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## Towards A New Paradigm in Psychiatry

Jennifer Lin  
*University of New Orleans*

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Towards A New Paradigm in Psychiatry

An Honors Thesis

Presented to

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of the University of New Orleans

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Bachelor of Arts, with University High Honors  
and Honors in Philosophy

by

Jennifer Lin

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## Abstract

The reductionist tenets of the biomedical model of mental illness generate research methods and clinical practices that neglect significant cultural elements of mental illness. The biomedical model is reductionist because it assumes a view of the mind that lends itself to biological reductionism. Developing a more holistic model of mental illness requires replacing the accepted view of mind with a new one. In this paper, research demonstrating the significance of culture to mental illness will be reviewed in order to illuminate the flaws of the biomedical model. The extended mind theory will be analyzed and discussed as a potential basis for the development of a new paradigm within psychiatry, one which transcends the reductionist tendencies of the biomedical model.

Keywords: psychology, psychiatry, extended mind, mental illness, culture.

## **Part I: The Issue**

The 1990s, commonly referred to as the “Decade of the Brain” in the field of neuroscience, was characterized by advances in knowledge regarding neuroplasticity, epigenetics, and brain circuitry (Whitley, 2014). These advances transformed scholarly thought across many disciplines, including psychology, psychiatry, neuroscience, cognitive science, and philosophy. New insights into brain circuitry and brain function galvanized support for an increasingly biological understanding of the human brain, mind, and behavior. This ideological shift was particularly pronounced within the field of psychiatry, in which the psychodynamic model of the mind gave way to a biomedical model emphasizing neuroscience and psychopharmacology as the predominant areas of research. Thus, psychiatry underwent a paradigm shift towards a biomedical model of mental health, eschewing psychosocial and psychodynamic perspectives that had previously informed research. The biomedical model of mental illness, which assumes that mental disorders can be fully explained by neuroscience, has become the dominant paradigm structuring research and practice within psychiatry.

The biomedical model of mental illness emphasizes biological predispositions and determinants in psychopathology. It assumes that mental disorders are brain diseases or chemical imbalances and focuses on pharmacological interventions (Deacon, 2013). This approach to understanding mental health has marginalized alternative approaches offered by the social sciences, which emphasize cultural and social factors in shaping human cognition and behavior. The biomedical model of mental illness assumes implicit ideological premises that direct research and practice within psychology and psychiatry. Methodologies are biased towards a biological understanding of the brain, acknowledging social and cultural phenomena as significant to but not causative of mental disorders. Thus, psychological research is structured by

a hierarchy of knowledge in which sociological and anthropological explanations of mental disorders are secondary to biological and medical ones (Whitley, 2014).

Although neuroscientific advances have made important contributions to our understanding of the brain and behavior, the methodologies it promotes are centered on a reductionist view of the mind (Ross & Pam, 1995). The emphasis on the biological within the biomedical model sidelines potential fundamental questions regarding the human mind that can only be addressed from within the social sciences (Whitley, 2014). Investigations are designed according to the reductionist premises of the biomedical model, which leads to solutions that are similarly biased towards biology. Moreover, diagnostic categories are projected onto patients from different cultures in which such categories are invalid, since different cultures may have radically different understandings of mental illness (Kleinman, 1989). Thus, situating psychiatry squarely within the field of neuroscience has ideological and practical consequences that greatly restrict our understanding of the human mind and psychopathology.

My purpose for this essay is to show that the biomedical model of mental illness offers an inadequate account of psychopathology because it is predicated on a reductionist view of the mind. I shall suggest a different view of mind as the basis for a new paradigm within psychiatry that offers a more holistic account of psychopathology.

## **Part II: Method and Presuppositions**

In this paper, I shall presuppose a Kuhnian framework for my analysis of the issue at hand. I shall borrow his concept of dominant paradigms and revolutionary paradigm shifts in my discussion and critique of the biomedical model of mental illness. Throughout the paper, I shall be using the terms ‘dominant paradigm’ and ‘biomedical model’ interchangeably. I shall also presuppose the definition of several important terms that I will be using throughout my paper. When I use the phrase ‘biological reductionism’, I am referring to a theoretical approach that attempts to explain mental events in terms of their underlying physical properties, namely neurobiological processes. I shall be using the term ‘culture’ in two different senses, as “shared learned behavior and meanings that are socially transmitted for purposes of adjustment and adaptation” (Marsella & Yamada, 2010, p. 105) and as “a group’s shared collective meaning system through which the group’s collective values, attitudes, beliefs, customs and thoughts are understood” (Hatala, 2012, p. 56). I shall clarify which sense of ‘culture’ I am referring to when I use the term. When I use the term ‘scripts’, I am referring to “organized units of knowledge that encode and propagate meanings and practices” (Ryder et al., 2011, p. 961). When I use the term ‘reification’, I am referring to the process in which abstract or hypothetical constructs are treated as if they were concrete entities or empirical facts. Finally, when I use the phrase ‘category fallacy’, I am referring to “the reification of one culture’s diagnostic categories and their projection onto patients in another culture, where those categories lack coherence and their validity has not been established” (Kleinman 1988, p. 14).

In Part III of my paper, I shall briefly discuss the origins of the biomedical model of mental illness. Next, I shall discuss the core tenets of the biomedical model and explain how they reflect biological reductionism. In Part IV, I shall show how research and practice within psychiatry is constrained by the reductionist approach embedded in the dominant paradigm.

Next, I shall identify and discuss some anomalous cases that challenge the efficacy of the dominant paradigm. I shall elucidate the importance of these anomalies through a discussion of the role of culture in mental illness, and how adopting an anthropological view of culture leads to a more holistic view of psychopathology. Finally, in Part V, I shall offer a conceptual basis for a revolutionary paradigm shift by examining Clark and Chalmers' theory of the extended mind. I shall discuss the view of mind underlying the dominant paradigm, and explain how a new view of mind is needed to produce a more holistic account of psychopathology. I shall also address the biopsychosocial model as a potential counterexample to my critique of the dominant paradigm. I shall show that because the dominant paradigm adopts the traditional view of mind as a fundamental assumption, any alternate model based on this assumption will still be constrained by the parameters of the dominant paradigm. I shall explain how adopting a new assumption that is incommensurable with the assumption underlying the dominant paradigm entails a revolutionary paradigm shift. My ultimate goal is to show that because the extended mind theory escapes the limitations of the traditional view of mind, it should be adopted as the basis for a paradigm shift in psychiatry.

