL CARTOGRAPHY OF STRONG SCHOOL ATTACHMENT

A second potential area of application highlights the meta-theoretical nature of the model. It could be brought into conversation with other models already in use within education to improve research and practice, and as an avenue for exploring theoretical compatibility. For example, SDT was highlighted in the literature review on values research and there are several potentially fertile avenues for exploration. SDT's use of intrinsic and extrinsic motivation in their *Cognitive Evaluation [mini-] Theory* (Ryan and Deci, 2017), particularly in relation to the SDT need for autonomy, shows potential confluence and lines of integration with the relational emergence of AAO from structures of the self and axiological structures in this model. There may be TAS, MAS and PAS interpretations of both types of motivation, with each containing relational significance in relation to the stratified nature of affect and emotional experience and the structures of the self.

Such speculation leads to further considerations and questions for further research:

- If the MAS is in its deficiency stage, under the influence of the DMRSC, what does this portend for educational policy and practice? What would a more *efficient* and adaptive MAS look like in education?
- What is the relationship between the different axiological structures and modern education in England?
- Which other psychological models are in/compatible with the model of AAO?
- What are the implications and potential applications of the model of AAO in the domains of school climate and school attachment?
- What are the potential benefits, harms, and possibilities of creating forms of diagnostic assessment using the model of AAO?
- What are the practical applications in terms of pedagogy?

8.3 Potential Limitations

There are several potential limitations of this research, but here I will just highlight a few of the most salient for me at this time.

The first relates to my choice of what to include and exclude under pressure to remain within the confines of the allocated word count for this thesis. I have discarded large sections of my

critique of the current education system in England and its dominant paradigm (over 20k words). Much of this analysis and critique applied my notion of the DMRSC in an extensive literature review. Without this, my positionality as researcher, and the positionality of this new theory and model for education, may be negatively affected. In addition, I discarded a section on the philosophy of emotion which may lead to a loss of positionality regarding myself and this research within the discourse.

There are several potential limitations regarding methodology. With the exclusion of the section on the philosophy of emotion, the methods used to explore the literature on emotion are not as rigorous as they could have been, according to my own discursive methodological criteria. In addition, due to the nature of meta-theory itself and its application, the broad focus of this research meant that I inevitably had to leave potentially impactful areas of research unaddressed. This may undermine the model's construct validity, and thereby its external validity. I am also a novice researcher in many of the areas I surveyed in this research. There may be significant perspectives or methodological considerations I have neglected to engage with.

Finally, regarding the model of AAO itself, as it is just a singular instantiation of what it could potentially be, as well as being a *towards* in the sense that it is only an embryonic formulation, there may be aspects of it that are less rigorous and so could undermine future research and developments. For example, I am less confident about the axiological structures than I am of the model of affect and emotion, and the structures of the self in relation to them. This is due to the methodological considerations outlined above, as well as my own lack of clarity regarding the relationship and nature of these structures in the modern era. Perhaps, and I hope, future research will elucidate and clarify this issue.

APPENDIX A: PERSONAL REFLECTIONS

This appendix is included as part of my methodology and is inspired by Alhadeff-Jones' (2013) model for crafting a critical process of research that includes four sub-systems; the author; system of ideas; object of study; and method, within the nested environment of the physical world, the biosphere, the anthroposphere, and the noosphere. All of which are in a process of change and evolution. Here are some of my reflections on the research process with a specific focus on the four sub-systems, although some reference will be made to the changing environment. For readability and ease of reference these will not be explicitly identified as such, but will be implicit in what follows. However, I will set out some of the environmental context of this research before proceeding to reflections on each section.

I started this research before I was married and before the birth of my two children. While conducting this research part-time I have also worked at 3 different secondary schools and lectured at 2 universities, as well as spent time as a 'house husband' during a global pandemic trying to raise our first child who suffered health problems and developmental delays. In addition, during this time 2 close friends have passed away and my father has had a near-fatal cardiac arrest (one Christmas Eve). These past few years have been the most turbulent years of my life and they have no doubt impacted this research.

