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11 Looking for the Self in Psychiatry: Perils and Promises of Phenomenology–Neuroscience Partnership in Schizophrenia Research

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Schizophrenia and Extraordinary Science

Schizophrenia is a mental disorder with high rates of prevalence in the United States and elsewhere (Jablensky 1999). It is listed as the ninth leading cause of disability worldwide (Thaker and Carpenter 2001). Yet, precisely what schizophrenia is, how its etiology unfolds, and which treatments are most effective in treating it remain largely controversial. It is diagnosed primarily according to the criteria provided by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). However, these particular criteria have been the target of a number of criticisms, resulting in a Kuhnian crisis in the DSM-led schizophrenia research. There are a number of anomalous research findings inconsistent with the dominant DSM paradigm. Consider a few. First, DSM's phenomenology-oriented critics suggest that the symptoms and signs listed in the DSM's schizophrenia category do not match the clinical realities of the patients (e.g., Parnas 2000; Parnas and Handest 2003). There are also environmental, cultural, and gender-related variations in the expression of the symptoms (American Psychiatric Association 2013, 103). Second, there are concerns about the DSM's reliability; there is no uniformity between the DSM and the *International Classification of Diseases* (ICD) with respect to schizophrenia diagnostic criteria (Jansson et al. 2002). In fact, based on such findings, some philosophers and psychologists including Richard P. Bentall (1993; see also this volume), Mary Boyle (1990), and Jeffrey Poland (2007) have argued against considering schizophrenia as a discrete illness. For instance, Bentall challenges the view that what are considered the symptoms of this condition fall neatly under the label "schizophrenia," and that hallucinations and delusions associated with the condition are meaningless. In this regard, the concept of "schizophrenia" is similar to a number of other concepts; for example, "phlogiston" and "the luminiferous ether" were widely employed by scientists for

a time but turned out to be scientifically misleading (Bentall 1993, 227). These concerns are mirrored also in the psychiatric community, especially in the United Kingdom and continental Europe, where there is an international debate on what to replace the concept of schizophrenia with. Third, there are cultural variations in recovery rates; for example, third-world countries have higher recovery rates than first-world countries (Warner 2009). Finally, there is skepticism raised by the National Institute of Mental Health (NIMH) about the DSM-led research program's efficacy in encouraging research into the genetic and neural etiology of mental disorders; these concerns are applicable to schizophrenia (Insel 2013). It remains to be seen how schizophrenia will be targeted by the NIMH's Research Domain Criteria project—the proposed research alternative to the DSM-5.

Psychiatric research on schizophrenia is currently undergoing a period of extraordinary science, to apply Kuhn's terminology to the current situation in psychiatry, with many alternative research programs investigating the illness using different assumptions and methodologies. As the struggles the DSM-led research faces are now "more generally recognized as such by the profession," trust in the dominant DSM-led research paradigm is shaken, and "numerous partial solutions to the problem" are made available (Kuhn 1962, 82–83). I use philosophical tools in this chapter to evaluate one of these alternative research approaches that I call "phenomenology–neuroscience partnership" (PNP). First, in the "Phenomenological Approach to Schizophrenia" section, I lay out the phenomenological approach to schizophrenia that is critical of the DSM-led research. Next, in the "Phenomenology–Neuroscience Partnership in Schizophrenia Research" section, I focus on the PNP that takes this phenomenological approach as a starting point to investigate schizophrenia, and I address its shortcomings. Then, in the "Adjudication of Phenomenology–Neuroscience Partnership Paradigm" section, I conclude by pointing out the strengths of the PNP and offer prescriptions for its improvement.

Phenomenological Approach to Schizophrenia

The phenomenological approach to schizophrenia takes issue with the DSM description of schizophrenia. According to the DSM, the illness is individuated by the following signs and symptoms (American Psychiatric Association 2013): delusions or hallucinations; disorganized speech (e.g., frequent derailment or incoherence); grossly disorganized or catatonic behavior; affective flattening; alogia (poverty of speech); and avolition (inability to initiate or persist in goal-directed activities) For a diagnosis, two (or more)

of the above need to be present for a significant portion of time during a one-month period. Social/occupational dysfunction must be present as well, and the symptoms need to be evident for a *six-month* period. This description plays a central role in diagnosis, research, treatment, and administrative contexts in North America, given the DSM's monopoly over these contexts.