I acknowledge that there are certain neuropsychiatric conditions that have an indisputable biological basis, such as Alzheimer's disease, Huntington's disease, and Lou Gehrig's disease. I shall distinguish between such mental disorders and those for which etiology is much less clear, such as depression, schizophrenia, anxiety, autism, and ADHD. The flaws of the biomedical model are less apparent in cases involving neuropsychiatric conditions, since these tend to be neurodegenerative diseases that, if left untreated, will become debilitating and often fatal to the patient. Thus, I acknowledge the necessity and utility of the biomedical model for the diagnosis and treatment of life-threatening mental disorders. A new paradigm is not meant to exclude parts



of the old paradigm that have proven efficacious; a new paradigm is meant to preserve the strengths of the old paradigm while also solving problems in relation to the old one.

To that end, I shall propose the extended mind theory as the basis for a new paradigm, one that avoids the pitfalls of the biomedical model. Due to the limited scope of my paper, I shall not be explicating all the details of the new paradigm. However, in the conclusion I shall make some predictions about the kinds of research questions and methodologies that may arise within the new paradigm.

### **Part III: The Dominant Paradigm**

Emil Kraepelin, the founder of modern psychiatry, set the precedent for the description and classification of mental disorders. Among the defining features of Kraepelin's legacy are the notions that detailed, explicit descriptions of mental disorders are required for diagnostic classification, and that illness course must be studied in order to make a diagnosis (Decker, 2007). Criticizing psychoanalysis for postulating arbitrary and non-empirical hypotheses, Kraepelin developed a methodical approach to classification that eschewed interpretation and speculation about etiology, focusing instead on making descriptions of illness course as objective as possible. Kraepelin developed a nosology of mental illness, focusing on the biological aspects of illnesses. In 19th century Europe, biological reductionism reigned under the influence of Kraepelin's diagnostic system, eventually gaining a foothold in American psychiatry along with the advent of tranquilizers and antidepressants (Marsella & Yamada, 2010).

The period after World War II was characterized by a shift away from biology to the environmental and psychological correlates of mental illness (Decker, 2007). Yet, many psychiatrists concluded that mental disorders were predominantly biological in nature, equating them with neuropsychiatric diseases that were universal in nature and free of any major socio-cultural determinant (Marsella & Yamada, 2010). In the 1960s and 70s, a group of psychiatrists at the Washington University School of Medicine in St Louis criticized the shift away from medical specialties within psychiatry. They claimed that the current industry "dealt in non-psychiatric pursuits, had largely eschewed the medical model, did not value diagnosis and classification, rejected sharp distinctions between mental illness and mental health, and seemed unbothered by the abysmally low scores of inter-rater reliability – two or more psychiatrists coming to the same conclusion about the diagnosis of a patient" (Decker, 2007, p. 345). The

team at Washington University (Wash U) believed that only a strong focus on biology could improve the treatment of the mentally ill, asserting that psychiatry should limit itself to the description of disorders and—in the Kraepelinian tradition—ignore etiology, which was unknown for almost all psychiatric illnesses at the time.

In addition to description, the Wash U team argued that illness course, case follow-up, and family histories should play an important role in diagnosis. The leaders of the Wash U group were Eli Robins, Samuel Guze, and George Winokur. In 1970, Robins and Guze published a seminal article detailing the steps necessary for the valid classification of mental disorders: (1) clinical description; (2) laboratory studies; (3) exclusion criteria to weed out patients with other illnesses; (4) follow-up studies; (5) family studies (Robins and Guze, 1970). John Feighner, under the influence of the Wash U group, decided that more refined criteria was needed to specify treatments and to improve communication between researchers. Feighner and his colleagues published an article detailing these criteria, which eventually became known as the ‘Feighner criteria’ (Decker 2007, p. 346). The Feighner criteria included diagnostic conditions for which validity was sufficiently established in terms of clinical descriptions, consistency over time, and increased familial incidence (Spitzer, Endicott, & Robins, 1978). The Feighner criteria was used as the basis for the 1978 Research Diagnostic Criteria (RDC), which ultimately became the prototypic diagnoses in the DSM III (Regier et al., 2009).

Harvard psychiatrist Gerald Klerman dubbed the Wash U group as “neo-Kraepelinian”, synthesizing a nine-point ‘credo’ of the neo-Kraepelinians: “(1) Psychiatry is a branch of medicine; (2) Psychiatry should utilize modern scientific methodologies and base its practice on scientific knowledge; (3) Psychiatry treats people who are sick and who require treatment for mental illnesses; (4) There is a boundary between the normal and the sick; (5) There are discrete

mental illnesses. Mental illnesses are not myths. There is not one but many mental illnesses. It is the task of scientific psychiatry, as a medical specialty, to investigate the causes, diagnosis, and treatment of these mental illnesses; (6) The focus of psychiatric physicians should be particularly on the biological aspects of mental illness; (7) There should be an explicit and intentional concern with diagnosis and classification; (8) Diagnostic criteria should be codified, and a legitimate and valued area of research should be to validate such criteria by various techniques. Further, departments of psychiatry in medical schools should teach these criteria and not deprecate them, as has been the case for many years; (9) In research efforts directed at improving the reliability and validity of diagnosis and classification, statistical techniques should be utilized” (Decker, 2007, p. 348).

These beliefs laid the foundation for the 1978 Research Diagnostic Criteria (RDC), developed by Robert Spitzer and Eli Robins. Before the emergence of the RDC, the largest source of disagreement among clinicians in the diagnosis of psychiatric disorders was clinical variance; clinicians used different inclusion and exclusion criteria to summarize data into psychiatric diagnoses (Spitzer et al., 1978). The RDC was established to enable researchers to apply a consistent set of criteria for the description and selection of samples of patients with functional psychiatric illnesses. The RDC was used to study a variety of research questions, with a focus on epidemiology, genetics, biological correlates, and treatment outcome. The RDC was also designed to enable researchers and clinicians to select homogenous groups of subjects who met specified diagnostic criteria. In many cases, the criteria were based on research evidence indicating that the chosen criteria were useful for predicting outcome, response to treatment, and familial association. Structured interview and rating scales were designed to elicit information relevant to the categories in the RDC. The development of operational criteria for psychiatric

diagnosis was regarded as “a unique advance in nosology” (Spitzer et al., 1978, p. 781), reflecting the medical orientation that had reclaimed psychiatry with the emergence of the neo-Kraepelinian movement.

Spitzer became the head of the Task Force to produce the DSM III. He and Robins insisted that the RDC be included in the DSM III to improve psychiatric training and communication between mental health professionals. The categories in the DSM-III were neo-Kraepelinian “by being descriptive, eschewing psychoanalytical etiologies, stressing that psychiatry was decidedly a part of medicine, and emphasizing the importance of follow-up studies and family histories” (Decker, 2007, p. 354). The neo-Kraepelinian movement embodied the return of the biomedical model of mental illness, once again sidelining sociological and anthropological perspectives on psychopathology.