Chapter One: Major challenges and the meta-crisis

The content of this chapter, as well as my perceptions of it, have changed significantly over the course of research and development and has changed several times. While the Anthropocene is still the lens through which I have framed the challenges and the meta-crisis, I have removed reference to 'climate change' as, over the years, I have had cause to seriously doubt and reconsider its anthropogenic nature, both empirically and theoretically. I decided that I simply do not have enough of an understanding of the issue to include it and I do not have the time or expertise to sufficiently explore the weight and warrant of the arguments and evidence. I have also not included much reference to the Covid-19 pandemic as the impact this period had on many of the topics I have covered is complex and often contested.

I simply did not have the time to give it the treatment it deserved. There have also been significant developments in the area of artificial intelligence (AI) that would require an engagement beyond my expertise. However, I believe the basic framing and relation to the Deficient Mental-Rational Structure of Consciousness (DMRSC) is still valid and warranted.

Excluded Chapters: How does this relate to education?

This chapter was written before the Covid-19 pandemic and I have decided not to update it as I believe the initial literature review and analysis still has warrant and validity. However, many of the themes I identified and sourced to the DMRSC became more accentuated during this time and subsequently. For example, there was discourse and discussion in the media in terms of the quantification of "learning lost", as well as the significant impact the lockdowns had on children's mental health, which seem to have been poorly considered at the time according to the *Children's Enquiry* (Cole and Kinglsey, 2022). This had to be removed due to considerations of space (word count), for which I am very disappointed as I believe it negatively impacts the coherence of my positionality as researcher, and the positionality of the research within the discourse.

Prior to the exclusion of the chapter cited above, I removed a large chapter in the form of a literature review and analysis that involved an immanent critique of the English education system according to its own discursive criteria (prior to Covid-19). While the framing of it in terms of an 'immanent critique', following Critical Realism, seemed relatively novel, the content did not. In my view, it simply rehashed research and critique of the current education system and dominant paradigm that had been prevalent in academic discourse for a number of years. Following discussion with my supervisors, it was subsequently excluded.

Chapter Two: Towards a new theory of education

The impetus and rationale for this research became more salient for me following the birth of my children and my re-entrance into secondary education. Having previously spent some time teaching second-year university students in the sociology of education, I had been

reminded of the significance of the emotional experience of formal education. My students were required to write an autobiographical account of their time in secondary education in light of their new understanding of the sociology of education, and to analyse their own experience as a final assessment for the module. Most wrote about formative emotional experiences from their interactions with educators, peers, and/or educational systems such as schools, transition processes, exam infrastructure etc., that continued to have an impact long after the event. Very few wrote about the content of what they had learned or the exam results they had received, despite this being a core focus of one of the topics covered. Upon re-entry into secondary education as a teacher, I began to pay closer attention to the formation of these experiences with the students I encountered. These became a core determinant and inspiration for the examples I use as initial exemplars of my model in the final chapter.

Chapter Three: Methodology

This chapter has probably changed the most during the process of this research. Having initially set out with a Critical Realist Integral Theory of Education (CRIT), Emotion and Ego Development (essentially the title of my initial proposal), I quickly ran into problems when I revisited the literature on affect and emotion. While Critical Realism (CR) and Integral Theory (IT) have positions on boundary formation, I found it difficult to apply, particularly when emotion seemed so ephemeral and transient at times. Affect and emotion are so often fleeting and ambiguous, and bound up with other related phenomena such as perception, cognition, language etc. I was initially reluctant to incorporate complexity theory or Morin's (2008) Complex Thought (CT) as I was unfamiliar with it. However, having encountered Esbjorn-Hagens' (2016) and Marshall's (2016a, 2016b) versions of Complex Integral Realism (CIR), I felt that it warranted investigation. While much of Edgar Morin's work has yet to be translated into English, Michael Alhadeff-Jones had applied some of his insights into education and Byrne and Callaghan (2014) had explored and applied Morin's work in the social sciences, as well as some other complexity theorists. It was here that I found some of the key concepts to help me make sense of the literature on affect and emotion. There was a great deal of shuttling between methodology and the literature on affect and emotion until I

finally had a methodology that could help me make sense of it. It was then that I settled on a Complex Integral Realist Theory (CIRT).

