

Chapter 6

**The Behavioral Shutdown Model:
A Consilient Biopsychosocial View of
Depression**

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ABSTRACT

The current chapter describes the Behavioral Shutdown Model – a new framework for understanding depression that moves past disputes about whether it is a disease, effectively aligning biological, psychological, and sociological perspectives. It begins with an examination of the major disputes regarding the construct of mental disorders in general and depression in particular. The origin of these disputes stems from the fundamentally fragmented nature of the field of psychology, as well as the many social and policy implications of considering depression as a disease or not. A new general framework for solving the problem of psychology has been developed (Henriques 2011), which provides a more effective way to conceptualize the physical, biological, psychological, and social dimensions of behavioral complexity. This “unified theory” sets the stage for the idea that depression describes individuals in a state of mental behavioral shutdown. When framed this way, a new understanding emerges that can assimilate and integrate empirical findings about depression from biology, neuroscience, psychology, and the social sciences, while providing a workable description of the phenomena for the public.

Keywords: depression, biopsychosocial, unified theory, conceptual framework, Tree of Knowledge System

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INTRODUCTION

The well-known business investor George Soros' first love was philosophy. He trained under Karl Popper and developed a perspective on a key philosophical problem that lies at the heart of this paper. Soros (2009) called his approach the "philosophy of reflexivity," which he argued consisted of the two core principles of fallibility and reflexivity. He described these principles as follows:

I can state the core idea in two relatively simple propositions. One is that in situations that have thinking participants, the participants' view of the world is always partial and distorted. That is the principle of fallibility. The other is that these distorted views can influence the situation to which they relate because false views lead to inappropriate actions. That is the principle of reflexivity. For instance, treating drug addicts as criminals creates criminal behavior. It misconstrues the problem and interferes with the proper treatment of addicts.

The sociologist Anthony Giddens (1987) offered a parallel analysis regarding the complex relationship between human knowers and their claims regarding knowledge. Instead of reflexivity, Giddens called it "the problem of the double hermeneutic." A hermeneutic refers to a method or system of interpretation. In psychology and the social sciences, hermeneutics refer to the ways in which people develop systems of meaning and justification that allow them to make sense out of the world. Giddens noted that physics, chemistry, biology, and other natural (i.e., nonhuman) science disciplines are *single* hermeneutic disciplines in that scientists must develop shared systems of thought about the appropriate way to describe the natural phenomena in question. He noted these scientists generally can be safe in their assumption that the discourse about the objects per se will do little to change the phenomena under investigation.

The situation changes, however, when the observed consists of a concept-using being whose very conceptions of their actions enter into the actions themselves. According to Giddens (1987: 19), "The concepts and theories invented by social scientists circulate in and out of the social world they are coined to analyze." In effect, the justifications generated by human scientists to explain some human behavioral phenomenon are digested by people with genuine causal consequences. Thus, a fundamental difference between the human sciences and the natural sciences is that the former confronts a "double hermeneutic," or the problem that

theories of human behavior (including theories of mental disorder) interact with existing public justification systems and result in changes in how people behave. This crucial insight allows us to understand much about the concept of depression.

We argue that Soros' analysis of reflexivity and Giddens' double hermeneutic apply powerfully to the concept of depression. Central to the concept of depression is the debate as to whether the concept is conceptualized as a disease *or* as a normal reaction to serious difficulty or losses. Much is at stake because of the implications that follow from this conception. In the next section, we show that mental health professionals are fragmented and confused regarding the nature of mental disorders in general and depression in particular. The focus then shifts to explain the reason for the confusion.

In addition to the fact that there are significant social implications for conceptualizing depression as a disease as opposed to a normal reaction, it is also the case that there is much confusion in general regarding how to talk about psychological constructs. According to the framework adopted here, there exists a pervasive "problem of psychology" (Henriques 2011), which refers to the fact that the field of psychology has been lacking a conceptual framework for its central concepts. A consequence of this failure is that crucial concepts such as behavior, mind, consciousness, and persons (versus animals) have lacked clear definitions. In a related vein, the current public understanding of depression is anchored to an overly simplistic mind-body dualism. This results in depression being framed as either a "disease of the brain" located in neurological malfunctioning processes or as a "non-biological" phenomenon located in an individual's character, learning history, choices, or other social factors, such as losses, rejections, and abuse.

To understand the true nature of depression, we need to escape this unworkable dualism and operate from a more effective conceptual map. To help achieve that end, Henriques (2011) laid out a "unified theory of psychology" (UT). Central to the unified theory worldview is the Tree of Knowledge (ToK) System. The ToK offers a new framework for understanding four different dimensions of behavioral complexity: 1) physical-material; 2) biological-organic; 3) psychological-mental; and 4) social-cultural dimensions. These dimensions correspond, respectively, to the behavior of objects in general, organisms, animals, and people.

Because it is grounded in the ToK System, the UT offers psychologists a new way to define the field's subject matter as "mental behavior" (as opposed to the dualistic "mind and behavior" definition often used). The approach carries significant implications for many psychological constructs, such as depression. According to the UT, depression should be, first and foremost, a term used to *describe a state of mental behavioral shutdown*. This is called "the Behavioral Shutdown Model" (BSM) of depression (Henriques 2011).

The essence of the BSM suggests that depression is characterized by a fundamental shift in psychological activity toward the negative-avoidance, motivational-emotional system and away from the positive-approach motivational system. That such shifts happen stems from the basic functional architecture of the nervous system, which has evolved as an investment value system that works to “spend” actions in return for changes in the animal-environment relationship. It follows from the BSM that behavioral shutdown could stem from many potential causes, such as neurophysiological malfunctions, maladaptive psychological patterns, or major environmental stressors. Thus, an important aspect of the BSM is that it eliminates the necessity to frame the question in terms of whether or not depression is a disease or a normal psychological reaction. As we will see, such a question lies at the heart of the confusion that exists in the field regarding the nature and etiology of mental disorders in general and depression in particular.

