FUNDAMENTALS OF INTEGRITY PSYCHOLOGY

A TREATISE ON DIGNIFYING AND ENNOBLING HUMANS

Zachary R.J. Strong

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Zachary R.J. Strong is a scholar dancing happily at the intersection of science, religion, history, and media ecology. His specific research interests include human lifespan development, connections between spirituality and psychology, deradicalization, and human well-being. His website is ***zacharystrong.net****.*

PRELUDE: THICK AS A BRICK

It has often been the case in science that new discoveries are the result of unsolved problems, anomalous experiment results, or radically new ways of thinking about the same issues. For example, the history of physics demonstrates a marked shift in perspective and attitude following Einstein's work on relativity, which was inspired, in part, by unsolved problems in electromagnetics such as the photoelectric effect[i]. Similarly, biology was revolutionized by Darwin's work on natural selection and Mendel's discovery of genetic inheritance, giving rise to our understanding of the natural world today.

In much the same way as the natural sciences, psychology has often progressed by leaps and bounds as the result of landmark discoveries or new information. However, there are a great many mysteries still left unsolved, and a number of foundational questions that still lack answers. Indeed, a close look at the field will reveal that it is an incoherent mess of competing schools of thought, each with their own notions about the human condition and how best to perfect it.

The incoherence masked beneath the veneer of expertise in psychology is, quite frankly, shocking. As will be discussed in this document, a lack of fundamental definitions, a warped understanding of the human condition, and professional malpractice have resulted in a deeply troubled "science" that has since come to exert great power in society. Among other things, this treatise is an attempt to identify and rectify some of the most pressing issues in psychology, which have caused harm – and are causing harm – to an unwitting and trusting public.

Before proceeding to our discussion proper, it is important to be aware of two concepts that have since become foundational to the production of knowledge in the sciences. The first of these is the idea of a "paradigm", or a shared perspective between researchers in a field. The second is "consilience", or the bringing-together of different fields of inquiry to find areas of agreement. These will prove to be the two keys which unlock a series of very complicated doors in psychological inquiry, some of which seem to have frustrated researchers for many decades.

KEY CONCEPT: PARADIGM

In his now-classic work *The Structure of Scientific Revolutions*, physicist and philosopher Thomas S. Kuhn observes that science typically progresses in two ways[1]. First, there is "normal science", which encompasses research on well-defined problems, usually yielding answers that fit the original hypotheses. However, in cases where significant anomalies are uncovered, or in the face of an unsolvable problem, it is often the case that scientists must re-examine what they think they know about their field in order to progress in knowledge and understanding. This can lead to a "paradigm shift", or a change in fundamental assumptions and methods.

One of the clearest cases of a paradigm shift in science was the progression from classical mechanics to quantum mechanics in physics. As previously noted, the photoelectric effect forced physicists to look

[i] The short story about the photoelectric effect is that physicists could not figure out why charged particles were released from metals when exposed to light. Even more perplexingly, the wavelength of light seemed to play a role in this effect, which was not explainable in the paradigm of classical dynamics.

beyond their previous understanding of the universe, leading to a great many discoveries and the reformulation of physics itself. In essence, practitioners had to agree on a new way of seeing the world before they could move ahead in their knowledge-gathering activities.

The concept of a "paradigm" in science, as developed by Kuhn, involves a few things. First, researchers must agree on the fundamental principles of their field, such as the properties of light and the structure of an atom. Second, there must be agreed-upon guidelines for what constitutes meaningful research, as well as the methods that are acceptable to use during inquiry. Finally, there are cultural concepts that encompass things like professionalism and other matters.

As we shall discover shortly, psychology lacks all three of these components, and therefore cannot be said to have a paradigm. Instead of universally-accepted principles, psychologists of different schools compete with each other for influence and popularity, rarely coming together to discuss foundational issues of human nature. The failure of psychology to cohere into a unified discipline, played off as a "multi-paradigmatic" state by leading textbooks[2], precludes it from being a proper science. Among other things, this document is an attempt to build bridges between some of the most disparate perspectives in the field and move towards something approaching a coherent paradigm.

Key Concept: Consilience

The method of inquiry used in the formulation of this document is, fundamentally, consilience. First coined in the nineteenth century by William Whewell and popularized in a 1998 book by Edward O. Wilson[3], the word's etymology refers to a "jumping together", and in a scientific concept refers to the act of finding consensus between disparate perspectives or fields of inquiry.

For example, if one scientist investigating a topic with a certain methodology comes to the exact same conclusion as another scientist using different methods and instruments, it is highly likely that they have uncovered a facet of reality. Furthermore, if work from biologists, physicists, and neuroscientists all begin to converge on a certain set of ideas, it is similarly likely that what they are converging on is reliable.

Aside from debunking many of the myths held and propagated by psychologists, this document is an attempt to illustrate how many unrelated fields of inquiry are converging on the same conclusions regarding human nature, fulfillment, and life satisfaction. By broadening our pool of information to include physics, information theory, media ecology, and other disciplines, we will be much better-equipped to tackle some of the thorniest issues in psychology. Let us begin!

My words but a whisper your deafness a SHOUT.
I may make you feel but I can't make you think.
Your sperm's in the gutter your love's in the sink.
So you ride yourselves over the fields and
You make all your animal deals and
Your wise men don't know how it feels
To be thick as a brick.

Side 1: Brain Salad Surgery

Problems with the Psychological "Paradigm"

I. Land of Confusion

Psychology and Human Suffering

The human brain is one of the most wondrous things in the universe. Containing over eighty billion neurons within its folds and tissues, it is responsible for coordinating the rest of our organs, converting sensory input into usable information, and is the seat of thoughts, emotions, and memories. The brain is, perhaps more than anything else, responsible for humanity's dominance in almost every Earthly ecosystem, the power behind our technological and creative achievements, and the reason we are now reaching for the stars above.

Yet, despite the vast power it so obviously contains, the brain has long been the source of mystery, frustration, and confusion for many of us. In addition to feelings of awe, joy, and satisfaction, we often feel depressed, hopeless, scared, and worthless. From the Biblical *Job* to the Kemetic *Dispute Between a Man and His Ba*, a central theme in wisdom literature has been the presence of sadness, despair, and loss in human life.

In addition to these fundamental problems of existence, the historical record shows that humans have also had to contend with mental illness for as long as they have had minds. However, whereas ancient peoples believed that those with unseen maladies were touched, for better or for worse, by the gods, in modern times we have a plethora of evidence to suggest that many of our mental problems originate from a mixture of biochemical and social factors. Moreover, our evidence and experience show that both biochemical and social solutions can resolve many of these issues, cutting the heavens out of the equation entirely.

Indeed, over the last two hundred years, the psychological sciences have grown into one of the most popular and most-referenced fields of study in the world[4]. Scientists and researchers, often in collaboration with experts in adjacent fields, have developed robust understandings of human nature and behavior which have since been deployed in social work, therapy, career counselling, marketing, human resources, corporate learning, management, economics, game design, education, and political science. More people now study the psychological sciences than any other type of science, even if only as a hobby, and a small army of YouTube experts and bloggers stands ready to offer advice and information to seekers of psychological wisdom.

Yet, despite the sophistication of our knowledge, methods, and treatments, it is an inarguable fact that the mental health of the general population is getting worse, not better. More Americans now die from opioid overdoses each year than in the entire Vietnam War[5]. The suicide rate of young Americans under twenty-five has nearly doubled over the last ten years[6], and almost thirty farmers in India kill themselves every single day[7]. Japan, a developed country with a strong culture, also has an extraordinarily high suicide rate[8]. One in six people in North America will experience major depression at some point in their lives[9], and over ten percent of youth in the United States have experienced significant psychological distress within the last month[10].

In a world where there is a therapist on almost every corner, and where there is a pill for almost any mental disorder imaginable, it is difficult to reconcile the popularity of the psychological sciences with its abject failure to address the obvious pain in modern society. Although fingers have been pointed at easy culprits like social media[11], researchers and scientists have generally been at a loss to explain the widespread degradation of mental health we have been experiencing in recent years. This represents a significant challenge for the field that must be addressed if psychology is to remain relevant and credible.

Close to the Edge

Some might argue the ever-worsening mental health crisis is the kind of problem that might trigger a Kuhnian "paradigm shift" in psychology, in much the same way as the photoelectric effect catalyzed the development of quantum physics. However, the reality is not that simple. Kuhn was very specific in stating that a scientific paradigm is characterized by shared assumptions regarding epistemology, research methods, and valuable lines of inquiry, which has never been true for psychology.

As we shall see, in the absence of a single paradigm to guide them, discoveries, revolutions, and developments in psychology have tended to spawn new "schools of thought" which have been in competition with one another for decades. These various "schools", among them the behaviorists and psychoanalysts, each have their unique beliefs about human nature, the brain, and the mind, and contradict each other endlessly to the detriment of practitioners and laypeople alike.

The Problem of Introspection

The most significant reason that psychology lacks a paradigm lies in its research methods, which must attempt to bridge the gap between brain and mind, which are known as the "physical" and "phenomenal", respectively. The world of the brain is tangible, and we have developed increasingly sophisticated methods of measuring it: to scientists, these are mere technical problems. The mind, however, can only be understood subjectively and introspectively, which means that every single person is going to have a different experience and a different way of describing that experience. The subjectivity inherent in introspective research methods has been a recurring issue in psychology, with no clear solution in sight[ii].

This means that psychology is, and always has been, an attempt to reconcile subjective and objective research methods, an ill-fated marriage which has the appearance and *gravitas* of science but is significantly less rigorous than it claims to be.

Misunderstanding

Indeed, psychology is unique among the "sciences" in that its practitioners and theorists lack agreement on even fundamental concepts. As we shall discover, there are no clear definitions for key ideas like mind, consciousness, and self. Some psychologists even deny these things exist, at least in the way that we perceive them inside our heads.

[ii] The most sophisticated attempt to "map" the mind using introspective methods was Edward Titchener's structuralism, which ended in failure despite documenting over forty thousand different "components" of the mind.

Furthermore, the history of psychology demonstrates that aside from the functioning of the human nervous system, it has predominantly concerned itself with helping sick people return to "normal". However, the field's definition of "normal" has largely been determined by visible and invisible social processes, and there is a great deal of evidence that exists to suggest that we have been underestimating our own potential.

Effects on Front-Line Practice

While academics are free to argue, debate, discover, and hypothesize all they like, later in our inquiry we shall discover that the "science" of psychology is deeply interwoven with the fabric of our society. The foundational disagreements and intractable problems we shall examine have generally served to mislead well-meaning therapists, social workers, teachers, and other members of the helping class[iii], causing them to harm and debase instead of help and uplift.

Although it is undeniable that psychologists have developed many useful tools for addressing human suffering, it is imperative to review the foundational beliefs and values of the field and identify what can be done to improve the "paradigm" within which those tools are used. By conducting a comprehensive review of our accumulated knowledge, we shall be better able to identify and treat the deep-rooted psychological problems of our time.

There's too many men, too many people
Making too many problems
And there's not much love to go around
Can't you see this is the land of confusion?

[iii] The "helping class" was a term coined by Christopher Lasch to describe the armies of social workers, child and youth workers, therapists, teachers, and other government-employed "experts" who can usurp family autonomy in the name of the child's best interests. This is usually done to serve statist goals such as productivity or draft-ability.

II. The Patient

Psychoanalysis & the Baseline Problem

For many people, one of the first names that comes to mind when psychology is mentioned is Sigmund Freud, the cocaine-using psychoanalyst who put therapy on the map over a century ago. However, psychological investigation had been quite active for at least a century prior to Freud. Notable accomplishments that laid the groundwork for modern psychology include Hermann von Helmholtz's work on nerve activity, Wilhelm Wundt's work on attention-switching, and William James' influential works on pragmatism, religious experience, and general psychological theory. Darwin's revolutionary theories on human evolution, released in the mid-1800s, also provided significant momentum to the study of human beings as organisms.

Before Freud, however, "invisible" mental illnesses were largely considered to be rooted in biological or chemical imbalances. Even though the idea of unconscious processes was known in European psychological circles before Freud, it was his psychoanalytic theories that first established a link between hidden parts of the mind, observable mental maladies, and various "talking cure" mechanisms that could resolve these illnesses.

As the history books recount, it was the curious case of Anna O., a suicidal and nearly nonverbal patient treated by Freud's colleague Josef Breuer, that catalyzed the development of Freudian theories[iv]. Breuer found through talk therapy with Anna that relating her current symptoms to childhood traumas helped ameliorate the symptoms, a revolutionary finding that was built on by Freud in the form of the unconscious, repressed memories, and other now-famous ideas.

Although many of Freud's ideas have lost credence in psychological circles due to their introspective foundation and speculative nature, there are still thousands of psychoanalysts working around the world in therapeutic and research capacities. Psychoanalysis also remained one of the most influential schools of psychological thought throughout the twentieth century, influencing countless other theories and developments. Despite its flaws, psychoanalysis was also the first field of inquiry that focused on the therapeutic utility of introspection, for which Breuer, Freud, and Anna O. deserve significant credit.

The Baseline Problem

Despite the fact that it inspired psychoanalysis, and even modern psychology, the case of Anna O. reveals one of the key biases prevalent throughout all of psychology which we will call the "Baseline Problem". Particularly in the early stages of its development as a field, breakthroughs and discoveries in psychology primarily came from working with animals or mental patients. Phineas Gage, for example, was a blue-collar worker who survived a catastrophic brain injury in an industrial accident[12]. His case, which included personality changes sustained as a result of his injuries, helped lay the groundwork for modern neuropsychology, a field which is still partly driven by outlier case studies and animal experiments.

[iv] Hergenhahn's textbook on the history of psychology is the primary source used for historical details.

As a result of their preoccupation with the suffering and unwell members of the human population, the focus of psychological researchers and practitioners has largely been on helping sick people get "back to normal". As laudable as this may be, and as urgent as the problems may be, this singular focus has led to an incomplete and pessimistic understanding of human nature. Even in the psychological mainstream, "normal" has been roughly defined as being well enough to not require treatment[13], a metric which by no means helps humans reach their full potential.

The question of who defines "normal" is a very salient one and has even been acknowledged in mainstream psychology. Many of the discoveries that are now taken for granted today used sample groups predominantly consisting of so-called "WEIRD" people – that is, Western, Educated, Industrialized, Rich, and Democratic societies[14], or sample groups consisting entirely of university undergraduates[v]. Researchers observing these issues have found that these demographics are two of the least representative populations of humanity, and therefore many of the conclusions drawn from these demographics about human nature may not hold up over time.

The subtle influence of social values on psychology's conceptualization of "normal" can even be seen in how mental disorders are defined and understood. For example, the common definition of "narcissist" refers to someone who is grandiose, extraverted, and self-serving, an archetype roughly codified in the Diagnostic Statistical Manual (DSM). It has since been observed that narcissism is not a set of simple traits, but instead a personality type that seeks to reinforce an external identity at the expense of everything else[15]. Thus, the identity a narcissist constructs is influenced by what society considers to be ideal, which makes the current definition of the disorder woefully narrow and even misleading. Indeed, when the definition of narcissist was first codified in the DSM, the ideal personality in Western society was the Trump-like capitalist salesman. Today, however, the term "covert narcissism" is gaining popularity to describe people who are self-serving yet not grandiose[16], further suggesting that even well-known concepts need revision.

Another example of the Baseline Problem as it pertains to mental disorders is how people with illnesses like bipolar and schizophrenia are treated in Western society versus their historical treatment in indigenous communities. According to psychologists, people "afflicted" with such "ailments" require pills and therapy to remain "functional" in modern society. However, particularly in indigenous African communities, such people are seen as having potentially useful gifts and are believed to have the capacity to engage in community and spiritual leadership[17,18].

Although shamanic practices are generally dismissed as "folk psychiatry" by the West[19], many modern practitioners will likely admit that part of the disabling aspect of many disorders is driven by a poor fit between the individual and their societal context. Societies that actively work to include and find social roles for mentally ill people, like West African indigenous communities, will surely produce better mental health outcomes than a performance-focused and individualistic WEIRD society structured around an eight-hour workday.

[v] Many psychology undergraduates must participate in a certain number of experiments each year, to provide their professors with the raw bodies needed for psychological studies and experimentation.

If we look beyond "disorders" and "maladies" to consider what "normal" looks like, we very quickly encounter the fact that some normal people are much more functional and successful than others. However, psychologists, particularly in the heyday of psychoanalysis, were not overly concerned with peak human performance – they were instead diagnosing and treating neuroses. In fact, investigation into peak human performance did not enter the mainstream until the mid-twentieth century when Adrian de Groote began to investigate chess mastery[20], Erik and Joan Erikson began studying the stages of adult development[21], and Jane Loevinger began studying how adults grow and mature throughout their lifespans[22].

Contrary to the dreary picture of human nature suggested by the outcomes of the Stanford Prison Experiment, the Bystander Effect, and our knowledge of childhood trauma, the psychological literature that now exists about the true range of human potential is rather inspiring. For example, researchers working with both "high-performing" and "low-performing" adults have found that people exist on a continuum of increasingly sophisticated perspective-taking ability which affects work performance, quality of life, moral reasoning, and relationships[vi]. These subtle qualities can be improved with coaching and training and are beginning to find purchase in corporate spaces[23,24].

A corollary of this research is that almost all the studies that make claims about human nature, particularly the historically famous ones, are only making claims about the general population as it is in that moment, not about what humans could be with the proper resources and training. Indeed, the focus of many studies of human nature, like the Milgram Experiment[vii], was on the fact that most people obeyed the authority figure – not on the fact that some people didn't. The question of what makes people resistant to authority figures only began receiving serious attention in the late twentieth century, particularly in the wake of the German Holocaust[25] and Soviet catastrophe[26].

Advances and discoveries in the education sector have sometimes spilled over into psychology, providing additional data on the limits of human growth. Maria Montessori's dramatic and thoughtful redesign of the early childhood classroom, as well as its curriculum, outperforms standard educational approaches in primary education settings[27]. Even more dramatically, Montessori's successful attempts at educating mentally disabled children repudiated society's notions about their innate potential[28].

Work with gifted children has been another source of light, so to speak, in this realm. Here, the focus of teachers and researchers has been exploring the potential of gifted children and the required supports they need to reach that potential. One of the preeminent thinkers regarding giftedness is Kazimierz Dąbrowski, whose observations about the unique sensitivities and excitabilities of gifted children form part of a broader theory about personality growth still popular with teachers and parents of gifted children[29].

The tension between what humans could be and what they are now is a complicated one, particularly because psychology aspires to be a generally amoral science. Thinking about human potential is

[vi] See Appendix A for more information on this progression of development. We will revisit this topic later.
[vii] This is the experiment where a subject was ordered by an authority figure to provide "electric shocks" to an actor. Many people complied even though the actor was screaming or pretending to have passed out.

something that coaches and therapists tend to do, not scientists, and is an activity that takes place within many value judgements about human ideals. With some exceptions, which we will discuss later, investigations into the upper limits of human potential have been few and far between, and often fail to achieve mainstream attention. The net result is a pessimistic and incomplete view of human nature, as well as individual potential.

Draining patience, drain vitality
This paranoid, paralyzed vampire act's a little old

III. Dogs

Behaviorism & the Mind-Body Problem

While psychoanalysts were smoking cigars and talking to patients about their childhoods, teams of biologists and surgeons from around the world were working to uncover the secrets of the brain and its impact on the structure of our experience. This study of reflexes, attention, and nervous system activity was championed by the so-called "behaviorists", whose work in the early twentieth century laid the groundwork for modern neuroscience.

Although they are not usually labelled as a "school" within the field, the research interests and achievements of the twentieth-century Soviet behaviorists had profound impacts on psychology. By conducting experiments with animals that would have seemed pedantic or inane to outsiders, this group of researchers was able to deduce many of the mechanisms that govern our attention and behavior. Indeed, even seemingly innocuous discoveries made during experiments with animals, such as the realization that rats giggle when tickled, have had profound implications, such as the identification of "play" circuitry in animals and humans, a key component of modern educational and early childhood psychology[30].