In the biomedical model of mental illness, mental disorders are seen as brain disorders. The Surgeon General’s Report on Mental Health (1999) asserts that “mental disorders are characterized by abnormalities in cognition, emotion or mood, or the highest integrative aspects of behavior, such as social interactions or planning of future activities” (p. 39). These mental processes are all mediated by the brain. The report further establishes that it is “a core tenet of modern science that behavior and our subjective mental lives reflect the overall workings of the brain” (p. 39). Thus, symptoms related to behavior and our mental lives are assumed to be direct reflections of variations or abnormalities in brain function. Similarly, the American Psychiatric Association Statement on Diagnosis and Treatment of Mental Disorders (2003) maintains that mental disorders “represent dysfunctions of the highest integrative functions of the human brain including cognition, or thought; emotional regulation; and executive function, or the ability of the brain to plan and organize behavior” (para. 3). The APA emphasizes evidence indicating a

strong genetic component for disorders such as schizophrenia, bipolar disorder, and autism. At the time, neuroscience had not reached a stage at which clinicians could identify pathologic lesions or genetic abnormalities that could serve as reliable biomarkers of any one mental disorder or group of disorders. However, despite these limits, the APA conjectures that mental disorders will likely be shown to represent disruptions in intercellular communication or brain circuitry.

Thomas R. Insel, the former director of the National Institute of Mental Health (NIMH) and champion of the biomedical model, claims that “our ability to define the risk architecture of the major psychiatric disorders appears now limited only by our ability to identify the phenotypes and endophenotypes of the illnesses, our access to DNA from enough patients and their relatives, and our skill in detecting critical gene-environment interactions” (2005, para. 4). He argues that neurogenomics, which attempts to understand where and when all of the genes in the brain are expressed, will guide our understanding of the primary forces driving mental illness. Insel firmly situates the study of mental illness within neuroscience, claiming that if mental disorders are, in essence, brain disorders, then abnormal patterns of brain activity will be the “pathology” of these illnesses, and that clinical studies of brain circuitry where pathology lies will help predict response to treatment (2005, para. 13). He argues that the forthcoming decade will be “the Decade of Discovery” for the brain sciences, during which “major candidate molecules, cells, and circuits for normal and abnormal brain function will be identified for the first time” (2005, para. 19). The goal of this new period of discovery will be to refine descriptions of the underlying pathophysiology of mental disorders, which will lead to diagnoses based on the identification of biomarkers and the development of corresponding medical treatments.

Studies funded by the NIMH are framed in terms of the discrete diagnostic categories promoted first in the DSM-III and now the DSM-V (Kirmayer & Crafa, 2014). The DSM-V has become the international standard for identifying and treating mental disorders because it has played a critical role in clinical research and training. The intellectual origins of the categories in the DSM-V can be traced back to the 1978 RDC, which operationalized diagnostic categories through specific symptom criteria based on characteristics researchers believed would identify discrete psychiatric diseases (Regier et al., 2009). The view that mental illnesses are analogous to physical diseases spawned a methodological strategy that was underwritten by biological reductionism (Kirmayer & Crafa, 2014). However, unlike its predecessors, the DSM-V reflects a dimensional rather than a categorical approach, acknowledging the fact that symptoms exist on a continuum. Despite this modification, the DSM-V is a fairly conservative revision of its predecessors, since its categories are still based on the theoretical foundations of the biomedical model.

In summary, the biomedical model reigns supreme as the paradigm structuring clinical research and practice in psychiatry. The DSM-V is the modern embodiment of the biomedical model. As a product of the neo-Kraepelinian movement, it promotes the view that “the study of psychopathology and treatment should be located within the field of medicine, mental disorders are discrete entities with etiologies that can be traced back to biology”, and “understanding psychopathology requires extensive concern with the standardization of diagnostic categories” (Gone & Kirmayer, 2010, p. 73). Modern psychiatry is rooted in neuroscience, which is primarily concerned with identifying the neurobiological correlates of mental illness. Mental disorders are understood as brain diseases caused by neurotransmitter dysregulation, genetic anomalies, and defects in brain structure and function (Deacon, 2013). Psychotropic medications

are emphasized because they target the biological substrates of mental illness, supposedly correcting the neurotransmitter imbalances that cause mental disorders. Thus, the biomedical model of mental illness represents a scientific paradigm founded on biological reductionism.



#### **Part IV: The Limits of the Dominant Paradigm**

Despite the psychiatric industry's faith in the potential of neuroscience to revolutionize our understanding of psychopathology, neuroscience has failed to elucidate the biological mechanisms of mental illness. Researchers have failed to identify a single biological marker that can sufficiently inform a psychiatric diagnosis, and not a single biological test appears as a diagnostic test in the DSM (Deacon, 2013). Psychiatrists have failed to describe the underlying pathophysiology of any mental disorder, because "the precise means and mechanisms within the brain and body that are presumed to culminate in the reported symptoms or observable signs of psychiatric disorder are elusive and (almost in every instance) unknown" (Gone & Kirmayer, 2010, p. 74). Additionally, mental health outcomes have not improved in proportion to the development of new pharmaceutical treatments. Rather, mental disorders are worsening in severity and chronicity, and are one of the leading causes of disability in the world (Deacon, 2013).

This reality does not bode well for champions of the biomedical model as the dominant paradigm within psychiatry. The failure of researchers to elucidate the biological basis of mental disorders suggests that etiology is complex and cannot be reduced to a single causal mechanism within the brain or body (Kirmayer & Crafa, 2014). That the mental is necessarily linked to the physical is a given within psychology, so claiming that mental disorders have a biological basis is tautological and uninformative. Furthermore, an observed correlation between psychological and biological events does not necessarily mean that those psychological events are biological events (Deacon 2013). Biological descriptions of psychopathology would allow us to understand biological correlates and manipulate illness clinically, but would do nothing to further our

understanding of the subjective experience of mental illness<sup>1</sup>. In the absence of biological diagnostic tests, it is, in fact, the subjective reports of patients that a psychiatrist must first take into account in the initial stages of treatment. Thus, biological reductionism does not do justice to the mental lives of patients.