A caveat was formulated to explicate the tentative nature of this methodology as there were many ways I could take it. However, my engagement with the literature on affect and emotion itself dictated how the methodology should be formed. Although, this too changed, as I will briefly explore under the next heading, and this required another change to my methodology.

Once I had my ontological assumptions, I then ran into difficulty in applying my epistemology. I had initially had a very rigorous and all-encompassing epistemology that sought to find literature from all eight zones in Wilber's (2006) Integral Methodological Pluralism (IMP) (an aspiration I had developed following my M.Ed), as well as a representative sample and analysis of this literature from 2nd, 3rd, 4th and 5th perspectives following Wilber's (2006) Developmental Epistemology (DE). These were then going to be subject to Bhaskar's (2016) DREI(C) and RRREI(C) schemas to interrogate the empirical literature and establish the validity of the underlying causal mechanisms in the domain of the Real. This process comprised a Multidimensional Epistemological Domains Lattice (MEPL) to complement the Multidimensional Ontological Domains Lattice (MODL). In addition, this would also incorporate the temporal dimension and aim to situate each epistemology within the time-horizon of when it was enacted (written). However, this became far too ambitious (and onerous). Thus, I settled with a sample from each of the 4 Quadrants (4Q), with an analysis utilizing a DE where appropriate. I felt that this was epistemically adequate for the purposes of developing an embryonic model and orientation towards further potential research.

Fortuitously, it was also during this period that I had one of my Annual Progress Review panels (APR) where it was suggested that Exploratory Research could be used as an overall research design. In exploring some of the research on this design within the context of my theorising on methodology outlined above, I felt that it resonated with the metamodern 'fuzzy' approach to epistemology that I needed. I was confident that, as long as I had sufficient grounding in a rigorous ontological framework, the epistemology could be less 'solid', so to speak, and I could hold it lightly. Reiter (2017) seemed to resonate with many of my suppositions and orientations towards research and so I was encouraged to incorporate it.

I still have many unanswered questions and concerns about the incorporation of axiology into the methodology. I had initial concerns about the possibility of theory's misuse which have not diminished. This is particularly more astute the more evidence I see of the march of 'surveillance capitalism' (Zuboff, 2020). I also have concerns about the ontological nature of axiology (or its *perceived* ontological nature). Valuation has to stand somewhere and somewhen. There is a good chance that history will judge these (integral?) valuations as harshly as we have judged their predecessors. However, now the stakes are high, as well as the potential costs for error. It ultimately requires a 'leap of faith' in the process itself.

Chapter Four: Affect and Emotion

I conducted a large literature review on the philosophy of emotion, as this is an area that I was largely unfamiliar with. However, such a review and analysis yielded little benefit other than an academic curiosity. However, I gained confidence in that much of the field seems to be afflicted by the DMRSC (as I have also been in this process of trying to 'pin it (emotion) down'). The fact I can now see it in many fields of enquiry gives me more confidence in its ontology, as well as enabling me to discern it within my own thinking and perception. I was also encouraged in finding the work of Jean Moritz-Muller which shares affinity with several aspects of my own view of emotion and my developing theory of AAO. This would recursively inform my own research on affect and emotion.

Chapter Five: Structures of the Self

I have been reading and independently researching models in developmental psychology for over 20 years, and applying them in my teaching practice for the past 10 years, particularly Cook-Greuter's (2021) model, which I have found the most useful. However, upon revisiting and expanding on the literature from many of the different models I draw upon in this chapter, I am amazed by how much there is yet to learn. I always feel humbled and reinvigorated upon re-engaging with this literature after a period of absence. However, I still have many questions about its nature and validity, particularly in terms of the ontology of developmental stages and processes of unfolding. I was pleased that I could find much

confluence regarding the affective and emotional dynamics within the different models, but I have come away feeling that the processes of ego development, and other associated processes such as identity formation and needs satisfaction, are more transient with regard to affective and emotional phenomena than they are to cognitive phenomena, which is usually the primary focus of these models. I feel that affective and emotional phenomena seem to oscillate more within day-to-day experience, and traverse more stages or levels of affective processing than the model of AAO seems to imply. There seems to be much more in the domain of the Real, in the Bhaskarian sense, than the empirical data and theoretical models seem to capture.