One of the first behaviorists in the Soviet tradition was Ivan Sechenov, an engineer-turned-psychologist, who discovered inhibitory mechanisms in the brain. Among the most famous researchers, however, is Ivan Pavlov, whose work with dogs yielded the discovery of the conditioned reflex, something that has been taught to – and used on – Western children for decades[viii]. Regardless of nationality, however, the behaviorists' discoveries have proven to be invaluable to psychology. By discovering strong links between the behavior of living organisms and the stimuli provided by their environments, behaviorists have provided the field with the closest thing it has to physical laws.

Indeed, a common thread that links all behaviorists together is their insistence that psychology should only be concerned with observable and measurable aspects of the human lifeworld. The concern of behaviorists lies in the realm of stimuli and response, activation of bodily systems, and above all, human behavior. Historically, this distinguished the behaviorists from the psychoanalysts, who focused on mental cause and effect, repressed memories, traumas, and neuroses. Although a radical focus on the measurable world allowed the behaviorists to avoid some of the fatal pitfalls encountered by other schools of thought like Titchener's structuralism, it has created a divide within psychology that has remained unresolved for decades and continues to spark fierce debate today.

The Mind-Body Problem

The so-called "mind-body problem" is a simple-yet-thorny issue that has not only driven a wedge between different schools of thought in psychology and prevented a definition of "mind" from being established, but also prevents the field from being productively united with adjacent fields such as

[viii] The insights derived from Russian research, inhibited as it may have been during the reign of the Soviets, will prove to be exceedingly useful in our quest for fundamental definitions in a later chapter.

spiritual and religious studies. Essentially, psychologists disagree on what the “mind” is made of and are divided into two camps on the subject.

In one proverbial corner stand the behaviorists and the materialists, who hold that there is nothing in the universe aside from matter, and that there is no such thing as “mind”. To them, the brain is the only thing that is real, measurable, and relevant. In the other corner stand various schools of thought, particularly religious people, who believe that “mind” is something separate from “matter” and should be treated differently. These two camps are known as “monism” and “dualism” respectively, and account for most opinions on the mind-body problem.

Whereas the monists hold that there is nothing outside of matter, and therefore have a simpler position to defend, the dualists have to account for interaction mechanisms. If, as the dualists say, there is such a thing as a “mind” that is separate from matter, how do brain states influence mind states – and vice versa? Is the brain or the mind the initiator of new thoughts? And, if there is such a thing as “mind”, what is it and what laws govern its operation outside of the brain?

There are problems for the monists too, however. If everything is just matter, and everything in the universe is the result of a cause-effect relationship, then it logically follows that we are not really in control of our brain states and are just responding reflexively to our environment. The result is a chaotic cosmos devoid of free will, with us as helpless observers to our own brain activity, and is obviously not an exciting proposition.

As is sometimes the case in paradigmatic breakthroughs, insights from adjacent disciplines will prove exceedingly useful in resolving this issue sufficiently enough to allow for collaboration between different camps. We shall discuss this in a later chapter.

You gotta sleep on your toes, and when you're on the street
You gotta be able to pick out the easy meat with your eyes closed
And then moving in silently, down wind and out of sight
You gotta strike when the moment is right without thinking

IV. I Find That I'm Not There

Third Force Psychology & the Self Problem

One of the most important technological innovations of the twentieth century, at least as far as society is concerned, is the radio. Although the radio was originally a large ensemble confined to homes, where it electrified populations into supporting totalitarian movements[31], the invention of the transistor radio inverted this dynamic by affording young people the opportunity to listen to the radio outside of the home. This unprecedented access to media, especially rock music[32] and independent programming[33], disrupted the natural passage of tradition from parent to child and laid the foundation for the counter-cultural movements of the fifties and sixties.

Indeed, the middle of the twentieth century was a time of great social upheaval, particularly in North America. The anti-war movement, the civil rights movement, the gay pride movement, and second-wave feminism each rose to prominence during this time, all of them asserting the primacy of individual freedom over social convention. The younger generations of the time explicitly rejected traditional values, explored new lifestyles, and defied authority at an unprecedented scale.

This shift to radical individualism and the search for a "better" kind of life was mirrored in American psychology by the emergence of a third school that stands, at times, in opposition to both psychoanalysis and behaviorism. Known as "third force psychology", this school championed the individual and their search for meaning while painting a picture of humanity that was significantly more optimistic than other schools of thought. It also offered an alternative to psychoanalysis and behaviorism, which many American psychologists felt were incomplete.

In a 1968 memorandum to the Salk Institute of Biological Studies, the now-famous psychologist Abraham Maslow noted the existence of psychological problems that could not be resolved in the kind of value-free structure typical of the sciences[34]. Maslow found himself frustrated with the fact that psychologists were focused on the sick and unwell, rather than on the thriving and fulfilled, and suggested that psychology, like biology, should be examining the "good specimens" of the species. He furthermore contended that more research resources should be dedicated to helping people live better and more complete lives.

Although Maslow is most famous for his hierarchy of needs[ix], a great deal of the later part of his life was spent exploring the topic of values in psychology. Through extensive interview work with high-performing individuals, Maslow identified a provisional set of common values that exemplify the best of the human condition[x]. He also found that people commonly experience these values, or become aware of them, during "peak experiences" such as religious and spiritual experiences, and further contended that these types of people, whom he called "peakers" or "self-actualizers", could and perhaps should act as role models, leaders, and guides for the species[35].

[ix] Provided in Appendix B.

[x] Provided in Appendix C.

These kinds of questions and investigations, although we may take them for granted today, were extremely innovative at the time. What Maslow was proposing, essentially, was a science of discovering what humans *could* and *should* be, as opposed to a science of evaluating what humans *are*. The questions that Maslow were proposing as valid research were, and are, embedded in questions of morality, which technically leaves them outside of the scientific method.

While Maslow was exploring values, other researchers were investigating adjacent facets of the human condition. Erik and Joan Erikson developed a stage-based model for the human life cycle and proposed the existence of unique developmental challenges associated with each stage[36]. Researchers such as Lawrence Kohlberg were investigating moral development[37], and Jane Loevinger discovered relationships between language use and human development[38]. Particularly in America, third force psychologists also began asking questions about the most central part of many people's experience – their "self".

The Self

The notion that you are *you* – that you are a unitary and continuous "self" – is so basic to the human experience that it often goes unsaid and unquestioned. In pre-Darwinian times, this "self" was closely associated with – or identical with – the concept of the soul, and it was expected that there were aspects of the person that would survive them after death.

After the proverbial "death of God" in the mid-1800s, however, more earthly definitions of the self were proposed by early researchers like William James, Sigmund Freud, and Carl Jung, then later by the third force psychologists. Influential thinkers who have explored this topic include Heinz Kohut, Carl Rogers, Donald Winnicott, Dan P. McAdams, and Richard Schwartz.

The first mention of "self" in a psychological context can be found in the 1891 book *The Principles of Psychology*, by William James. There, he proposes that the self is a conglomerate of parts that consist not only of the things that are in our minds, but also of our physical possessions and family. Sigmund Freud famously divided the self into the id, ego, and superego, whereas Jung suggested a different arrangement of parts, including the persona and shadow. A therapeutic methodology developed relatively recently by Richard Schwarz works creatively with patients to personify, dialogue with, and integrate different parts of their personality into a coherent self, which he essentially defines as the seat of action[39].

Carl Rogers, who founded the sub-discipline of "self psychology", hypothesized that the therapeutic relationship should be, above all, a welcoming space for anxious and confused clients to develop more authentic and congruent selves. He believed that a therapist who consistently displayed empathy and unconditional positive regard for their client would help catalyze positive personality transformation[40].

Heinz Kohut and Donald Winnicott, both psychoanalysts, were concerned with injuries to the "self" sustained during childhood. Winnicott took interest in the idea that humans have "true selves" and "false selves", much in the same way that Jung proposed the persona decades earlier[41]. Another camp of psychologists, including Dan P. McAdams most prominently, have observed that we often construct narratives to explain ourselves and our life trajectories. The narrative psychologists' research has therefore focused on the development of these narratives, as well as their revision in the face of change[42].

No Self?

As can be seen, there are many theories about what the self is and what it consists of, but no definition taken as standard across the discipline. Additionally, most of the leading theorists suggest that what we perceive as a unitary and continuous "self" may actually be a collection of conscious and unconscious elements that are very much in flux over time[43]. This is potentially problematic, as we clearly lack a coherent definition for something that is an essential part of the human experience.

To make matters worse, Western scientific investigations have not yielded anything resembling a unitary and continuous self in brain structure or processes. Neuroscientific investigations have not found any area of the brain that is specifically associated with an ongoing "self", although they have found that our perception of self may be related to the processes that connect motivation with action selection[44]. At best, the evidence available seems to suggest the self is illusory and transitory, and that the processes involved in what we perceive to be the self are distributed both throughout the brain and across time[45].

In addition to the challenges presented by Western science, our idea of a unitary and continuous self is also confronted with powerful ideas rooted in Eastern religions. In 1991, a multidisciplinary team of researchers consisting of Francisco J. Varela, Evan Thompson, and Eleanor Rosch released *The Embodied Mind*, a now-landmark work that connected Buddhist principles with then-emerging topics in psychology and brain science. They found that the Buddhist doctrine of *anatta*, or "no-self", closely corresponded to Western findings regarding the distribution of "self" in the brain, and that the Buddhist illusion of "ego-self" mapped to the psychological need for a coherent self-narrative.

Furthermore, the deep relationships between organism and environment that were becoming known at the time caused Varela, Thompson, and Rosch to question the boundary between self and other that had been taken for granted by Western philosophers and psychologists. They observed that our cognitive processes are not just distributed in space and time, but also work in close relationship with the body and environment to "bring forth a self". Their now-popular perspective is that this ongoing process of construction, or "enaction", provides us with the illusion of a self which is really just a function of brain, body, and environment.

These challenges from West and East leave us – and psychology – with an unfortunate conundrum. If we are supposed to help people self-actualize, as Abraham Maslow urged us to do, how are we supposed to do such a thing when we don't even know what the "self" is – or if it even exists? Therefore, it stands to reason that a definition for this concept must be developed which can account for the obvious challenges we have discussed, while leaving room for productive exploration and effective therapeutic application.

Sometimes I feel like a fist
Sometimes I am the colour of air
Sometimes it's only afterwards
I find that I'm not there

V. I Robot

Contemporary Psychology & the Consciousness Problem

In his classic work *Understanding Media*, media ecologist Marshall McLuhan remarked that we shape our tools, which then shape us in turn. This sentiment has been echoed, in various forms, throughout the twentieth century as people realized that the environments they built had downstream effects on their lives. Much like the people it studies, psychology has been profoundly influenced by technological advances in a variety of ways, some obvious and some subtle.

Perhaps the most obvious impacts of technology on psychology can be found in neuroscience journals, where sophisticated machines allow researchers to observe the brain operating in real-time. By taking measurements of electrical activations, brain waves, and blood flow, psychologists have been able to develop an unprecedented understanding of not only how the brain works, but how the different parts of the brain are related to cognition and behavior.

Before the advent of computerized tomography (CT) and magnetic resonance imaging (MRI), brain researchers had to rely on dissections, accidents, surgeries, and other experiments to understand the connection between brain, mind, and body. The unprecedented access to the brain that these new techniques afforded gave researchers a great deal of information that they could use to develop models and hypotheses about human nature.

Indeed, the computer has proven to be one of the most revolutionary technologies ever invented and has affected every aspect of our world. In addition to providing psychologists with new tools to map and measure the brain, however, the computer gave birth to perhaps the most popular and useful metaphor for the human mind ever developed – the idea of the brain as a computer.

Metaphors of Mind

Although many people are unaware of the world of language within which they are ensconced, metaphor, or the description of one thing in terms of another, has always been one of the primary ways in which we relate to our own mind[46,47]. When we are happy, we are "up" or "elevated", and feel "down" when we are sad. Ideas are often described in terms of buildings – they have a foundation, a core, sometimes levels, and can be demolished or buttressed. After the advent of machinery, we spoke of "gears turning" in our heads, and after Edison's invention, epiphanies became "lightbulb moments".

Following the birth of the computer, however, everything changed for our understanding of the brain and mind. Researchers found that much like computers, our brains process information – a revelation which gave birth to new field of study like cybernetics and cognitive science. Early work in these fields included George Miller's research on short-term memory, where he found that humans can keep about seven different numbers in their heads at one time. Noam Chomsky's hypothesis that language was structured by the brain, rather than being a *tabula rasa* invention, also proved to be highly useful[48].

From these similarities, and others, the cyberneticists and cognitive scientists developed models of the brain and its activities that have grown increasingly sophisticated as technology improvements facilitated new discoveries. Indeed, it does seem like the brain is, in many aspects, analogous to a computer with

certain functions and specialties. However, this particular metaphor worked two ways. Given that the brain and computer can both be seen as information-processing machines, people started to wonder if machines could one day become conscious in the same ways as humans. Enter the "qualia".

Red

As I write this, I am listening to the Whigfield dance classic *Saturday Night*[xi]. Although progressive rock is my favourite genre of music, I grew up taking Scottish Highland Dance classes and have pleasant childhood memories of warming up to whatever music the teachers had on CD-ROMs at the time, including *Saturday Night*. Thus, not only do I gain pleasure from a well-constructed nineties club track, but I have a unique connection to this song involving a childhood memory. I am also a musician, so can appreciate the nuances of various aspects of the song as it is playing, and even anticipate some of my favorite moments.

What I have just described to you is what psychologists call a "qualia". It is the subjective experience of something that can often involve unique or idiosyncratic relationships between sense, memory, and emotion. The most common example used is the subjective feeling each person gets when they see the color red, however music and literature are sometimes called "qualia machines" due to the rich and vivid quality of the subjective experiences they provoke.

There is just one problem. Despite all the advances in brain imaging technology over the past several decades, scientists have not found an area of the brain that generates qualia. Although researchers have documented where things like awareness, mental imagery, sensation, and emotion are generated, they have not only come up empty-handed at explaining why a lump of fleshy matter would generate subjective experiences, but the very best efforts of scientists have failed to measure qualia using anything other than subjective self-reports.

The Hard Problem of Consciousness

The mysterious nature of subjective experiences, as well as how and why a biological organ could give rise to them, is known as the "Hard Problem of Consciousness" and has been the subject of debate and speculation for decades. There are several kinds of solutions that have been proposed to the Hard Problem, including everything from a pessimist perspective that it is intractable, an optimistic perspective that it will be solved later, to an outright denial that consciousness exists[49].

Although opinions vary wildly on the subject, determined neuroscientists have produced possible candidates for the neural correlates of consciousness. One such candidate is the interactions between the thalamus, which plays many roles in the brain, and the cerebral cortex, the seat of thought and cognition[50]. Another proposed neural correlate of consciousness are quantum fluctuations in the brain's microstructures[51].

Aside from unclear answers on the "how" of consciousness, the "why" is also a mystery despite many decades of effort on the part of evolutionary scientists. Because thoughts do not fossilize and the Palaeolithic fossil record is disappointingly scant, it is unclear when consciousness first developed in *homo*

[xi] I'll make you mine, you know I'll take you to the top…

sapiens, and therefore unclear what specific evolutionary pressures could have triggered its development. Taken together, these issues leave us with the question of why we are conscious – or, perhaps rephrased, what consciousness might be for.

The Definition Problem of Consciousness

In addition to psychology's failure to definitively identify the neural correlates of consciousness, the field also lacks a productive definition for what consciousness *is* and what it *does*. Although we know some of the things that our brains are capable of, and even what they might be inclined to do, it is not clear what evolutionary function consciousness could possibly play. Indeed, if anything, being conscious causes us to react more slowly in times of danger, making it counterproductive in Palaeolithic times.

Arguments for Intractability

The issue of consciousness, perhaps more than any other, highlights the divide between subjective/phenomenal and objective/physical research techniques. When it comes to qualia, even the most technologically sophisticated researcher must rely on the interview or questionnaire and all the methodological difficulties such things entail.

With respect to the researchers who have endeavored, and are endeavoring, to discover the origins of qualia and finally unite subjective and objective research methods, there are a few reasonable lines of argument that strongly suggest this unification is impossible.

The first problem that must be overcome can be termed the "Incommensurability Problem". One way or another, scientists must identify a qualia someone is having, and then confirm with them that they have indeed experienced that qualia. Again, although areas of the brain related to the constituent parts of qualia, such as emotion and memory, have been identified, there are no traces of qualia in the observable brain. This leaves scientists relying on subjective confirmation, which is incompatible with the scientific method and doomed to the kinds of frustration the structuralists experienced.

The second problem can be called the "Computational Capacity Problem". One logical workaround to the Incommensurability Problem is to build an apparatus that attaches to the entire brain at the neuronal level[xii]. Perhaps by linking with enough neurons and measuring their activity, scientists will be able to glean qualia directly from brain activity? This is unlikely – the computational power of an individual human brain is so large, and the data it processes is so vast in scope, that it seems computationally impossible to take measurements of an entire brain's neuronal activity, process it, and then truncate it down into something understandable by researchers. This may be simply another technical problem, however it seems rather infeasible and unlikely, even with quantum computation.

Finally, there is the issue of working with quantum states. If the consciousness-as-quantum-phenomenon camp is correct and consciousness does originate in quantum fluctuations, then it will be impossible to

[xii] Like a much more extensive Neuralink that interfaces with the entire brain at once.

observe those fluctuations without collapsing them[xiii]. Therefore, it will be impossible to observe and measure qualia in real-time without disrupting the process of consciousness itself.

Towards Utility

Despite the many challenges researchers have encountered while studying consciousness, there is much they have learned that can be used to formulate productive definitions of this concept, as well as move towards a general understanding of the function of consciousness.

Consciousness and its related issues are a topic we shall return to in later parts, following an examination of some of the structural problems in psychology that have caused harm to the general population through neglect, malpractice, deception, and abuse on behalf of researchers and practitioners.

[xiii] This is the meaning of the popular "Schrodinger's Cat" thought experiment.

SIDE 2: OPERATION MINDCRIME

ABUSES OF TRUST BY THE PSYCHOLOGICAL PROFESSIONS

VI. Welcome to the Machine

Psychology, Industrialization, and the Boundary Condition Problem

Much like how the computer and the radio revolutionized twentieth-century society, the invention of the steam engine and power loom at the end of the eighteenth century had profound impacts on how people lived and worked. Before the advent of industrial machinery, everything was made by hand, livestock were still used to plow fields, and most of the world's population lived in rural areas or small towns. All this, of course, changed rapidly after the development of industrial machinery.

As is well-known from the history books, the Industrial Revolution gave rise to mechanized farming, factories, electricity, automobiles, and all of the technologies we know and love today. However, although machines do not tire, require a salary, or make "mistakes", they require a great deal of supervision and maintenance to operate effectively. As a result, the requirements of the industrial schedule began to take precedence over the natural rhythms of human life, especially in the context of Western capitalism and statecraft. This, along with other consequences of the Industrial Revolution, have had catastrophic effects on human psychological health that have been almost invisible to modern psychologists[52].

The Violence of Simplification

At the heart of every industrial project is a plan. This plan usually involves raw materials, a process to refine those raw materials into a finished product, and a strategy to sell that product for a profit. In order to produce a workable plan, however, the industrialist must make a number of simplifications, approximations, and assumptions along the way.

Consider early attempts at industrial forestry. Operating on an incomplete knowledge of forest ecologies and assuming trees could be grown like any other plant, state bureaucrats and capitalists cleared away the "useless" underbrush and planted rows of pine trees in their place[53]. Without a proper biome to support tree growth, however, lumber yields plummeted in the second and third generations of this experiment, necessitating a revision of our understanding of forest ecology[54].

Indeed, by simplifying the growth activity of entire forest to the lumber contained within a pine tree, industrialists managed to not only destroy entire ecosystems, but sabotage their own efforts from the outset. The tendency to ignore many things in favor of a single variable is a recurring theme in post-industrial society, and is evidenced by the agricultural practices that contributed to the Dust Bowl, our current focus on gross domestic product as a measure of a country's welfare, and various failed attempts at agricultural collectivization in East Asia. This intentional ignorance is also a core feature of industrial society, where people are measured, tested, quantified, manipulated, and treated as interchangeable.

The Trauma of Conformity

Once an industrialist has formulated a plan, they need to make sure everything goes "according to plan" for them to achieve their objectives. This means that raw materials need to be acquired according to set quotas and that processes must be supervised to ensure quality control. Also, the workers involved must show up on time, do their jobs precisely according to instruction, and meet a minimum level of productivity each day. In the industrialist's plan, there is very little room for front-line workers to make

decisions, judgement calls, or modifications to their part of the process, which results in a boring and repetitive day for even modern white-collar workers.

