Why Psychiatry and Neurology Cannot Simply Merge

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Consider the case of the optician and the art critic.[1] Each is viewing a painting at a museum, and each is asked to describe the image. The optician says, If we superimpose an x and y axis on this image, we find that at $x = 4$ and $y = 5.2$, there is an essentially rectangular patch of yellow that continues along the horizontal axis until $x = 5.1$, where it changes to Prussian blue. The art critic says, It is a man in a yellow rain coat, with an angry expression, and large, steel-blue eyes.

Scruton[1] comments that, " . . . you could imagine these descriptions being . . . so complete that they would enable a third party to reconstruct the picture by using them as a set of instructions. But they have nothing whatever in common. . . . You cannot switch from one narrative to the other and still make sense . . . "

In this editorial, I argue that—like the optician and the art critic—neurology and psychiatry are guided by significantly different narratives or what postmodern philosophers like to call discourses. Discourses are essentially the " . . . complex[es] of credentials, protocols, jargon, and specialized knowledge that defines theory and practice within the human sciences . . . "[2] Discourses include the linguistic core of a discipline, as represented in its textbooks, journal articles, and habitual modes of presenting data. I would like to suggest that, while not nearly so far apart as the optician and the art critic, the disciplines of psychiatry and neurology still utilize discourses too disparate to permit a merger of the two fields in the very near future. Thus, my argument is that psychiatry and neurology cannot simply merge. I hope it will become clear that this is quite a different claim than, psychiatry and neurology simply cannot merge. With the appropriate transitional mechanisms and discourses, there is reason to believe that psychiatry and neurology will someday find themselves subsumed in a larger and broader discipline that I call encephiatrics.

The Differing Discourses of Psychiatry and Neurology

One easy way to graze on the discourse of psychiatry is to open any reputable text or handbook on the subject and browse through the index, where we can find the building blocks of psychiatry's professional discourse: the elementary particles of which the larger discourse is composed. The question then arises: how many of these terms, chosen at random, are also found in the discourse of neurology?

I have conducted a small experiment with two roughly comparable texts, each of which is a kind of synopsis of its discipline. Of the 20 terms chosen at random in the psychiatry text Pocket Companion to Accompany Psychiatry, by Tasman et al.,[3] only six appeared in the neurology text The Massachusetts General Hospital Handbook of Neurology, by A.W. Flaherty.[4] Of

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course, this little exercise is more in the nature of entertainment than scientific demonstration. After all, textbooks differ in the thoroughness of their indexing and their choice of index terms.

Still, we have other reasons to believe that the discourse of psychiatry differs fundamentally from that of neurology, notwithstanding the common substrate of these two disciplines (i.e., the human brain). The discourse of psychiatry, notwithstanding its burgeoning interest in neuroscience, remains grounded in human subjectivity and existential concerns. This applies not only to psychotherapy but to psychiatry as a whole. Psychiatry has always been, and essentially remains, a discourse of interlacing and multilayered meanings. Neurology is fundamentally a discourse of neuroanatomical and neurophysiological relationships. I shall elaborate on these points presently. However, we should first consider the following passage from the introduction to the text by Tasman et al.:

> The psychiatrist, more than any other physician, must constantly listen in multiple ways: symptomatically, narratively and experientially, behaviorally, interpersonally, cognitively, cross-culturally, and from a systems perspective . . . Narrative-experiential listening is based on the idea that all humans are constantly interpreting their experiences, attributing meaning to them, and weaving a story of their lives with themselves as the central character.[3]