Chapter Six: Axiological Structures

I am probably the most dissatisfied with this chapter. Axiological structures still seem more amorphous and inter-penetrating than the literature suggests. I think Integral Theory and Ego Development Theory seem to conflate the different models of values development and other forms of psychological development, whereas I think these structures have more of a discernible social ontology, more akin to the structures of consciousness as outlined by Gebser (1985) and others, but more tethered to the phenomenal realm of collective experience. Perhaps they are mediating structures between the individual, collective and overarching structures of consciousness. I still feel that their ontology largely evades investigation.

However, despite these reservations, I believe that the Traditional, Modern and Post-Modern structures have a potentially verifiable ontology as there are clear features distinguishing them, despite my concerns about the validity, weight and warrant of the empirical evidence supporting their ontology. The notion of cultural drift haunts my theorising, as well as the notion of deficiency. Are we witnessing the deficiency of all these structures simultaneously at this moment in our history? If the Post-modern structure emerged in the 1960s, there are certainly signs of increasing deficiency already in mass culture and social formations. What would a re-invigorated and integrated Traditional structure look like today? Is there a danger that the spectre of its deficient form may return in the 21st century? Has the deficiency of the

modern structure run its course? There are many questions and more that need to be answered.

Chapter Seven: The Model of Affective Axiological Orientation

Overall, I am very pleased with this embryonic model as it stands, particularly with its application to an Affective Axiological Cartography. This was a serendipitous creation that occurred when I saw that image by Brent Dutton. After several days staring at it and mulling over how my model of AAO related to it I sat down one morning and created those images and descriptions on a PowerPoint. I think it holds much potential. While the model is indeed embryonic, I hope that it will be developed, expanded upon and applied in some of the ways in which I suggest in the final chapter.

APPENDIX B: LITERATURE SEARCH AND REVIEW

VALUES SEARCH ON ERIC

Purpose of this search is to find models of value/s, or related models on student motivation and/or attitude, currently used in education that might point to verifiable, underlying ontological structures. It is hoped that by comparing these models, such ontological axiological structures might be identified. Once relevant models/theories have been identified, a potential synthesis will be explored and attempted following the assumptions and methodology.

I have prior familiarity with two models of values from the world of business (Beck and Cowan, 1996, Rose, 2011), and I was aware of models from moral psychology (Greene, 2014, Haidt, 2012, Kohlberg, 1984, Piaget, 2013) following previous research (Botham, 2013) that are supported by peer-reviewed, empirical literature. However, I want to find empirical evidence that might support the hypothesis that there are verifiable ontological value structures. It seems that the model of ego development proposed by Cook-Greuter is supported by corresponding models grounded in peer-review and that there is coherence, following the coherence theory of truth (Walker, 2017), between these models for the various stages outlined in the previous chapter, as proposed by Wilber (1995, 1999, 2000). I want to explore whether similar confirmation can be found for the two models I was already aware of for value structures. As such, the literature searches and analysis in this chapter seek to identify models already in use from existing literature on education. The nature and potential verifiability of these structures will be explored and discussed following the literature review.

METHOD

The process of searching for relevant literature has three consecutive stages. The first involved three searches using ERIC in January 2023. ERIC was used as it is the largest and most widely used database in educational research according to ProQuest[19]. When the three searches on ERIC only identified two relevant models/theories that were tangentially relevant, indicating a gap in the literature, a search on Oxford University Press, specifically the Oxford Handbooks, was conducted. The outline of these searches is detailed below. Once

[19] https://proquest.libguides.com/eric (accessed 2.8.23)

relevant articles or chapters were identified, they were critically analysed with a view to identifying relevant models. If potentially relevant models were not excluded according to the exclusion criteria, a limited snow-balling was used to identify founding texts for the models or theories that warranted further consideration. This is a process used in sampling in social research (Clark et al., 2021).