Although most people in the Western world no longer work in coal mines and sweatshops, the lack of autonomy[xiv] experienced by most people throughout their careers is a common theme in the sub-discipline of "industrial psychology". Over eighty percent of employees today still report being disengaged from work[55], and it is estimated that less than half are happy in their current role. Furthermore, multiple studies have indicated that having autonomy at work is correlated with higher job satisfaction, increased motivation, reduced stress, and lower turnover[56,57].

Yet, the average human being finds themselves under unprecedented – and increasing – amounts of supervision. From teachers and shift managers to apps and big data, the details of our lives have become mere statistics to industrialists and bureaucrats, who simplify the complexity of human life to test scores, performance metrics, and compliance with their plans and schedules.

Outside of their working lives, city dwellers found themselves dealing with cramped urban conditions that were nothing like the rural environments that had characterized human life up until industrialization. The realities of these new conditions gave rise to laws and bylaws, which prohibit and prescribe rules for everything from vegetable gardens and chicken-keeping to parking, house modifications, and private gatherings. The endless restrictions, many of them inane, still create a needlessly frustrating environment for many city dwellers. Combined with crime, traffic accidents, pollution, impersonality, and noise, cities were – and are – unpleasant, unnatural, and even traumatic human ecosystems that discourage autonomy and reward conformity[58].

Psychology in its Proper Context

Note this – the steam engine was invented by James Watt in 1786; the power loom contemporaneously by Edmund Cartwright. One hundred and ten years later, Josef Breuer stumbled upon the healing power of introspective therapy and started modern psychology. It cannot be understated that the industrial project, intermingled with colonial statecraft and capitalist business practices, was well underway by the time people started asking questions about trauma and its impacts on human health.

This means that, to a large extent, psychology is unwittingly stuck in a post-industrial perspective with regards to its estimation of human nature, given that it lacks a pre-industrial baseline from which to compare city-dwellers to. It has characterized a deformed lifestyle as "normal" and labelled natural reactions to this lifestyle as "disordered". The implications of such an error are profound and can only be rectified by the kind of comprehensive inquiry we are undertaking.

Furthermore, in addition to its errors, psychology has been used as a tool by which to control, degrade, and confuse human beings, and has been deployed ruthlessly to ensure compliance with the industrial project. It is to these uses, along with corruption in the field, that we shall now turn.

[xiv] We can productively define autonomy as having the freedom to set one's own goals, as well as the freedom to pursue those goals in a way that you desire. You need to have control over both the ends and the means. Some thinkers have called this the "power process".

THE STATE AS PARENT

In many ways, a citizen of a country is like a raw material of that country. In addition to being able to perform useful work, citizens can also be conscripted in times of warfare and taxed for revenue, which makes them the true lifeblood of a nation. Bureaucrats, faced as they are with the perpetuation of their respective systems, know this well, and have spent centuries infiltrating the family structure to mold children into adults useful to the state.

The origin of the *mandatory* state-run education system actually precedes the Industrial Revolution by several decades and can be credited to Frederick the Great of eighteenth-century Prussia[59]. Indeed, the development of the Prussian system seems to have been a product of the Enlightenment, the literacy-oriented Protestant Reformation sparked by Martin Luther in Wittenberg, and the newfound requirements of burgeoning nation-states in Europe.

Although arguments can be made either way about the influence of industrialization on the formation of the modern education system[60], it is undeniable that the overall trend in education during the Industrial Revolution was towards standardization and control. Education went from being a family, local, or regional affair to being directed from afar according to national standards[61,62]. Subjects of instruction were chosen in service of the country's interests and largely fulfilled bureaucratic and military training requirements while ensuring a unified and socialized population.

As for the conditions of these compulsory schools, modern educators now recognize the many failures inherent in early approaches. In the monitorial approach, which preceded the Prussian system, students were packed by the hundreds into large warehouses and kept busy by a meticulously-planned learning regimen. Discipline was strict, sometimes physical. Ensuing approaches, like the Prussian system and the American system it inspired, separated children by age instead of ability, maintained strict discipline, and imposed a multi-year curriculum that each student was obligated to complete. As a result of the bureaucrats' need for uniformity across regions and nations, rote learning became highly valued[63], and standardized testing was developed to evaluate students at scale.

The key thing to understand about these schooling systems is that no matter how progressive or student-centered they may be today, they still represent a mandatory course of education that every child must undergo. While the Prussian system was explicitly implemented to create a standardized and compliant populace, the modern iterations of that system we take for granted are no less aggressive about providing children with a set of standard values to hold and act by, regardless of their family of origin[xv].

Psychologists, as we will discover later, have been deeply involved in psychologically and chemically altering children to facilitate their participation in this misguided and colonial system. Indeed, many of the "disorders" children are diagnosed with can be seen as responses to psychologically damaging living and learning conditions, as trauma from homes broken by modernity, or as labels used to standardize a

[xv] In one Canadian school district, teachers are furious that Muslim parents, who are a minority in Canada, do not approve of content that promotes LGBTQ lifestyles as healthy, and have gone so far to chastise the children for their religious beliefs. How progressive!

person that does not fit into the machine easily[64]. In this way, bureaucrat-psychologists have become partners in childrearing, often regardless of how the parents feel about the matter.

Indeed, as society became more enamoured with the idea of child welfare, an army of experts – the helping class – emerged to ensure that parents were raising their children correctly in the eyes of the state. In the decades since, society has become accustomed to the concept of children being removed from their parents' homes for reasons of neglect or abuse, something that would have been unthinkable in pre-industrial times. Additionally, the "welfare of the child" is a common excuse that authoritarian bureaucrats make when attempting to interfere with the family unit, as was the case with the Canadian residential school system which was so destructive it has been equated with an attempt at indigenous genocide on multiple occasions.

The Confusion of Values

Partially due to the relocation of families during the early industrial era, and partially owing to the disruption of family structures introduced by education and the helping class, family and generational ties eroded significantly as industrial society progressed. More people now live alone than at any other point in history[65], and elderly people are usually shunted into care facilities instead of staying with their family. Some of the only people who make a point of carrying on familial and cultural traditions in North America today are members of indigenous cultures and international diasporas who still have vestiges of a culture to hold on to.

To replace the family, however, modern people have all sorts of things to keep them occupied. There are targets and quotas to meet at work, volunteer organizations that need help, political issues that need to be hashed out democratically, and the promise of a comfortable retirement after decades of faithful service. In fact, there are so many things to do in the modern day that one's immediate family is often a secondary concern – over half of married couples outsource a great deal of their toddler's childcare and supervision to daycare professionals instead of prioritizing their family over their work[66].

The Boundary Condition Problem

Fundamentally, what human beings did two hundred years ago was make a trade: one lifestyle for another. They were promised that the industrialized life would be better, more comfortable, and more secure. But in a world of long commutes, poor corporate cultures, and unexpected Zoom layoffs, it is arguable that most aspects of modern life are objectively more stressful and unpredictable than the agricultural lifestyle. Furthermore, the expendability of employees today, and our treatment of elderly people, raises an important question of whether society values *people* or their *work output*.

For example, the elderly were seen as important sources of wisdom, culture, and guidance in pre-industrial societies, and could expect a great deal of community interaction in the final parts of their lives. Today, however, elders live out their golden years in sterile long-term care facilities, with only brief visits from family to help them make sense of their life and find meaning in their efforts. It is during this phase of life, named "Integrity vs. Despair" by Erik and Joan Erikson, that one of psychology's most grievous lacunas, and the foolishness of our industrial endeavor, becomes clear to most people. We shall call this the "Boundary Condition Problem".

In a now-bestselling book called *Regrets of the Dying*, a palliative care nurse named Bronnie Ware shared some of the most common themes she encountered in her conversations with her dying patients. Two of the most common regrets were "I wish I had the courage to live a life true to myself" and "I wish I hadn't worked so hard", which stands in stark contrast to the values espoused by modern professionals throughout their lives. The popularity and resonance of this book is a testament to Ware's insight on this matter and is supported by the Eriksons' work on end-of-life issues.

Despite people's faithful service to industrial society, the concept of end-of-life satisfaction is of no interest to the industrial machine. The elderly have limited economic utility and are thus ignored or sidelined in the plans made by bureaucrats and industrialists. Even in countries with "advanced" healthcare systems, like Canada, the living conditions in care facilities are deplorable, even inhuman[67], further underscoring the value – or lack thereof – that industrial society places on old age.

Although it does not affect people until the end of their lives, the prospect of closing one's eyes for the last time with profound regrets represents a serious problem for psychology, and especially so for the members of the helping class who believe themselves able to help people achieve "self-actualization". In later parts of this work, we will examine issues of death, legacy, and end-of-life satisfaction with the goal of understanding how to live a life one can be proud of at the moment of death.

Welcome my son
Welcome to the machine
What did you dream?
It's alright we told you what to dream

VII. The Needle Lies

Corporate Influences in Psychology

Closely linked with the psychological sciences is the pharmaceutical industry, which grosses over twenty-five billion dollars in revenue each year from the sale of psychiatric medicines. Although it is undeniable that such medicines have helped many people, this author included, the fact that pharmaceutical executives routinely value dollars over human lives raises some reasonable questions regarding the unprecedented medication of the world's population.

Take, for example, the skyrocketing rate of Attention Deficit Hyperactivity Disorder (ADHD) diagnoses in children[68], the majority of which are in young boys. It is no secret that teachers, who have no psychological training or ability to diagnose this disorder, are "often the first ones" to "notice" such symptoms[69], which include fidgeting, excessive talking, and impulsivity. All of these are common behaviors in young boys full of energy, but the "solution" is a drug like Ritalin or Adderall, both of which create a lifetime customer for pharmaceutical companies. Only in recent years have the actual experts in child psychology concluded that ADHD is over-diagnosed, and even that "milder" symptoms are being treated unnecessarily with pharmaceuticals[70].

The pharmacological treatment of depression is also an area of significant concern. Although scientists and practitioners have been able to make use of antidepressants in treating this condition, it is a trial-and-error process that prolongs patient suffering, wreaks havoc on their brains and bodies, and costs a great deal of money[71]. Recently, an extremely large and comprehensive study indicated that depression is not caused by a chemical imbalance[72], explaining why psychologists and psychiatrists have had so little success treating the condition reliably. How this will affect the field moving forward is still unclear, but is a significant embarrassment for psychologists.

Even worse, one particular class of antidepressant, known as selective serotonin reuptake inhibitors (SSRIs), happens to be the most commonly-prescribed kind of medication for depression. However, this kind of medication affects the brain in such a way that it increases the risk of suicide, violence against others, and intrusive thoughts containing violent motivations[73]. Indeed, it so happens that a great number of school shooters, mass murderers, and other violent criminals of recent history were on SSRIs, a fact dismissed as a conspiracy theory by the pharmaceutical-funded media conglomerates.

Given these issues, and others like them, it is no surprise that many people with mental disorders choose to tackle their challenges without the benefits and side-effects of psychiatric medication. The history of corruption in the pharmaceutical industry, the provisional nature of knowledge in the field, and the experimental attitude involved in pharmacological treatment are all legitimate areas of concern that deserve close attention from researchers and practitioners moving forward.

Don't ever trust the needle, it lies
Don't ever trust the needle when it cries
Cries your name

VIII. Hocus Pocus

Research Fraud in Psychology

In addition to corporate entities influencing the treatments offered to psychiatric patients, corruption and fraud among researchers in psychological fields has misled many people terribly for decades. Indeed, some of the most well-known and influential "discoveries" that many people take for granted have been shown to be completely bogus, and even a great deal of smaller discovers are failing to replicate[74].

One of the most famous frauds in psychology is Philip Zimbardo, the man who ran a prison simulation known as the Stanford Prison Experiment. By setting up a prison-like environment and observing how the "inmates" and "guards" acted, Zimbardo claimed to definitively show that human beings would take any opportunity to mistreat each other. However, years later, it was found that he manipulated the participants into displaying the kinds of behavior he wished to document, and the entire thing had to be thrown away after fifty years of inclusion in psychology textbooks[75].

A more recent example of fraud is the Implicit Association Test (IAT), which claims to measure unconscious biases against minorities through differences in reflexive responses. Developed in a cultural milieu that involved a great many difficult conversations about race in North America, the IAT quickly found purchase in corporations and governments interested in reducing bias amongst their employees. However, the IAT does not meet any of the standard definitions for diagnostic reliability in psychology, and even one of its founders has retracted the bold claims made about the test[76].

Even the popular and seemingly intuitive concept of power poses, developed by a research team led by Amy Cuddy, have been shown to be bogus[77]. Many other similar concepts, supposedly "proven" by psychological research, make use of statistical manipulation known as "p-hacking" to doctor results[78].

The author has also seen research manipulation with his own eyes. After joining a transgender science group associated with the World Professional Association for Transgender Health (WPATH) and observing the academic discussions for about three years, it became clear that the group had begun seeding their research using each other – or even themselves – as subjects. They had also come to explicitly reject the standards for transgender care as espoused by WPATH in favour of radical and unproven notions of gender. By forming a rather large group of academics who could all cite and reference each other, they – and other activist-academics – have been able to usurp the scientific method and confuse many people terribly. This is an issue to which we shall return very shortly.

The sad reality of the psychological "sciences" is that they are highly subjective and vulnerable to research fraud, regardless of how sophisticated the statistical methods may be. Ultimately, a psychologist with some notion about human nature will be able to design a study to "prove" their hypothesis, no matter what that hypothesis may be. This leaves those interested in psychology with a highly provisional knowledge base that is subject to change or revision at any time, which is not representative of a science with a well-developed paradigm.

Wooah, ooh, ooh, ooh OOOOOOOOOOOAAAAAHHHHHHHHHH

IX. Eminence Front

Institutional Malpractice & Deception

In addition to the threats posed by deceptive researchers, the major bodies within psychology responsible for the field's management and oversight have had corruption issues for decades. Indeed, groups of activist-academics operating in concert within psychological associations have worked very hard to confuse the public on key issues of human nature, ostensibly to further their own vision of an ideal society.

By releasing official proclamations on the letterheads of associations like the American Psychiatric Association or American Psychological Association, pronouncements of opinion are given the weight of science. The official nature of these releases causes them to make their way into medical, legal, and therapeutic contexts, where they lead to delusions and confusion.

Legitimizing Torture

Perhaps the most obvious example of corruption in psychology is the American Psychological Association's clandestine collaboration with the United States government to develop torture programs for use on prisoners in Abu Ghraib, Guantanamo Bay, and elsewhere[79]. Instead of working to help people "build community" and "stand up to injustice" as stated on their website, professionals from the APA worked closely with members of the Department of Defense and CIA to harm people into compliance – safely, of course. This is obscene and demonstrates that even institutions designed to police the psychological profession in the service of human well-being are vulnerable to extreme corruption.

The Diagnostic Statistical Manual

One of the most-used books in psychology, commonly known as the DSM, was originally written in 1952 to help psychiatrists identify, understand, and treat mental illnesses. For the first couple of decades of its existence the book saw comparatively little use, however following an extensive revision process, it gained popularity and the kinds of widespread use we are familiar with today. However, although the DSM purports to be a scientific document, a review of its history and construction, particularly under the auspices of psychiatrist Robert Spitzer, reveal some glaring problems.

Indeed, as we have previously discussed, some of the definitions in the DSM, such as the entry for Narcissistic Personality Disorder, are driven by cultural and societal biases. The inherent subjectivity involved in diagnosing mental illness – let alone standardizing it in a book – was compounded by the fact that Spitzer routinely exercised veto power over the committee he led, and many of the definitions created were made by Spitzer himself with limited access to literature or feedback[80]. These problems of subjectivity, and others like them, have led some researchers to advocate for entirely different ways of classifying mental disorders, such as the Power Threat Meaning Framework developed largely in the United Kingdom[81].

In addition to exercising significant control over the construction of the DSM, however, Robert Spitzer proposed a sweeping change to the definition of "mental disorder" which has not only opened the door

for the depathologization of pedophilia, but has confused many people terribly about fundamental aspects of human nature.

Homosexual Science

The current perspective on homosexuality can perhaps be summed up by the title and lyrics of the smash hit "Born This Way" by Lady Gaga[82]. As Gaga suggests in her music, it is commonly held that children have a natural predisposition towards being either homosexual, bisexual, or heterosexual, and that this emerges naturally as a function of development and puberty. To deny this fact is to deny a fundamental part of the homosexual as a human being, it is believed, and therefore deeply harmful and inhumane.

However, the website of the American Psychological Association gives an elaborate non-answer as its official position on the origins of homosexuality, claiming that no conclusive findings have emerged and that "many think nature and nurture both play complex roles". This seems rather curious.

As it turns out, nature does play a role, albeit a much smaller one than activists claim. A 2019 study on the relationship between genetics and homosexuality which involved almost half a million people found that genes can only account for between eight and twenty-five percent of homosexual behavior[83]. Although this is not a perfect apples-to-apples comparison, genetics have been found to drive forty percent of divorce behavior[84] and the majority of bipolar predisposition[85]. Investigations into intrauterine factors that might drive homosexuality such as fetal hormone exposure, as well as theories about evolutionary origins such as kin group optimization, remain inconclusive, unproven, weak, or implausible[86]. Taken together, all of this means that the "born this way" mantra currently held by activists and society at large is, unfortunately, simply not true by any stretch of the imagination.

However, these lies have come at a great cost, as a closer look at the scientific literature on homosexuality reveals. For example, one study published in 2012 found that homosexuals were significantly more likely to have been sexually abused as children when compared to their heterosexual counterparts, and that this likely plays a role in the development of the orientation[87]. These findings have been corroborated and seem extremely significant[88]. Furthermore, research on over one thousand male homosexuals in the twentieth century found a pervasive trend in the male homosexual's family dynamic, whereby the mother was inappropriately close, controlling, parentifying, and smothering, sometimes even sexually inappropriate, while the father was cold, abusive, competitive, and rejecting[89]. These findings, too, have been corroborated by studies of homosexual clergy members[90], a 2005 study involving two million Danish subjects[91], and even the life stories of famous homosexual people[xvi], yet they have been flatly and aggressively denied by activists who often fail to even recognize the abuse.

Combined with the absolute failure of scientists to conclusively link homosexuality to genetics, these findings are extremely troubling and suggest that there is a tremendous amount of unrecognized and unresolved pain in the homosexual community. This hypothesis is supported by a significant amount of oblique literature, including studies that find homosexual and bisexual men are nearly three times as promiscuous as heterosexual men, are more likely to have been paid for sex, and engage in extreme

[xvi] For example, look into the story of Hans Christian Andersen, the bisexual author of *The Ugly Duckling*.

sexual acts such as "fisting" much more often[92]. Non-heterosexuals are much more likely to be dependent on drugs and are more likely to have a diagnosed disorder such as bipolar, panic disorder, borderline personality disorder, or obsessive-compulsive disorder[93]. Regarding the quality of monogamous romantic relationships, which are rarer than admitted[94], homosexual relationships are more unstable and likely to be plagued by infidelity[95] as well as more violent: male-male partners are just as likely to be violent as heterosexual couples, if not more, and lesbian pairings are even more likely to abuse each other[96].

Despite these gaping holes in the homosexual narrative, the Pride Parade has managed to fib and filibuster their way through all opposition and is even going so far as to interfere with other people's religious and parental freedoms in the name of their cause. This is most true in Canada, which recently passed Bill C-4, an appropriately-named and overbroad piece of legislation that criminalizes anything resembling "conversion therapy", including some instances of prayer with LGBTQ children.

But what is conversion therapy? Simply stated, it is an attempt to change someone's sexuality from homosexual or bisexual to heterosexual using therapeutic or pastoral care practices. The prevailing scientific and public opinion, of course, is that this is a ridiculous and prejudiced practice that usually results in lasting psychological harm. Indeed, misguided practices such as self-mortification, morphine-induced nausea therapy, and electroshock therapy have inflicted misery on homosexual people in the past and should be roundly condemned[97]. However, as the literature *and the author's own experience* in regular talk therapy suggest, it is indeed possible for someone's sexuality to be changed painlessly and even accidentally.