The DSM framework, specifically DSM-III, DSM-IV, and DSM-5 (American Psychiatric Association 1980, 1994, 2013), has received criticism for its symptom-based criteria from phenomenologically oriented psychiatrists (e.g., Sass and Parnas 2003; Parnas et al. 1998). One specific concern is that self-experience-related anomalies, such as a subject's diminished sense of ownership of his or her own cognitive and emotional experiences and a loss of presence in his or her first-person experience of the world, are among the most frequently encountered features of schizophrenia, yet they are not part of the DSM taxonomy. Some of these psychiatrists even argue that all schizophrenia symptoms can be traced to self-experience-related anomalies, construing, thereby, schizophrenia as a pathology in self-experience (Parnas et al. 1998; Nelson et al. 2009; McGorry, Campbell, and Copolov 1987). If the DSM taxonomy that is instrumental for research and clinical intervention inaccurately represents schizophrenia, so the criticism goes, the goals of research and intervention are necessarily compromised.

Considering schizophrenia as a self-experience-related disorder is not novel. In fact, since the early days of theorizing about schizophrenia, researchers have recognized that the condition involves profound transformations of the self. For instance, an earlier theoretician, Emil Kraepelin considered loss of inner unity of consciousness, an "orchestra without a conductor" to be a core feature of schizophrenia (Sass and Parnas 2003, 427). Early in the twentieth century, Eugen Bleuler (1911/1950, 143) noted the patient's ego tends to undergo "the most manifold alterations," including "splitting of the self" and "loss of the feeling of activity or the ability to direct thoughts." More recently, phenomenologically oriented psychiatrists define schizophrenia as a disorder involving "subtle but pervasive and persistent aspects of subjective experience," where subjective experience is defined as the sense of ownership of the experience, and the feeling of being fully present as the subject of experience (Parnas, Bovet, and Zahavi 2002, 428). Such a definition is mostly based on the first-person reports of those with schizophrenia and clinical observations. These clinicians and theoreticians take self-experience pathologies as early signs of schizophrenia and operationalize the concept as a tool for early diagnosis. They primarily rely

on their clinical experience with patients, as well as their historical work on early conceptualizations of schizophrenia, which also feature first-person reports. To my knowledge, they have not conducted a general study among individuals with schizophrenia to see if they all share such disturbances in their first-person experiences. Nor is there any work that evaluates whether such anomalies may also be prevalent in the nonschizophrenic population.

Phenomenologists consider what I call self-experience^{subjecthood} to be pathological in schizophrenia. Self-experience^{subjecthood} refers to the subject's experience of himself or herself as the *subject* of cognition and emotion, *through* which the individual attains *first-person perspective* on the world. Put otherwise, self-experience^{subjecthood} is experiencing oneself as the vital *subject* of awareness, emotion, and cognition. It is pathological in individuals with schizophrenia according to phenomenologists because these subjects fail to consider themselves as the vital subjects of awareness, emotion, and cognition, as I discuss below.

Self-experience^{subjecthood} is taken to be manifest in all forms of consciousness, for example, perceiving objects, classifying pictures, remembering the past, and so forth. In our self-experience^{subjecthood}, we are *directly*, that is, noninferentially or nonreflectively, conscious of our own thoughts, perceptions, feelings, or pains as uniquely ours. These experiences appear in a first-person mode of presentation and immediately reveal themselves as our own. Phenomenologists call this the "mineness" of first-person experience (Parnas and Sass 2011). When I see the book on my desk, I am instantly aware that the perception of the book is mine; I am the subject of the perception. In this sense, self-experience^{subjecthood} is world directed; it can be thought of as the unarticulated constituent of subjective experience (Perry 1998).