Indeed, it would not be wrong to say that the discourse of psychiatry is fundamentally a narrative about narratives—that is, an attempt to weave together thousands upon thousands of narratives into a coherent understanding of human experience. This is not to say that the discourse of psychiatry is inimical to that of neurology, with its emphasis on neuroanatomical—and, increasingly, neurophysiological— relationships. It is only to say that whereas these two disciplines may meet on the level of substrate—agreeing, for example, that each is inescapably involved with the workings of the brain—they often part ways on the level of discourse. This does not mean that psychiatry and neurology cannot merge in some sense—but it does suggest that they cannot simply merge. They must first find a way to harmonize their disparate discourses. Consider, for example, the following statement by M.M Mesulam,[5] in the first edition of his classic text, Principles of Behavioral and Cognitive Neurology:

> . . . for the vast majority of patients who seek outpatient psychiatric help, a neurologic approach is no more useful (or desirable) than a chemical analysis of the ink would be for deciphering the meaning of the message.[5]

I believe Mesulam's implication is clear, and might be phrased in terms of this analogy: Psychiatry is to meaning of message as neurology is to composition of ink.

To be sure, Mesulam—even in the first edition of his text—goes on to note that " . . . new discoveries on the cerebral organization of emotion and personality are prompting the inclusion of neurologic causes into the differential diagnosis of many conditions that have traditionally been attributed to idiopathic psychiatric disorders . . . " This trend has accelerated in recent years. Furthermore, in the second edition of Mesulam's text, an excellent chapter written by Robert M. Post[6] discusses neural substrates of psychiatric syndromes, such as bipolar disorder and schizophrenia. But as Post himself notes, the purpose of this chapter is to show that psychiatric diseases " . . . are associated with patterns of dysfunction that have neuroanatomical substrates and specificities . . . " That is to say, we can find physicochemical correlations between manifestations of psychiatric illness and certain patterns of brain dysfunction. We can also hypothesize, with good reason, that these physicochemical processes underlie our patients' experience of their psychiatric illness. But this does not mean that neurology and psychiatry share the same discourse. It does not mean that physicochemical processes can be discussed in ways that speak to our patients' experience. Consider, for example, the following passage from Post's chapter, which is succeeded by another passage from a recent, highly-regarded textbook of psychiatry Textbook of Clinical Psychiatry, 4th edition, edited by Robert E. Hales and Stuart C. Yudofsky:[7]

> Although the DLPFC [dorsolateral prefrontal cortex] is not considered to lie within the classical boundaries of the limbic system, it has rich interconnections with the paralimbic cortices of the orbitofrontal and cingulated areas. Frontal hypometabolism may account for many of the negative symptoms of schizophrenia, whereas putative limbic hyperfunction. . . . could account for many of the positive symptoms.[6]

> Hallucinations . . . are usually experienced as originating in the outside world, or within one's own body, but not within the mind as through imagination . . . Delusions involve a disturbance in inferential thinking rather than perception. Delusions are firmly held beliefs that are untrue; the judgment of "untrueness" must always be made within the context of the person's educational and cultural background.[7]

It should be evident that these are strikingly different discourses, even if the authors might agree that the ul-

timate substratum under discussion is nothing over and above human brain tissue. (Psychiatrists may use the term mind, for example, without necessarily asserting that mind is anything over and above the workings of neurons.) The passage from Post's chapter is essentially a discourse on anatomical and physiological relationships (e.g., how brain regions are connected and how they may be overactive). (Interestingly, Dr. Post writes as Chief of the Biological Psychiatry Branch of National Institute of Mental Health [NIMH]). The passage from the Ho et al. chapter is essentially a discourse of interacting meanings—how the individual with schizophrenia construes the world in the context of his or her educational and cultural background. These are by no means contradictory discourses, nor do they point toward mutually exclusive theories of schizophrenia. On the contrary, both discourses may be accurate descriptions of the same underlying entity—just as we discovered with our art critic and optician. But as Scruton observed of the latter, You cannot switch from one narrative to the other and still make sense. The hope, of course, is to construct a new narrative—a new discourse—that integrates the vocabulary and constructs of each frame of reference.