The biological reductionism inherent in the dominant paradigm generates research biases that favor biological problems and solutions, leading to methodologies designed to emphasize precisely those variables that researchers deem significant under the biomedical view (Ross & Pam, 1995). Thus, scientific data is reified to support a reductionist ideology that influences not only research but also practice. Through this process of reification, the hypothetical constructs of the DSM-V are attributed reality status in the absence of credible evidence of the existence of such constructs (Thyer, 2015). Reification of the DSM categories also leads to circular reasoning: a patient's reported problem, whether it be emotional, cognitive, or physiological, is attributed to a particular disorder, which is in turn used to explain the origin and the nature of the problem. Because the presence of a clinical problem is used to justify the diagnosis and vice versa, the categories of the DSM are reified through the diagnostic method of the dominant paradigm; they are assumed to be natural categories that exist more or less universally, rather than the hypothetical constructs that they are. The historical, economic, and social forces that shaped their construction remain hidden behind this process of reification.

The WHO Determinants of Outcome Study exemplifies this process of reification on an international scale (Kleinman, 1989). The Determinants of Outcome Study was one of the most rigorous and systematic multicultural comparison of rates of incidence for schizophrenia. By focusing only on a homogenous subsample, the researchers were able to conclude that the

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<sup>1</sup> This problem is not unique to reductionist accounts of mental illness. Any attempt to explain mental phenomena in reductionist terms will fail to capture the phenomenological aspects of those phenomena (Nagel, 1974).

incidence rates for schizophrenia were relatively uniform across the ten societies studied. The results of this study are an artefact of the methodology, since the restricted sample excludes precisely those cases that demonstrate the most heterogeneity, effectively obscuring cultural variations. Thus, the results are invalid. They exemplify the bias towards eliminative reductionism inherent within the dominant paradigm and reify the hypothetical constructs of the biomedical model.

Reification of the categories in the DSM also results in a category fallacy. Arthur Kleinman, a renowned American psychiatrist and one of the pioneers of cross-cultural psychiatry, sums up this idea neatly: “The reification of one culture’s diagnostic categories and their projection onto patients in another culture, where those categories lack coherence and their validity has not been established, is a category fallacy” (Kleinman 1989, p. 14). The construction of the categories in the DSM were contingent upon historical and social changes in Europe and America, and thus reflect Western ideologies and values. Cross-cultural studies in psychiatry are conducted mainly by Western psychiatrists, and most members of indigenous cultures receive psychiatric training in Western institutions or in institutions dominated by Western paradigms (Kleinman, 1989).

One example of the category fallacy is Kleinman’s study of patients at the National Taiwan University Hospital, which provides contrary evidence to the idea that the features of depression do not vary significantly across cultures (1977). Ten of the twenty-five patients in Kleinman’s study exhibited all the signs and symptoms of the depressive syndrome, and seven of those responded completely to specific treatment for depression, but none of them reported depressive affect or would accept the medical diagnoses that they were suffering from depression or mental illness. Moreover, majority of the patients emphasized bodily over emotional or

cognitive complaints and viewed these complaints as the “real sickness” (Kleinman, 1977, p. 5). This is an example of somatization, which is a tendency to present somatic complaints in place of psychological ones<sup>2</sup>.

Somatization is more common in non-Western traditional societies and among minorities in the United States (Kleinman, 1977, p. 6). Because mental illness is highly stigmatized among the Chinese, the physical complaints accompanying the disorder are labeled as the medical problem, while the psychological problems are left unlabeled. The patients in Kleinman’s study rejected the diagnosis of depression, preferring the label ‘Mandarin neurasthenia’, which is seen as primarily a physical disorder with stress-related psychological symptoms. Patients frequently used their physical complaints as metaphors to indirectly communicate the personal and interpersonal issues in their lives that drove them to seek medical attention. Somatization represents a culturally sanctioned mode of expression for Chinese patients suffering from mental illness. In addition to rejecting the medical label of depression, some of the patients sought alternative treatments, such as acupuncture and herbal medicine.

This study shows how assuming the universality of the Western notion of depression is a category fallacy. Somatization demonstrates how culture influences the way individuals conceive of and experience mental illness. The Western definition of depression fails to capture these cultural discrepancies, and is thus not a valid illness category when applied in different cultural contexts. A depressive syndrome can certainly be isolated, but it will constitute only a small portion of the wide range of depressive phenomena that exists (Kleinman, 1977). Thus, a diagnosis of depression represents a cultural category constructed by Western psychiatrists in order to yield a homogenous group of patients.

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<sup>2</sup> For similar up-to-date studies, see Ryder et. al (2008) and Parker et. al (2001).

Another example of how Western notions of mental illness lead to a category fallacy is discussed in a study examining the influence of clinician bias on the diagnosis of psychotic disorders among native Dutch and Moroccan immigrants in the Netherlands (Zandi et al., 2010). Prior to this study, epidemiological studies in the UK reported increased incidence rates of schizophrenia among ethnic populations, particularly among Moroccan migrants to the Netherlands. The researchers in this study used two diagnostic tools: a standard diagnostic interview, the Comprehensive Assessment of Symptoms and History (CASH), and an adapted version of the CASH, the CASH-CS, which was designed to arrive at a more culturally sensitive interpretation of symptoms.

There were three areas of interest in the study: hallucinations, dissociative symptoms, and affective symptoms. In Moroccan culture, hearing voices, seeing dead people, being influenced by outside sources or having a sensation of being outside the body are idioms of distress or can be part of a dissociative possession state (Zandi et al., 2010). Unlike the standard CASH, these symptoms were rated “low confidence or not significantly present” if these culturally acceptable experiences were mentioned by patients (p. 76). Using the standard CASH, 65% of Moroccan and 51% of the Dutch participants diagnosed with a suspected psychotic disorder had schizophrenia. Using the CASH-CS, 15% of Moroccan and 59% of Dutch participants with a suspected psychotic disorder were diagnosed with schizophrenia.

One Moroccan woman reported hearing voices, seeing imaginary people, and being followed by strangers. Using the standard CASH, she was diagnosed with paranoid schizophrenia along with two depressive symptoms. In the interview with the CASH-CS, she claimed that she was possessed by a spirit known as ‘jinn’, an accepted phenomenon in Moroccan and Islamic cultures. She attributed her persistent infertility—the cause of her severe

depression—to the jinn, admitting that she felt comforted by the fact that her lack of fertility was not caused by a physical problem. Based on this information, the researchers concluded that the pseudo-hallucinations she was experiencing had culturally salient religious and mystical connotations; thus, they could not be seen as pathological. In contrast to the CASH diagnosis, the woman was diagnosed with severe depression without any psychotic symptoms (Zandi et al., 2010).

Another Moroccan man reported similar hallucinations and was also diagnosed with paranoid schizophrenia using the standard CASH. In the CASH-CS interview, the man admitted that the voices he was hearing were his father's voice in his head shaming him for gambling, and the strangers he believed were following him were associated with creditors he feared would seek him out to collect the debts he owed. Hearing his father in his head saying punishing words is a culturally acceptable expression of intense shame in Moroccan society. Using the CASH-CS, the man was diagnosed with severe depression without psychotic symptoms (Zandi et al., 2010).