In contrast, self-experience^{objecthood} refers to the individual's experience of himself or herself as the *object* of cognition, and emotion, through which he or she adopts a *third-person perspective* toward himself or herself. In other words, self-experience^{objecthood} is experiencing oneself as the very vital *object* of one's own awareness, emotion, and cognition. Unlike self-experience^{subjecthood}, which is world directed, self-experience^{objecthood} is self-directed. When I see my face in the mirror, I recognize the face I see as my face. The *object* of my perception is my self. The individual may consider himself or herself as an object where the individual represents some mental or physical feature as a feature of himself or herself; this may happen during perceptual self-recognition, for example, when the individual identifies a hand he or she perceives as his or her own hand; during introspection, for example, when the individual reports his or her emotional responses to visual stimuli; during personal self-reference, for example, when deciding whether a personality trait adjective applies to oneself.

Phenomenologists characterize schizophrenia as disturbance or pathology in self-experience^{subjecthood}, as explained in the following:

> Schizophrenia, we propose, is a self-disorder or, more specifically, an ipseity disturbance in which one finds certain characteristic distortions of the act of awareness. *Ipseity* refers to the experiential sense of being a vital and self-coinciding *subject* of experience or *first person perspective on the world.* (authors' note: *ipse* is Latin for "self or "itself" (Sass and Parnas 2003; emphasis in original)

In this understanding, individuals with schizophrenia have diminished intensity or vitality of their own subjective self-presence, in that they do *not* feel themselves as the subjects of their own emotions and cognition. In fact, they report feeling the loss of the sense of inhabiting their own actions, thoughts, feelings, impulses, bodily sensations, or perceptions, sometimes to the point of feeling these are actually in the possession of some alien being (Parnas and Sass 2011). Along with this diminishment, the distinction between self and other disappears. A patient may report, for instance, that he is no longer able to distinguish how much of himself is in him and how much is in others (Freeman, Cameron, and McGhie 1958, 54). Disturbance in self- experience^{subjecthood} ranges from seemingly ordinary utterances such as "I don't feel myself" or "I am not myself," "I am losing contact with myself," or "Something inside me turned inhuman," to "occupied by my own inner world," "feeling like a spectator to my own life," "in painful distance to self" (Parnas and Handest 2003). Psychiatrists report the patient's sense of an "inner void" or "lack of inner nucleus" (Parnas and Handest 2003). They say such things as the following: "I have no consciousness"; "My consciousness is not as whole as it should be"; "I am half-awake"; "My I-feeling is diminished"; "My I is disappearing for me"; "It is a continuous universal blocking" (Parnas and Sass 2011). These psychiatrists have even developed a scale to measure disruptions in the sense of self to help in clinical assessment and treatment of the patients (Parnas et al. 2005).

Parnas reviews the case of Robert, a 21-year-old high school graduate, from a phenomenological stance (Parnas 2000). Robert, Parnas reports, has complained for over a year that he has been feeling cut off from the world. He has lost his initiative-taking energy, with disruptions also in his sleep patterns. He felt as if he was not really present or fully alive and that he did not feel as if he was participating in interaction with his surroundings. He reported an enhanced tendency to observe his inner life. His first-personal

life, he tells, has been lost and is replaced by a third-person perspective. To illustrate, Robert describes how, in listening to music on his stereo, he sometimes has the impression that the musical tune lacks its natural fullness. He reports that he is somehow watching his own receptivity to the music, his own mind's receiving or registering of musical tunes. Periodically, Robert experiences his own movements as reflected upon and de-automatized. His thinking processes acquire a distressingly acoustic quality. From a phenomenological perspective, Parnas sees distortions in the I-experience:

> Robert has lost the normally tacit and prereflective "myness" of experience that is a condition and medium of spontaneous, absorbed intentionality; instead there is a sense of "phenomenological distance" within both perception and action. The perceived object appears somehow filtered, deprived of its fullness of presence—largely, we would argue, because the sensory process lacks the tonality of auto-affection. Perception now seems a mechanical, purely receptive sensory process, unaccompanied by its normal feeling-tone and deformed by now-intrusive processes of knowing ... Robert, in fact, seems to experience a general transformation of the implicit/explicit organization of the act of awareness, with normally foundational and constituting processes becoming objectified. Thus he reports inner speech being increasingly transformed from a *medium* of thinking into an object-like entity having quasi-perceptual, acoustic-like characteristics (Parnas 2000, 124–125).

