

# Psychiatric Diagnosis and the Pathologist's View of Schizophrenia

by **RONALD PIES, MD**

*Professor of Psychiatry, SUNY Upstate Medical University, Syracuse, New York; and Clinical Professor of Psychiatry, Tufts USM, Boston, Massachusetts*

## ABSTRACT

A popular canard among critics of psychiatry is that psychiatric disorders are never listed in pathology textbooks. This erroneous claim is sometimes used to argue that some diseases such as schizophrenia are not “real” diseases, but merely metaphorical inventions of psychiatrists. In reality, many pathology and pathophysiology texts now recognize schizophrenia as bona fide disease, and physicians should resist attempts to marginalize psychiatry by those who claim otherwise. However, judgments concerning the “reality” of disease ought to be based on our everyday observations of suffering and incapacity, not on pronouncements in textbooks. Disease is properly predicated of persons, not of minds, bodies, tissues, or organs.

## INTRODUCTION

In two earlier commentaries, I took issue with the claims that major psychiatric diagnoses lack “objectivity,” and that there are no biomarkers for major psychiatric disorders.<sup>1,2</sup> These misleading notions—widely promulgated in both the professional and lay press—



**ADDRESS CORRESPONDENCE TO:** Dr. Ronald Pies, Box 332, Bedford MA 01730;  
E-mail: ronpies@massmed.org

**KEY WORDS:** psychiatry, reliability of diagnoses, validity of diagnoses, pathology, disease

contribute to the marginalization of psychiatry as a medical specialty and may impede our efforts to attract medical students to the field.<sup>3</sup>

Another frequent claim put forward by some critics of psychiatry is that, unlike “real” diseases, psychiatric conditions (sometimes referred to as “mental disorders”) *do not appear in pathology textbooks*. This claim is proffered as evidence that mental disorders are, therefore, not bona fide diseases. I believe this canard is not only transparently fallacious, but demonstrably false with respect to schizophrenia—for at least 15 years. In this commentary, I present the results of my inspection of various textbooks of pathology and pathophysiology, with respect to whether they mention or discuss schizophrenia.

## THE CLAIMS REGARDING PATHOLOGY TEXTS

Critics of psychiatry have argued for more than 20 years that pathologists do not recognize schizophrenia as a brain disease, and further, that schizophrenia and/or bipolar disorder are not “listed” or discussed in standard pathology texts. In more general terms, psychiatrist Thomas Szasz opined in 1987 that “...ever since the earliest days of psychiatry, psychiatrists have claimed that mental diseases are brain diseases...[but] pathologists have never been able to confirm these claims...psychiatrists ought to convince pathologists that schizophrenia is a brain disease before they take it upon themselves to tell the public that it is such a disease.”<sup>4</sup>

Various versions of the claim that schizophrenia and major mood disorders are not “listed” or discussed in pathology texts have appeared over the past decade. Thus, in 1998, psychology professor Jeffrey Schaler wrote that “If ‘mental illness’ is really a brain disease, it would be listed as such in standard textbooks on pathology. It is not listed as a brain disease because it does not meet the nosological criteria for disease classification.”<sup>5</sup>

Similarly, in a debate<sup>6</sup> held in 1998, Szasz argued that “...depression is not listed in textbooks of pathology. Maybe when it’s listed in textbooks of pathology I might be willing to concede...that it’s like neurosyphilis or epilepsy...”

Speaking in the same debate, Schaler questioned why putative neuroanatomical abnormalities of manic-depressive illness were not described in “standard textbooks of pathology.” And, as recently as 2007, Schaler opined that, “If mental illness refers to a brain disease, then it would be listed in a standard textbook on pathology as such. It is not listed as a brain disease precisely because mental illness refers to behavior, not a cellular lesion.”<sup>7</sup>

## HISTORICAL AND PHILOSOPHICAL BACKGROUND

One might wonder how, in the first place, pathologists came to be seen as the ultimate arbiters of what is, or is not, a “disease.” Why, for example, are gynecologists or family practitioners not accorded this exalted status by critics of psychiatry? I believe the answer lies in the legacy of the renowned German pathologist, Rudolf Virchow (1821–1902), or rather, in a likely *misunderstanding* regarding Virchow’s views on “disease.” In brief, those who argue from the Szaszian position claim that for Virchow, *disease* was established by demonstrating *lesions, cellular pathology*, or at the very least, *pathophysiology*. But as I argued nearly 30 years ago,<sup>8</sup> Virchow believed cellular derangements to be the *basis* of disease. It is far less clear that Virchow saw these cellular derangements *as* disease; or as necessary and sufficient conditions for *ascribing* disease. Indeed, Virchow himself wrote as follows:

“One can have the greatest respect for anatomical, morphological, and histological studies...But must one proclaim them, therefore, the ones of exclusive significance? Many important phenomena of the body are of a purely *functional* kind.”<sup>9</sup>

[italics added]

Moreover, for Virchow (unlike Szasz), disease presupposes life. With the death of the cell or organism, the disease also terminates, even though cellular pathology may persist. Thus, for Virchow, lesions and cellular derangements cannot be synonymous with disease.<sup>10,11</sup>

Indeed, disease is a *prebiological* construct. It begins when ordinary people perceive that one of their fellows is experiencing prolonged *suffering and incapacity*, without evident external cause (such as an obvious wound).<sup>10</sup> The “biology” of disease often eludes us for decades, or even centuries, after the condition is widely recognized as a disease. As the physician Maimonides reminded us eight centuries ago, disease (etymologically, dis-ease) is properly predicated of *persons*.<sup>10</sup> When we attribute disease to the “mind” or “body”—or to organs and tissues—we balkanize the *human experience* of disease and create great conceptual mischief.<sup>10,11</sup> Thus, the commonly used terms *brain disease* and *mental illness* are both conceptually unsatisfactory. Nonetheless, there is simply no question that pathologists increasingly recognize schizophrenia as a bona fide *form of disease*.

## WHAT DO MODERN PATHOLOGY AND PATHOPHYSIOLOGY TEXTS SAY?

To be sure: one can find many pathology texts (mostly published before the mid-1990s) that do not include references to schizophrenia, bipolar disorder, or related psychiatric conditions.<sup>12</sup> It may also be technically true that pathology texts do not categorically state, “Schizophrenia and bipolar disorder are brain diseases.” It may also be true that pathology texts do not state that “mental illness” is “really a brain disease,” as Schaler wants to formulate the issue.<sup>5</sup> Indeed, that inelegant formulation would raise—for pathologists as for philosophers—all sorts of logical and linguistic conundrums (e.g., “How could something “mental” be localized in a

physical object like the brain?" etc.). Nonetheless, *my review of numerous pathology texts belies the claim that they do not recognize schizophrenia as a bona fide form of disease*. Even bipolar disorder is gradually achieving recognition as a disease in some recent texts, though this is beyond the scope of the present commentary.

Let us begin with *Boyd's Introduction to the Study of Disease, Eleventh Edition*, published in 1992.<sup>13</sup> The author, Dr. Huntington Sheldon, was at the time a professor of pathology at McGill University. Dr. Sheldon classifies schizophrenia under the rubric of "functional disorders." He goes on to argue that schizophrenia "...might be

United Kingdom. All told, there are seven pages in the text that deal with schizophrenia. Schizophrenia is considered in detail in the chapter entitled, "Psychological and social aspects of *disease*." [italics mine] Phillips, et al., observe that, "A variety of clinical investigations and imaging techniques...have revealed a number of interesting findings [in schizophrenia], including evidence of cerebral atrophy, left temporal lobe dysfunction, [and] evidence of neuronal loss and disorganization."<sup>14</sup>

The text goes on to note that the significance of the "inconsistent" pathological findings in schizophrenia are "...a matter of current speculation;" however, there follows a critically important statement: "...the biology of *this*

will understand why they do so.

Other references to schizophrenia may be found in standard pathology texts, such as the *Oxford Textbook of Pathology*.<sup>16</sup> Interestingly, in the latter, schizophrenia is briefly mentioned in the chapter entitled, "Molecular genetic analysis of coronary artery disease." The authors are discussing a number of medical conditions and their familial patterns: "Early heart attacks...noninsulin dependent diabetes, hypertension, schizophrenia, and some types of cancers often 'run in families;' but all of these disorders also have a strong environmental component."<sup>16</sup>

Critics of psychiatry sometimes make much of the distinction between *disease* and *disorder*; in fact, however, these terms are used almost interchangeably, if not promiscuously, in the historical literature of medicine.<sup>10</sup> It is evident, in any case, that for the *Oxford Textbook* authors, schizophrenia is in the same basic "family" of conditions as diabetes mellitus and some types of cancer.

Arguably, the coup de grace for the claim that pathology texts don't recognize schizophrenia is delivered by the book, *The Neuropathology of Dementia* edited by Esiri and Morris, in which 20 pages of text (including an entire chapter by Harrison) discuss the neuropathology of schizophrenia.<sup>17</sup> Finally, even one textbook of forensic pathology<sup>18</sup> includes a brief discussion of schizophrenia as an example of "endogenous mental disease."