The processes of exclusion and inclusion are outlined in relevant sections below. A final search was conducted following a limited snow-balling method to update my previous knowledge on moral and political psychology, specifically looking for psychological and neuroscientific research on the political orientations of conservativism and liberalism. This was done to supplement and clarify findings from the previous search.

The only search using ERIC that yielded negative results was the search for 'meaning'. There is a great deal of existential literature from philosophy and psychology, but no discernible models or theories were identified. A brief exclusion analysis is conducted for the other two searches. Due to limited time and resources, only examples of each instance of exclusion according to evaluative criteria are used to illustrate broader trends in the evaluation. This is done before the evaluation that identifies potential models or theories for inclusion. An attempted synthesis and discussion of these is can been seen in the final section.

Search	'Value'	'Meaning'	'Motivation'
Publication date	Since 2014	Since 2014	Since 2014
Descriptors	Values Student Attitudes Secondary Education	Student Attitudes Secondary School Students	Student Motivation Student Attitudes Secondary Education Secondary School Students
Exclusion criteria	too subject specific (e.g., mathematics education); specific values (work values; environmental values; value of science; religious values; fairness); parental focus; non-Western educational setting (e.g., Vietnam); cyber/bullying; leadership; inter-cultural education; refugees; teacher education; burnout		

Results	97	114	261
Relevant Articles	10	0	27

SEARCH FOR 'VALUE/S' IN EDUCATIONAL RESEARCH USING ERIC

Some models from this search were excluded due to lack of external validity. For example, the Global Education Values and Attitudes Questionnaire (GEVAQ) was developed using concepts expected to be taught in the Global Education framework. For example, "Care and compassion were conceptualised using the operational definitions concerning the desire to do something about the suffering of others and related concepts" (DeNobile et al., 2014, p. 30). Such "operational definitions" devised for the purpose of the implementation of a specific educational program was deemed to lack a rigorous underlying construct validity and hence, external validity, to be able to be used and applied in other contexts.

Models were also excluded due to non-relevance of construct validity for the purpose of comparison. For example, several large-scale, longitudinal and cross-sectional design studies focus on Social Economic Status (SES) and/or gender and residence as mediators of underlying values in relation to school engagement and sense of belonging (Lamb, 2004, Rumberger, 2011). In addition, such studies tend to extrapolate values in relation to constructs such as 'friends', 'achievement' and 'belonging' (often defined in relation to dropout and attendance rates) and these are often highly variable across different contexts.

SEARCH FOR 'MOTIVATION' IN EDUCATIONAL RESEARCH USING ERIC

Some models were excluded following this search due to lack of external validity and incompatibility of construct validity (e.g., Kilic et. al., (2021) develops a novel input model of student motivation drawing on various ecological factors). However, there were several promising theories/models that were repeated in the literature that warranted further exploration and snow-balling to find original sources.

Achievement Goal Theory (AGT) (Heise, 2016, Nicholls, 1984) is cited by several studies (e.g., Hofverberg and Winberg, (2020), but the theory is too task-specific and does not offer an underlying theory of value. It seems that AGT has been one of the most influential in educational research in recent times (Pintrich, 2003, Wirthwein et al., 2013). 'Achievement goal' is defined by Hulleman et al. as "a future-focused cognitive representation that guides behavior to a competence-related end state that the individual is committed to either approach or avoid" (2010, p. 423). As such, due to its cognitive and competence-related nature, the underlying construct is incompatible for the purposes of this research.

Regulatory Focus Theory (RFT) (Higgins, 1997) was found in a few studies (e.g., Hodis and Hodis (2017) and focuses on the constructs of promotion and prevention orientations. RFT makes a strong link between motivation and valence resulting from primary socialisation and personal differences in goal pursuit. While RFT has detailed descriptions of how such orientations manifest, it does not conceptualise underlying structures for goals or objectives that guide these orientations.