Dialectical and Relational Discourses

The discourse of psychiatry is dialectical; that of neurology is relational. What does this mean in terms of actual descriptions of pathology? Psychiatry's narratives nearly always consist of a tension between two poles, or of an interplay between two realms of causative factors: personal vs. cultural; biological vs. psychological; conscious vs. unconscious; manifest vs. latent content. (I realize that "versus" is itself too polarizing a term). In contrast, the narratives of neurology are primarily relational: brain region A has become "disconnected" from brain region B; nerve pathway X has been severed and no longer innervates muscle Y; artery 1 has become occluded and no longer supplies brain region 2.

When psychiatrists describe a patient's symptoms and statements, there is nearly always a question of latent content. When the patient says, "I love you doctor," the latent content of his or her utterance might be something like, "I hate you doctor, but because I depend on your nurturance, I am forced to say precisely the opposite of what I feel." When neurologists describe a sign, such as flaccid paralysis, there is no latent content presumed or inferred—unless, of course, the sign does not correspond to known neurological pathways or mechanisms. In the latter case, the neurologist may tactfully describe the sign as functional, supratentorial, or psychogenic, and defer (or refer) to the psychiatrist. The dialectic between manifest and latent content in psychiatry is not limited to psychoanalytic theory. In cognitive-behavioral therapy—especially in the Rational-Emotive Therapy of Albert Ellis[8]—there is also a kind of dialectic. This time, however, it is between the patient's overt understanding of his emotional reaction (That guy really made me angry!) and the underlying cognitions that actually produce this emotion (e.g., Everybody must do things my way, or it's horrible, and I can't stand it!)

Most of psychiatry's discourses may be understood as a dialectic between a text and a presumed subtext—not unlike the dialectic between *p'shat* and *d'rash* in Talmudic exegesis. That is, beneath the literal words or surface meaning of a biblical text (*p'shat*), there lies a realm of figurative, allegorical, and mystical meanings that must be explicated (*d'rash*). In neurology, we rarely find this sort of dialectical narrative or exegesis. It is no insult to neurology to say that its narrative is fundamentally one of disconnections—something has gotten separated from something else, whether on the level of the synapse or that of the limbic system. Occasionally, neurology's discourse is one of hyper- or hypofunction, as when seizures are explained in terms of overly-excitable neurons. But neurology—at least, in its classical form—rarely offers us dialectical narratives. This may not always be the case in some newer offshoots of neurology and psychiatry.

The Crucible of Neuropsychiatry

The rise of neuropsychiatry as a discrete medical subspecialty has been gradual rather than meteoric, but its ascension is no less impressive for that. In their introduction to the third edition of their classic Textbook of Neuropsychiatry, Yudofsky and Hales[9] point to the Renaissance of Neuropsychiatry, after a period of falling from prominence early in the 20th century. Yudofsky and Hales acknowledge that " . . . there is no universally accepted definition of neuropsychiatry . . . " Nevertheless, " . . . a prominent focus of neuropsychiatry is the assessment and treatment of patients with psychiatric illnesses or symptoms associated with brain lesions or dysfunction." Neuropsychiatry also encompasses " . . .

symptoms that lie in the gray zone between the specialties of neurology and psychiatry: impairment of attention, alertness, perception, memory, language, and intelligence." Thus, neuropsychiatry attempts to " . . . link psychopathology with measurable brain deficits." (ibid).

But is this not a merger between psychiatry and neurology? If so, does not the subspecialty of neuropsychiatry make the topic of this essay—and the debate that informs it—essentially moot? I believe the answer is no. Neuropsychiatry attempts to build a bridge between neurology and psychiatry, with commendable results, and I would argue that it does so from the perspective of yet another relational discourse. Its goal is to detect correlations between manifest psychopathology and brain dysfunction (e.g., " . . . detecting an epileptogenic focus in the temporal lobe of a patient who experiences depersonalization and fugue states . . . "). Neuropsychiatry does not attempt—nor should we expect from it—an existential or phenomenological description of the patient's feelings of depersonalization. The same is true with respect to neuropsychiatric discourses on schizophrenia. Thus, in Tamminga's excellent chapter on this subject,[10] the "psychological characteristics" of schizophrenia are described in terms of cognitive deficits—suggesting, " . . . a failure of an interactive connective function" between brain regions or neural circuits.