DEFINING MENTAL DISORDERS AND DEPRESSION

Disputes about the Definition of Mental Disorder

Although the nature of what constitutes a mental disorder has been the focus of intense debate, consistent with Henriques’ (2011) claims about the problem of psychology, the concept remains highly disputed with almost no consensus. This can be seen clearly in the forum organized by the psychiatrists James Phillips and Allen Frances, who invited 23 scholars from a broad range of disciplines to respond to the question “What is a mental disorder?” (Phillips et al. 2012: 24). Frances’ opening summary captures the essence of the discussion:

When it comes to defining the term ‘mental disorder’ or figuring out which conditions qualify, we enter Humpty’s world of shifting, ambiguous, and idiosyncratic word usages. This is a fundamental weakness of the whole field of mental health.

Frances argued with a touch of sarcasm that mental disorders are “*what clinicians treat and researchers research and educators teach and insurance companies pay for*.” In effect, this is historically how the individual mental disorders made their way into the system” (Phillips et al. 2012: 24). Frances’ simplistic definition is not intellectually satisfying and has problematic implications. For example, by Frances’ definition, if we deemed red hair to be a problem and treated

people for the distress of having red hair, then being a redhead would be defined a mental disorder.

In addition to Frances' tautological definition, at least three other broad, distinct positions can be delineated in the professional mental health literature. One such position is the social construction and deviant control view. Although many angles can be taken from this perspective, perhaps the most famous and ardent advocate has been Thomas Szasz, who claimed that mental illness was a "myth" that was fundamentally about social control of deviants (Phillips et al. 2012: 13). According to Szasz (1974), there are no lesions or malfunctions in biology in dealing with mental illness. Rather, such illnesses represent experiences of distress that stem from social conflict and deviance. Mental health professionals serve as "secular priests" who, under the guise of science, make judgments about good and bad behavior. Other scholars, especially from sociological and anthropological perspectives, emphasize the enormous influence of culture on what is perceived as pathological, how it is understood, and how it is expressed. We can label the position of scholars who, like Szasz, emphasize the social forces in the construction and management of mental disorders as the *socio-cultural* perspective.

In contrast to the social constructionist view, Wakefield (1992, 1999), argues that mental disorders are or *should* be considered like other kinds of diseases in medicine, which he claimed can be defined as natural entities resulting from internal biological dysfunctions deemed harmful by individuals or groups. Thus, Wakefield concedes there is a psychosocial element (the experience and judgment of harm), but this psychosocial component is anchored to natural kind (the bio-dysfunction). We can label Wakefield's perspective the *bio-medical* perspective because of the claim that mental disorders are the same "kind" of thing as other diseases like cancer. Both can be defined as harmful dysfunctions of an evolved mechanism.

Henriques (2002) has argued for a third perspective on mental disorders, or what can be defined as a *psychological* perspective. After a careful review of Wakefield's harmful dysfunction analysis, Henriques argued that a distinction must be made between mental *diseases* and mental *disorders*. The former are harmful conditions that result from neuro-physiological malfunctions (as Wakefield defined the construct), whereas the latter are maladaptive patterns that cause harm and warrant a diagnosis – but are not reducible to biological malfunctions. Henriques offered the example of severe schizophrenia as a clear "mental disease," since the symptoms of severe schizophrenia are strongly suggestive of a malfunction and breakdown in the basic structures that allow for an integrated and coherent stream of consciousness.

There are many conditions, however, that are regularly diagnosed as mental disorders that do not involve any such breakdown or malfunction. For example,

adjustment disorders are conditions of distress that follow changes in one's living circumstances. Henriques argued it was fallacious to use the same concept for understanding both *medical* and *psychological* disorders. Instead, via the worldview provided by the ToK System (described in more detail later), Henriques claimed there are emergent mental properties that must be explained via psychological frameworks. Mental disorders that do not involve bio-physiological breakdowns can be characterized as:

...rigid, maladaptive patterns...that do not involve the dysfunction of naturally selected mental mechanisms, but instead are the results of breakdowns in the processes that give rise to [adaptive living and happiness]. Such problems would be considered psychological or behavioral disorders that could not be reduced to biological theory (Henriques 2002: 29-30).

From this perspective, the National Institute of Mental Health (NIMH) committed the same error when it defined mental disorders as “*biological disorders* [emphasis added] involving brain circuits that implicate specific domains of cognition, emotion, or behavior,” (Insel 2013, para. 4). Research suggests that many clinicians would agree with Henriques' distinction. In a study conducted by Ahn and colleagues (2006), psychiatrists, psychologists, and clinical social workers tended to differentiate *mental* from *medical* disorders across a variety of questions related to whether the conditions have necessary or sufficient features, causal essences, or naturally exist in the world as opposed to being socially constructed.

Disputes Regarding the Nature of Depression

The debates regarding the nature of mental disorders in general directly apply to the more specific case of depression. Consistent with the bio-medical view, there are several individuals, especially in psychiatry, who argue that depression should be seen as a disease of the brain. For example, Judd (1998: 989) wrote:

A fundamental paradigmatic shift is occurring in the understanding of unipolar major depressive disorders among the general public, by many public health experts, and by the practicing psychiatric community. Most people in our society no longer view depression as a mysterious sickness of spirit or emotional weakness, but rather as a disease of the brain and an important health problem.

Similarly, the neuro-endocrinologist Dr. Robert Sapolsky (2014) stated:

If I had to define major depression in one sentence, I would say, it's a biochemical disorder with a genetic component, and early experience influences, where somebody can't appreciate sunsets. And that's what this disease is about.

Many professionals, however, strongly disagree with this characterization. Some emphasize issues of social power, social stress, and social control in both defining what depression is and how it is experienced. For example, Janet Stoppard (2000: 108), writing from a social constructionist perspective, argued that from "a material-discursive formulation, depression is understood as experiences which arise in conjunction with a woman's embodied efforts to meet socially constructed standards defining the good woman."

Others have critiqued the bio-medical perspective on depression from the vantage point of psychology and learning. Leventhal and Martell (2006) authored *The Myth of Depression as a Disease*, wherein they offered evidence that depression was much more a function of learning history and cognitive style than was tied to any explicit brain malfunction.