This study illustrates how misinterpretations of culturally accepted idioms of distress lead to misdiagnoses of schizophrenia in ethnic minorities. According to the data obtained from the culturally sensitive version of the standard assessment, rates of schizophrenia among Moroccans were no longer significantly higher than among the Dutch. Using the CASH-CS, 42% of Moroccan patients assumed to have a psychotic disorder turned out not to be psychotic at all. The researchers reclassified many Moroccan patients as non-psychotic because on the basis of the culturally sensitive version of the CASH, “hallucinatory and delusion-like symptoms among immigrant patients is not automatically interpreted as perception disturbance or thought disorder indicative of psychosis” (Zandi et al., 2010, p. 84). Additionally, the diagnoses based on the CASH-CS were much more concordant with diagnoses made by local Moroccan psychiatrists.

Both aforementioned studies demonstrate how knowledge about the cultural background of patients is fundamental to making valid diagnoses of mental illness. What is considered pathological varies from culture to culture based on culturally acceptable interpretations of a disease. Kleinman makes an important distinction between disease and illness. Disease is a “malfunctioning or maladaptation of biological or psychological processes,” while illness is the “personal, interpersonal, and cultural reaction to disease” (Kleinman, 1977, p. 9). In most sicknesses, disease and illness occur together and reciprocally influence each other. Societal reaction to disease plays a role in the form and meaning of a disease by influencing the expression of symptoms and notions of appropriate treatment. Disease problems may respond to technological interventions, while illness problems generally require psychosocial interventions due to their nature as culturally relative phenomena. In Kleinman’s study, the depressive syndrome would appear to be a disease, while the degree and form of somatization in Chinese culture appears to reflect a discrepancy between the way this disease is shaped into illness behavior in Chinese and Western cultures.

The biomedical model of mental illness attends mainly to disease (Kleinman, 1977, p. 9). By highlighting the biological aspects of mental illness, it ignores personal narratives about illness, and by extension the cultural background of the patient that shapes these narratives. The patient’s problems are decontextualized; the relation between the patient and the surrounding cultural and social milieu is de-emphasized in order to produce a clinical syndrome that accords with the pre-established categories of the biomedical model. Because the biomedical model was conceived from the standpoint of biological reductionism, the diagnostic instruments and the research methodologies developed under this model will inevitably reflect the tenets of biological reductionism. The studies discussed illustrate the dangers of the biomedical model. By

adopting this view of mental illness, we risk overlooking the personal, interpersonal, and cultural factors that not only shape the manifestation of mental illness but also frame the patient's own understanding of the problem and that give meaning to his or her experience.

A proponent of the biomedical model might defend biological reductionism by claiming that while culture plays an undeniably important role in shaping psychological phenomena, its role is still secondary to that of biology in the manifestation of mental illness. Indeed, it would be preposterous to deny that culture plays a role in shaping mental illness. However, biological reductionism can be maintained under the view that the effects of culture are pathoplastic. The term 'pathoplasticity' was established to "describe the culture-sensitive part of symptomatology of mental disorders" (Stompe et al., 2006, p. 158). A pathoplastic view of culture assumes that culture merely shapes the expression of discrete mental illnesses (Sam & Moreira, 2012). Culture is understood as a force that does nothing more than modify the contents of Western psychiatric categories, which are still assumed to be universal. By asserting that the effects of culture are pathoplastic, proponents of the biomedical view can adhere to the premise of biological reductionism without facing criticisms for denying the importance of culture.

The pathoplastic view of culture assumes that culture is antecedent to the individual, which contrasts with the anthropological view of culture as an "integral part of an individual's make-up" (Sam & Moreira, 2012, p. 12). In recent years, researchers studying psychopathology across cultures have adopted the anthropological view, positing culture as a constituent part of mental illness, rather than as an external force that merely modifies it (Ryder et. al, 2011). Disorders are biological and cultural, in a fundamentally inseparable way. Pre-existing cultural symbols, norms, and scripts constrain the development of the mind and its functions in a given social context. Conversely, these cultural scripts, symbols, and norms have historically



originated from minds that were collectively dedicated to solving problems and that evolved to adapt to the ever-changing exigencies of a particular environment in a particular period of time. Thus, mind cannot be understood without reference to culture, and vice versa. The authors argue that culture, mind, and brain should be considered as multiple levels of the same system, the “culture-mind-brain complex”, and that “psychopathology is an emergent property” of this complex, “with no ultimate cause at any one level” (Ryder et al., 2011, p. 965). Modern psychiatry ignores the reality of the culture-mind-brain complex by drawing conclusions based on samples taken mainly from Western, educated, industrialized, wealthy, and democratic societies. This explains the category fallacy that defines cross-cultural studies of psychopathology. The idea of the mutual constitution of mind, brain, and culture escapes the category fallacy because it accounts for the fact that brain development is constrained by experiences that are culturally constituted, and that conversely, brains also constrain the development of culture and individual minds.

Because humans are fundamentally social beings, our brains are biologically prepared to acquire culture. Culture, understood as “learned behavior and meanings that are socially transmitted for purposes of adjustment and adaptation” (Marsella & Yamada, 2010, p. 105), constitutes our surroundings, generating patterns of behavior that influence physiological processes. These physiological changes may be genetically transmitted from generation to generation. Thus, biology and culture influence each other reciprocally in a dynamic, ever-changing relationship. In the context of the culture-mind-brain complex, psychopathology can be seen as emerging from a dynamic loop linking physiological processes with social processes. The biomedical model fails to apprehend this looping effect, regarding the social and cultural aspects of mental illness as epiphenomena that must be stripped away to reveal an underlying

biological cause, perpetuating narrow conceptions of the complex interplay between individuals and their cultural and social environment.

From a cross-cultural perspective, the fundamental issues in psychiatry—what is normal and what is abnormal, how disorder is experienced, perceived, and expressed, why treatments work or fail—emerge from a “dialectic between the self and the social world” (Kleinman, 1989, p. 3). This dialectic is the origin of thought, emotion, and action, all of which necessarily constitute mental illness. A psychiatric diagnosis is an interpretation of a subjective experience, mediated through the patient, whose subjective report is in turn mediated through culturally salient forms of communication. The experience of a mental disorder is itself mediated through factors such as beliefs about illness, the patient’s self-perceptions, various meanings of pain and suffering, and socially learned illness expressions, all of which are culturally bound. In this light, a symptom is an experience, and a psychiatric diagnosis is an interpretation of this experience made within a particular conceptual system, which is itself culturally bound. The category fallacy is characteristic of Western psychiatry because the culturally contingent nature of the biomedical model is largely ignored. Indeed, in the absence of a cultural and social milieu, the concept of a ‘mental disorder’ would be meaningless (Kleinman, 1989).