The official position on this matter is enclosed in the American Psychological Association's 2009 Task Force Report on conversion therapy, which claimed to find "no credible evidence" for the efficacy of such practices[98]. It concluded that people do not face a choice about their sexual orientation and that "affirmative treatments" are the only responsible option. However, this task force seems to have been comprised of six activists in gay rights causes, with not a single actual practitioner of conversion therapy accepted to the committee, nor even a neutral party[99]. Furthermore, their report conveniently dismissed every single paper documenting conversion therapy success as being methodologically flawed, allowing them to say there is no credible evidence while avoiding the inconvenient truth that evidence happens to exist.

In fact, there are many papers and studies that document the efficacy of conversion therapy, and they seem more reputable than the APA would like to admit. One paper found that cognitive psychoanalysis had a 30-50% success rate[100]. Another researcher found that a similar proportion of surveyed homosexuals accessing therapy or pastoral care experienced a change from predominantly homosexual to predominantly heterosexual, and experienced positive changes in their psychological, interpersonal, and spiritual well-being[101,102]. Infamously, Robert Spitzer, the man responsible for the revolution of the DSM, published a study with over two hundred former homosexuals who claimed to have been cured through therapy, which he later retracted after intense criticism from the ideologically captured psychological mainstream[103,104].

Given all of this information, one might begin to wonder whether homosexuality is actually some kind of mental disorder. Although a discussion on the possible psychopathology of homosexuality is not germane to this document, it is important for the reader to be aware that the removal of homosexuality from the Diagnostic Statistical Manual in 1973 was an intensely political affair, not a science-driven decision. Essentially, following the Stonewall Riots of 1969 and the birth of the gay pride movement, homosexual activists spent years invading psychological conferences, yelling at speakers, and demanding that their lifestyle be depathologized[105]. This incredible pressure, which bears striking resemblance to the aggressive tactics used by transgender activists today, forced the American Psychiatric Association to review its classification of homosexuality as a mental disorder.

The person who spearheaded this initiative was, curiously, Robert Spitzer. His proposal was a language game, essentially defining "mental disorder" as a psychological condition that impairs general function or is unwanted by the patient[106]. This elegant move meant that homosexuality could not qualify for inclusion in the DSM, as studies at the time demonstrated that homosexuality was not associated with general psychological impairment and that most homosexuals were perfectly happy with their orientation besides[107]. This monumental decision, hailed by activists as one of the most important victories of the Pride movement, paved the way for the rest of LGBTQ activism as it is known today. It also allowed pedophiles to develop arguments for the depathologization of their condition, which is rarely admitted.

Aside from the scientific evidence that has emerged since to suggest that there is more to the story regarding homosexuality, Robert Spitzer's biography reveals potential conflicts of interest in this matter. His family dynamic growing up was reported to be similar to the homosexual pattern, with a "professional patient" for a mother and a "cold, remote" father. He attended therapy as a teenager for these issues, as well as an outlet to talk about his fascination with women[108]. Although it cannot be concluded from this that Spitzer experienced same-sex attractions, it is certainly curious that he would take a professional interest in both the depathologization of homosexuality as well as its possible cure.

Transgender Science

In the past decade, men who claim that they were "born women" have been granted access to single-sex areas like bathrooms and changerooms and have also won the right to compete in women's sporting competitions. More than any other social justice issue, the transgenderism debate has polarized, gripped, and confused Western society as it struggles to comprehend and accommodate the novel and bold claims made by transgender women in particular.

This issue is not merely an academic debate over psychology and biology. The suicide rate among transgendered people, especially youth, is astronomically high, making it a potentially urgent health issue[109]. Additionally, concessions to activist demands have resulted, so far, in "penised women" entering spas and disrobing in front of women and female children[110], female estheticians being sued for not waxing a "woman's" testicles[111], a woman's skull being broken by a transgendered individual in a martial arts bout[112], and dangerous male-bodied offenders being housed with female inmates[113]. Records of all kinds in women's sports are now being shattered by transgendered athletes. Leftist educators are teaching children about ideas and theories created by the transgender movement, and even helping them to change their identity without their parents' knowledge[114,115]. Doctors are even prescribing sex

hormones to and performing irreversible surgeries on children as a result of the furor over this issue[116]. Therefore, it is of crucial importance for every person to be informed about the details of the claims made by the transgender movement, whether these claims have any basis in science, and particularly what children should know about the ways their brains and bodies might develop.

Summarized simply, the central claims of the transgender movement as follows: that there are no differences between transgendered individuals and cisgendered individuals (e.g. transgendered women and women), that transgendered people were "born in the wrong body", that medical interventions in the form of hormones and surgery are necessary to prevent suicide in both children and adults, and that a primary source of additional psychological suffering is the stigmatization and hatred levelled against them by society.

First, it must be observed that a sophisticated activist-academic communications strategy can indeed convince the average person to disbelieve what is plain to see with their own eyes: that there are differences between transgendered people and cisgendered people. There are obvious disparities in bone structure, muscle mass, reproductive capability, hormonal balance, and DNA. There are even subtle differences in behaviour, revealed by the male-patterned manifestations of aggression and sexuality that many female transgendered people display[117]. Even after transitioning, transgendered women face higher rates of prostate cancer, something unheard of for cisgendered women.

Regarding the "wrong body" claim, although differences have been observed between the brain structures of transgender women in particular[118], the same can be said for homosexuals[119]. That is to say, a brain structure difference is not unprecedented in matters of gender and sexuality, and such differences, although they remain unexplained, are not grounds for a reasonable belief that one is, in fact, a member of a different sex.

Furthermore, the transitioning process, which involves hormone treatments and surgeries to construct new sexual organs, is held by many transgender activists to be the panacea of the condition. Yet, the suicide rate for transgendered people who have fully transitioned remains twenty times that of the population average in some studies[120]. Additionally, the ranks of so-called "detransitioners", or people who regret their transition, are growing. This demographic, many of whom are women on the autism spectrum, cite other issues for their dysphoric feelings and report feeling influenced by the lies propagated by activists[121,122,123].

Gender dysphoria does occur in children, which has made it an extremely fierce ideological battleground, and activists are furiously busy convincing doctors and parents to provide so-called "affirmative care" to even prepubescent children[124]. However, all eleven long-term studies that have been done on dysphoric children found that between sixty and ninety percent of them stopped feeling dysphoric by puberty[125]. This means that any doctor who has administered puberty blockers to a prepubescent child has likely committed malpractice and irreversibly changed the course of a human life. Parents, scared by the threat of a suicidal child or the threat of child services intervening on the child's behalf, often feel like they have no choice but to comply to such treatments[126,127].

It is unclear what can be done about this particular issue, given that gender dysphoria is a real condition and that transitioning can seem to help for some. However, it is clear that a "wait-and-see" approach is best with children, and that the obsession many psychologists now have with helping children to "affirm" their "true" gender is both misplaced and dangerous[xvii].

Drinks flow
People forget
That big wheel spins, the hair thins
People forget
Forget they're hiding
The news slows
People forget
Their shares crash, hopes are dashed
People forget
Forget they're hiding
Behind an eminence front

[xvii] For further information, the World Professional Association for Transgender Health's *Standards of Care* document will be very helpful. It predates the current transgender craze and reflects fairly solid data. At least until WPATH is compromised.

Interlude: Fear of a Blank Planet

A comprehensive review of the history and current state of psychology, as we have seen, reveals that a great deal of what is considered to be "knowledge" is actually an illusion. Psychology is not, by any means, scientific, particularly given the fact that practitioners and researchers have been engaged in widespread fraud against the public for almost five decades. Corrupt and misguided practices have degraded the human condition, confusing people about their true nature and distracting them from the natural rhythms of life.

However, the deeper problem with the field lies in its lack of values. Operating within the "scientific method" as it claims to be doing, psychology is completely unequipped to deal with issues of ethics, morality, and values, all of which are intrinsic to human life. As can be seen, this approach has led to widespread harm, institutional malpractice, and even torture of prisoners and mutilation of children.

Furthermore, in the absence of humanist values of the kind proposed by Abraham Maslow, both researchers and practitioners have unwittingly been supporting the industrial machine, conflating work output and conformity with good mental health. By setting industrialized life as the standard by which all humans must be judged against, psychology has condoned the contortion of human beings into tools.

In order to develop a convincing alternative to the current versions of psychology on offer, it will be necessary to both address the many problems we have identified so far from first principles. We must also attempt to deduce core human values from these first principles and the research that supports them, and make sure that those values align to the human experience as it is lived and experienced by billions of people around the world.

How can I be sure I'm here?
The pills that I've been taking confuse me
I need to know that someone sees that
There's nothing left, I simply am not here

SIDE 3: HEMISPHERES

FOUNDATIONAL THEORIES OF INTEGRITY PSYCHOLOGY

X. Time and Motion

Information and its Propagation

The passage of time is one of the most ancient human preoccupations. The Ishango Bone, estimated by archaeologists to be over twenty thousand years old, bears tick-like marks that were possibly used as a calendar of sorts[128]. Burial practices are a cultural universal that have been documented into the distant past, which suggests that human beings have been aware of their own mortality – and therefore time – for at least eighty thousand years[129]. Thus, we shall begin our first principles investigation by examining the concept of time, which is a key component of physics, one of the most fundamental building blocks of our existence, and one of the trickiest concepts to define.

But what is time, precisely?

Physicists typically say that *time* is change, or more specifically, the variable by which everything else changes[130]. However, time is not just an abstract mathematical variable – there are unbreakable rules which govern how one can work with time. We cannot make time go backwards, we cannot skip segments of time when moving forward, we cannot make time stand still, and time on Earth almost always progresses at the same rate[xviii].

Although the standard unit by which we measure time is the second, this experience of time is in fact arbitrary. In some places that retain non-Western lifestyles, such as Madagascar, one's concept of time and its passing can become almost irrelevant, with each day blending into the next[131]. In some ancient cultures, elegant sand and water timers, each with their own measurements, provided an estimation of time's passing long before the second was conceptualized and standardized.

We shall return, however, to the concept of time as change. In fact, time can be seen as a variable that is completely independent of space, and therefore physical variables. This means that time can be used to track changes in the physical world, which we have done, implicitly and explicitly, for thousands of years.

The earliest methods of timekeeping were, of course, changes in the Sun, Moon, and stars. Because the Earth rotates at a constant speed, and orbits the Sun predictably every year, the positions of the celestial bodies made it easy to track and anticipate simple things like the passing of seasons, as well as complex things like the circumference of the Earth. Later, technologies using water and sand were invented, providing humans with standardized measures beyond what the sky could offer.

Signals

Although humans have become adept at tracking and measuring time, one thing we remain unable to do is obtain more of it for ourselves. Indeed, one of the realities of human life is that we change over time, and eventually cease to exist. With no effort on our part and independently of our wishes, we grow from babies, to adults, and then decline and die. This is one of the earliest human realizations, taking place tens of thousands of years before animal domestication, the discovery of beer, or the invention of bread.

[xviii] Thankfully, we do not need to address Einstein's boundary conditions in our discussion of this topic.

We shall call this fact of human life "time-boundedness". While this reality is unfortunate for those who wish to live forever, the fact that individual humans only exist for a certain length of time is true for almost everything in the universe, including stars, plants, and other animals.

Aside from staving off death, one of the primary human motivations is to "transcend" it somehow, usually through reproduction and the raising of one's children[xix]. Since the discovery of deoxyribonucleic acid (DNA), we have known that our genes carry *information* that is used to develop our body in the womb and manage our bodily processes after birth. We also know that in human reproduction, genetic information from the father and mother combine to create a new human, unique but related to both of the parents.

The concept of information, like time, is a complex matter rooted in physics. Although information is not matter *per se*, a particular arrangement of matter in space-time[xx] can convey information to an observer, such as the sedimentary layers of rocks providing clues about archaeological timelines. Indeed, the information contained within matter can propagate across time in much the same way as matter, and can even provide humans with knowledge of past, present, and future circumstances.

An example more directly related to human life is the propagation of DNA through reproduction. In many ways, the information contained within human DNA is propagated across time, combining with other information to create causal biological relationships between generations. This is true of almost all known life forms, strongly indicating that we can define *life* as the propagation of information. This distinguishes living processes from non-living processes such as sedimentation, which may convey information but lack both a frame of reference and the means to acquire and process information.

Staying within the bounds of physics for a bit longer, we can observe that a *signal* is defined as information that is transmitted from one system to another. Although it may be intuitive in the age of computers, there are well-defined physical laws that govern the transmission of information, much of which have to do with physical and temporal limits[132]. These not only govern things like television and radio broadcasts, but the transmission of information between living systems as well.

Furthermore, it is well-known that the *medium*, or the substance used to transmit information, offers affordances and drawbacks to communicators[133]. Because the human body contains a great deal of information, from DNA to memories[134], and because that information is transmitted to other living systems, especially in the case of reproduction, it can be argued that the human body is a *medium* that is biologically driven to propagate *information* in the form of *signal*s.

The Dual-Aspect Principle

By defining life as the propagation of information, and humans as mediums that carry information, we gain access to a somewhat recent development in the debate over the mind/body problem which is known as the dual-aspect principle[135]. Essentially, some leading theorists have proposed that information be viewed as having both physical properties, such as the arrangement of matter, as well as phenomenal

[xix] This is based on personal observation, as well as surveys conducted with the general population.
[xx] Information can be generally defined as "what is conveyed or represented by an arrangement of matter".

or experiential properties such as qualia[136]. An engineer might describe mental states as being *isomorphic,* or corresponding in form and relation, to brain states.

This principle is important for us because it allows us to develop a theoretical foundation for psychology that satisfies both monist and dualist requirements. For their part, the monists can reduce the mind to information embedded in the brain, while people who believe that mind is separate from matter can at least speak of mind in the same terms as the dualists. Additionally, if we remember that each human being is a medium that carries information, and that they are primarily motivated to propagate this information across time, many of the past pitfalls of psychological inquiry can be resolved both intuitively and with reference to accepted literature.

A Rock's Thoughts

Although some theorists, as we shall discuss, believe that everything is information, that quickly leads to speculative theorizing that seems to do little to improve our understanding of the human condition[137]. For our purposes, although it is true that non-living things like rocks and water can carry information, as in the case of sediment layers in archaeology, inanimate objects do not actively make use of information and can therefore be excluded from psychological inquiry.

Time and motion
Flesh and blood and fire
Lives connect in webs of gold and razor wire

XI. Natural Science

Life and Self as Information

Although we focused on the propagation of DNA and genes in the last chapter, recent thinking in evolutionary science has expanded the definition of evolution beyond genetic propagation, necessitating a slight amendment to our definition of life[xxi]. Indeed, multiple researchers in the biological sciences have found that factors like ideas and behaviors can be passed between generations, affecting our evolution both at an individual level and a species level. While this complicates matters slightly, by layering on biological principles on top of physical principles, we will strengthen and clarify the first principles from which we are attempting to operate.

In 1976, evolutionary biologist Richard Dawkins first coined the word *meme*, using it to describe an idea, behavior, or cultural phenomenon that spreads from person to person in a similar way to a gene, virus, or other biological organism[138]. Importantly for our purposes, memes are seen as physically residing in the brain[139], and are able to replicate and compete with each other in ways that closely resemble more tangible biological processes.

Furthermore, the groundbreaking work *Evolution in Four Dimensions* (E4D) by Eva Jablonka and Marion J. Lamb argued for four unique types of inheritance that govern human evolution. Building partially on Dawkins' innovations, their research findings strongly suggested that the human genome is significantly more responsive to the environment than was previously believed, and that human beings enjoyed four unique types of inheritance governed by the processes of variation, selection, and adaptation.

The first of these, of course, is genetic inheritance. As many of us are aware, human beings reproduce in such a way that an individual's genes are mixed with another individual's, creating a unique human that is genetically related to both parents. The same is true for many organisms – even plants have genes, as Mendel discovered.

The second form of inheritance is epigenetic. Although this only became known in the twentieth century, the experiences that someone has, such as stress or famine, can activate parts of genes that can then be passed, in turn, to offspring. One well-known example of such inheritance is the fact that children of Holocaust survivors, who experienced years of deprivation and hardship, have unique relationships to stress that is a kind of "biological memory" of the Holocaust[140]. This suggests that the experiences of the parent, at least in some form, can be passed down to the child. Even more interestingly, Jablonka and Lamb note that breastmilk can transmit information relevant to the infant's development.

Third, Jablonka and Lamb propose mechanisms of behavioral inheritance, whereby the relationship between the organism and environment brings forth emergent behaviors. For example, birds have been observed using tools such as sticks to accomplish various goals, a learned behavior that is imitated by other members of the flock and propagated through generations. Similarly, humans and animals alike make use of tools they find in their environment, or even refashion the environment to make tools. A

[xxi] We can generally define evolution as a process involving variation, selection, inheritance, adaptation, and time.

uniquely human example of behavioral inheritance are cultural dances, which carry information about the past and are transmitted between generations through imitation.

Animals that have childrearing practices often transmit behaviors to their offspring, such as feline mothers who often teach their offspring how to stalk, hunt, and kill prey. This is especially true of mammals, who often have extended childhoods of some kind, as well as a mother-child relationship that forms the foundation for a great deal of behavioral transmission. This is most true of humans, whose childhoods last for over a decade and create a significant dependence on both parents.

Key to Jablonka and Lamb's definition of behavioral evolution is the realization that many animals also exist in a social context. Birds of a feather do flock together, and behavioral innovations developed by one organism are observed and imitated by the rest. In this way, adaptive behaviors can spread throughout species without being made explicit in the form of textbooks, diagrams, or even language.

The final form of evolution proposed in E4D is of a symbolic kind, which encompasses the explicit knowledge of a species. Jablonka and Lamb define a *symbolic system* as a rule-bound system in which *signs* refer to objects, processes, and relations in the world, but also refer to other symbols within the system. Language is the most advanced example of a symbolic system, where arbitrary sounds and squiggles on paper are used to describe, dissect, discuss, and even predict aspects of the material world.

By developing, testing, refining, and propagating abstract ideas, human beings have been able to dominate almost every ecosystem in which they inhabit. Not only do symbolic systems change faster than biological systems, the knowledge within them accumulates over time and provides later generations with a vast inheritance that can make them extremely suitable for survival and reproduction.

As can be seen, the human evolutionary process in particular draws upon pools of biological and social knowledge far beyond the gene. This necessitates a more holistic understanding of what human life is, particularly given that we have defined life as the propagation of information. Indeed, if we define human life as "the propagation of genetic, epigenetic, behavioral, and symbolic information", this provides us with a strong foundation for something approaching a coherent paradigm in the field.

Too Much Information

Given that we have now defined human life as the propagation of different kinds of information, it becomes natural to inquire about how that information is organized in space-time. Specifically, we must investigate the problem of "no-self" from an information-centric perspective.

The specific problem we are presented with from both East and West is where to draw the boundary between self and other, or self and environment. As observed by Varela, Thompson, and Rosch, our brains and bodies are involved in a constant process of "bringing forth a self" that is deeply intertwined with our environment. As put forth by Jablonka and Lamb, our "selves" can include such things as learned behaviors and symbols, which exist both "in the brain" but also are distributed throughout culture.

However, we have recourse to denials of self from both intuitive and theoretical perspectives. First, it is inarguable that our physical bodies are bounded by the edges of our skin. We are not the chairs that we

sit on, nor are we the garden gnome outside. From a genetic perspective, we cannot spontaneously reproduce with people we pass by on the street. Although it is the case that our environment works with our brain to "bring forth a self", as we shall discuss, even the enactivists' own language presupposes an environment and a brain each separate from each other somehow.

Second, although some people are highly intuitive, we cannot read the minds of others. In fact, the degree to which their inner states are a mystery to us is a function of their ability to communicate those inner states. Thus, there is clearly, intuitively, and logically some kind of psychological boundary between one human and another human.

The theoretical expression of this phenomenon of self-and-other is known as a Markov Blanket and was developed by statisticians and information theorists following the advent of the computer[141]. Essentially, this theoretical construct defines the boundaries of a closed system, wherein there are internal states, external states, and a "blanket" of states that are visible to both internal and external observers. Put a little less abstractly, we have internal states consisting of things like feelings, sensations, and thoughts, and can produce a blanket of states that include body language, physiological responses, actions, and speech, which provide external observers with information about our internal states.