The Achievement Orientation Model (AOM) (Siegle et al., 2021, Siegle et al., 2017) was identified in a few studies (e.g., Winberg et. al., (2019). It is based on Bandura's (1989) self-efficacy theory, Weiner's (1985) attribution theory, Eccles and Wigfield's (2020) expectancy-value theory, and Lewin's (1938) person-environment fit theory. There are three underlying constructs: self-efficacy, goal valuation/meaningfulness and environmental perceptions. Bandura defines 'self-efficacy' as "the conviction that one can successfully execute the behavior required to produce the outcome" (1977, p. 79). This concept is developed further by Ryan (2022) and is discussed below. In terms of goal valuation/meaningfulness, the AOM builds on Eccles and Wigfields' (Eccles and Wigfield, 1995) four categories related to identity, interest, future-orientation and immediate worthiness of the subject matter. These relate to Eccles and Wigfield's (2020) Expectancy-Value Theory (EVT), identified in four studies (e.g., Nalipay et. al., (2021). However, like AOM, EVT is task/goal specific and does not seek to identify or explore underlying value structures.

The Control-Value Theory (CVT) of achievement emotions (Pekrun, 2006, Pekrun, 2011) was identified in numerous studies (e.g., Muwonge et. al., (2019). However, it was deemed to be

too oriented towards specific emotion categories ('achievement emotions') and lacked an underlying axiological framework to be of interest.

Finally, 'Intrinsic value' was used frequently across different studies and is deemed to be conceptually similar to 'intrinsic motivation' (Desmet and Pereira, 2022). Predominantly quantitative methods are used to assess this value across numerous studies, with many using Likert scales specific to the object of the study (e.g., statements assessing 'importance', 'interest' and 'value', as in "It is important to learn as much as possible" (Boström and Bostedt, 2021). However, despite several references to 'intrinsic' and 'extrinsic' motivation, as well as various methodological constructs thereof (e.g., Norwegian adaptations of Intrinsic and Extrinsic Motivation Scales (Diseth et al., 2020), again, there are few coherent underlying constructs to account for the sources of these values. However, there were repeated references to the work of Hofstede (e.g., Diseth et. al., 2020, Hofvergerg and Winberg, 2020), in support of analysis pointing towards underlying value structures. Hofstede's theory is discussed below. Furthermore, SDT was used by several studies (e.g., Buchner and Zumbach (2018) and met the criteria for inclusion, together with Hofstede. In addition, SDT is drawn upon in the previous two chapters.

SEARCH FOR 'VALUE'/'AXIOLOGY' IN THE OXFORD HANDBOOKS

The three literature searches on ERIC yielded few results so I decided to search outside the field of education for literature on existing theories of values/axiology. Searches were made at Oxford University Press, specifically Oxford Handbooks, using terms 'value' and 'axiology' to find relevant literature reviews using the inclusion and exclusion criteria cited above. Several chapters were identified in the *Oxford Handbook of Value (2015),* the *Oxford Handbook of Moral Development (2020),* and the *Oxford Handbook of Emotional Development (2022)* that were of relevance according to the search criteria.

Several models were identified, often recurring, across research from developmental (Boer and Boehnke, 2016), sociological (Von Scheve, 2015), and evolutionary (Trommsdorff, 2020) perspectives on value and its origins. Encouragingly, von Scheve argues that "values research

should be complemented by an account of emotions and more basic evaluative feelings as socially structured and culturally shaped" (2015, p. 189). A tentative account of this, I hope, can be found in the previous two chapters on emotion and ego development.

Von Scheve (2015) identifies three positions in his review of the classic and contemporary sociological literature: A "universalist" position rooted in hierarchically ordered "eternal values" connected to perception (see the discussion of Perceptualism in Tappolet (2015) and "pragmatist" and "collectivist" views which emphasise the social dimension of emotion and value. The universalist account is supported by Graham et al., (2013) who argue for the existence of intuitive value feelings originating in universal domains of morality. Von Scheve argues for more evidence "at a neurophysiological level" (2015, p. 184) and questions "at which point in time (or if ever) it is relevant for behaviour in an "unaltered" form, given the ontogenetically early onset of social learning" (ibid.). This critique has already been addressed in the methodology chapter in relation to reductionism.