Some clinical reports cohere with more recently published first-person memoirs of those with schizophrenia. Elyn Saks, for instance, writes,

> Then something odd happens. My awareness of myself, of my father, of the room, of the physical reality around and beyond us instantly grows fuzzy. Or wobbly. I think I am dissolving, I feel—my mind feels—like a sand castle with all the sand sliding away in the receding surf. ... Consciousness gradually loses its coherence. One's center gives way ... [it] cannot hold. The "me" becomes a haze, and the solid center from which one experiences reality breaks up. ... There is no longer a sturdy vantage point from which to look out, take things in, assess. ... No core holds things together, providing the lens through which we see the world. (Saks 2007, 12)

Saks experiences some distance from her subjecthood, in a way similar to Robert. In both cases, we learn of a decreased vitality in the first-person perspective, replaced by a sense of being a mere object of one's own experiences.

Some of the typical symptoms of schizophrenia, as identified in the DSM, such as hearing voices, are considered a form of self-experience^{subjecthood} disturbance. Voice hearing involves hearing one's own thoughts as if they were spoken aloud and simultaneously available to

other persons (Sass 2010). The subject seems to have disappeared, in that the individuals are not aware that *they* are the author of those voices.

The phenomenological research program is one of the alternative paradigms developed in response to the crisis in the DSM-led research paradigm; however, it is yet unclear whether it is able to solve the puzzles and address the controversies faced therein. Among others, for instance, it is unclear whether self-experience^{subjecthood} anomalies can be generalized across the entire schizophrenia population, or whether self-experience^{subjecthood} disturbance *may* affect self-experience^{objecthood}. Yet, its main commitments had inspired the development of the PNP paradigm, which takes the phenomenological research as a starting point and integrates it into neuroscientific research on schizophrenia. I turn to that, now, to evaluate its promises and challenges. Note that I do not endorse the phenomenologically oriented characterization of schizophrenia. My goal is merely to show how this characterization is appropriated and used in the PNP paradigm and to enumerate its strengths and shortcomings.

Phenomenology–Neuroscience Partnership in Schizophrenia Research

PNP is the integration of two traditionally opposing paradigms that investigate mental disorders, namely, phenomenological approaches to mental disorders and scientific approaches. Phenomenological approaches are often characterized as subjective, both in scope and methodology. As discussed above, their scope includes the first-person experience of mental disorder and particular life experiences that make the patient's illness experience unique. Their methodology often involves a clinician's engagement with a single individual's self-reports, and the inferences the clinician draws based on these reports, using his or her clinical expertise. In contrast, scientific approaches are considered objective, insofar as they aim to make generalizable observations about mental disorders, with a focus on the population of the mentally ill, as opposed to a single individual. Methodologically, they target the easily measurable symptoms and signs of mental disorders, with the purpose of designing studies amenable to replication. Examples include clinical trials, neuroimaging studies, genetics research, and so forth. Proponents of the scientific approaches to mental disorders typically want psychiatry to resemble basic sciences, while those advocating phenomenological approaches suggest that psychopathology is complex and that it involves experiences that are unique to individuals, and thus it cannot be captured by basic sciences. In the last decade or so, the tension has become more relaxed, with philosophers, clinicians, and scientists acknowledging

that phenomenology *versus* science is not a true, or, at least, not a productive dichotomy, and we need both to amalgamate the approaches to investigate mental disorders. The suggestion is that they provide different levels of analysis of psychopathology; phenomenology targeting the subjective level, and science targeting the objective level. Nonetheless, integrating them is challenging, as certain concepts are not commensurate, which is one of the challenges that the PNP is faced with.