Deacon (2013) provided a systematic and powerful critique of the "bio-medical model" of mental disorders generally and depression in particular. He reviewed how the "chemical imbalance" theory of depression remains prominent in society, even though experts in the field have long known that it is seriously flawed and largely discarded by serious researchers. Deacon (2013: 849-850) writes:

The chemical imbalance explanation of depression is endorsed by reputable health websites like WebMD and MayoClinic.com. The popular media frequently and uncritically promotes the chemical imbalance theory of causation (Leo & Lacasse, 2008). A notable exception is a recent segment from National Public Radio's Morning Edition (Spiegel, 2012) in which the host interviewed three prominent psychiatrists who disparaged the chemical imbalance theory depression. These experts concurred that this theory is scientifically invalid but suggested that it remains popular because it has "important cultural uses," like facilitating pharmacotherapy and reducing the harmful effects of uncertainty about the cause of depression on "stress" and "hormones." It's unclear whether the program's listeners would agree that disseminating misleading information about the cause and treatment of depression in order to increase the credibility of antidepressant medication constitutes ethical medical practice.

The controversy regarding the essential nature of depression reached a boiling point in the context of the most recent revision to the Diagnostic and Statistical Manual (American Psychiatric Association 2013). A hotly debated topic was the proposed exclusion of the bereavement exemption in the Major Depressive Episode (MDE). In the DSM-IV-TR (APA 2000), the MDE section included a footnote that stated that if an individual meets the criteria for MDE, but the symptoms arose primarily as a function of going through a bereavement process stemming from the death of a loved one, the clinician should refrain from diagnosing the individual with Major Depressive Disorder. The rationale was to avoid diagnosing with a mental disorder those individuals experiencing intense normal sadness in response to their loss (Wakefield et al. 2007). The DSM-5 Task Force proposed that this footnote should be removed (Kendler 2010, 2013), which ultimately happened.

This proposed change in the diagnostic criteria of depression brought about a passionate dialogue and debate among and across psychiatrists, clinical and school psychologists, counselors, and social workers (DCP n.d.; Frances 2011; Kendler 2010, 2013; Society for Humanistic Psychology n.d.). Professionals from the American Counseling Association, for instance, intensely opposed this change (Frances 2011). Counselors were concerned about how excluding the bereavement exemption from the diagnostic criteria would signify the “pathologization” of the normal reaction of grief (Frances 2011, para. 5). In an internet blog entitled “When Does a Broken Heart Become a Diagnosis?,” psychologist Craig Shealy lamented:

One of the more tragic aspects of our current diagnostic system is its tendency to medicalize aspects of the human condition that are at the heart of who we are and have evolved to become. The lack of understanding of the etiology and meaning of human need, emotion, and behavior causes so much suffering in our world. Most egregious is our tacit acceptance – as “mental health professionals” – of these reductionistic concepts, which are related directly to a lack of vision, empathy, and depth in practice. I share your grief that grief might be medicalized in this way (cited in Henriques 2012).

In contrast, proponents of the change (i.e., the Mood Disorders’ Task Force of the DSM-5) were largely psychiatrists mainly interested in not excluding from the health system individuals experiencing depression just because it arose in the context of the loss of a loved one (Kendler 2013). The practical and philosophical implications of this debate are significant. On the one hand, as noted by Shealy, eliminating the bereavement exemption criterion potentially medicalizes an

important human experience. On the other hand, maintaining it could potentially leave individuals without access to services that they genuinely need. Consider, for example, an exchange in which a mental health professional says the following to a grieving widow: “I am sorry. Because your husband recently passed away, I cannot diagnose you with the medical condition known as major depression. If, however, your husband had remained in a coma, then I could label you as depressed because there is no exemption clause for that and you could get insurance coverage.” As this comment shows, exempting only bereavement from diagnosing major depression clearly raises a host of thorny conceptual and practical issues.

Empirical research has shown that, consistent with public debates, there is substantial variation in how professionals and laypeople conceptualize depression. For example, a recent research project involved the development of the “Understanding Depression Interview” to determine how professionals understand, diagnose, and treat depression (Panizo 2014). The interview participants included laypeople and professionals in counseling, psychology, and psychiatry. Substantial differences in opinions regarding the nature of depression and appropriate usage of diagnoses and treatment were observed across groups. In terms of etiology, nearly everyone understood depression as multifactorial (i.e., as caused by biological, psychological, and/or environmental factors). In general, however, psychiatrists tended to confer more importance to the biological aspects of depression than the other groups. This was observed in the way they defined and diagnosed depression, their understanding of its etiology, and in their approach to treatment.

In terms of conferring a diagnosis, some participants focused solely on whether the patient’s symptoms met the DSM criteria. Others considered that “by principle” doing so was unethical, as they argued symptoms should always be contextualized in terms of triggers and the individual’s personal history. In other words, just as the controversy of the bereavement clause suggests, some professionals reported defining the presence of depression solely in terms of the severity of the symptoms (i.e., if a cut-off is reached, then the diagnosis is given), whereas others also considered whether the symptoms made sense (e.g., someone who is being abused ought to feel depressed and thus, would likely not be given a diagnosis, even if the individual met the severity).

Finally, in terms of the nature of depression, many mental health professionals across disciplines made a distinction between a “disease” and a “non-disease” type of depression, although this is not part of the official lexicon. The disease type of depression was usually described as biologically based, more severe, non-reactive to environmental changes, and ego-dystonic (the person feels the symptoms come from nowhere or do not reflect their “real” feelings). The non-disease type of depression was usually described as non-biologically based, a reaction to a

psychosocial stressor, and “understandable.” Laypeople, on the other hand, at least in this sample, generally rejected the idea that depression is a “disease.” It is worth noting that some researchers and scholars advocate strongly for this distinction. For example, Leventhal and Rehm (2005) argue for a differentiation between neurotic depression and melancholic depression, where the former stems from conflict and stress and difficulty coping, while the latter represents a pervasive, nonresponsive neurobiological state that is radically different than “normal.”

Moreover, clear evidence emerged from the responses that viewing depression as a disease was also considered problematic for the reasons discussed above. On the one hand, understanding depression as a disease legitimizes the condition, justifies treatment, and removes stigma and blame from the patients (given that they are “authentically ill”). On the other hand, defining depression as a disease implicates the condition as pathological (a result of biological malfunctioning) and a candidate for a biological type of treatment (e.g., medication), while also diminishing key psychosocial elements (e.g., the meaning of the emotions) that are being activated.