Because the dominant paradigm in psychiatry is predicated on biological reductionism, it inevitably underestimates the importance of cultural factors in mental illness, as illustrated by the anomalies previously discussed. These anomalies cannot be assimilated into the dominant paradigm, because they challenge the notion that psychiatrists should focus particularly on the biological aspects of mental illness and that there should be an explicit concern with diagnosis and classification. Focusing primarily on the biological aspects of mental illness sidelines important cultural determinants, and adhering to explicit diagnostic categories leads to a category

fallacy and the reification of hypothetical constructs of mental illness. A different paradigm is required to fully explain the role of culture in people's mental lives. Cultural ways of living determine, to a large extent, the kinds of psychological and social events that are regarded as problematic, the types of coping mechanisms and resources that should be used to mitigate these stressors, ideas about self, family, and society that govern an individual's interpretation of illness, and the kinds of treatments or healing practices that are considered appropriate (Kleinman, 1989). These cultural contingencies shape and give meaning to individual suffering. They structure an individual's experience of reality, and as such, must be studied in detail when diagnosing a mental disorder. By giving more consideration to the biological factors of mental illness than to the patient's cultural background and social surround, the biomedical model assumes an impoverished view of not only the mind, but also of the ways in which society and culture define human suffering.

### **Part V: Towards A New Paradigm**

The biomedical model of mental health, the dominant paradigm in psychiatry, fails to account for fundamental aspects of mental illness because it is founded upon biological reductionism. The anomalous cases discussed earlier illustrate the extent to which culture determines an individual's experience of mental illness. They provide evidence for the culture-mind-brain complex, in which culture, mind, and brain are inextricably linked in a dynamic system. Culture, mind, and brain constitute one another, providing the background for more complex relationships that link internal, bodily processes with external, social processes. Psychopathology arises from these complex relationships and cannot be reduced to any one level of the culture-mind-brain complex. Neither can it be reduced to any one physiological or social process. Thus, it is erroneous to conceive of causation at the level of the brain, a view that the dominant paradigm assumes.

According to Kuhn, when a field of science confronts anomalies that challenge the underlying assumptions of the dominant paradigm, it enters a state of scientific crisis (Kuhn, 1996). The fundamental assumptions of the dominant paradigm that structure methodology and practice begin to break down. If the anomalies cannot be assimilated into the dominant paradigm through some minor changes to the paradigm, the search begins for new fundamentals upon which a new paradigm can be built. Because certain anomalies challenge the reductionist premises of the biomedical model of mental illness, Western psychiatry is in a state of scientific crisis. The rules that govern the application of its methods, the expectations of researchers, and the boundaries of admissible solutions to certain problems are fundamentally incompatible with a non-reductive view of psychopathology. The time is ripe in psychiatry for new fundamentals.

Biological reductionism, which defines the dominant paradigm in psychiatry, is predicated upon the traditional view of mind (Drayson, 2009). According to this view, mental states are understood to be operations of the biological brain (Clark, 2000). Mental states (thoughts, feelings, beliefs, etc.) and mental processes (perception, attention, cognition, etc.) constitute the mind. The biological brain is analogous to hardware, while the mind is analogous to software. Thus, the brain is seen as a computational machine, and the mind is firmly situated within this machine. The mind is both representational and computational; mental states represent features of the outside world, and the brain operates over these internal representations, transforming and manipulating them in various ways (Clark, 2000).

The distinction between software and hardware, and the emphasis on the brain as a computational machine, explains many of the commitments of the dominant paradigm in psychiatry. Mental disorders are understood as problems with the computational faculty of the brain that can be explained at the structural level (hardware) or the functional level (software). The computational model of the brain justifies the predominant assumption within psychiatry that research on psychopathology should be located mainly within the field of neuroscience, with a focus on neural circuitry and function. Moreover, the notion that the mind resides firmly within the brain lends credibility to biological reductionism, for if mental events simply represent the functioning of the brain, then mental disorders should be studied primarily by referencing the brain. Thus, the traditional view of mind supports the fundamental assumption within Western psychiatry that focusing on the biological aspects of mental illness will yield the most knowledge about mental illness.

Clark and Chalmers' theory of the extended mind challenges the traditional understanding of the mind as being located within the brain, or the head. They argue that when

humans perform certain cognitive tasks, they interact with external resources to produce a 'coupled system' that links external resources with internal (mental) ones. The components of this coupled system jointly govern behavior in the same way that cognition does (Clark & Chalmers, 1998, p. 2). They illustrate this with three examples. In the first example, a person is tasked with mentally rotating shapes on a computer screen to fit depicted sockets; in the second example, the person has the option either to mentally rotate the shapes as before, or to physically rotate the shapes by pressing a button; in the third example, the person has a neural implant that can rotate the shapes as fast as the computer can in the previous example, and is again given the option to utilize the neural implant or to mentally rotate the shapes. In all three cases, it appears that the same amount of 'cognition' is present, the only difference being that in the second example, this cognition is being distributed across the agent and the computer, rather than being contained within the agent. The button in the second example represents an external resource that has been 'coupled' with the agent; it is just as causally relevant to the execution of the rotation as any internal resource would be if the agent had chosen to mentally rotate the shapes (Clark & Chalmers, 1998).

The authors state the principle of the extended mind thusly: "If, as we confront some task, a part of the world functions as a process which, were it done in the head, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world is (so we claim) part of the cognitive process" (Clark & Chalmers, 1998, p. 8). Cognitive processes don't just happen in the brain, as assumed by the traditional view of mind; cognitive processes can extend beyond the brain into the world. Thus, the mind is not necessarily housed within the brain. Gallagher and Crisafi expand upon this theory of the extended mind, criticizing Clark and Chalmers for proposing only a moderately liberal alternative to the traditional view of mind

(2008). By claiming that a process happening outside the head can be considered a cognitive process only if it can, in principle, be accomplished *inside the head*, Clark and Chalmers still end up committing themselves to a minimal version of the traditional view of mind; they nonetheless define cognition according to the “gold standard of what goes on in the head” (Gallagher & Crisafi, 2008, p. 46).