Therefore, a human being's "self" can be seen as the bundle of genetic, epigenetic, behavioral, and symbolic information they have acquired from and since their conception. It is separated from the environment by a Markov Blanket and distinguished by the existence of *hidden states* which vary depending on one's frame of reference. Put plainly, from the perspective of Alice's mind, Bob's is impenetrable, and vice versa.

Importantly and fundamentally, aspects of the self can be propagated through biological, behavioral, and symbolic methods, and this activity of propagation is the central theme of human life. We shall return to the implications of this later. Additionally, as we develop a model of the mind in the next chapter, we will discover that the self indeed has different components, as theorized by many leading researchers.

Wheels within wheels in a spiral array
A pattern so grand and complex
Time after time we lose sight of the way
Our causes can't see their effects

XII. La Villa Strangiato

Grasping at Mind and Self

Although it may have seemed odd to begin a discussion of psychology with examinations of time, space, information, and signals, such an approach has allowed us to ground our psychological inquiry within physics and biology, as well as elegantly satisfy monist and dualist contentions about "mind". We have also been able to develop a rudimentary understanding of what the "self" might be made out of. It is to these two concepts that we shall now examine in detail.

The Mind

With human footprints and flags already on the Moon, and with robots exploring other planets, it is now reasonable to declare the human mind as the true final frontier of the universe. Indeed, for many people, the mental states they experience day-to-day can be kaleidoscopic, bewildering, and burdensome. Feelings, thoughts, and sensations intermingle freely with memories and intuitions, creating a chaotic milieu that is difficult to decipher and understand.

We shall begin our discussion of "mind" with one of the most important first principles ever developed in relation to the concept – *cogito ergo sum*[142]. Indeed, Réné Descartes' observation that he cannot doubt that he is thinking, and therefore exists, proved to be one of the foundation stones of mind-related inquiry following the Renaissance, a topic mostly handled by philosophers such as Hume, Kant, Deleuze, and Spinoza until the advent of psychological methods.

From Descartes' proposition, we find that it is intuitive and nigh-undoubtable that we have a mind, or at least experience our brain's activities as a phenomenon that we have come to call mind. Thus, in keeping with the dual-aspect principle, we will define *mind* as the bundle of information contained in the brain, which primarily encompasses behavioral and symbolic information. This satisfies both monism and dualism sufficiently.

However, we very quickly encounter the same problem as Titchener and the structuralists when attempting to grasp this concept. For many of us, the mind is utterly chaotic and can be rather unpredictable, manifesting seemingly random thoughts and memories throughout the day. Furthermore, we know that the mind has an unconscious component that is rarely accessible to us. It seems impossible to develop a "model" of the mind, given these realities and the profound diversity in the human species.

Thankfully, for purposes of our discussion, we need only specify the *general forms of relationships* that exist between the different types of information in the mind. We shall accomplish this by way of "pseudo-equations", or mathematical expressions that define relationships between variables without assigning numerical values to them.

Gestalt Psychology

In the early twentieth century, a trio of psychologists named Max Wertheimer, Wolfgang Köhler, and Kurt Koffka began publishing their work regarding human perception. One of their primary findings was that humans do not perceive the world as a set of separated entities, but rather tend to see things in *gestalts*,

or organized wholes that are effectively indivisible from the perspective of the subject. Perhaps the most famous example of this thinking includes the tendency of humans to see shapes and forms in clouds, regardless of the strength of the resemblance.

Moving beyond optical illusions to the world of inner experience, however, we also find that our mind is filled with organized wholes that can be very difficult to divide into their constituent parts. The case of Anna O., for example, as well as the entire history of therapy, demonstrates that our thoughts and emotions often contain hidden information mixed in with more obvious cognitions, such as childhood memories or emotional baggage manifesting in negative self-talk.

In gestalt psychology, a *gestalt* is roughly defined as an organized whole to a perceiver that conveys meaning beyond the sum of its parts. This is precisely the unit of "measurement" one should use when dealing with mental phenomena, as each thought, feeling, or emotion is extremely complex and contains a great deal of constituent information. Indeed, by developing the idea of a *mental gestalt*, we will be able to specify the general forms of relationships between the different "variables" of the mind.

If we think of the mind as a "space" that contains information, almost like a mathematical space, we can define mental gestalts using the following pseudo-equation:

$$\psi = a \cdot s \cdot c \{(i_1 + m_1) + (i_2 + m_2) + \ldots + (i_n + m_n)\}$$

Where:

- ψ is the Gestalt, or the unified whole perceived by the thinker or feeler
- a is the Affective Component, or the pleasure/pain assigned to the Gestalt's information
- s is the Salience Component, or the felt immediacy of the gestalt
- c is the Consciousness Component, or how aware the subject is of the gestalt
- i is information, whether that be from the senses or from intuition
- m is memory, which is the memories that are associated with the senses or intuitions

Thus, a gestalt can be seen as a collection of information-memory pairs[xxii] which are modified by affect, salience, and level of consciousness. Organizing the components of the mind in this way makes it much easier to model what is happening, at least from the perspective of a conscious subject. Very often, patients in therapy spend a great deal of time dissecting various gestalts to understand why certain events trigger strong feelings, or even why repressed and unacknowledged memories are causing them issues in the present day. This suggests that the thoughts and feelings we have are comprised of more than just one "component".

Furthermore, the fact that some mental events are conscious and others are not is a recurring issue in psychology, particularly because some unconscious events – such as childhood trauma – have very real

[xxii] There are two reasons I have paired information and memory. First, activity in the thalamus relates new information to past information, indicating a neuropsychological link. Second, as we will discuss shortly, the brain has been found to be a "comparison machine" that is always taking stock of its surroundings. This also indicates that new information must be related to memories somehow.

impacts on cognition and behavior. By assigning a variable to consciousness, which could reasonably range from zero (gestalt happens unconsciously) to one (fully conscious of gestalt), and by making salience a separate variable, we are able to conceptually reconcile these issues without encountering what is known as the "Cartesian Theatre" problem[143].

In everyday situations, it would seem that people experience gestalts constantly and sometimes simultaneously. Hearing a song on the radio evokes feelings of nostalgia, indicating strong memory contributions to a gestalt that includes sensory and affective components. Someone with a traumatic childhood that struggles with anger may have high-salience but low-consciousness gestalts that involve tremendous amounts of information, causing them to act certain ways without being aware of what drives their behavior.

As was discovered by the cyberneticists and cognitive scientists, the human brain has a limited working memory, and limited capacity more generally. This means that the mind is constantly generating, presenting, selecting, and discarding gestalts, and that only some gestalts become the subjects of mental attention. Additionally, certain gestalts may become recurring themes, such as self-narratives or self-perceptions. It is to these which we shall now turn.

The Self

If we accept that the gestalts presented to our minds for review and selection are part of the information in the mind, then it becomes reasonable to ask if every thought, sensation, or feeling one experiences is part of their "self". This is a surprisingly problematic question, as it is often the case that people have thoughts and feelings – perhaps related to infidelity or violence – that they would very much rather not have and do their best to dissociate from. Furthermore, the kaleidoscopic condition of the average person's mind, with many gestalts competing for attention, gives rise to a potentially chaotic view of the self that does not reflect the unitary and continuous phenomenon which we tend to experience.

The simplest solution to this problem is to view the self as having multiple components, much like James, Freud, Jung, Winnicott, Schwartz, and other key theorists in the field have done. This will allow us to make meaningful differentiations between random mental noise and intentional mental actions, such as concentration and cognition.

We shall begin with the "embodied self", which can be understood as the totality of behavioral and symbolic information contained within the mind, from the faintest of memories to the most vivid recollections. At a physical level, the embodied self also consists of the bundle of information contained in the body, including information stored in DNA. This is a relatively straightforward concept, as it encompasses the totality of the self, bounded by a conceptual Markov Blanket as previously discussed.

Next is the "experienced self", which is comprised exclusively of the gestalts that are generated in the mind. As might be expected, this part of the self is constantly shifting and changing as new gestalts are developed and old ones are discarded. The experienced self is what people are most familiar with in their mental landscapes, and is often quite chaotic. However, recurring gestalts – or at least recurring themes – give us the sense of a coherent self-narrative and the notion that we have a self.

The third aspect of the self we shall delineate is the "enacted self", which consists of the gestalts that are consciously selected by the subject to focus on. For example, someone may have an experienced self that consists of a variety of conflicting thoughts, however if they choose to focus only on thoughts that bring positive feelings and sensations, their mind begins to discard the gestalts that are not focused on.

In contrast to the experienced and embodied self, which may contain information not considered part of the "self", the enacted self consists only of information that the subject focuses on and is a direct function of their choices. Additionally, on a physical level, the actions that someone takes, including their speech, is part of their enacted self and can be propagated through time. This is the part of the self that people have the most control over, and indeed we judge people primarily by their words and deeds.

Enacted Self as a Signal

By defining the self in this way, we are able to tie human action directly to the propagation of information. For, if life is the propagation of information, and humans are a medium for that information, then the enacted self – the information actually sent to other living beings – can be seen as a signal that propagates through time in much the same way as DNA.

Additionally, if behavioural and symbolic information are part of human evolutionary processes, then the actions taken by individual humans, and the information they share with their communities, propagates through time using humanity as the medium. This position is much the same as Dawkins' original theory of memes. This will be of further use when discussing end-of-life issues and human legacies.

Uhh, yeah! That's jazz. Jazz is weird.
Kind of like the same tune that goes on in my head!
Aaah, I wake up. I'm awake, finally.
I love singing. It's so easy!

XIII. Second Nature

Consciousness and Intuition

As we noted in *Dogs*, the Soviet neuropsychologists' work was not only pivotal for the field of psychology at the time of its publication, but would also prove to be useful in our present inquiry. Indeed, the Soviet discoveries, specifically regarding the human response to anomaly, provide us with a very strong clue about what the function of consciousness might be and therefore how it might be productively defined.

The Function of Consciousness

Building on the work of Pavlov and other early behaviorists, Soviet neuropsychologists like E.N. Sokolov, O. Vinogradova, and A.R. Luria discovered that living organisms exposed to anomaly or surprise involuntarily and immediately responded to it, even if only by shifting their attention[144]. In humans, this "orienting reflex" takes place as shortly as two hundred milliseconds after the stimulus, which is about three hundred milliseconds before the timeframe when conscious thought processes begin[145].

Although this seems like a rather simple discovery, the implications of the orienting reflex are wide-ranging and profound. First, it implies that the nervous system is comparing incoming sensory data to some set of expectations, as there is no other way that anomaly could be recognized otherwise[146]. Second, it suggests that no matter what is going on in our minds, in the presence of anomaly we have no choice but to attend to it. This narrows down the potential "functions" of consciousness significantly, as it is clear the orienting reflex takes priority over almost all other mental functions when activated. Finally, the very act of comparison implies that there is a value structure in place by which some stimuli can be judged positively, and others negatively.

The evolutionary reasons for this are rather intuitive – failing to notice an environmental threat, or failing to update one's perspective on the world as new information arises, can result in poor choices and death. Additionally, being able to respond quickly and efficiently to surprises is important when in risky situations. Having a value structure with which to evaluate the environment also facilitates survival.

However, we shall focus for now on Sokolov's underlying hypothesis that the brain is a comparison machine that is, in part, responsible for identifying anomalies in the environment. Although it may have been a bold claim at the time, the idea that the brain constructs mental models of the external world has since become well-entrenched in psychology, cybernetics, and robotics[147]. However, where Sokolov and the Soviet behaviorists were concerned solely with how organisms model the facts of the environment, more recent theorists have indicated that the brain is more concerned with the modelling of meaning and emotional valence[148].

For example, things like sudden movements, loud noises, or unexpected physical contact are all treated as threats instinctually, regardless of the facts of the situation. These things lead to emotional responses like fear, anger, and so on, which can often be extremely useful in survival situations. Thus, we see that the brain assigns significant valence to the category of things not yet known, and assigns further valence to anomalies that might indicate danger.

A corollary to the brain's preoccupation with anomaly is that surprise is often unpleasant. Although humans enjoy novelty, they are also creatures of habit, are especially goal-driven, and dislike things that disrupt their plans. Thus, it might be reasonable to assume that minimizing surprise might be an important psychological motivation, and indeed it is. A groundbreaking paper by neuroscientist Karl Friston released in 2010 found that the brain seems intrinsically motivated to match its mental models with the realities of the external world, thus minimizing the amount of surprise from its sensory inputs[149].

Although the mathematics, information science, and neuroscience behind Friston's hypothesis is extremely complicated, it not only maps quite accurately to the idea of a brain as a comparison machine, but gives the specific mechanism by which consciousness grows and improves. Related work on Bayesian decision theory suggests that the brain works both in a "top-down" and "bottom-up" fashion to assess new information, compare it against expected conditions, and modify perspectives and goals to better exist in the environment[xxiii]. These functions are intimately tied to emotional affect, likely to facilitate survival-related action.

What is Consciousness?

Although the brain can perform many functions, the work of Sokolov, Friston, Peterson, and others have strongly indicated that the human nervous system works to create mental models, compare those models with reality, and update them when surprises are encountered. Such activity can be seen to underlie all goal-directed behavior, a great deal of reflexive behavior, and many of the spontaneous problem-solving methodologies humans develop to understand and interact with their environment.

Therefore, a working definition for consciousness should reflect this literature, and moreover should acknowledge the role that anomaly plays in human life. It should also account for the variety of ways in which human beings experience their own consciousness, and many of the fringe phenomena that are known to occur as a result of the brain's functioning.

Perhaps one of the most famous quirks of consciousness is the phenomenon known as "highway hypnosis", whereby people who drive long distances find themselves awakening from a sort of trance as they reach their destination. Additionally, mindfulness practices consistently have the effect of drawing people's attention to their own attention – or lack of it[150]. There are also altered states of consciousness, such as psychedelic highs or spiritual experiences, which are experienced as profoundly different from a normal waking existence by the people who have them[151].

The problems introduced into the consciousness debate by these phenomena are numerous and have precluded the construction of a straightforward definition for many years. However, with reference to the neuropsychological literature on anomaly and surprise, the problem can be simplified significantly and we can suggest that *consciousness* be generally defined as "the awareness of difference". From a logical and intuitive standpoint, it is impossible to be conscious of something if one is not first aware of it, and the

[xxiii] I find that Scott Siskind, of SlateStarCodex and AstralCodexTen fame, has some of the best explanations of Friston's work available currently. It should be noted that Friston may be the only person in the world who fully understands his own paper, and meets with people from around the world on a regular basis to try to explain to them the nuances of his position.

close links between anomaly, affect, and surprise suggest that we face little choice about the attention we pay to novelty once it enters our awareness.

Furthermore, if consciousness exists to reduce surprise from incoming information, as Friston's paper indicates, then it is also reasonable to suggest that environments that are not sufficiently anomalous do not trigger consciousness. This is evidenced by highway hypnosis and similar phenomena, and similar lines of argument have been advanced by Friston and his colleagues[152].

However, there is an added layer of nuance to be addressed here, and that is the difference between animal consciousness and human consciousness. For, as Sokolov demonstrated in his behavioral experiments, the nervous systems of animals are also wired to respond to anomaly, and it is also suspected that they form mental models of their surroundings. Thus, if we simply leave the definition of consciousness as "awareness of difference", we are unable to make a meaningful distinction between our species and the rest of the animal kingdom.

To resolve this issue, we shall first begin with the phenomenon of animal consciousness. Unlike humans, animals do not think abstractly, nor do they judge their actions by morals or standards. They simply respond to their environment and pursue food, shelter, and mating opportunities. This simplifies the issue of animal consciousness immensely, as it is clearly limited to their behavior, some of which is reflexive and some of which is goal-directed. Animals are extremely adept at responding to subtle environmental cues, such as scents on wind or the slightest noise in the bushes. This suggests that their consciousness functions primarily to compare the "real" to the "real" in the case of environmental cues, and secondarily to compare the "real" to the "ideal" in the case of goal-directed behavior.

The same things can be said of human consciousness, as we are still animals who are preoccupied with survival needs and reproduction. However, humans have the capacity for abstract thought, and therefore have the ability to compare the "ideal" to the "ideal". Unlike animals, we can reflect upon our own goals, develop abstract systems of reasoning and morality, decide on the "best" course of action, and align our behavior to those ideals.

Thus, we arrive at a three-part definition of consciousness: awareness of physical difference, which we shall call "perception", awareness of difference between the present reality and an ideal future, which can be called "motivation", and finally an awareness of difference between ideas or abstract concepts, which we shall call "abstraction".

Although this will be extremely controversial, it naturally follows from this definition that some humans are more conscious than others. Fundamentally, it is impossible to be conscious of something if one is not first aware of it, and this is especially true for comparisons between ideals. We shall examine this corollary further in the next chapter.

Intuition

The outstanding research conducted by neuroscientists on the topics of anomaly and surprise have yielded some related insights. For example, it has been found that the two hemispheres of the brain play important and unique roles with respect to our responses to anomaly[153] – particularly when it comes to

the inarticulable and subtle hunches we often have when in new situations[154]. Although it may not be a part of consciousness itself, human intuition is an extremely important survival mechanism that has been devalued by two centuries of industrial conformity and data-driven decision making.

The issue of intuition has received considerable attention in the field of expertise studies, where the snap-second decisions of experts have been found to not only outperform the decision-making capacities of laypeople, but can also take place before experts have the chance to consciously assess situations[xxiv]. Examples of this phenomenon include skilled radiologists identifying pathologies within a few hundred milliseconds of seeing an image, professional tennis players responding to their opponents' serves within the same timeframe, and talented chess players assessing the game state after a glance at the board[155].

As one might expect, researchers, coaches, and experts around the world have collaborated for decades to unlock the secrets behind exceptional performance. One of the things that has been found to drive expertise is efficient use of scenarios, situations, and information stored in long-term memory, an example of which might include a chess player who has memorized board positions and optimal moves from expert-level games[156]. By organizing their memories of a topic into "chunks", "scripts", or "schema", an expert can recognize patterns in their surroundings and make better decisions more efficiently. The discovery of this phenomenon lends further support to the idea that the human nervous system is a comparison machine, as it seems clear from the expertise literature that people who have relevant "comparison material" in their long-term memory are able to consistently make better decisions quickly.

Another mechanism that drives expert intuition is situation awareness, which is defined as "the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future"[157]. Researchers have found that maintaining awareness of their environment occupies a great deal of time and attention on behalf of experts, particularly the perception of and response to anomalies[158]. It also involves a great deal of information processing, as decisions must not only be made about the present, but about future potentialities as well.

Although the concept of intuition has largely been relegated to the domain of expertise studies, laypeople also have intuitions and make use of them in decision-making. From the first impressions we receive when meeting other people, to offhand comments that rub us the wrong way, we often rely on our subtle hunches to guide us through complex situations. Furthermore, as expertise researchers have indicated, superior judgement and exceptional performance are a matter of training and instruction, not genetically predetermined. This means, in theory, that people are capable of developing situation awareness in their unique contexts, and that people with more life experiences will have more accurate intuitions.

With regards to our discussion, the topic of intuition is a curious one. An intuition represents a kind of "in-between" knowledge, accessible to the conscious mind yet not fully articulable. It is also highly subjective, and as we have seen, largely dependent on the information stored in long-term memory. Although intuition cannot be conflated with consciousness *per se*, it is notable that intuitions often exist on the edge of conscious perception. If we were to think of them as gestalts, they might be high-salience, high-

[xxiv] As a reminder, the timeframe for conscious processing is about five hundred milliseconds after an event.

affect, but lower-consciousness bundles of information generated by the mind. They are thus part of the experienced self.

The general consensus on the neuropsychology of intuition is that it is seated in the brain's right hemisphere, which is responsible for global hypothesis formation, connection-making, metaphor, and operation in unknown territory[159,160]. Notably, the right hemisphere is less dominant in language processing, which helps explain the inarticulable nature of intuition. Additionally, neuroscientists have found that the right hemisphere and left hemisphere are connected by a tenuous thread of nerves called the corpus callosum, which is connected to the left hemisphere through the areas of the brain most responsible for speech processing[161]. This curiosity has led some to suggest that these structures work to produce the "inner voice" that some people report having, either literally or figuratively, which is often deeply intuitive[162].