The NBC Nightly News’ recent story¹ on the rising tide of depression in children provides a clear example. A reporter interviews a medical doctor while looking at brain scans that compare children who are depressed with those who are not. With the voice of authority, the doctor says, “So, you can imagine a parent who comes to me and says, ‘How do you know my child has depression? Isn’t he just a moody teenager?’ And if you would be able to show them brain scans...” At which point the reporter, who sees clearly the implication, interrupts and says, “*And it takes away the stigma, too. Look this brain is just different from that brain.*” Of course, although the medical doctor, parent and reporter seem satisfied, a family therapist might note the problematic implication embedded in this discussion.

One implication, for example, is that the parent was dismissive of the child’s pain until a picture of the brain confirmed that the child was not “just being moody.” Invalidation and alienation from negative feelings are viewed as seriously problematic from a psychological perspective and these are the kinds of dynamics often missed from a purely medical point of view. Moreover, by locating the problem in the child’s brain, the attention shifts away from problematic family dynamics, such as dismissing emotions or avoiding difficult topics. Yet while noted repeatedly by clinicians and as illustrated in films such as the Academy Award winning *Ordinary People*, relational dysfunction in families or other groups often manifest in symptoms of anxiety and distress in children.

¹ See: <https://www.nbcnews.com/nightly-news/video/20-percent-of-america-s-youth-suffer-from-a-mental-emotional-or-behavioral-condition-1114264131911>

These issues highlight the central problem of the double hermeneutic: there are real complications that follow from considering depression a disease because such explanations deeply impact what people do, say, and feel about the condition. In addition, when it is combined with a simplistic framework that carries an unworkable mind-body dualism, we can see that it results in illogical conclusions regarding the causation arrow between mind and brain. Consider, for example, the case of being in love. When an individual is in love and they are shown pictures of their loved ones, their brains demonstrate very different reactions when compared to viewing strangers (Aron et al. 2005). In other words, we can say “this brain is just different than that brain” when it comes to how it reacts to specific stimuli. But these facts do not result in the conclusion that the brain differences *caused* the psychological differences in any direct way. That interpretation stems only from forgetting the golden rule that *causation does not imply correlation*.

Depression, like romantic love, is a real and powerful mental state and carries significant physiological features. It does not follow, though, that those features are malfunctions or the ultimate causes of those mental states. Yet for a host of reasons pertaining to human justification dynamics in our culture, that is exactly how it is interpreted. The concern grows further when we consider that a strong case can be made that the “disease-pill” model of depression and related conditions actually make the situation worse (Whitaker 2010). In other words, as Soros noted in his reflections on the philosophy of reflexivity, it seems highly likely that a distorted understanding of depression may well be leading to serious problems in how the public interprets those messages. Hence we need a new model for thinking about the relationship between minds, brains, and behavior.

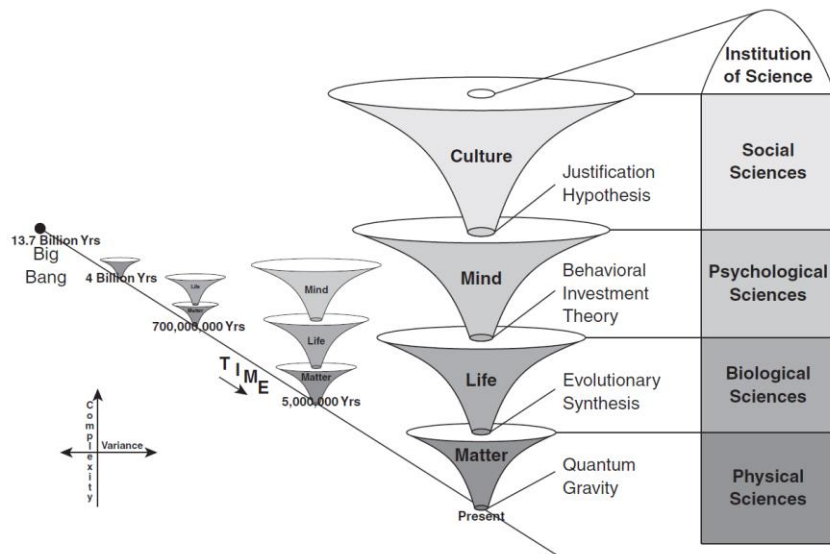
THE TREE OF KNOWLEDGE SYSTEM: SOLVING THE PROBLEM OF PSYCHOLOGY

The ToK System is a new proposal for a consilient theory of knowledge (Henriques 2003). Consilience refers to the jumping together of facts to form a coherent whole, popularized by Wilson (1998), who authored a book by that name in which he opened with an impassioned call for unified knowledge. Wilson argued forcefully that if there could be a successful linkage of theory and facts that tied together the natural sciences with the social sciences and the humanities into a common framework of explanation, the potential payoff would be immense. Henriques (2008) argued that Wilson’s hypothesis regarding the unity of knowledge was viable, but needed a different perspective than the conventional,

natural science view offered by Wilson. Instead, to effectively unite the great branches of learning, Henriques argued one needed the meta-perspective provided by the Tree of Knowledge System.

The ToK System (Figure 1) offers a pictographic representation of cosmic evolution as occurring in four distinct phases of emergent behavioral complexity: Matter, Life, Mind, and Culture. Although some have wondered if ToK System simply reiterates the major levels of complexity long recognized by scholars (Lilienfeld 2004), there are numerous aspects of the ToK System that make it a novel proposal. One major difference is that it depicts reality as having four distinct dimensions of behavioral complexity. Different dimensions of complexity emerge because novel forms of information processing and communication patterns mediate different classes of behaviors. To wit, genetic information processing and cell-cell communication mediate organic behaviors, neuronal information processing and animal communication mediate mental behaviors, and symbolic information processing and human communication mediate cultural behaviors. Thus, while many have recognized that nature is arranged hierarchically into levels of complexity, the ToK System is singularly novel in its proposal that nature exists as *dimensions* (Matter, Life, Mind, and Culture) and *levels within each dimension*.