The PNP paradigm is being developed by some neuroscientists (e.g., Nelson et al. 2008; Yung, Phillips, and McGorry, 2004) who take phenomenologists' characterization of schizophrenia as a self-experience anomaly as a starting point and attempt to trace its etiology to atypical activity in the brain's default network system (DNS)—the anatomically defined brain system that is active when individuals are not focused on the external environment. Findings on the correlations between atypical activity in the DNS and the symptoms of schizophrenia have increased optimism that DNS research will shed light on the neurological underpinnings of schizophrenia (e.g., Whitfield-Gabrieli et al., 2009; Buckner, Andrews, and Schachter 2008; Nelson et al. 2009). Under the PNP paradigm, schizophrenia is construed as a DNS activity anomaly, with some researchers proposing to use DNS activity as a diagnostic tool to identify the at-risk population and facilitate early intervention (Nelson et al. 2009). More specifically, the goal is to detect DNS anomalies in individuals who are in the prodromal phase of schizophrenia, that is, who do not experience all typical symptoms of schizophrenia but merely show some early signs of psychosis, and "treat" them before the disorder is entrenched (Nelson et al. 2009). It is envisioned that this will improve the likelihood of long-term recovery or even prevent the illness onset (Yung et al. 1996; Yung 2003; Yung, Phillips, and McGorry 2004). For instance, one early intervention strategy is to start psychopharmacological treatment on the prodromal population before they fully develop schizophrenia. This, of course, raises ethical problems about whether to treat an individual before he or she fully develops the illness, not to mention other problems including the following: nonpharmaceutical interventions are not contemplated and their efficacy remains unexplored, the side effects of the pharmaceutical interventions, toxic effects of neuroleptics, the likelihood of false positives, and so forth. While these are obviously important issues, I have neither the time nor the space to consider them here. Nor do I take issue with the assumption in the PNP paradigm that schizophrenia is a self-experience disorder. As noted above I do not endorse this phenomenological view of schizophrenia, but for present purposes, I leave the assumption unquestioned. After all, during extraordinary science

where the DSM-led research paradigm is in crisis, a range of stances regarding psychopathology research may coexist. Rather, I tackle the assumption that self-experience can be individuated by DNS activity in the brain, the starting point for the proposals about early intervention.

Anomalies in DNS activity are believed to reveal the neurological underpinnings of the disturbance of self-experience in schizophrenia; evidence of the traction of self-experience through DNS activity comes from a number of functional magnetic resonance imaging studies (Northoff 2015; Qin and Northoff 2011; Northoff et al. 2006). However, in these studies, as we shall see, self-experience is not construed as phenomenologists construe it. To be clear: phenomenologists track anomalies in self-experience^{subjecthood} in schizophrenia whereas DNS researchers track self-experience^{objecthood}. These noncommensurate conceptualizations of self-experience stifle progress in schizophrenia research. What I shall call the problem of "wandering terminology" makes it challenging, if not impossible, to draw reliable conclusions about the correlation between DNS anomalies and schizophrenia.[1]

To substantiate my argument, I should start with an overview of DNS research. Imaging studies have traditionally focused on measuring brain activity when subjects are absorbed in an attention-demanding task, such as solving a math problem, classifying pictures, and so on. In the last 35 years or so, a growing number of studies have examined brain activity (spontaneous fluctuations in the blood-oxygen-level-dependent signal) during resting-state conditions, that is, when subjects are *not* engaged in an attention-demanding task and are left to think undisturbed by the external environment (Fox and Raichle 2007; Buckner, Andrews, and Schachter 2008). One significant finding is that the resting-state activity is organized into a dynamic network connected both anatomically and functionally, the DNS (Fox and Raichle 2007). Anatomically, the DNS involves posterior cingulate/precuneus, medial frontal cortex, and bilateral temporoparietal regions.