In modern society, the idea that one should listen to their inner voice and intuition, or even prioritize them, runs counter to the highly methodical, data-driven processes that manage our systems. However, in many cases, particularly front-line medicine, society depends on the intuition of experts to save and preserve lives. The arts, often neglected for commerce, also rely largely on intuition and feeling rather than logic and rationality. Many of life's important decisions, such as mate selection, also involve at least a measure of intuition. Thus, neglecting its formation and development, as industrialized versions of psychology often have, leaves human beings without meaningful access to a mental faculty that is perfectly capable of becoming highly accurate. This is an issue to which we shall return after exploring the upper limits of human development.

It ought to be second nature
I mean, the places where we live!
Let's talk about this sensibly
We're not insensitive
I know progress has no patience
But something's got to give

XIV. Carve Away The Stone

Human Lifespan Development

A common word that psychologists will encounter when discussing biological systems is *homeostasis*. A marriage of Greek and Latin roots, homeostasis refers to the tendency towards stability and equilibrium in biological systems, and especially refers to the various processes that keep our heart beating, our core temperature regulated, and so on.

Given that the human nervous system is a biological entity, it seems natural to apply the concept of homeostasis to the human brain, and human consciousness more generally. However, although it is indisputable that the brain consumes a great deal of caloric energy to remain stable as an organ, thus making it homeostatic, some psychologists have argued that consciousness is always growing and expanding. Among their number is Joan Erikson, who believed our duty is to refine our consciousness into an "ever-finer quality"[163], as well as Karl Friston, who observed that consciousness seems to violate the second law of thermodynamics through its resistance to entropic processes[164].

From the perspective of an average person, the idea that one's mind might change significantly over the lifespan is obvious and intuitive. However, the principle of homeostasis – the tendency towards equilibrium – suggests that the mind seeks equilibrium and stability. How might this tension be resolved?

First, it must be observed that human consciousness only seems to violate the laws of physics when viewed in isolation. Indeed, a core concept in physics is the idea of a "frame of reference", whereby physicists can exclude or include aspects of a system in their calculations. If we expand our perspective to include the brain and body, it becomes clear that human consciousness only exists as a result of many complicated bodily processes which consume vast amounts of energy. Furthermore, much of this energy is lost to heat, fulfilling the second law of thermodynamics quite nicely.

However, the fact remains that our consciousness seems to grow and expand across our lifetimes. From the perspective of information, the brain is always acquiring new data until the moment of death, which means that new gestalts are always being generated and selected by the mind. Referring to our definition of consciousness as "awareness of difference", it seems logical and reasonable to wonder if people become increasingly aware of subtle differences in their environment as they age, as well as contradictions between some of their gestalts.

In order to investigate the growth of consciousness across the human lifespan, it is important to review how psychologists have made sense of human growth so far. It is also key to identify what mental faculties are capable of changing, the conditions that drive that change, and what a "developed" consciousness might look like.

Intelligence and Personality

As the industrial revolution and its consequences rippled across the world, some psychologists became concerned with issues of human capability and performance. Among them was Alfred Binet, the inventor of intelligence testing, as well as the many personality psychologists whose efforts yielded the "Big Five" model of personality.

We shall begin with the concept of intelligence, which was formally introduced to psychology over a century ago by Alfred Binet. After being tasked with identifying schoolchildren who required extra help in completing their work, Binet and his colleagues developed testing protocols which measured things like attention, memory, and problem-solving skills. Today, intelligence testing seems largely based on pattern recognition problems, which highly intelligent people are able to complete faster and more quickly.

Because organizations like the United States military used an intelligence diagnostic extensively in the world wars, psychologists had rather large data sets to work from and discovered several interesting things about intelligence. First, they found that someone's level of intelligence created an upper bound on the types of work they were able to do – more intelligent people were consistently found to be engineers and accountants, while less intelligent people tended to work in more physical occupations[165]. Second, researchers found that intelligence is generally static. Although it is held that the aging process entails changes in one's level of intelligence, people are largely stuck with what they have[xxv].

Personality is similarly stable. Currently believed to crystallize sometime around the beginning of puberty, someone's tendencies towards extraversion, openness to experience, conscientiousness, agreeableness, and neuroticism remain the same across their lifespan, notwithstanding significant life events. Thus, when attempting to speak of the development consciousness, it seems clear that intelligence and personality are not variables likely to change significantly over the lifespan. We must look elsewhere.

Learning New Facts

Although it should be clear from our discussion so far that the acquisition of new information is a key component of human growth, this is not a sufficient precondition for the development of consciousness. As observed by scholars around the world, there exists a type of person who is capable of consuming and remembering many facts, but is incapable of relating one piece of information to another, and moreover is able to offer little in the way of analysis[166,167]. Also, recent developments in pedagogical theory have yielded the SOLO Taxonomy, which moves beyond Bloom's Taxonomy to provide a framework for helping students draw meaning from the information they acquire.

The phenomenon of the so-called "intellectual-yet-idiot" is rather prevalent in modern society, inundated with information as we are. It is also reflected in the psychological literature, as some consciousness researchers believe that consciousness is an emergent property of *ordered* information[168]. The situation awareness of experts, as previously discussed, is another example of how well-organized information can facilitate extraordinary performance. Thus, it would seem that we cannot simply look at the contents of someone's mind to determine how well-developed they are, even though this surely changes over time.

The Stages of Life

One of the first people to examine changes in the lifespan was Jean Piaget, the child psychologist who developed a four-stage model of intellectual development in childhood. By carefully observing how

[xxv] It should be noted that there are factors that seem to affect someone's intelligence over time. The late James Flynn, for example, found steady increases in measured intelligence throughout the late twentieth century which could be attributed to schooling and nutrition. However, these gains have evaporated in recent decades as the education system collapses into a postmodernist landfill. There is also fluid and crystallized intelligence.

children speak and act, Piaget found that children slowly acquire rational faculties up until the point of adolescence, where they are able to grasp logical operations. For example, young children tend to learn things through trial and error, and can struggle with things like logic puzzles or difficult questions. Especially young or immature children can have trouble differentiating between fantasy and reality. Older children, on the other hand, have developed mental faculties that allow them to solve problems logically, present coherent arguments in essays, and so on.

For a couple of decades after Piaget released his findings, it was generally assumed that growth ended after childhood. Although it was obvious that people could become more logical and erudite as an adult, it did not seem as though they gained any new faculties or abilities, instead merely refining what was already developed. However, the pioneering work of third force psychologists Erik and Joan Erikson extended the concept of growth into adulthood.

In a number of books that are still popular today, the Eriksons outlined nine stages of life that humans pass through, from infancy to old age. These stages were primarily differentiated from each other by the types of problems encountered at that stage of life, and each were characterized by a tension between two opposite values. For example, the primary challenge for an infant is to establish a sense of trust with their caregivers and the environment, whereas people in young adulthood spend a great deal of energy solidifying and clarifying their identities. In old age, as will be discussed shortly, people are faced with a battle between personal integrity and despair, where they are forced to account for their lives and decide if their efforts were worth it.

Although the Eriksons' work is highly insightful, it is more qualitative than quantitative – that is, there are no diagnostic protocol for evaluating which stage someone is in, or how successfully they have handled the challenges of previous stages. Thus, it is insufficient for purposes of tracking growth in consciousness beyond generalities and approximations.

Vertical Development

In the middle of the twentieth century, statistical and numerical methods were becoming more prevalent in psychology. Although the most famous implementations of these tools include intelligence and personality testing, an independent scholar named Jane Loevinger discovered that aspects of consciousness could indeed be measured.

Following a period of study under Erik Erikson and other luminaries, Loevinger began working with women to understand their experiences and problems more deeply. One of her findings, which was rather anomalous, was that mothers who scored high on tests of authoritarianism also turned out to be the most immature[xxvi]. These results, and others, caused Loevinger to suspect that there was a deeper psychological construct at play that was not being measured yet. Following years of work, her research team developed and released the Washington University Sentence Completion Test (WUSCT), an

[xxvi] An example of this would be mothers agreeing with the statement that "a parent should be a child's best friend", while simultaneously endorsing punitive behavior in the household. This is a contradiction: friends don't hit friends.

instrument designed to measure a unique form of human development which has since become known as "vertical development".

In essence, what Loevinger and her team found is that there ten different stages of psychological development that a person can occupy throughout their lives, which encompass different ways of making meaning from experience and relating to the self[169]. Moreover, Loevinger's team found that these stages could be observed from patterns in language use, giving rise to the open-ended WUSCT and its extensive scoring methodology[170].

People who occupy later stages of development, as might be expected, display more complex and nuanced meaning-making behavior. As opposed to earlier stages, which are characterized by conformity and simplistic thinking, people in later stages of development are able to contemplate paradoxes, build interdependent relationships more easily, and take increasingly sophisticated perspectives on themselves and others[xxvii]. In fact, it has been found that there is a minimum level of development required for some complex tasks, such as leading change in an organization[171].

These findings are tremendously significant for several reasons. First, Loevinger and her team uncovered deep relationships between how someone thinks and the language that they use. Specifically, they found that the *syntax and grammar* of someone's cognition is what matters in terms of development, not necessarily the content. Second, by tying their theoretical constructs to real-world performance, Loevinger's team implicitly demonstrated that growth across the lifespan is an important consideration for human life.

Upper Limits

Although a great deal of research has been done on the topic of vertical development, it is still unclear what the upper limits are for human growth. Researchers know that well-designed training programs can improve someone's level of development within a matter of months[172], but have not yet elucidated what optimal growth might look like or how fast it can occur.

There are a couple of clues that strongly indicate that humans are missing out on a great deal of their potential, however. It is not that uncommon for people in their twenties to score highly on versions of the WUSCT, and at least one rare individual has tested at the final stage before the age of thirty[xxviii]. Additionally, the original inspiration for this project comes from an intensive leadership development program at McMaster University, where it was found through extensive interviews that student performance in the program was tied to their level of vertical development and the syntax of their language when describing their problem-solving processes.

Sadly, this body of work has remained underappreciated by psychology-influenced practitioners, most notably educators. It is unlikely that most teachers and professors are aware of the concept of vertical development, and are even less knowledgeable about how to catalyze this type of growth in young

[xxvii] See Appendix A for information on each of the stages.
[xxviii] Based on correspondence with Susanne R. Cook-Greuter.

people. However, it is beginning to find purchase in corporate training through various products and solutions, suggesting increased interest from other spheres in the future.

IMPLICATIONS

From the works of Erikson, Piaget, Loevinger, Cook-Greuter, Friston, and others, it seems clear that the contents – and even structure – of our mind can change significantly across the lifespan. The fact that people still see themselves as largely static after reaching adulthood is of great concern, as there is no research in vertical development that indicates the average person is incapable of reaching later levels.

When reviewing aggregate results of the WUSCT when applied to the general population, it becomes obvious that the majority of people are operating below the level where they are able to consider paradoxes, reconcile contradictions, and develop "middle ways" between opposing viewpoints[173]. This underdevelopment, particularly in a postmodern and pluralistic global society, may be one of the underlying reasons for the unprecedented mental health challenges of the modern age. Indeed, Harvard scholar Robert Kegan has found that many of the things that society expects of people strains the patterns of meaning-making that most are familiar with, causing great stress and frustration[174].

Thus, any psychological paradigm that does not acknowledge, account for, or support vertical development is unlikely to lead to human well-being and health. Indeed, much like Maslow found "self-actualizers" to be superior perceivers and leaders, people who occupy later stages of vertical development seem, by the numbers, to be best-suited to tackle the many complex problems of the modern age. By developing people in this way, we can reduce suffering, find more productive ways to address political issues, and manage ourselves more effectively.

Carve away the stone
Carve away the stone
Make a graven image
With some features of your own

XV. Mission

Integrity of Self

From the previous chapters, we have learned that life is the propagation of genetic, epigenetic, behavioral, and symbolic information. We have learned that each human is a bundle of this information, which they can propagate through time by way of speech and action. We have defined consciousness as "awareness of difference", with the corollary that some are more conscious than others. Finally, we have also found that the syntax and grammar of people's thought, and therefore their language, becomes more sophisticated over time, perhaps even reflecting this increased consciousness.

One metaphor that could be used to describe these processes as they apply to human life is that of a pile of discombobulated notes and papers which slowly become organized into a book with a logical progression and coherent story. Much like Joan Erikson said, the human journey involves growth and clarification of self that manifests itself in expert performance, wisdom, and a strong sense of self that lasts until the point of death.

This theme was a key focus of Joan Erikson's later work, particularly as she entered old age herself. This final stage of life, characterized by a battle between integrity and despair, is the time where people take stock of themselves and their accomplishments. It is at this point in the life cycle that humans begin asking themselves if their efforts were "worth it", or if they lived "a good life". As previously discussed, Bronnie Ware discovered that many people die in relative despair, not with a sense of personal integrity and a measure of pride. This is unconscionable in a "civilized" society, and by dying people's own admission is a factor of the work-to-live culture engrained in the industrialized world.

The Good Life

From the psychological literature, one of the keys to living a life "true to oneself" is having a strong sense of purpose, or even an explicit mission. In addition to providing individuals with the foundation for a more fulfilling career, having identified a purpose for one's life is associated with increased life satisfaction[175].

However, the formation of personal missions, interests, and passions is an extremely complicated matter that is so unique to each person that it is effectively impossible to define general rules. In most cases, it seems like people acquire significant experiences during childhood which combine with their personality to form a unique set of proclivities and passions. This is true of people like Hans Christian Andersen, who suffered abuse as a child and later wrote *The Ugly Duckling*. However, defining moments can come later in life, such as Dr. Patch Adams' experience with depression and mental health institutions which inspired him to bring laughter into medicine.

Although the selection of a personal mission is an intensely subjective and personal affair, it seems clear that having a purpose and fulfilling that purpose to the best of one's ability is required for successful navigation of the final stage of life. Not having a mission, or slaving away to fulfill someone else's goals, leads to a feeling of despair in old age, not feelings of pride and integrity.

Who Are You?

To make matters worse, it is estimated that about two-thirds of North Americans do not have a written plan for their life[176]. Most are unhappy or unfulfilled in their careers[177]. Only one in six people keep a journal of their thoughts[178]. Combined with evidence from vertical development research that indicates a significant proportion of the population is conformist and externally-defined (see Appendix A), it would seem that modern psychological practitioners are facing a crisis of the self. Indeed, many people are underdeveloped and lack self-knowledge, causing them no end of difficulties in life.

Yet, we also know from the psychological literature that people are unique, that the formation of passions and career aspirations is a very complicated matter, and that people can develop along a continuum that allows them to be more effective and sophisticated versions of themselves. Thus, asking whether the average person actually knows themselves is not an unreasonable question.

As we found from our juxtaposition of psychology and industrialization, human beings have been forced to conform to the machine for hundreds of years. Far too many children are told that their only option is to pursue a career in engineering, law, accounting, or medicine, regardless of what their true passions might be. Therefore, it is arguable that people's very selves have been compromised as a result of these pressures, and that this has had intergenerational impacts that manifest in needlessly authoritative and goal-directed parenting practices[179],[180]. Furthermore, it seems as though this process of corruption clouds people's self-awareness for many decades, often going unaddressed until old age.

Integrity

In the dictionary, integrity is defined as "the quality of having strong principles" and "the state of being whole and undivided". In physics, the integrity of a signal is a factor of how flawlessly the information was conducted through the medium of communication, as well as any noise or corruption introduced during the transmission process. Combining these two concepts with our work on the self, we again see the "enacted self" as a kind of signal that is curated and nurtured across the lifetime. However, much like physical signals, the self is subject to corruption and noise. It can also be repaired, clarified, and strengthened.

The concept of integrity is understandably diminished in modern society, given how ruthlessly people are forced to conform to various systems. However, given what we have learned about end-of-life satisfaction, it seems extremely important to investigate this topic and understand how important integrity is to human life.

Think, for example, of a Japanese samurai who has brought dishonor on himself. As many know, it was relatively common practice for such warriors to commit suicide and die with a measure of honor. Although seppuku is an extreme example that could be dismissed as a cultural phenomenon, it is also interesting that warriors of all nations throughout history have generally preferred to face death rather than be branded a coward. This suggests that there is some kind of psychological need that is being fulfilled by these actions, which has yet to be fully comprehended by psychologists. It is to this need that we will now turn our attention.

The Most Fundamental Need

The most popular formulation of human needs is Abraham Maslow's hierarchy, a pyramid that places survival needs at the foundation and self-actualization at the top. Many have taken the hierarchy at face value and assumed that survival is the most important part of human life, which is logical enough based on our everyday experience.

However, it is not just soldiers and samurai who prefer death over dishonor. Self-immolation is an extreme protest tactic that has been used around the world, perhaps most famously by the Vietnamese monk Thích Quảng Đức. Businesspeople have killed themselves after significant failures or embarrassments, and the feelings of shame or guilt are closely linked with suicidal ideation. Clearly there is something else going on here.

Thus, it becomes necessary to revise Maslow's hierarchy to place "Integrity of Self" at the very foundation. Fundamentally, it seems as though people would rather die than live a life where they can't be themselves, or than bear the shame of dishonor, which indicates that this human need is even more important than survival.

We will define "Integrity of Self" in a few ways. First, it entails the freedom to think independently, more specifically the ability to select gestalts that seem most interesting, appropriate, or "true to oneself". Second, it entails the freedom to explore things that one finds anomalous or interesting. Third, it encompasses the freedom to grow according to one's own goals. Finally and most crucially, integrity of self requires freedom of expression, or more specifically the utmost respect for someone's enacted self.

With these four fundamental freedoms, individuals are empowered to live their own lives free from undue influence, and most importantly, they are free to be themselves – and therefore eventually grow into their fullest selves.

Wounding the Self

Given the profound importance placed on integrity of self, it is natural to wonder what kinds of things could compromise it. With reference to our pseudo-equation of a gestalt, we find that the variables of affect and salience color the information/memory pairs encompassed in the gestalt. Therefore, it would seem that violations of integrity must occur along the lines of salience, affect, and information.

The first violation of integrity that occurs, and perhaps the most prevalent in society today, is the issue of false information. Telling children that gender doesn't exist and male homosexuals are born that way, or providing half-truths about the matter like the American Psychological Association has done, causes real harm and encourages young people to construct a "true self" based on lies. As can be seen from the small-but-vocal population of recovered transgendered and homosexual people, which includes this author, it is possible to live a happy life without surgical alterations, pride parades, and surrogate children. Anything else is a destructive lie that hurts children, disrupts the family structure, and destabilizes society

The second way someone's integrity can be violated is if they are forced to make a decision, or to come to a conclusion, under duress. By using threats or violence to force high-salience gestalts into someone's

mind or to intensify the salience of desired gestalts, people's very thought processes can be corrupted. This is most often found in cults and abusive organizations, although it exists at a deleterious level within industrialized society as a whole.

Finally, trauma can be seen as a violation of integrity. From an information-centric perspective, trauma can be explained as recurring gestalts, or at least themes between gestalts, that carry significant negative affect. Such information cannot be resolved within the mind until it has been properly examined and contextualized with other information and life circumstances, creating significant psychological issues for the bearer that result in disorder, addiction, and violence.

Returning to Self-Actualization

When viewed from the perspectives that we have developed, we can see that the pinnacle of Maslow's hierarchy – self-actualization – can only be achieved if someone possess integrity of self. Simply surviving, having friends, and having a good career are not enough to achieve a deep sense of fulfillment and satisfaction, as is evidenced by the widespread malaise in Western society. Rather, it seems that having a purpose, striving towards that purpose, and accomplishing goals that are personally meaningful is the key to both happiness and the achievement of Eriksonian integrity in old age.

Indeed, if the enacted self is seen as a signal in its own right, much like DNA, then we can conclude that the development and propagation of an authentic and personally satisfying signal is extremely important in human life, a fact which has been buried under centuries of industrialization. Furthermore, as we will discover, this part of the self can even transcend death.

But What About Seppuku?

In the context of shame, guilt, dishonor, and suicide, it is important to note that within Maslow's hierarchy of needs, and indeed our current psychological paradigm, it makes absolutely no sense as to why someone would kill themselves. It is considered an aberration, an outcome of extreme pressures or mental health issues, and the best tools currently available – Dialectical Behavioral Therapy – are essentially weapons-grade coping skills[181].