Figure 1: The “Tree of Knowledge” System



A level of analysis is defined here as the relationship between parts, wholes, and groups, relative to the field or environment in which the object resides. Dimensions of complexity are different. Dimensions of complexity refer to shifts in patterns of behavior and self-organization that emerge as a function of different, nested information processing systems. The ToK System posits that there are four distinct dimensions of complexity. These exist because, following the emergence of Matter from Energy, three separate information processing systems have evolved: genetic information processing gave rise to Life, neural information processing to Mind, and symbolic information processing to Culture. In that sense, the levels and dimensions approach offered by the ToK System generate a new way to think about categories in nature.

A powerful indicator that the ToK System offers a different kind of proposal is the manner in which it generates a solution to the longstanding problem of psychology. Lining up the ToK System with varying definitions and conceptions of psychology reveals that the discipline has spanned two fundamentally different dimensions of complexity: 1) the mental dimension, which corresponds to animal behavior in general; and 2) the cultural dimension, which plays a crucial role in human behavior. The framework allows psychologists to integrate and assimilate diverse paradigms into a coherent whole (e.g., cognitive, behavioral, humanistic, psychodynamic, bio-psychiatric, and cultural) facilitates an understanding of psychological phenomena, such as personality (Henriques 2017), beliefs and values (Shealy 2005), well-being (Henriques, Asselin, and Kleinman 2014), dreams (McDermott 2017), and the focus here on depression (Henriques 2000).

THE BEHAVIORAL SHUTDOWN MODEL OF DEPRESSION

Although terms like depression are used frequently in normal conversation, one should be aware that in professional mental health circles, clinical depression is usually defined as a Major Depressive Episode (MDE). An individual meets criteria for an MDE if: 1) one demonstrates the presence of five of nine psychological and behavioral symptoms (depressed mood, anhedonia, agitation or retardation, fatigue or low energy, feelings of worthlessness or guilt, thoughts of death, change in appetite/weight, sleeping difficulties, and diminished ability to concentrate); 2) at least one of the symptoms involves a depressed mood or anhedonia (i.e., loss of interest and engagement and a diminished capacity to feel pleasure); and 3) the symptoms persist most of the time for a period of two weeks.

As noted above, modern medicine generally views MDE as a disease state, whereas psychologists and social critics often dispute this characterization. In

contrast to viewing depression as a disease, the BSM begins with characterizing depression in the first place as a state of mental behavioral shutdown. After emphasizing this description, one must then take up the context in which the shutdown happens to clarify the underlying cause. From the vantage point of the UT, mental behavioral shutdowns may stem from impoverished or abusive environments, maladaptive patterns, neuro-biological dysfunction (and thus, in some cases, may in fact be appropriately considered a disease), because the world is complex, or some combination of forces.

One of the most crucial aspects of the BSM is that it points out that the symptoms cluster together in a way that makes sense. This suggests that the shutdown so prominent in depression may reflect a defensive strategy (Nesse 2000). It is important to be clear about the distinction between biological dysfunction and a defensive strategy. A biological dysfunction is the failure of an organ or system to function in accord with its evolved design. A heart attack is an example of a dysfunction because the heart was fashioned via evolutionary processes to circulate blood throughout the body. Cancers and strokes are also examples of dysfunctions.

In contrast, a defensive strategy is an evolved method for signaling and/or reacting to a problem. When the influenza virus infects the human body, a number of different things happen, some of which are manifestations of defects and some of which are defenses. Internally, the virus infects and transforms the human cells for its own reproductive benefit, causing clear defects. Symptoms include fever, coughing, and feeling achy, tired, and run down. It used to be believed the coughing and fever were caused by the virus and were manifestations of cellular defects. In fact, the fever and coughing are evolved defenses. An increase in body temperature, for instance, hinders the speed and effectiveness with which the virus can reproduce. Identifying a symptom as a defense strategy rather than a manifestation of a defect is important because it leads to a different intervention strategy. For example, medications given to reduce fever (once presumed to be part of the defect) actually prolong the duration of the flu virus in the body.

But how might depression be a defensive strategy? On the surface, the depressed mood, decreased energy, loss of interest in pleasurable activities, and change in sleep patterns associated with depression appear quite dysfunctional. To understand how depression might be functional in an evolutionary sense, it is useful to first consider the evolutionary significance of pain. To effectively solve problems in its environment, an organism must have mechanisms that allow it to approach situations that are beneficial and avoid situations that are harmful. Pleasure can be thought of as the signal to approach and pain as the signal to avoid. Although pain is almost always unwanted, the capacity to experience physical pain is immensely important. Physical pain signals something is wrong with the structural integrity of

the body. Broken bones, lacerations, torn ligaments, ulcers, etc., put the organism at risk or hinder its capacity to function – and pain signals the presence of the problem. Pain also motivates the organism to avoid whatever is causing the difficulty and helps the organism to learn to avoid it in the future.

Evolutionarily informed theorists now recognize that emotional pain serves a very important function, similar to that of physical pain. Whereas physical pain signals problems with the structural integrity of the body, emotional pain signals problems with how the individual is interacting with some aspect of his or her environment, usually the social environment. We feel emotional pain when we fail to achieve, when a loved one dies, or when we are criticized, rejected or controlled because these types of events involve loss of important resources in the social environment such as status, solidarity, or autonomy.

There are many different types of emotional pain because there are different types of problems in the social environment that one usually strives to avoid. Disappointment, sadness, and grief signal one has incurred losses or failures. Fear and anxiety signal emotional or physical pain might occur in the future. Shame signals loss of status and functions to avoid conflicts and submit to more powerful others. Anger is activated to defend oneself from others' control or, conversely, to punish others for insubordination or betrayal. Guilt involves making reparations for selfish behavior to avoid the problem of retaliation. In short, negative emotions are evolved strategies that allow for the identification and avoidance of potential problems, particularly in the social domain. As such, the presence of intense negative emotion is not necessarily indicative of a biological dysfunction.

Medical professionals will often point out that depression is different than “normal sadness,” which certainly accords with the position adopted here. Sadness is an emotional reaction to loss. It is the motivational-emotional system's way of signaling that something that was valued or hoped would come true was lost. Sadness is the way we digest the pain of our loss. Depression, in contrast to sadness, is a state of mental behavioral shutdown. It occurs when the whole system of psychological investment is “dead ended,” meaning the system cannot track or identify any positive or productive pathways of investment (or ways of being).