The authors advance a more liberal interpretation of the extended mind theory. They argue that there are external processes which in principle may not be possible to perform in our heads, but which nonetheless can be linked with an agent to form a coupled system that qualifies as a “cognitive system in its own right” (Gallagher & Crisafi, 2008, p. 46). The authors use the legal system as an example. The legal system requires individuals to make judgments about what falls within the bounds of legality and what does not. In the traditional view of mind, judgments and decisions are made within a conceptual framework that is located within the head. However, the kinds of judgments entailed by the legal system do not merely occur in the privacy of the head; they ‘supervene’ (be entailed by or a consequent of) on external processes that allow access to and control over a wide range of information.

For example, judgments made within legal institutions, such as a court of law, are based on evidence, and they must be made according to a body of law. Moreover, the relevant parts of this body of law will only begin to emerge as the trial proceeds, because their relevance will vary depending on the particulars of the trial. In this case, judgments don’t just happen in the privacy of the head; they emerge within the larger workings of the legal institution. In this light, the legal process is an extended act of cognition that cannot be reduced to what is happening inside one person’s head or even in the multiple heads of the people that constitute the court. The legal process is cognitive in the sense that it is “cognition producing”—insofar as it produces

judgments—and ‘cognition produced’—insofar as it is a product of the collective cognition of generations of agents (Gallagher & Crisafi, 2008, p. 48). Thus, the various resources and practices that constitute not only the legal system, but also other social institutions, form a cognitive circuit: they are both producers and products of cognition. According to this view, cognition is understood as “a set of processes that loop in and out of brains and social institutions that are designed with cognition in mind” (p. 49). The cognition that occurs in this case can be understood as an internalized version of larger, socially instituted process that in principle cannot happen in the head, but rather extend into larger, varied environments.

Culture, broadly defined as “shared learned behavior and meanings that are socially transmitted for purposes of adjustment and adaptation” (Marsella & Yamada, 2010, p. 105), shares many of the characteristics of a social institution. Any given culture at a specific time and place is cognition-produced—it is a product of the collective cognition of generations of agents—and cognition-producing—it constrains the kinds of judgments that individuals make, insofar as different cultural scripts influence an individual’s perception and interpretation of reality in different ways. In this sense, culture may illuminate Gallagher and Crisafi’s notion of social institutions as part of extended cognition, since culture is antecedent to social institutions. Social institutions, which govern cognitive processes surrounding a vast array of human problems, are built according to specific cultural practices. Cultural practices are individual and group activities that are constrained by certain cultural sensibilities (Hutchinson, 2010). For example, the specifics of verbal and gestural modes of communication are constrained by salient cultural sensibilities that tell agents which distinctions they should attend to and which they can ignore. To a large extent, cultural practices determine the mental states agents are inclined to have, since culture governs our ways of being in the world, including the concepts and meanings



we employ to organize our sensory experiences. Thus, cultural practices play a fundamental organizing role in human cognition. Cultural practices are not merely internal representations of reality acquired through cultural learning; neither are they disembodied models of knowledge. Rather, they are necessarily grounded in the social relations that exist between individuals. They are fully embodied skills that allow individuals to relate to one another as part of a collective whole.

Cultural practices are part of extended cognition in the sense that they form part of a cognitive circuit that loops through individual minds and social environments, designed to reinforce certain ways of thinking and acting. These dynamic loops are produced and maintained within a collective, and an agent establishes the ability to produce and maintain these loops only by participating in a culture (Hutchinson, 2011). In this sense, culture gives rise to new kinds of behavior and ways of thinking that would not otherwise have existed. An agent develops internal resources, such as mental representations, through cultural learning, and these resources are differentially recruited in social interactions by agents engaging in relevant cultural practices. Moreover, no single agent is responsible for the organization of cultural practices that provide the context for social interaction; rather, the organization of these practices emerges from, and is embodied in a cognitive circuit linking multiple agents with each other and with the external world. Because culture plays a significant role in cognitive recruitment, it can be seen as part of a larger cognitive system that connects internal resources to external practices, agents to agents, and agents to their cultural environment. Thus, culture does not merely shape human cognition; it is a fundamental constituent of human cognition.

One might object to the centrality of culture in the organization of cognitive systems by claiming that the evolution of the biological brain preceded the evolution of culture. Because

certain anatomical antecedents must have been present before humans could develop culture, the brain is still the core element organizing human cognition and activity. The basic elements necessary for acquiring culture are encoded in genes or certain brain structures, and culture merely operates on these internal codings in a non-essential manner. Even if one gives the extended mind theory its due, biological reductionism can be upheld by claiming that the biological brain, which supplies the hardware necessary for the activity of the mind, is the primary executive controlling the assemblage of cognitive systems. Culture is significant, but still plays a secondary role in structuring cognitive processes.

It is widely believed that the brain primarily directs the development and acquisition of culture, but evidence shows that the causal relationship between the brain and culture is bidirectional. Research from the past few decades suggests that physiological processes taking place in the brain are shaped to a degree much larger than hypothesized by exposure to and active engagement in sociocultural environments (Kitayama & Park, 2010). Culture induces neural activities by providing cultural tasks designed to achieve that culture's values. Engaging in these tasks helps individuals achieve cultural adaptation, and repeated engagement reinforces certain neural activities. For example, MRI studies showed that Chinese people and American people recruit different brain regions to solve the same set of math-problems, demonstrating that different neural operations are recruited to perform the same task depending on a person's social and cultural background. Additionally, sustained participation in a set of cultural tasks forges specific neural connections that are reinforced over time (Kitayama & Park, 2010). This illustrates how the evolutionary relationship between the brain and culture is reciprocal, and that prioritizing one level of analysis over another masks complex interactions between sociocultural phenomena and biological development that may be crucial to understanding mental health

issues.

If we adopt the framework of the extended mind theory and choose to view culture as a fundamental constituent of the human mind, the role of culture in mental illness takes on a whole new light. Instead of adopting a biologically reductionist standpoint on psychopathology, we would adopt the cultural standpoint of the person afflicted with mental illness. Understanding culture as part of the extended mind would illuminate not only the ways in which culture influences our perceptions and experiences of mental illness, but also the ways in which culture structures certain cognitive processes in the brain that are implicated in mental illness. This could lead to a gradual, ideological shift away from the reductionist premises of the biomedical model of mental illness.

Still, one might refute the extended mind theory by claiming that there is already an alternative model aimed at a more integrative approach toward understanding and treating mental illness. This is the biopsychosocial (BPS) model, developed in the 1970s by psychiatrist George Engel during a time when biomedicine was being criticized for its reductionist stance and its inability to adequately address the social context, the subjectivity of the patient, and the physician's role in clinical relationships (Borrell-Carrió, Suchman, Epstein, 2004). To rectify these problems, Engel argued that mental health issues should be assessed across biological, psychological, and social domains, and that researchers and practitioners should avoid privileging one domain over another. Although the BPS model effectively challenged the reductionist methodologies of the biomedical model, it has not significantly reduced scientific commitment to the tenets of the biomedical model, which remains the dominant paradigm affecting research and practice in psychiatry today (Benning, 2015).