Within our revised hierarchy (Appendix B), where integrity of self is at the very foundation and seen as more important than survival, extreme acts of repentance and shame can be seen for what they are – final attempts at regaining a sense of integrity, both personally and socially. This is precisely how they were seen in the original Japanese cultural context, reminding us that old ideas are not as irrelevant as they may seem.

Hold your fire
Keep it burning bright
Hold the flame
'Til the dream ignites
A spirit with a vision
Is a dream with a mission

XVI. The Garden

Eternality of Self and Legacy

The final pillar of Integrity Psychology lies in the domain of the afterlife. What happens after death has been a preoccupation of humanity since before time was measured, and even today a great deal of research resources are being spent on life extension and body preservation technologies. However, mainstream psychology has generally not been concerned with the organism after the end of its physical lifecycle, leaving it underequipped to deal with issues of legacy, eternality, and time itself.

We shall begin with what most people from my research have indicated is their primary form of legacy – their family[xxix]. Biologically, humans are generally driven to propagate their genes to the next generation, and this has manifested itself especially for mammals, with humans having the strongest parent-child bonds. Epigenetic inheritance, on the other hand, is partially an accident. Environmental pressures, either good or bad, can activate parts of genes which are then propagated to offspring. In an ideal world, people would be free to choose their own environmental pressures, thus having a measure of agency.

Behavioral information is somewhat unique, however, in that it transcends the body and can be propagated *en masse* to large populations. Even something as simple as Psy's *Gangnam Style* dance can spread like a virus, where it appears from time to time. More practical behavioral innovations, such as Dick Fosbury's invention of the backwards high jump, spread throughout expert communities quickly and enhance human performance. Although the names of innovators are sometimes lost to the sands of time, frustrating the human tendency towards ego, it could be a measure of comfort to some to know that the things they've done with their body become mainstays of human behavior around the world.

Finally, there is symbolic information. From the caves of Lascaux to the finest literature, the thoughts, emotions, and intuitions of artists have become immortalized in countless mediums. The gestalts that people select and nurture in their minds, and the resulting communication of those gestalts, has served to inspire, educate, and uplift the human race since time immemorial. More than anything else, the symbolic information we convey to others communicates who we really are and what we really think. This can be especially meaningful for future generations of one's family, as it gives them better understanding of their context and the history they have a right to.

Unfortunately for most of the population, only a select few people receive the education and inspiration necessary to properly express themselves. Given the vast resources being spent on the training of the next generation, and the reams of information that psychologists possess, it is incredibly disappointing that this is the case. Indeed, there is no reason that we should not be a planet of philosophers, scientists, artists, architects, farmers, and builders. We could have so much, yet in our race for material possessions and comfort, we have sacrificed a pearl of great price – our integrity – which we deeply undervalued at the time of trading.

The measure of a life is a measure of love and respect

[xxix] This comes from my preliminary inquiries into the subject, involving surveys of the general population.

Side 4: Return to Childhood

Some Implications for Research & Practice

XVII. Forty-Six & 2

Emergent Values in Psychology

Although a lot of the literature that has been cited is well-known, well-cited, and familiar to many psychologists, the perspective that we have taken on human life is radically different than much of what is considered psychology today. By seeing life as the propagation of information and considering what that might mean, we have opened up a new world in the mind that may serve to bring together competing schools of thought, like monism and dualism, as well as point towards undervalued research topics such as legacy and propagation of self.

There are a few key values which form the basis of Integrity Psychology, by which all research and practice can be measured. The first is, perhaps obviously, personal integrity. This applies in both a moral and informational sense, and a commitment to such a value would challenge researchers, practitioners, and patients to become their best.

The second value is expression. People who are not free to express themselves end up frustrated, suicidal, and sometimes murderous. This value, notably enshrined in the United States Constitution, has been a source of frustration and headaches for many in the country. However, even a cursory glance at the history of America shows the immense utility of this value applied on a large scale. There are many possibilities for applications at the individual level, including esoteric options like helping mental health patients express themselves through their clothing – often a source of struggle and shame for them.

Given its reference to human potential, and the stark realization that few humans are operating at higher levels of vertical development, Integrity Psychology is considerably harsher than the third-force values that are prevalent in much clinical practice today. Practitioners taking this edge may find themselves championing the client's best self, or challenging them gently when appropriate. By believing resolutely in the potential of humans to *grow*, Integrity Psychology stands as both a theoretical and ideological counterpart to the therapeutic and coddled society psychology has enabled us to become.

Finally, and perhaps oddly, Integrity Psychology stands for expertise and excellence. A corollary of human beings being able to grow is that they are able to grow in directions of their choice and become experts at their craft or calling. Again, there is no reason people could not be philosophers, artists, and creators to the best of their ability and resources. Some of the most memorable moments for many people include extraordinary performances by artists, as well as deep conversations. By advocating for the development of these mental faculties, Integrity Psychology seeks to ennoble and uplift the human race – starting with the individual.

I wanna feel the change consume me
Feel the outside turning in
I wanna feel the metamorphosis and
Cleansing I've endured in
My shadow

XVIII. MOTHER

IMPLICATIONS FOR CHILDHOOD

Many of the most significant corruptions of personal integrity happen during childhood, when children lack the tools and the communication ability to advocate for their needs. Even worse, circumstances and influences cause people to take unproductive or distorted views of childhood events – if they are remembered at all, as Freud and Breuer discovered.

Generally speaking, childhood is meant to be a time of exploration, play, fascination, and wonder. It is during these precious years that many people acquire their first passions, and perhaps even a sense of personal mission. Such things are deeply contextual and completely dependent on the information people are "given" throughout childhood, and it can be the work of a lifetime to resolve quandaries encountered during this time. Indeed, Einstein's famous theories of relativity sprung from daydreams and thought experiments he had as a young teenager, and many other brilliant innovations have their roots in childhood as well.

There are a number of underappreciated works regarding childhood that contain vast insight. The first of these is a shockingly unknown text named *Raise a Genius!*. Written by László Polgár, a Hungarian father of three daughters, it details a method for developing expertise rapidly in young children. Polgar studied intelligence in university, developed his methods, and then got married and had three daughters, all of whom became chess prodigies, and are considered the best, second-best, and sixth female chess players ever. All three sisters speak seven languages each.

Polgár's method, summarized by Scott Siskin, is "start [at age three], focus near-obsessively on a single subject, and never stop"[182]. Although this method seems extreme, his pedagogical philosophy was to form an intensive partnership with the child, time set aside for humor education and joke-telling, and to focus on a subject that the child finds enjoyable – like chess. From Polgár's book:

"Think how advantageous it would be if the child already understands at the age of 10 that they know a great deal, that they are a person of the same value as an adult, and that in their life there is at least one field they master as well or better than adults." [183]

A complementary philosophy on childrearing can be found from biologists Alison Gopnik and Erika Christakis. Gopnik uses the metaphor of a gardener to describe the optimal style of childrearing, as opposed to a carpenter-like mindset where an adult is painstakingly constructed out of raw materials. She emphasizes messiness and playfulness, and like Polgár, encourages parents to support their child's natural interests[184]. Christakis also emphasizes the importance of play, showing how the silliest of activities can be deeply instructive[185]. Other female biologists note that as children age into adolescents, even some of the risk-taking behavior they take can be beneficial for their development[186].

Maria Montessori, whose educational innovations have been immortalized in her eponymous Method, constructs classroom environments where children are free to choose from a variety of tasks to perform, as suits their preferences and mood. Providing a deeply interactive environment, especially during the

earliest years of childhood, has been shown to have clear benefits over mainstream methods that emphasize rote learning.

There are some common themes running through all of these approaches. The first of these is play, perhaps best rephrased in a developmental context as “free exploration in a supportive environment”. It is a shame that the majority of children see play as a rare luxury, rather than the standard mode of education. This suggests, at least in North America, a failure of imagination and pedagogical proficiency amongst the various school systems that must be rectified urgently.

Particularly as children become older and capable of more self-directed activity, they can be given challenges and projects that, when approached with a playful attitude[xxx], can be no different from play. We already see many teenagers retreating into a world of video games and fantasy, where they are actually solving complex social, technical, and artistic problems on their own terms, free from the pressures of an industrialized system that seeks to reduce them to their work output.

The second theme we should note is that challenge can be mixed with fun. Laszlo Polgár supported the growth of three of the world’s best female chess players, polyglots all. They do not consider themselves abused by their father, but rather were obsessive about chess and get great satisfaction out of the game. The key to unlocking this capacity for learning is to follow and support the natural interests of the child, ideally by providing them different kinds of challenges, each more difficult than the last, to provide them with both a hobby and a genuine set of accomplishments.

Finally, the teacher-to-student ratio in many of these approaches is low. In Polgár’s case, he educated his own children, and in many Montessori schools, there is considerably more teacher-student interaction than in state-run facilities. Children, above all, need adults to be interested in them intrinsically, and to help them become the best they can be.

Mother do you think they'll drop the bomb?
Mother do you think they'll like the song?
Mother do you think they'll try to break my balls?
Mother should I build a wall?

[xxx] Jesse Schell defines a game as “a problem-solving activity approached with a playful attitude”.

XIX. Lift Me Up

Implications for Therapeutic Relationships

The first and most urgent thing that all therapeutic practitioners must do is revise their understanding of human nature, which has been warped by corrupt activist-academics and politicking overseers in the Associations. Furthermore, the very important work done by scholars like Jane Loevinger, Susanne R. Cook-Greuter, and Robert Kegan still remain largely within academic circles, not yet filtered down to workplace trainings and educational settings. Of honorable mention is the unspoken fact that most people who experience trauma are either fine, or grow from the experience[187]. The net effect of these catastrophes has been a very pessimistic picture of the human condition, and of our potential more generally.

Although the helping class would like to think that they are being empowering through their work, the truth is it is impossible for them to do so without first properly understanding how far people can grow given the right conditions. The upper limits of growth are as of yet unknown, although we at least know how long it takes to effectively recover from many maladies such as psychosis. Within the value system of Integrity Psychology, the limits of human growth would be a top research priority requiring both academics and practitioners to collaborate and share data.

Generally, Integrity Psychology emphasizes therapeutic practice that helps people become more human, more uniquely themselves, as well as highly effective and capable. Although patients cannot be pushed too hard, the eager ones would benefit from adjacent courses of "study" to help them build skills and competencies that they may lack[xxxi]. This could include classic therapeutic tools such as DBT and CBT, or tasks related to developing social skills and a network. Helping people recover from breakdowns and come out stronger would be a great value-add, but also a redefinition of the therapeutic relationship.

Therapists, who deal with some of the most difficult topics daily, must become true champions of humanity if they are to be of maximum benefit. One recent example of such an approach is Jordan B. Peterson, a YouTube-popular psychologist whose "clean your room" approach resonates deeply with young men. Other people who play the champion role today include Marie Forleo, Jocko Willink, Oprah Winfrey, Tony Robbins, and David Goggins, all of whom challenge their audiences aggressively to great success and impact.

Ultimately, the therapeutic relationship needs to be a safe and healing place for the client. However, by adopting a slight edge when it is appropriate, therapists may be able to spur significant development within their clients. Whether this hypothesis is true will also require further study.

Lift me up and turn me over
Lead me on into the dawn
Take me to the highest mountain
Tie me up, love in a storm

[xxxi] I currently have a career exploration exercise that has received positive feedback from a therapist who field-tested it, and can develop custom materials for practitioners upon request.

XX. The Sphere a Kind of Dream

Concluding Thoughts

Among other things, our investigation has woven together several different interrelated fields, among them media ecology, information theory, neuroscience, expertise studies, evolutionary biology, metaphysics, cybernetics, linguistics, and countless branches of psychological inquiry. Indeed, it was impossible for us to gain a proper understanding of human life without the mountains of brilliant research done in these fields, most of which has occurred only within the last several decades.

It is somewhat ironic that we would never have discovered this incredible knowledge if it weren't for the affordances and technologies provided by the industrial machine. However, one must wonder if the proverbial juice was worth the squeeze on the species. Many of the values espoused by Integrity Psychology can be found in cultures around the world and are often discarded for more progressive and modern ideals at the earliest opportunity[188]. In some ways, this treatise is a proposal to return to the things that we truly value and allow our psychological field to reflect those priorities.

Additionally, by demonstrating that there are multiple grievous flaws in the foundations of the "psychological sciences", it is hoped that researchers and practitioners who read this treatise will be able to emancipate themselves from the flawed tropes of human nature currently on offer by the mainstream.

Although it is somewhat optimistic for an independent scholar to hope for, perhaps it is this work, and others like it, that will help unite the psychological sciences under a cohesive and life-affirming paradigm, or at least enough so to be able to provide optimal benefit for humanity. Indeed, as the developed world continues to groan under the weight of its own complexity, greed, and delusion, we require mastery over our minds more than ever.

We can walk our road together
If our goals are all the same
We can run alone and free
If we pursue a different aim

Let the truth of Love be lighted
Let the love of truth shine clear
Sensibility
Armed with sense and liberty
With the Heart and Mind united
In a single perfect sphere

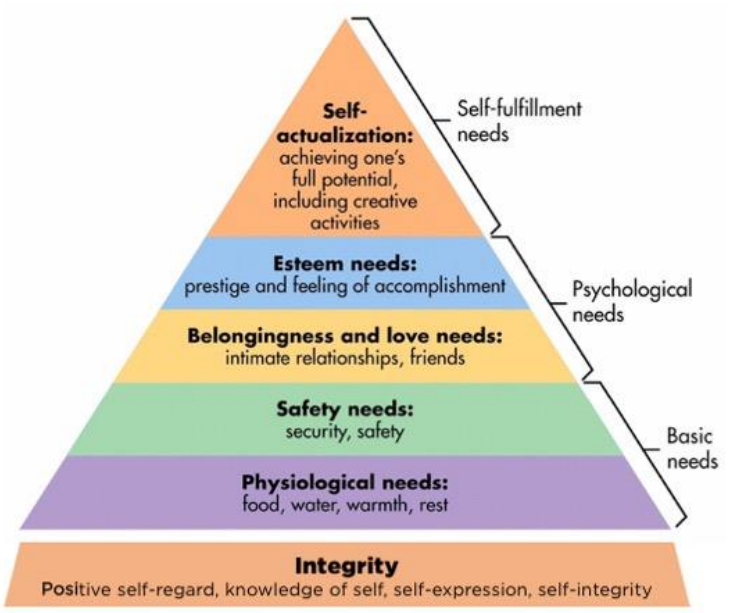
Liner Notes

APPENDIX A – STAGES OF VERTICAL DEVELOPMENT

Information from "Nine Levels Of Increasing Embrace In Ego Development: A Full-Spectrum Theory Of Vertical Growth And Meaning Making", Susanne R. Cook-Greuter (2013) & "Seven Transformations of Leadership", David Rooke, William R. Torbert (2005).

NAME OF STAGE	%AGE OF ADULT POP.	CHARACTERISTICS
SELF-PROTECTIVE	4.3%	- Gains at the expense of others, wins any way possible - Self-oriented, "might makes right" attitude - Relationships primarily based on power
CONFORMIST	11.3%	- Accepts traditions, inherited values, and orders from authority - Gains meaning from belonging to a group or "tribe" - Avoids and soothes group conflict
EXPERT	36.5%	- Differentiates self from group based on skill or talent - Prioritizes "doing things right" as defined by them, their data - Excellent individual contributor, causes friction on teams
ACHIEVER	29.7%	- Finds success within the system, achieves goals through teams - Can "step into a role" or "wear a hat" as situations demand - Often entrepreneurial, intrapreneurial, or leaders of some kind
INDIVIDUALIST	11.3%	- Questions one's own beliefs, assumptions, inherited values - Steps outside of convention to propose unique ideas - Can hold and appreciate multiple perspectives simultaneously
STRATEGIST	4.9%	- Breaks convention and standard procedure… strategically - Sees change as an iterative and emergent process - Minimum level required to reliably lead organizational change
ALCHEMIST	1.5%	- Able to reinvent and transform self and others - Finds a "third solution" to paradoxes and conflicts - Capable of leading societal change through visionary action
UNITIVE	0.5%	- Can appreciate the need for the ego while taking perspective on it - Taking part in the ongoing process of humanity

APPENDIX B – MASLOW'S HIERARCHY OF NEEDS (REVISED)



APPENDIX C – MASLOW'S BEING-VALUES

The following is a list of the values Abraham Maslow discovered are common between high-performing people, as well as people who have had peak experiences. Taken from "Religions, Values, and Peak Experiences" (1970) by A.H. Maslow.

1. **Truth:** Honesty, reality, simplicity, essentially, oughtness
2. **Goodness:** Rightness, desirability, oughtness, justice, benevolence, honesty
3. **Beauty:** Rightness, form, aliveness, richness, wholeness, uniqueness, honesty
4. **Wholeness:** Unity, integration, oneness, interconnectedness, organization, order
5. **Aliveness:** Process, dynamic, flowing, spontaneity, self-regulation, expression
6. **Uniqueness:** Idiosyncrasy, individuality, singularity, non-comparability
7. **Perfection:** Nothing excessive, nothing lacking, everything in its right place
8. **Completion:** Ending, finality, justice, fulfillment, self-sufficiency
9. **Justice:** Fairness, oughtness, suitability, necessity, inevitability
10. **Simplicity:** Honesty, nakedness, purity, succinctness, elegance, essentiality
11. **Richness:** Totality, differentiation, complexity, intricacy, nothing missing or hidden
12. **Effortlessness:** Ease, lack of strain or difficulty, everything left the way it is
13. **Playfulness:** Fun, joy, amusement, humor, exuberance
14. **Self-Sufficiency:** Autonomy, independence, self-determining, environment transcendence

REFERENCES

[1] Kuhn, T.S., "The Structure of Scientific Revolutions", University of Chicago Press (1962)

[2] Hergenhahn, B.R., "An Introduction to the History of Psychology – 4th ed.", Wadsworth Publishing Co. (2000)

[3] Wilson, E.O., "Consilience: The Unity of Knowledge", Vintage (1998)

[4] Clay, R.A., "Trends report: Psychology is more popular than ever", American Psychological Association (2017)

[5] Vadivelu, N., Kai, A.M., Kodumudi, V., Sramcik, J., Kaye, A.D., "The Opioid Crisis: a Comprehensive Overview", Current Pain and Headache Reports (2018)

[6] Dastagir, A.E., "More young people are dying by suicide, and experts aren't sure why", USA Today (2020)

[7] Sengupta, R., "Every day, 28 people dependent on farming die by suicide in India", DownToEarth (2021)

[8] Lamar, J., "Suicides in Japan reach a record high", British Medical Journal (2000)

[9] "Mental Health By the Numbers", National Alliance on Mental Health (2022)

[10] Twenge, J.M., Cooper, A.B., Joiner, T.E., Duffy, M.E., Binau, S.G., "Age, Period, and Cohort Trends in Mood Disorder Indicators and Suicide Related Outcomes in a Nationally Representative Dataset, 2005–2017", Journal of Abnormal Psychology (2019)

[11] Twenge, J.M., "Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time", Clinical Psychological Science (2017)

[12] Macmillan, M., "Restoring Phineas Gage: A 150th Retrospective", Journal of the History of the Neurosciences (2000)

[13] Spitzer, R.L., "Homosexuality and Sexual Orientation Disturbance: Proposed Change in DSM-II", American Psychological Association (1973)

[14] Henrich, J., Heine, S.J., Norenzayan, A., "The weirdest people in the world?", Behavioral and Brain Sciences (2010)

[15] Alone, "Narcissism", Forensic Trends: Psychiatric & Behavioral Issues Training Course (2008)

[16] Brookes, J., "The effect of overt and covert narcissism on self-esteem and self-efficacy beyond self-esteem", Personality and Individual Differences (2015)

[17] "The Shamanic View of 'Mental Illness': Birth of a Healer", Mad in America (2019)

[18] Russel, D., "How a West African shaman helped my schizophrenic son in a way Western medicine couldn't", Washington Post (2015)

[19] Shakman, R., "Indigenous Healing of Mental Illness in the Philippines", International Journal of Social Psychiatry (1969)

[20] Skovholt, T.M., Hanson, M., Jennings, L., Grier, T., "A Brief History of Expertise", from *Master Therapists 10e*, Oxford University Press (2016)

[21] Erikson, E.H., Erikson, J.M., "The Life Cycle: Completed – Expanded Edition", W.W. Norton & Company (1998)