How different is this relational discourse from the existential-dialectical discourse of, for example, Ludwig Binswanger. As Arieti[11] describes Binswanger's approach, he " . . . tried to explain the delusional world of the patient as the evolving of a theme—terror, for instance . . . [or] fear of filling the body and becoming fat in order to compensate for an empty existence." Arieti himself uses a dialectical perspective when he comments that Binswanger's views " . . . enrich our understanding of the schizophrenic patient and will be useful, provided they are complemented by . . . psychodynamic, formal, and psychosomatic studies." This idea of complementarity is, as yet, largely missing from the discourse of neuropsychiatry. To be sure, neuropsychiatry tacitly embraces the biopsychosocial perspective, as when the discussion of epilepsy moves into the realm of psychological stressors and cultural factors. But fundamentally, neuropsychiatry's interest in epilepsy is relational, not dialectical: it searches for correlations between, say, psychotic symptoms in temporal lobe epilepsy and "subictal electrical events in the brain . . . manifesting as behavior disturbance"[9] Present-day neuropsychiatry would not ask, with Binswanger, "What is the underlying existential theme in the psychotic world of the individual with temporal lobe epilepsy?"

These comments are not meant as a criticism of neuropsychiatry, which I regard as a vitally important transitional stage in the development of brain science. Indeed, I would argue that neuropsychiatry is the crucible within which the discourses of psychiatry and neurology will eventually bond, producing a narrative that incorporates the dialectical and subtextual understanding of psychiatry into the framework of neurophysiology and neuropathology. But until such a metanarrative has evolved, there cannot be a genuine merger of psychiatry and neurology. Or rather, we should say that, without such a meta-narrative, the nature of the merger would be more like the grafting of an oak branch onto a maple tree than the hybridization of two varieties of rose.

Encephiatrics: Brain Healing in the 21st Century

If I am correct in seeing the need for a new metanarrative for psychiatry and neurology, what might that super text sound like? How would practitioners of this new art-science differ from neurologists, psychiatrists, and even neuropsychiatrists?

First, a bit of etymology. I have chosen the term encephiatrics to encompass the new enterprise I am proposing. The term is derived from the Greek roots, *enkephalos* (brain) and *iatros* (healer, doctor). The underlying premise of encephiatrics is that there is nothing in psyche that is not in *enkephalos.* As Norman A. Clemens M.D.[12] put it in a recent seminal essay "There is No Mind Without a Brain," one need not espouse a theory of mind/brain identity in order to embrace the premise underlying encephiatrics, though some practitioners may wish to do so. However, the encephiatrician certainly does believe, along with Dr. Clemens, that " . . . awareness of brain functions enriches our understanding of how the mind works."

It is notable that in his essay, Clemens observes that " . . . the skilled psychotherapist may be assessing multiple dimensions simultaneously, . . . " including (but not necessarily limited to) the following:

The psychodynamic perspective
The developmental perspective
The unconscious-conscious perspective
The self/object perspective

The interpersonal perspective
The adaptive perspective
The neurodynamic perspective[12]

Although Dr. Clemens, writing from the perspective of a psychoanalyst, emphasizes the first five perspectives in his essay, the encephiatrician will give great weight to neurodynamics. This refers roughly to what Clemens describes as " . . . pharmacological modulation of various neurotransmitter systems . . . " and how these systems " . . . can potentially augment psychotherapy so that the two modalities together produce greater benefit." (This term was originated by Hobson & Leonard)[13] in their recent and book). Indeed, the encephiatrician of the 21st century will need to be an expert on neurodynamics, rather than a mere dabbler in psychopharmacology or one who gives only lip service to the use of pharmacological agents. At the same time, the encephiatrician will be able comfortably to shuttle between the various perspectives outlined by Clemens, often within a period of a few minutes. In fact, the encephiatrician will be quite happy to add other dimensions of assessment, such as the cognitive-behavioral, the sociocultural and even the literary. (There are many ways to alter *enkephalos*—ranging from SSRIs to poetry therapy).