To explore the possibility that depression is an evolved defensive strategy, we need to start by grounding our understanding of behavior in Behavioral Investment Theory (BIT). BIT is a key component of the UT, described in detail elsewhere (see e.g., Henriques 2011). From a BIT perspective, behavior can be thought of as the process of expending energy or working to control and structure the environment in a way that allows for survival and reproductive success. Control of larger territories, access to better food, higher social status, etc. are obviously advantageous. However, the behavioral investment needed to acquire and maintain

these resources is expensive. It costs energy both in terms of basic calories and in terms of increasing the risks of injury and loss. Resources are frequently not available or cannot be acquired, which means behavioral investments are fruitless. Additionally, competition over valuable resources can be fierce, often resulting in injury. This analysis gives rise to a cost to benefit ratio of behavioral investment, a ratio much like that in economics.

But what does this model have to do with depression? The cost to benefit ratio suggests that organisms can maximize the ratio by increasing benefits *or* decreasing costs. Increasing benefits is associated with actively acquiring some resource (food, sex, status) in the environment via behavioral investment. The individual's state of actively working to increase benefit can be described as desire. Decreasing behavioral investment can also be a way in which organisms deal with the cost to benefit ratio. There are many examples of behavioral shutdown mechanisms in nature, such as sleep, hibernation and exhaustion, that function to decrease behavioral expenditure and conserve energy.

Broadly speaking, behavioral shutdown should result if an organism is getting a poor return (i.e., high costs, little benefit) from its behavioral investment. As an example, if an organism is expending 8 behavioral units and only getting back 4 units, that is a bad ratio. If it tries everything in its behavioral repertoire, yet the ratio remains the same, a "best in a bad situation" solution is to decrease the amount of the behavioral investment in an effort to reduce net loss. It is better to expend two units and get back one unit over the same time frame than the 8:4 ratio obtained previously. Such an understanding gives rise to the Behavioral Shutdown Model (BSM), which suggests that depression may represent an evolved tendency to decrease behavioral expenditure in response to perceived chronic danger, stress, or consistent failure to achieve one's goals.

We can look at the key symptoms of depression and see that they are part of a syndrome of mental behavioral shutdown. The most prominent symptom is a general increase in negative emotion, especially feelings of futility, despair, powerlessness, and hopelessness. Also jacked up are feelings of fear and anxiety (future threat), shame, guilt and vulnerability, frustration, bitterness and irritability. The second most prominent symptom of depression – indeed the most important diagnostic symptom – is "anhedonia," which is the technical term for loss of pleasure and interest. In other words, whereas the negative affect system is elevated, the positive affect system is toned down or muted. Desire, interest, excitement, joy, are all lessened or deadened.

According to the BSM, the negative emotion system is increased and the positive emotion system is muted due to a fundamental shift in the investment system. Basically, a subconscious calculation has taken place that says what the

individual is doing is not working and that there are no good solutions. Hence the investment system is shutting down the positive and gets defensive by activating the negative/avoidance system to try to avoid further failed investments.

The BSM offers a potential explanation for many features of depression. For example, it strongly predicts that depression should be more likely to occur in situations that are chronically dangerous, humiliating, or repeatedly result in failure to achieve one's goals. These are circumstances in which the cost to benefit ratio is the worst and therefore the most effective strategy is to reduce costs. Consistent with this prediction, situations in which the individual feels chronically trapped or humiliated are most likely to produce symptoms of depression. To give just one example, almost 50% of battered women are depressed (Golding 1999). There is also strong evidence that the onset of many Major Depressive Episodes is preceded by major stressful life events (Kendler et al. 1993). Also consistent with the BSM, rates of Major Depressive Disorder vary with socioeconomic status, such that people in the lowest quartile of socioeconomic status are almost twice as likely to be depressed compared with those in the highest quartile (Yu and Williams 1999).

In addition to offering an explanation as to why certain situations are more likely to result in depression, the BSM explains many of the accompanying symptoms. The model explains why emotional pain is such a prominent feature of depression: the pain signals that things are not going well. Additionally, behavioral shutdown is the antithesis of active behavioral investment and thus the BSM explains why anhedonia is such a fundamental characteristic of depressive conditions. Furthermore, the BSM directly accounts for why low energy is such a prominent complaint. The model also explains why negative cognitions are commonplace. Cognitive theorists have documented clearly how depressed individuals are hypersensitive to any indications of loss, failure, or rejection (Clark, Beck, and Alford 1999). In direct accordance with the BSM, some cognitive models have conceptualized depressed individuals as investors with few resources who take risk-averse strategies to avoid loss (Leahy 1997).

The BSM also provides explanations for findings that are a challenge to explain from a disease-model perspective. Because so many different things can result in difficulties in solving important problems, the BSM accounts for why a variety of causal pathways results in depression. Behavioral shutdown should be a matter of degree and thus the BSM also accounts for why symptoms of depression exist on a continuum that range from chronic, severe depressions to minor depressions to adjustment disorders to low mood. Since the model suggests depression should be associated with difficulties in functioning, the BSM explains why depressive symptoms present such a high comorbidity with other mental disorders. Finally,

because it is an evolutionary model, the BSM also accounts for the fact that there is an important genetic component associated with depression.

The BSM suggests a valuable link to the causes (triggers) with the effects (symptoms) of depression in a logical sequence. It also bears the hallmarks of a good hypothesis because it is parsimonious, consistent across disciplines (from physics to the human social sciences), and makes clear predictions. To give just a few examples, the model predicts that because depressed individuals are focused on avoiding further loss, they should perceive more negative and pessimistic outcomes. Depressed individuals should also be risk averse and tend to avoid potentially threatening stimuli. Likewise, such individuals should be hypersensitive to loss, failure, or rejection. Because depressed individuals should be inclined to give up when faced with difficulty, they should demonstrate a very low tolerance for frustration. Also, depressed individuals should exhibit diminished curiosity and explorative tendencies and should shun uncertainty, novelty and sensation seeking. They should be averse to conflict as well, particularly with others who are of equal or higher status. A depressed individual should also engage in less social exchange or otherwise demonstrate a decrease in behavioral activity. In summation, the BSM makes many clear, easily testable predictions about both the triggers and symptoms associated with depressive condition.