Moreover, some have criticized the BPS model for masking an underlying biomedical

approach and for providing no safeguards against privileging one domain over another (Hatala2012). Research studies attempting to apply the BPS model stress psychological variables, giving minimal attention to sociocultural factors. Hatala adds that cultural factors are often subsumed under the social domain, and that the dominant conception of culture reflected in research studies culminates in a narrow understanding of the ways in which individuals internalize cultural narratives and practices (2012). Culture is commonly understood as “a group’s shared collective meaning system through which the group’s collective values, attitudes, beliefs, customs and thoughts are understood” (Hatala, 2012, p. 56). Seeing cultural traits as properties that belong more or less universally to members of the same cultural group leads researchers to exaggerate differences between cultures and to overlook differences within cultures. No two individuals internalize a particular cultural system in the same way. Cultural narratives, symbols, and practices take on different meanings and degrees of relevance to an individual, and “cultural processes must be highly dynamic and ever changing because the minds and self-states of the people who embody and enact them are” (p. 57). While it is important to develop quantitative measures for culture, the role of individuation and internalization must not be discounted. Because BPS assumes the dominant conception of culture that often fails to distinguish between the existence of a particular cultural trait and that same trait as having a personalized meaning, clinical application of the BPS model risks obscuring the subjectivity of the patient.

The extended mind theory can prevent quantitative measures of culture from obscuring the patient’s subjective experience of mental illness. Because the extended mind theory sees subjectivity as emerging from the interaction of dynamic loops linking internal psychological and physiological experiences with external sociocultural events and contexts, it is an ideal

framework for conceptualizing mental health problems in a more holistic manner. The patient remains at the center of the clinician-patient relationship, and the patient's local world is seen as part and parcel of his or her lived experience. The extended mind theory directs our attention equally to both internal and external processes without discounting the subjectivity of the patient, thus offering a safeguard against the prioritization of certain levels of analysis in the clinical application of the biomedical model as well as the BPS model.

To a certain extent, the concept of mind is a social construct that evolves to accommodate our understanding of human consciousness and our purposes for describing it. In this light, theories of mind are useful insofar as they direct our thinking and behavior in useful ways, but adhering dogmatically to any one theory of mind and taking it too literally limits our exploration of the nature of human consciousness by creating boundaries that need not exist. The traditional view of mind is flawed because it exists as the basis for biological reductionism in psychiatry. So long as models of mental illness are constructed on the assumption of the traditional view of mind, research and practice will remain fettered by the limitations of biological reductionism. In order to purge psychiatry of biological reductionism, a new theory of mind must replace the traditional view of mind as a fundamental assumption. Adopting a new assumption that is incommensurable with the assumption underlying the dominant paradigm entails a revolutionary paradigm shift.

I believe that Western psychiatry is in need of precisely such a paradigm shift. The dominant paradigm promotes reductionist views that result in an impoverished conception of human suffering. A new paradigm is needed, one that is sensitive to the minute, experiential details of human suffering and how they are shaped by the sociocultural environment. Because the dominant paradigm assumes a view of the mind that is incompatible with this approach to

human suffering, an alternate view of the mind is needed. The extended mind theory, which can be used to account for the complex web of relationships that exist between humans and their environment, is exactly the kind of alternative that can become the basis for a revolutionary paradigm shift in psychiatry.

What would a new paradigm based on the extended mind theory look like? I want to make it clear that a new paradigm does not necessarily exclude all elements of the old paradigm. Ideally, a new paradigm should encompass useful elements of the old paradigm, but it should also be capable of making predictions and solving problems that the old one could not. The biomedical model has been incredibly useful in providing researchers with the language needed to effectively describe symptomatology, the diagnostic tools needed to increase inter-rater reliability, and the methodologies needed to translate important biomedical insights into clinical practice. However, the biomedical model has failed to offer an integrative analytic approach that accounts for the equal importance and interrelatedness of all levels of analysis. I have shown how this failure is due to biological reductionism, and how the traditional view of mind—as the assumption underlying the biomedical model—encourages biological reductionism. I have also demonstrated the inefficacy of the biopsychosocial model in promoting a genuinely holistic view of psychopathology due to its narrow conception of the cultural and experiential aspects of psychopathology.

Although it is beyond the scope of my paper to explicate all the parts of a new paradigm that assumes the extended mind theory, here are some questions that may guide research under the new paradigm: How can clinicians apply anthropological methods to elicit patient beliefs about the cultural and ethnic dimensions of mental illness? How do different forms of social distress present in bodily complaints, and what does this reveal about cultural meanings of

illness? How can therapeutic and pharmacological treatments be integrated into culturally sanctioned modes of healing? How can clinicians use their knowledge about the patient's personal biography and local world to interpret the significance of the narrative of the illness for the patient, the patient's family and significant others, and for the clinician himself? Addressing these questions will require unprecedented levels of interdisciplinary communication and education across psychology, psychiatry, anthropology, and sociology. Collaboration across these disciplines will draw more attention to methodological approaches such as narrative inquiry, ethnography, and case study analysis. Adopting a new paradigm that incorporates these concerns and methods will encourage greater integration of multidisciplinary perspectives and broaden our understanding of the irreducible complexities of mental illness.

## Conclusion

The biomedical model of mental illness, as the dominant paradigm in psychiatry, has failed to solve the problems it was designed to address. The biological substrates of mental illness remain unclear, and mental health outcomes have not improved, despite rigorous research in neuroscience and the development of new pharmacological treatments. Moreover, the cross-cultural application of the biomedical model of mental illness often results in a category fallacy in which Western interpretations of mental illness are reified. The need to account for the complex relationship between a patient's lived experience of mental illness and the patient's sociocultural environment suggests that the time is ripe for a revolutionary paradigm shift in psychiatry.

The traditional view of mind undergirds the reductionist approach of the dominant paradigm. In order for biological reductionism to be eliminated, an alternate view of mind must replace the traditional one. The extended mind theory is an ideal candidate for this position, since it is able to account for the fact that individuals exist and function in dynamic, multidimensional, and bidirectional relationships with their sociocultural environment. An individual's mental life and local world are coupled in inextricable ways that must be critically examined in order to avoid reductionist interpretations of mental illness. Adopting the extended mind theory as the basis for a new paradigm in psychiatry will not only manifest a more holistic account of mental illness but also imbue psychiatric practice with the humanism that is required for a truly comprehensive understanding of human suffering.



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