In most individuals, DNS activity alternates dynamically between task-dependent, external-world-oriented, and world-directed states, such as solving a puzzle or classifying pictures, and task-independent, internal-world-oriented, and self-directed states, such as remembering the past, envisioning future events, or considering the thoughts and perspectives of other people. In the former, DNS activity decreases, while in the latter, it increases. The latter is often referred to as a "self-directed state" in the sense of being engaged within the individual's internal states as opposed to being engaged with a nonself. For this reason, some neuroscientists claim

DNS activity individuates, or at least, is highly correlated with "self," "self-related thoughts," "self-experience," or "self-related processing," often using these concepts interchangeably (Qin and Northoff 2011; Nelson et al. 2008; Northoff et al. 2006). In individuals with schizophrenia, during the task-dependent, external-world-oriented, and world-directed states, DNS activity remains high, unlike the reducing activity found in typical non-schizophrenics. During the task-independent, internal-world-oriented, and self-directed states, DNS becomes even more active among schizophrenics than among typical individuals without schizophrenia. Susan Whitfield-Gabrieli, a researcher of DNS activity and schizophrenia, says the "dial" on DNS does not turn down as it should in schizophrenia patients; the DNS is overconnected and overactive (Whitfield-Gabrieli et al. 2009).

Such findings have led some researchers (Nelson et al. 2009; Yung et al. 1996; Yung 2003) to combine the phenomenological framework of schizophrenia with the DNS framework in neuroscience, developing the PNP paradigm. Because schizophrenia is a self-experience disorder and because self-experience is individuated by DNS activity, they assume schizophrenia etiology can be traced in anomalous DNS activity. However, as I show below, this inference has been made too quickly and contains conceptual fallacies.

When phenomenologists suggest schizophrenia is a self-experience disorder, they take self-experience to be self-experience^{subjecthood}. Meanwhile, the PNP paradigm operationalizes self-experience^{objecthood} when its proponents claim that DNS individuates or approximates self-experience. A wide variety of studies measure how DNS activity changes as a function of tasks that can be expected either to suppress or not suppress introspective processes. These studies are confined to cognition during self-directed states (as opposed to world-directed states). DNS activity is measured when subjects are engaged in perceptual and cognitive tasks that involve representing some mental or physical feature as a feature of themselves. In a frequently cited study, tasks that purportedly track self-experience include "trait adjective judgment," where subjects are asked if a particular adjective defines their personality trait, and "face and body recognition," where subjects are asked to pick themselves out in photographs (Qin and Northoff 2011). These tasks require perceptual self-recognition, for example, when an individual identifies a hand that the individual perceives as his or her own hand; introspection, for example, when an individual reports his or her emotional responses to visual stimuli; personal self-reference, for example, when an individual decides whether a personality trait adjective applies to himself or herself. All tasks ask subjects to engage in self-directed cognitive

states; thus, self-experience here refers to self-experience^{objecthood}. It is wrong, therefore, based on this particular research, to infer that because schizophrenia is a self-experience disorder and because self-experience is individuated by DNS activity, schizophrenia etiology can be traced in anomalous DNS activity. Self-experience does not denote the same phenomenon in phenomenological and neuroscientific concepts.

The major conceptual limitation of the studies claiming to locate self-experience in the brain is the exclusive focus on the individual's experience of himself or herself as the *object* of emotion and cognition (Legrand 2007; Legrand and Ruby 2009). The self as the *subject* of emotion and cognition is neglected. At their best, these studies show correlations between DNS activity and self-experience^{objecthood}. Simply stated, DNS activity does not track self-experience^{subjecthood}. Self-experience^{subjecthood} is present, even in attention-demanding tasks; it is not "absent" as is often claimed.

Limiting self-experience to self-experience^{objecthood} has negative implications for the PNP paradigm. What I call the problem of wandering terminology renders fallacious the inference that schizophrenia is a DNS anomaly. Thus, the proposal to treat individuals at risk of developing schizophrenia based on DNS anomalies is misguided because the concept of self-experience operationalized by the PNP paradigm and the concept of self-experience experienced in schizophrenia are incongruent.

Note that the PNP paradigm is among the many research programs that explore the relationship between schizophrenia and DNS activity. For instance, the DNS is also involved in other attention-demanding tasks, such as remembering past events, and there are a number of studies that compare schizophrenia patients' performance in working memory tasks to the control group's (e.g., Whitfield-Gabrieli et al. 2009). My criticism of wandering terminology does not apply to these research programs; I primarily take issue with those studies that operationalize self-experience to individuate schizophrenia in the brain. Thus, there may be other resourceful research venues that investigate DNS involvement in schizophrenia which avoid the conceptual problems I discuss here.