A CONCEPTUAL TAXONOMY OF DEPRESSIVE CONDITIONS

With this frame of depression provided by the Behavioral Shutdown Model, we can now shift gears and think about depression from a new angle. We can ask: What causes mental behavioral shutdowns? The questions allow us to begin to separate the causes from the symptoms and develop a logical classification of at least three conceptually different “kinds” of depressions, i.e., depressive *reactions*, *disorders*, and *diseases*. It is crucial to note that these three categories carry strong parallels with the environmental-sociocultural perspective, the psychological perspective, and the bio-medical perspectives reviewed in describing different approaches to conceptualizing depression. This highlights how the BSM can integrate across different, competing notions. This integration is achieved in part because the BSM is embedded in the “big picture” afforded by the ToK System. By clarifying the relationship between the physical, biological, psychological, and social dimensions of behavioral complexity, the ToK allows for a comprehensive and consistent biopsychosocial view of depression that does not center first and foremost on the question of whether or not it is a disease. Instead, it allows us to first develop an effective description of the phenomena itself.

Depressive reactions are when the mental-behavioral shutdown makes perfect sense, given the context. The model explains why being depressed following the death of a child or in other situations that do not allow one to get their basic psychosocial needs met (e.g., being chronically abused or mistreated, being locked up, being completely isolated and alone, feeling unloved and unwanted, and so forth) is perfectly understandable. We can compare these cases to physical injuries. In a car accident of considerable severity, for example, we could expect some broken bones and other injuries. The human skeletal system is not equipped to successfully deal with a 60-miles-per-hour impact. It is important to note that there is nothing *internally wrong* with the system. The skeletal system is reacting as it should, given the extreme level of force it had to endure. As much as we would all recognize these injuries as requiring medical attention, we would also recognize these “depressive reactions” as requiring mental health treatment. The fact that the “physical and psychological injuries” are not the result of an internal dysfunction does not exempt them from creating pain and requiring attention.

We should use the term “depressive disorders” when the depressive reactions turn out to cause additional problems with adjustment and this in turn creates a vicious, maladaptive cycle. This is something that is seen all the time working with college students. Folks come to college hoping for a wonderful experience, but then arrive there and find they don’t fit in and struggle with the academics. This makes them anxious, which in turn makes them less socially confident and less effective in concentrating, planning, and getting their work done. These results produce more trouble and in a couple of weeks, their emotional system gets exhausted and starts to “shut down.” This psychological shutdown in the college setting produces even more dysfunction, and the cycle is completed. It is worth noting that, conceptually, there is no need to posit any sort of biological malfunction here.

The notion of depressive diseases describes when the mental behavioral shutdown is far greater than can possibly be explained by basic psychological adjustment problems and when the symptoms are resistant to changing even when the psychological and social systems are available to support that change. In the case of depressive diseases, we can assume one of the main causes to be the malfunction of an evolved mechanism. There is something internally wrong that is preventing the person from functioning in a healthy way.

CONCLUSIONS

How depression is conceptualized is a major public health issue. The prevailing model in psychiatry suggests that depression is a disease of the brain. An updated

and coherent map of psychology, however, suggests that negative emotions and depression are likely evolved strategies that facilitated behavioral solutions to problems in the ancestral environment. From this vantage point, depression describes an individual as being in a state of mental behavioral shutdown. Such reactions may make good sense as passive, avoidant behavioral strategies in response to situations that are chronically dangerous, humiliating, or repeatedly result in failure to achieve one's goals. In those cases, we should label the shutdown depressive reactions.

Furthermore, such a shutdown may result from maladaptive patterns of behavioral investment that result in an individual being "dead-ended" and not being able to find an adaptive path forward. Such incidents would be depressive disorders. Or such shutdown could, conceivably, be best explained by biological dysfunctions, and labeled depressive diseases. The ultimate point here is that our society lacks a frame for understanding mental disorders in general and depression in particular equal to the task of educating the public in a productive way. We have a wide range of diverse perspectives and not much guidance for distinguishing between a mental disorder and everyday distress. It is crucial that we remedy this situation, as the evidence mounts that our fallible interpretation of depression is misconstruing the construct and leading to worse and worse mental health outcomes.

REFERENCES

- Ahn, Woo-kyoung, Elizabeth H. Flanagan, Jesseca K. Marsh, and Charles A. Sanislow. 2006. "Beliefs about Essences and the Reality of Mental Disorders." *Psychological Science* 17(9): 759-766.
- American Psychiatric Association. 2000. *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: American Psychiatric Association.
- American Psychiatric Association. 2013. *Diagnostic and Statistical Manual of Mental Disorders*. Arlington, VA: American Psychiatric Publishing.
- Aron, Arthur, Helen Fisher, Debra J. Mashek, Greg Strong, Haifang Li, and Lucy Brown. 2005. "Reward, Motivation, and Emotion Systems Associated with Early-Stage Intense Romantic Love." *Journal of Neurophysiology* 94: 327-337.
- Clark, David. A., Aaron T. Beck, and Brad A. Alford. 1999. *Scientific Foundations of Cognitive Theory and Therapy of Depression*. New York, NY: John Wiley & Sons.