The discourse of encephiatrics will comfortably assimilate the language of all these perspectives. A rather good example is provided in this passage from Clemens' essay:

> An SSRI considerably improved Alice's regulation of her affective states during the early part of her treatment, until she gradually matured her own ego strengths and their corresponding neural pathways. Possible hippocampal neuronal loss during her adolescent traumatic experiences was likely either replaced or compensated for by enhancing her limbic regulatory systems in the therapeutic milieu.[13]

No doubt, encephiatrics will need to rename and reorganize many of the current DSM-IV diagnostic categories. For example, encephiatricians may recognize two broad classes of encephalopathy (literally meaning brain suffering): the *encephalitides* and the *encephaloses.* The former would include many of the most devastating Axis I disorders, such as schizophrenia, bipolar disorder, severe autism, and the more intractable forms of posttraumatic stress disorder (PTSD). The *encephalitides* would be associated with one or more of the following: (1) demonstrable brain lesions upon electron microscopic inspection; (2) abnormal brain cytoarchitecture and organization; (3) characteristic abnormalities on various neuroimaging techniques, such as positron emission tomography (PET) or SPECT; or (3) characteristic pathophysiology (e.g., abnormal dopamine metabolism, cortisol dysregulation). The *encephaloses,* which are roughly analogous to the neuroses, might include less neuroanatomically entrenched conditions, such as generalized anxiety disorder, adjustment reactions, and perhaps mild, transient dysthymic states. Brain dysfunction would presumably be more variable and less objectively verifiable in these conditions, but no less real than in the more pervasive disorders noted.

The encephiatrician will be equally at home discussing the patient's neuronal connectivity, on the one hand, and his existential world-view, on the other. This does not mean that a typical session would begin with the statement, Good morning Mrs. Jones, and how are your dopaminergic pathways this morning? It does mean that the encephiatrician's model of the mind-brain—what Eisenman (1993) calls the psychosome—is a complex, dialectical one. This is also the case with therapy. The encephiatrician will make no fundamental distinction between the effects of a medication upon the brain, and the effects of therapeutic words. While each modality would have its appropriate indications, risks, and benefits, each would be seen as ultimately affecting brain function and microstructure.

Conclusion

Psychiatry and neurology cannot simply merge. The case is not analogous to General Motors and Ford's pooling their economic resources. Bringing psychiatry and neurology together in a meaningful way is more like creating a new language—creating, say, English out of the raw materials of French and German. But the task is even more complex, since we are also talking about different levels of discourse—dialectical in the case of psychiatry and relational in the case of neurology. It would be as if all our terms referring to the "self" existed in French but not in German. Hence, any merger of psychiatry and neurology requires not only a new language but a new level of discourse. To be sure, these kindred disciplines share a good deal of raw material: both can speak comfortably of Alzheimer's disease, cerebrovascular accidents and the limbic system. But when it comes to describing the existential themes of a people's

lives, or their unconscious fantasies and object relations, psychiatry must build a philosophico-linguistic bridge to neurology—and vice verse, when discussing heterosynaptic facilitation, kindling, and NMDA receptors. I believe that the discipline of Neuropsychiatry will be the crucible in which these philosophico-linguistic transformations occur. Perhaps a generation or two from now, a new field will arise from this crucible, compounded of the best that neurology and psychiatry can offer. Perhaps the guiding star of this new field will be the maxim of the physician and scholar, Maimonides: *"The physician does not cure a disease, he cures a diseased person."*[14]

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