Adjudication of Phenomenology–Neuroscience Partnership Paradigm

Is anything salvageable in the PNP paradigm? More importantly, if it is among the paradigms put forward during psychiatry's extraordinary science period, does it make more progress in schizophrenia research in comparison to the DSM-led research program? I argue that while PNP has some advantages over the DSM-led research, insofar as it makes central

to research the elements of psychopathology that were previously ignored, that is, self-experience, it is hard to infer that it makes more progress, simply because it suffers from a number of conceptual problems that stifle progress in empirical research. Moving forward, it has to pay more attention to these.

The biggest promise of PNP is the acknowledgment of and engagement with the concept of the self, the subject of mental disorder, in schizophrenia research. This is significant because the concept of self has been missing from scientific frameworks that investigate mental disorders since the publication of DSM-III (American Psychiatric Association 1980). A core feature of the last three editions of the DSM (i.e., DSM-III, DSM-IV, and DSM-5; hereinafter DSM-III+) is the operational approach, according to which mental disorders are individuated through an operational criterion consisting of a sufficient number of symptoms (experienced by the patient) and signs (observed by the observer). What is also called the descriptive or atheoretical approach developed as a reaction to earlier etiological approaches grounded in psychoanalytic theory; these relied on empirically undefended theoretical assumptions and involved a narrative prototype description and a process of matching the individual patient to such prototypes. Operationalism was considered a necessary step to make psychiatry more scientific, allowing researchers to identify and investigate its readily measurable targets, that is, the clusters of symptoms and signs serving as outwardly observable correlates of disease and as bases for genetic and neural research into illness etiology. Operational criteria were also deemed useful in clinical contexts where the DSMs are used by psychiatrists, medical doctors of different specializations, nurses, counselors, and so forth, easing the process of diagnosis and treatment. DSM-III+'s operationalism has been a target of significant criticism concerning its efficacy in meeting psychiatry's scientific and clinical goals (Poland, Von Eckardt, and Spaulding 1994; Sadler 2005; Murphy 2006; Fulford, Thornton, and Graham 2006; Tekin 2014; Pearce 2014; Parnas and Bovet 2014; Schaffner and Tabb 2014).

One particular criticism is the neglect of the complexity of the self in the operational descriptions of mental disorders such as depression and schizophrenia (Sadler 2005; Dean 2012; Parnas and Bovet 2015; Schaffner and Tabb 2015; Parnas and Sass 2003; Tekin 2015). Under operationalism, the self was not found to be a suitable scientific target, because it was considered too abstract or not readily measurable to allow the scientific investigation of mental disorders.[2] In an attempt to move away from the psychoanalytic framework, operationalism left out important self-related features of mental disorders from the scientific discussions. More specifically, under

the operational criteria guiding scientific research, four suppositions about mental disorders stand out. Mental disorders are characterized as (1) behavioral anomalies, thus leaving out their phenomenological features; (2) atemporal events, thus leaving out their gradual development over time; (3) emergent phenomena, thus divorced from underlying causal factors; and (4) things that happen to solitary individuals disengaged from the social and cultural world, thus omitting intersubjective contexts that may contribute to their development. These four have led to what I dub the problem of the missing self in psychiatric taxonomy.

First, as an outcome of (1), the first-person-specific dimension of the encounter with mental illness is not part of the DSM descriptions, even though it is crucial to understanding the nature of a mental disorder. Such first-person-specific phenomena include the content of what the individual hears when hearing voices or the distortions in the sense of self prior to the full development of psychotic episodes. Second, as an outcome of (2), (3), and (4), historical-narrative aspects of mental disorders are omitted from scientific scrutiny. These include the individual's particular life history, interpersonal relationships, biological and environmental risk factors, gender, race, class, and status, and the developmental trajectory of mental disorder in the individual from childhood to adulthood. This feature of the DSM is called "hyponarrativity," or the abstraction of the illness category from the particular experiences and contingencies of the individual patient (Sadler 2005). Elsewhere I address the negative implications of the limited representation of mental disorders for the clinical context (see, e.g., Tekin 2011, 2013, 2014, 2015; Tekin and Mosko 2015). It also has implications for research, as we have an incomplete picture of a complex phenomenon, and we need the full picture to understand etiology.