[22] Loevinger, J., "Recent Research on Ego Development" (1973)

[23] Torbert, W.R., Fisher, D., Rooke, D., "Action Inquiry: The Secret of Timely and Transforming Leadership", Berrett-Koehler Publishers (2004)

[24] Petrie, N., "The How-To of Vertical Leadership Development", Center for Creative Leadership (2015)

[25] Browning, C.R., "Ordinary Men: Reserve Police Battalion 101 and the Final Solution in Poland", Harper Perennial (1992)

[26] Peterson, J.B., "Maps of Meaning: The Architecture of Belief", Routledge (1999)

[27] Mallett, J.D., Schroeder, J.L., "Academic Achievement Outcomes: A Comparison of Montessori and Non-Montessori Public Elementary School Students", Journal of Elementary Education (2015)

[28] Montessori, M., "The Montessori Method", Schocken Books (1964)

[29] Daniels, S., Piechowski, M., "Living with Intensity: Understanding the Sensitivity, Excitability, and Emotional Development of Gifted Children, Adolescents, and Adults", Great Potential Press (2009)

[30] Cloutier, S., Panksepp, J., Newberry, R.C., "Playful handling by caretakers reduces fear of humans in the laboratory rat", Applied Animal Behaviour Science (2012)

[31] McLuhan, M., "Understanding Media: The Extensions of Man", McGraw-Hill (1964)

[32] Covach, J., "What's That Sound? An Introduction to Rock and its History", W.W. Norton & Company (2006)

[33] Crider, D,, "'Great Sounds and Wonderfulness': KMPX and the Birth of Freeform Radio", Journal of Radio & Audio Media (2020)

[34] Maslow, A.H., "The Farther Reaches of Human Nature", The Viking Press (1971)

[35] Maslow, A.H., "The Farther Reaches of Human Nature", The Viking Press (1971)

[36] Erikson, E.H., "Childhood and Society", W.W Norton & Company (1950)

[37] Blum, L.A., "Gilligan and Kohlberg: Implications for Moral Theory", from *Ethics* (1988)

[38] Loevinger, J., "Recent Research on Ego Development" (1973)

[39] Schwartz, R.C., "Internal Family Systems Therapy", Guilford Publications (1995)

[40] Rogers, C.L., "The Necessary and Sufficient Conditions of Therapeutic Personality Change", Journal of Consulting Psychology (1957)

[41] Winnicott, D.W., "Ego Distortion in terms of True and False Self" (1960)

[42] McAdams, D.P., "The Stories We Live By: Personal Myths and the Making of the Self", Guilford Press (1997)

[43] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[44] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[45] Varela, F.J., Thompson, E., Rosch, E., "The Embodied Mind: Cognitive Science and Human Experience – Revised Edition", MIT Press (2016)

[46] Lakoff, G., Johnson, M, "Metaphors We Live By", The University of Chicago Press (1980)

[47] Jaynes, J., "The Origin of Consciousness in the Breakdown of the Bicameral Mind", Mariner Books (1977)

[48] Chomsky, N., "Syntactic Structures", Mouton & Co. (1957)

[49] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[50] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[51] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[52] Strong, Z.R.J., "Industrial Society and Its Future: A Reexamination" (2022)

[53] Scott, J.C., "Seeing Like A State: How Certain Schemes to Improve the Human Condition Have Failed", Yale University Press (1998)

[54] Wohlleben, P., "The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries from A Secret World", Greystone Books (2016)

[55] Harter, J., "U.S. Employee Engagement Holds Steady in First Half of 2021", Gallup (2021)

[56] Gagné, M., Bhave, D., "Autonomy in the Workplace: An Essential Ingredient to Employee Engagement and Well-Being in Every Culture", Human Autonomy in Cross-Cultural Context: Perspectives on the Psychology of Agency, Freedom, and Well-Being (2011)

[57] Slemp, G.R., Kern, M.L., Vella-Broderick, D.A., "Workplace Well-Being: The Role of Job Crafting and Autonomy Support", Psychology of Well-Being (2015)

[58] Strong, Z.R.J., "Industrial Society and Its Future: A Reexamination" (2022)

[59] Li, N., "An Inquiry Into the Evolution of German Compulsory Education Law" (2020)

[60] Watters, A., "The Invented History of 'The Factory Model of Education'", Medium (2015)

[61] Stowe, C.E., “The Prussian System of Public Instruction and its Applicability to the United States”, Truman and Smith (1836)

[62] Zinkina, J., Korotayev, A., Andreev, A., “Mass Primary Education in the Nineteenth Century”, Globalistics and Globalization Studies (2016)

[63] Dorn, S., “Being careless with education history” (2011)

[64] Johnson, U., “How Special Ed Destroys Black Children”, YouTube (2016)

[65] “Home alone: More persons living solo than ever before, but roomies the fastest growing household type”, Statistics Canada (2022)

[66] Zhang, S., Garner, R., Heidinger, L., Findlay, L., “Parents’ use of child care services and differences in use by mothers’ employment status”, Statistics Canada (2021)

[67] Webster, P., “COVID-19 highlights Canada's care home crisis”, The Lancet (2021)

[68] Xu, G., Strathearn, L., Liu, B., Yang, B., Bao, W., “Twenty-Year Trends in Diagnosed Attention-Deficit/Hyperactivity Disorder Among US Children and Adolescents, 1997-2016”, (2018)

[69] Bhandari, S., “ADHD in Children: When a Teacher Recognizes ADHD Symptoms”, WebMD (2021)

[70] “Overdiagnosis of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents”, (2021)

[71] “A new paradigm for the prediction of antidepressant treatment response”, Dialogues in Clinical Neuroscience (2009)

[72] Ang, B., Horowitz, M., Moncrieff, J., “Is the chemical imbalance an ‘urban legend’? An exploration of the status of the serotonin theory of depression in the scientific literature”, SSM – Mental Health (2022)

[73] Molero, Y., Lichtenstein, P., Zetterqvist, J., Gumpert, C.H., Fazel, S., “Selective Serotonin Reuptake Inhibitors and Violent Crime: A Cohort Study”, PLOS Medicine (2015)

[74] Maxwell, S.E., Lau, M.Y., Howard, G.S., “Is Psychology Suffering From a Replication Crisis?”, American Psychologist (2015)

[75] Blum, B., “The Lifespan of a Lie”, Medium (2018)

[76] Singal, J.,” The Creators of the Implicit Association Test Should Get Their Story Straight”, New York Magazine (2017)

[77] “'Power poses' don't work, eleven new studies suggest”, Michigan State University release (2017)

[78] Head, M.L., Holman, L., Lanfear, R., Kahn, A.T., Jennions, M.D., “The Extent and Consequences of P-Hacking in Science”, PLOS Biology (2015)

[79] “Leading U.S. Psychologists Secretly Aided CIA Torture Program”, National Public Radio (2015)

[80] Tyrer, P., “Robert Spitzer's legacy: agreement is halfway to truth”, BJPsych Bulletin (2018)

[81] Johnstone, L. & Boyle, M., “The Power Threat Meaning Framework”, The British Psychological Society (2018)

[82] Germanotta, S.J.A., “Born This Way”, Interscope (2011)

[83] Kaiser, J., “Genetics may explain up to 25% of same-sex behavior, giant analysis reveals”, Science (2019)

[84] Jockin, V., McGue, M., Lykken, D.T., “Personality and divorce: A genetic analysis”, Journal of Personality and Social Psychology (1996)

[85] Kerner, B., “Genetics of bipolar disorder”, Applied Clinical Genetics (2014)

[86] Mayer, L.S., McHugh, P.R., “Sexuality and Gender: Findings from the Biological, Psychological, and Social Sciences”, The New Atlantis (2016)

[87] Roberts, A.L., Glymour, M.M., Koenen, K.C., “Does Maltreatment in Childhood Affect Sexual Orientation

in Adulthood?”, Archives of Sexual Behavior (2012)

[88] Wilson, H.W., Widom, C.S., "Does Physical Abuse, Sexual Abuse, or Neglect in Childhood Increase the Likelihood of Same-sex Sexual Relationships and Cohabitation? A Prospective 30-year Follow-up", Archives of Sexual Behavior (2008)

[89] Bieber, I., Bieber, T.B., "Male Homosexuality", Canadian Journal of Psychiatry (1979)

[90] Seutter, R.A., Rovers, M., "Emotionally Absent Fathers: Furthering the Understanding of Homosexuality", Journal of Psychology and Theology (2004)

[91] Frisch, M., Hviid, A., "Childhood Family Correlates of Heterosexual and Homosexual Marriages: A National Cohort Study of Two Million Danes", Archives of Sexual Behavior (2005)

[92] Whitehead, N.E., "Homosexuality and Co-Morbidities Research and Therapeutic Implications", Journal of Human Sexuality (2010)

[93] Whitehead, N.E., "Homosexuality and Co-Morbidities Research and Therapeutic Implications", Journal of Human Sexuality (2010)

[94] Hoff, C.C., Chakravarty, D., Beougher, S.C., Neilands, T.B., Darbes, L.A., "Relationship Characteristics Associated with Sexual Risk Behavior Among MSM in Committed Relationships", AIDS Patient Care and STDs (2012)

[95] May, P.G., "Marriage (Same Sex Couples) Bill and Public Health", Parliament UK (2012)

[96] Waldner-Haugrud, L.K., Gratch, L.V., Magruder, B. "Victimization and perpetration rates of violence in gay and lesbian relationships: Gender issues explored", Violence and Victims (1997)

[97] O'Keefe, K., "How religious organizations use conversion therapy to try to make LGBTQ people straight", CTV News (2020)

[98] APA Task Force, "Appropriate Therapeutic Responses to Sexual Orientation", American Psychological Association (2009)

[99] Nicolosi, J., "APA Task Force Report -- a Mockery of Science", National Association for Research & Therapy of Homosexuality (2009)

[100] Bieber, I., Bieber, T.B., "Male Homosexuality", Canadian Journal of Psychiatry (1979)

[101] Stanus, W.E., "The Lived Experience of Men in Reparative Therapy" (2013)

[102] Nicolosi, J., Byrd, D.A., "Retrospective Self-Reports of Changes in Homosexual Orientation: A Consumer Survey of Conversion Therapy Clients", Psychological Reports (2000)

[103] Spitzer, R.L., "Can some gay men and lesbians change their sexual orientation? 200 participants reporting a change from homosexual to heterosexual orientation", Archives of Sexual Behavior (2003)

[104] Spitzer, R.L., "Spitzer Reassesses His 2003 Study of Reparative Therapy of Homosexuality", Archives of Sexual Behavior (2012)

[105] Bayer, R., "Homosexuality and American Psychiatry: The Politics of Diagnosis", Princeton University Press (1987)

[106] Bieber, I., Spitzer, R.L., "The A.P.A. Ruling on Homosexuality", The New York Times (1973)

[107] Milar, K.S., "The myth buster", American Psychological Association (2011)

[108] Spiegel, A., "The Dictionary of Disorder", New Yorker (2004)

[109] Ennis, D., "Largest Survey Of Transgender And Nonbinary Youth Says More Than Half Seriously Considered Suicide", Forbes (2020)

[110] Anders, C., "A trans woman reportedly undressed in a spa. Customers said they were 'traumatized,' and a protest ensued.", Washington Post (2021)

[111] Larsen, K., "Estheticians don't have to wax male genitalia against their will, B.C. tribunal rules", CBC News (2019)

[112] Crispin, G., “Transgender fighter who once broke opponent’s skull plays down ‘trans women have advantage’ claims”, MediaReferee (2022)

[113] Kay, B., “Without exemptions to protect women in prison, gender identity laws are unconstitutional”, National Post (2021)

[114] Chalmers, V., “Kids in this country can ‘explore gender’ in school without parental consent”, The Sun (2021)

[115] Dawson, T., “B.C. father arrested, held in jail for repeatedly violating court orders over child's gender transition therapy”, National Post (2021)

[116] Turban, J., “It’s okay to let your transgender kid transition — even if they might change their mind in the future”, Vox (2018)

[117] Doe, J., “Misgendered transgender person gets furious in a GameStop shop”, YouTube (2018)

[118] Ristori, J., Cocchetti, C., Romani, A., Mazzoli, F., Vignozzi, L., Maggi, M., Fisher, A.D., “Brain Sex Differences Related to Gender Identity Development: Genes or Hormones?”, International Journal of Molecular Sciences (2020)

[119] Votinov, M., Goerlich, K.S., Puiu, A.A., Smith, E., Nickl-Jockschat, T., Derntl, B., Habel, U., “Brain structure changes associated with sexual orientation”, Scientific Reports (2021)

[120] Soh, D., “The End of Gender: Debunking the Myths About Sex and Identity in Our Society”, Threshold Editions (2020)

[121] Lockwood, S., “'Hundreds' of young trans people seeking help to return to original sex”, Sky News (2019)

[122] Holt, A., “NHS gender clinic 'should have challenged me more' over transition”, BBC News (2020)

[123] Vandenbussche, E., “Detransition-Related Needs and Support: A CrossSectional Online Survey”, Journal of Homosexuality (2021)

[124] Gill-Peterson, J., “Transgender Childhood Is Not a Trend”, The New York Times (2021)

[125] Soh, D., “The End of Gender: Debunking the Myths About Sex and Identity in Our Society”, Threshold Editions (2020)

[126] Shrier, A., “When the State Comes for Your Kids”, City Journal (2021)

[127] Blackwell, T., “'No dissent is allowed': School board bars teacher from raising concerns over transgender books”, National Post (2022)

[128] Pletser, V., “Does the Ishango Bone Indicate Knowledge of the Base 12?”, European Space Research and Technology Centre (2012)

[129] Martinón-Torres, M., “Earliest known human burial in Africa”, Nature (2021)

[130] OpenStax, “College Physics”, LibreTexts (2022)

[131] Heying, H.E., “Antipode: Seasons with the Extraordinary Wildlife and Culture of Madagascar”, St. Martin’s Press (2002)

[132] Shannon, C.E., Weaver, W., “The Mathematical Theory of Communication”, The University of Illinois Press (1964)

[133] McLuhan, M., McLuhan, E., “Laws of Media: The New Science”, University of Toronto Press (1992)

[134] van der Kolk, B., “The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma”, Penguin (2015)

[135] Blackmore, S., Troscianko, E.T., “Consciousness: An Introduction – 3rd ed.”, Routledge (2018)

[136] Chalmers, D.J., “Facing Up to the Problem of Consciousness”, Journal of Consciousness Studies (1995)

[137] Albahari, M., “Perennial Idealism: A Mystical Solution to the Mind-Body Problem”, Philosophers’ Imprint (2019)

[138] Dawkins, R., “The Selfish Gene”, Oxford University Press (1976)

[139] Dawkins, R. “The Extended Phenotype”, Oxford University Press (1982)

[140] Kellermann, N.P., "Epigenetic transmission of Holocaust trauma: can nightmares be inherited?", Israel Journal of Psychiatry and Related Sciences (2013)

[141] Kirchhoff, M.D., Kiverstein, J., "How to determine the boundaries of the mind: a Markov blanket proposal", Synthese (2019)

[142] Descartes, R., "Discourse on the Method" (1637)

[143] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[144] Sokolov, E.N., "The modeling properties of the nervous system" (1969)

[145] Peterson, J.B., "Maps of Meaning: The Architecture of Belief", Routledge (1999)

[146] Sokolov, E.N., "The modeling properties of the nervous system" (1969)

[147] Johnson-Laird, P.N., "The history of mental models"(2004)

[148] Peterson, J.B., "Maps of Meaning: The Architecture of Belief", Routledge (1999)

[149] Friston, K., "The free-energy principle: a unified brain theory?", Nature Reviews – Neuroscience (2010)

[150] Langer, E.J., "Mindfulness", Hachette Book Group (1989)

[151] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[152] Solms, M., Friston, K., "How and why consciousness arises: some considerations from physics and physiology", Journal of Consciousness Studies (2018)

[153] Peterson, J.B., "Maps of Meaning: The Architecture of Belief", Routledge (1999)

[154] McCrea, S.M., "Intuition, insight, and the right hemisphere: Emergence of higher sociocognitive functions", Psychology Research and Behavior Management (2010)

[155] Bililać, M., Campitelli, G., "Studies of the Activation and Structural Changes of the Brain Associated with Expertise", Cambridge Handbook of Expertise and Expert Performance – 2nd Edition (2018)

[156] Strong, Z.R.J., "The Bicameral Expert" (2021)

[157] Endsley, M.R., "Design and evaluation for situation awareness enhancement", Proceedings of the Human Factors Society 32nd Annual Meeting (1988)

[158] Endsley, M.R., "Expertise and Situation Awareness", Cambridge Handbook of Expertise and Expert Performance (2018)

[159] Intuition, insight, and the right hemisphere: Emergence of higher sociocognitive functions (Simon M McCrea)

[160] Peterson, J.B., "Maps of Meaning: The Architecture of Belief", Routledge (1999)

[161] Jaynes, J., "The Origin of Consciousness in the Breakdown of the Bicameral Mind", Mariner Books (1977)

[162] Heery, M.W., "Inner Voice Experiences: A Exploratory Study of Thirty Cases", The Journal of Transpersonal Psychology (1989)

[163] Erikson, E.H., Erikson, J.M., "The Life Cycle: Completed – Expanded Edition", W.W. Norton & Company (1998)

[164] Friston, K., "The free-energy principle: a unified brain theory?", Nature Reviews – Neuroscience (2010)

[165] Hauser, R.M., "Meritocracy, cognitive ability, and the sources of occupational success", Center for Demography and Ecology, The University of Wisconsin-Madison (2002)

[166] Newman, J.H., "The Idea of a University" (1852)

[167] Taleb, N.N., "Antifragile: Things That Gain from Disorder", Random House (2012)

[168] Blackmore, S., Troscianko, E.T., "Consciousness: An Introduction – 3rd ed.", Routledge (2018)

[169] Cook-Greuter, S.R., "Postautonomous ego development: A study of its nature and measurement", Integral Publishers (1999)

[170] Hy, L.X., Loevinger, J., "Measuring Ego Development – 2nd ed.", Routledge (1996)

[171] Torbert, W.R., Fisher, D., Rooke, D., "Action Inquiry: The Secret of Timely and Transforming Leadership", Berrett-Koehler Publishers (2004)

[172] Manners, J., Durkin, K., Nesdale, A., "Promoting Advanced Ego Development Among Adults", Journal of Adult Development (2004)

[173] Strong, Z.R.J., "Scaffolds and Sophistry" (2021)

[174] Kegan, R., "In Over Our Heads: The Mental Demands of Modern Life", Harvard University Press (1994)

[175] Bronk, K.C., Hill, P.L., Lapsley, D.K., Talib, T.L., Finch, H., "Purpose, hope, and life satisfaction in three age groups", The Journal of Positive Psychology (2009)

[176] Weinstein, L., "Survey Finds Two-Thirds of Americans Do Not Have a Plan for Their Life", DHM Research (2017)

[177] Harter, J., "U.S. Employee Engagement Holds Steady in First Half of 2021", Gallup (2021)

[178] Feldman, D.B., "The Power of Journaling", Psychology Today (2020)

[179] Gopnik, A, "The Gardener and the Carpenter: What the New Science of Child Development Tells Us About the Relationship Between Parents and Children", Farrar, Strauss and Giroux (2016)

[180] Miller, A., "The Drama of the Gifted Child", Basic Books (1979)

[181] Linehan, M.M., "DBT Skills Training Manual", Guilford Press (2014)

[182] Siskind, S., "Book Review: Raise a Genius!", SlateStarCodex (2017)

[183] Polgár, L., "Raise a Genius!" (1970)

[184] Gopnik, A, "The Gardener and the Carpenter: What the New Science of Child Development Tells Us About the Relationship Between Parents and Children", Farrar, Strauss and Giroux (2016)

[185] Christakis, E., "The Importance of Being Little: What Young Children Really Need From Grownups", Penguin Books (2017)

[186] Heying, H.E., "Antipode: Seasons with the Extraordinary Wildlife and Culture of Madagascar", St. Martin's Press (2002)

[187] Tedeschi, R.G., Calhoun, L.G., "Posttraumatic Growth: Conceptual Foundations and Empirical Evidence", Psychological Inquiry (2004)

[188] Plotkin, M.J., "Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest", Penguin Books (1993)