- Deacon, Brett. 2013. "The Bio-Medical Model of Mental Disorder: A Critical Analysis of its Validity, Utility and Effects on Psychotherapy Research." *Clinical Psychology Review* 33(7): 846-861.
- Division of Clinical Psychology. n.d. "Division of Clinical Psychology Position Statement on The Classification of Behavior and Experience in Relation to Functional Psychiatric Diagnosis." Available at: <http://dxrevisionwatch.files.wordpress.com/2013/05/position-statement-on-diagnosis-master-doc.pdf>.
- Frances, Allen. 2011. "Who Needs DSM-5? A Strong Warning Comes from Professional Counselors." Available at: <http://www.psychologytoday.com/blog/dsm5-in-distress/201106/who-needs-dsm-5>.
- Giddens, Anthony. 1987. *Social Theory and Modern Sociology*. Stanford, CA: Stanford University Press.
- Henriques, Gregg. 2000. "Depression: Disease or Behavioral Shutdown Mechanism?" *Journal of Science and Health Policy* 1(1): 152-165.
- Henriques, Gregg. 2002. "The Harmful Dysfunction Analysis and the Differentiation between Mental Disorder and Disease." *The Scientific Review of Mental Health Practice* 1(2): 157-173.
- Henriques, Gregg. 2003. "The Tree of Knowledge System and the Theoretical Unification of Psychology." *Review of General Psychology* 7(2): 150-182.
- Henriques, Gregg. 2008. "The Problem of Psychology and the Integration of Human Knowledge: Contrasting Wilson's Consilience with the Tree of Knowledge System." *Theory and Psychology* 18(6): 731-755.
- Henriques, Gregg. 2011. *A New Unified Theory of Psychology*. New York: Springer.
- Henriques, Gregg. 2012. "When Does a Broken Heart Become a Diagnosis?" *Psychology Today Blog, Theory of Knowledge*. Available at: <https://www.psychologytoday.com/blog/theory-knowledge/201201/when-does-broken-heart-become-diagnosis>.
- Henriques, Gregg. 2017. "Character Adaptation Systems Theory: A New Big Five for Personality and Psychotherapy." *Review of General Psychology* 21: 9-22.

- Henriques, Gregg, Kimberly Kleinman, and Craig Asselin. 2014. "The Nested Model of Well-Being: A Unified Approach" *Review of General Psychology* 18(1): 7-18.
- Insel, Thomas. 2013. "Transforming Diagnosis." *National Institute of Mental Health*. Available at: <http://www.nimh.nih.gov/about/director/2013/transforming-diagnosis.shtml>.
- Judd, Lewis L. 1998. "The Clinical Course of Unipolar Major Depressive Disorders." *Archives of General Psychiatry* 54(11): 989-991.
- Kendler, Kenneth S. 2010. *A Statement from Kenneth S. Kendler, M. D., on the Proposal to Eliminate the Grief Exclusion Criterion from Major Depression*. Available at: <http://www.dsm5.org>.
- Kendler, Kenneth S., Ronald C. Kessler, Michael C. Neale, Andrew C. Heath, and Lindon J. Eaves. 1993. "The Prediction of Major Depression in Women: Toward an Integrated Etiological Model." *American Journal of Psychiatry* 150(8): 1139-1148.
- Leahy, Robert L. 1997. "An Investment Model of Depressive Resistance." *Journal of Cognitive Psychotherapy* 11(1): 3-19.
- Leventhal, Allan M., and Christopher R. Martell. 2006. *The Myth of Depression as Disease: Limitations and Alternatives to Drug Treatment*. Westport: Praeger.
- Leventhal, Allan, and Lynn Rehm. 2005. "The Empirical Status of Melancholia: Implications for Psychology." *Clinical Psychology Review* 25(1): 25-44.
- Lilienfeld, Scott. 2004. "Defining Psychology: Is It Worth the Trouble?" *Journal of Clinical Psychology* 60(12): 1249-1253.
- McDermott, Chance. 2017. *Dreams: A Unified Theory Approach*. PsyD Dissertation, James Madison University.
- Nesse, Randolph M. 2000. "Is Depression an Adaptation?" *Archives of General Psychiatry* 57(1): 14-20.
- Panizo, Mariafé. 2014. *How Do We Conceptualize Depression? A Mixed Methods Study*. MA Thesis, James Madison University.
- Phillips, James, Allen Frances, Michael Cerullo, John Chardavoyne, Hannah S. Decker, Michael First, Nassir Ghaemi, et al. 2012. "The Six Most Essential Questions in Psychiatric Diagnosis: A Pluralogue Part 1: Conceptual and

- Definitional Issues in Psychiatric Diagnosis.” *Philosophy, Ethics, and Humanities in Medicine* (7)3: 1-29.
- Sapolsky, Robert. 2016. “Depression on the US.” Lecture, Stanford University, Palo Alto, California (June 5). Available at: <https://singjupost.com/transcript-stanfords-robert-sapolsky-on-depression-in-u-s-full-lecture/>.
- Shealy, Craig. 2005. “Justifying the Justification Hypothesis: Scientific-Humanism, Equilintegration Theory, and the Beliefs, Events, and Values Inventory (BEVI).” *Journal of Clinical Psychology* 61(1): 81-106.
- Society for Humanistic Psychology. n.d. “Open letter to the DSM-5.” *Ipetitions*. Available at: <http://www.ipetitions.com/petition/dsm5/>.
- Soros, George. 2009. “A General Theory of Reflexivity.” Lecture, Central European University, Budapest, Hungary (October 26). Available at: <https://www.opensocietyfoundations.org/sites/default/files/george-soros-general-theory-of-reflexivity-transcript.pdf>.
- Stoppard, Janet. 2000. *Understanding Depression: Feminist Social Constructionist Approaches*. New York: Routledge.
- Szasz, Thomas. 1975. *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct*. New York: Harper.
- Wakefield, Jerome. 1992. “The Concept of Mental Disorder: On the Boundary between Biological Facts and Social Values.” *American Psychologist* 47(3): 373-388.
- Wakefield, Jerome. 1999. “Mental Disorder as a Black Box Essentialist Concept.” *Journal of Abnormal Psychology* 108(3): 465-472.
- Wakefield, Jerome, Mark Schmitz, Michael First, and Allan Horwitz. 2007. “Extending the Bereavement exclusion for Major Depression to Other Losses: Evidence from the National Comorbidity Survey.” *Archives of General Psychiatry* 64(4): 433-440.
- Whitaker, Robert. 2010. *Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America*. New York: Crown Publishers.
- Wilson, Edward. 1998. *Consilience: The Unity of Knowledge*. New York: Alfred A. Knopf.

Yu, Yan, and David R. Williams. 1999. "Socioeconomic Status and Mental Health." Pp. 151-166 in *Handbook of the Sociology of Mental Health*, edited by C. S. Aneshensel and J. C. Phelan. New York, NY: Plenum Publishers.