In this respect, PNP's interest in the phenomenology of schizophrenia, and its attempt to include self-experience in the research program, is a positive step forward. In particular, it is more progressive than the DSM-led research in two ways. First, it acknowledges that the concepts of self or self-experience are at least potentially empirically tractable, challenging the DSM's assumption that the self is not a suitable scientific target. There is an attempt to enumerate self-experience empirically, based on first-person reports and measurements of DNS activity. Second, it challenges the first presupposition of the DSM's operational criteria in characterizing schizophrenia, namely, that schizophrenia is not merely a behavioral anomaly, when its phenomenological features are taken into account. Whether the individual encounters any oddities in their self-experience is considered to be an important domain of research.

That said, however, inconsistent and wandering definitions of self-experience lead to serious problems in the first of these two steps forward, where PNP has promise. The attempts to track self-experience are stifled by the problem of wandering terminology; PNP scientists must carefully reconsider their definitions of schizophrenia, as well as self-experience, and examine whether their scientific methodologies and tools accurately probe these.

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Notes

1. Note that the disorders of consciousness that are the targets of either sort of research are not specific to schizophrenia; the assumption that such disorders are core features of schizophrenia is at least questionable. However, neither of these points undermines my analysis here; they just point out that talk of schizophrenia as a discrete illness is arguably gratuitous. The methodological morals I draw may well survive a reframing of the research that does not employ the diagnostic category of schizophrenia, and my hope is that the research will benefit from such a reframing. Thanks to Jeffrey Poland for drawing my attention to this point.

2. Desire for leaving the self out of the psychiatric taxonomy seems to have stemmed from several—not mutually exclusive—points of view, including the influence of logical positivist views of science on psychiatry and increased resistance to psychodynamic psychiatry, the American Psychiatric Association's desire to move away from Freudianism and psychoanalysis in general and replace them with Kraepelin's operational criteria, Carl Hempel's influence on the image of science in psychiatry, pragmatic goals to find reliable universal criteria for diagnosis for epidemiological measurements, and so forth. For reasons of space I do not include this discussion in the current chapter.

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12 DSM Applications to Young Children: Are There Really Bipolar and Depressed Two-Year-Olds?

Harold Kincaid

Is it reasonable to think that young children have psychiatric disorders such as depression or bipolar disorder as these are characterized by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) classification system? The commonsensical answer is negative. Small children do not have the level of development to express the complex characteristics of these disorders—adult disorders often involve failure of executive function and diminished activity of the prefrontal cortex, but that is the natural state of small children. However, turning this commonsensical intuition into an argument requires looking in detail at evidence and research behind specific classifications in children. Doing so will hopefully provide some interesting detail about how the DSM works in practice and how it can go wrong.

The chapter is divided into two parts. The first gives a general perspective on DSM that will be applied in looking at childhood psychiatric diagnoses and should be of some interest in its own right. I don't believe that everything in DSM is fundamentally flawed. In particular, I think there are some DSM-based categorizations—those of major depressive disorder and bipolar disorder—that can and have grounded substantial research findings. I argue briefly for that conclusion while showing how it is consistent with thinking that large parts of the DSM practice is not scientifically fruitful. The second part of this chapter then discusses in detail how classifications have been applied in pediatric psychiatric research in the case of depression and bipolar disorder. By focusing on two classifications in children with some real validity in adult populations, the intention is to focus on the best case for pediatric psychiatric disorders. Of course, if the best case fails, and I argue that it largely does at our current state of knowledge, then these results are significant for pediatric psychiatric disorders in general. The interest in all this has implications beyond the quality of DSM-based research since small children are increasingly being given powerful psychoactive drugs on the grounds that they have major depressive or bipolar disorder.[1]