Von Scheve argues that the universalist thesis might be better explained by "the universality of certain foundational dimensions of *sociality* rather than of morality" (2015, p. 189, original emphasis). He cites use of Affect Control Theory (ACT) (Heise, 2007), which he argues is roughly compatible with the "pragmatist" view and rests on the principles of symbolic interactionism. However, he does cite Haidt and Graham's (2007) Moral Foundations Theory (MFT) which provides empirical evidence for affect-laden, non-rational, intuitive moral judgements, and will be discussed below. In addition, Higgins also cites MFT as a counter to the proposal that values originate in our hedonic experience of valence, which he argues "has dominated thinking [in psychology] about where values come from" for too long (2015, p. 48).

Boer and Boehnke (2015) review the developmental theories of Kohlberg (1984) and Maslow (1958), noting a coherence according to which "conformity and group-oriented values may develop earlier and relate to lower-level needs and their fulfilment, while self-direction and autonomous values may emerge later based on higher order needs" (2015, p. 130). They also note a close affinity between the development of cognition and identity formation, as researched by Erikson (1959) and Marcia (1980). Both of these insights are developed by Wilber (1995, 1999, 2000). Boer and Boehnke go on to review three categories of value

theories centred around: a needs-based function of values (Inglehart, 1977, Maslow, 1970); behavioural and attitudinal guides (Schwartz, 1992), which bear a strong affinity with the needs-based function[20]; and values as cultural differences (Hofstede, 1980, Schwartz, 1994a, Schwartz, 1994b, Triandis, 1995). The most prominent feature of these theories is the presence of individualism vs collectivism orientations (Boer & Boehnke, 2015, p. 134).

Boer and Boehnke go on to review research that explores potential mechanisms for change, transmission and influence of values. However, two relevant insights from the literature surveyed indicate significant trends in adolescence: "heightened security needs increase with age, while achievement values are more important during younger years", and "it is argued that changes in values are more likely in younger years: As values are stabilised and internalised in late adolescence or young adulthood, major changes in value preferences become less likely with increasing age" (2015, p. 141). This finding is echoed in a more recent study on political orientation which found that "existing political science research is correct in emphasising the stability of political orientations over the course of the life span" (Peterson et al., 2020, p. 610). Although, on those rare occasions where it does shift, the change is more likely to move from liberal to conservative.

Trommsdorf (2020) begins by arguing that in past research on moral development, moral values and cultural considerations have been widely ignored. This is a position similar to Haidt (2012) in his critique of Kohlberg (1984). She goes on to highlight the importance of self-regulation capacities as precursors to moral development and the motivating dynamic of moral values, an insight that motivated my own research into ego development. In addition, she argues that research on "moral development and development on moral values is widely ignoring a cultural perspective, thus risking a Eurocentric bias" (2020, p. 146). Such a universalist bias is challenged by Henrich (2010a, 2010b) in relation to Behavioural science, and by Haidt (2001, 2012) in the cognitive theories of Kohberg (1984) and Piaget (2013).

Trommsdorf (2020) also notes that "research on the development of moral values informed by both biology and culture is very rare" (p. 150), thus signifying a gap in the literature this

[20] Rose (2011) and Cultural Dynamics Systems Management also incorporate Maslow and Schwartz.

research hopes to address. Building on the insight of Bronfenbrenner and Morris (1998) that the socialisation process operates in multiple, interconnected levels defined with permeable boundaries, she highlights the importance of considering the bidirectionality of the socialisation process emphasising the child's agency, particularly in relation to internalisation processes and emotion regulation. She reviews literature that "implies the culture-sensitive development of emotions and their regulation" and promotes the notion of "conceiving of emotions as "bio-cultural processes" (p. 155), a view echoed by Barrett (2017) in the discussion above on emotion.

Trommsdorf (2020) comments on the antagonism between universalism and relativism in research on moral values, noting Schwartz' (1992) "influential theory on a universal value system [which] focuses on self- and other-oriented values", and the "cultural specificities of moral values… identified in the moral foundation theory (Graham and Haidt, 2013)" (p. 153). Her own position on "whether these superordinate values are universal values and what universal moral values are like is… an open question" (2020, p. 158). The primary aim of the next section is to address and adopt a position on this question.

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