## OTHER MEDICAL TEXTBOOKS

Pathology texts are by no means the only non-psychiatric medical textbooks that include mention or discussion of schizophrenia. Consider, for example, Blumenfeld's textbook, *Neuroanatomy Through Clinical Cases*.<sup>19</sup> This book contains 17 pages with references to schizophrenia. In one of the case vignettes (Case 10.6, p. 403), we are presented with a 64-year-old woman "talking ragtime." She is said to have

## ...false claims that schizophrenia and related disorders are not recognized as diseases outside of psychiatry damage both our profession and those whom we treat.

regarded as a cancer of the mind, gnawing into the very soul of the patient."<sup>13</sup> Now, those who believe that schizophrenia is only a "metaphorical" disease may dismiss Sheldon's vivid description as mere poetic imagery—not the stuff of hard science. Yet Sheldon goes on to note the beneficial effects of hemodialysis in "a small group of schizophrenics..." leading him to hypothesize that there may be "...a biochemical substance...that directly affects the ordered functioning of the central nervous system" in schizophrenia.<sup>13</sup>

Almost a decade after Dr. Sheldon wrote this, we find another discussion of schizophrenia in the textbook, *Biology of Disease, Second Edition*, by Phillips, Murray, and Kirk.<sup>14</sup> Although this is arguably not a standard textbook on pathology (it also aims to encompass elements of clinical medicine), Dr. Murray was then in the department of pathology at the University of Birmingham,

*disease* is as yet poorly understood."<sup>14</sup> [italics added]

Now, critics of psychiatric diagnosis may rush to seize upon the words "poorly understood"—but that would be a philosophical error of the first magnitude. The biology of many diseases, including some types of cancer, is "poorly understood." The critical words are "this disease." There is simply no question that the authors of the text view schizophrenia as a disease—and that this classification is not dependent on our having a full understanding of schizophrenia's biology.

The meanings of words do not drop on our heads like Platonic Forms falling from heaven. As the philosopher Ludwig Wittgenstein argued,<sup>15</sup> meanings evolve in human contexts to serve human—and humane—needs. That is precisely why Phillips, Murray, and Kirk<sup>14</sup> can comfortably use the term *disease* in reference to schizophrenia and have confidence that thousands of readers



a history of “chronic schizophrenia,” which is noted to be a cause of “nonsensical speech.” In the same text, we are told that “overactivity of the mesolimbic [dopamine] pathway is thought to be important in the ‘positive’ symptoms of schizophrenia.”

Similarly, in *Prezbindowski’s Study Guide to Accompany Porth’s Pathophysiology*,<sup>20</sup> we find five test questions on schizophrenia, including one that discusses atrophy of brain tissue and enlargement of cerebral ventricles. Strikingly, this textbook also includes several questions on bipolar and unipolar depressive disorders, as well as on anxiety disorders.

## CONCLUSIONS

The notion that, among physicians, only psychiatrists consider schizophrenia a real disease can easily be laid to rest with an hour’s work in a good medical library. The textbook examples provided in this commentary are by no means exhaustive; others are provided in my chapter in Dr. Schaler’s book.<sup>10</sup> A failure to call the critics of psychiatry on their false claims regarding medical texts further marginalizes psychiatry and reinforces pejorative myths about psychiatric diagnosis. It also makes it more difficult to present psychiatry in a convincing way to medical students.

Of course, the presence or absence of printed words in a textbook does not impinge on the “ultimate reality” of conditions like schizophrenia—any more than the sudden omission of the term *cancer* from pathology texts would mean that the disease has disappeared. We must continue to refine our diagnostic criteria and greatly intensify our search for valid biomarkers in schizophrenia, mood disorders, and other psychiatric conditions.<sup>21</sup> Nonetheless, false claims that schizophrenia and related disorders are not recognized as diseases outside of psychiatry damage both our profession and those whom we treat—the

individuals who struggle bravely with these all-too-real diseases.

## ACKNOWLEDGMENT

I wish to thank Mr. Darren Waters for prompting my investigation of this issue. I also wish to express appreciation for the groundbreaking work of Ahmed Aboraya, MD, on validity and reliability in psychiatry.

## REFERENCES

1. Pies R. How “objective” are psychiatric diagnoses? (guess again). *Psychiatry* (Edgemont). 2007;4(10):18–22.
2. Pies R. Beyond reliability: biomarkers and validity in psychiatry. *Psychiatry* (Edgemont). 2008;5(1):48–52.
3. Wigney T, Parker G. Medical student observations on a career in psychiatry. *Aust N Z J Psychiatry* 2007;41:726–731.
4. Szasz T. *Insanity: The Idea and Its Consequences*. Hoboken NJ: John Wiley & Sons, 1987.
5. Schaler J. Mental-health parity [Letter to the editor]. *Philadelphia Inquirer*. August 22, 1998:A12.
6. Debate: Is Depression a Disease? Produced by Warren Steibel. Taped March 31, 1998, New York City. <http://www.szasz.com/isdepressionadiseasetranscript.html>. Access date: July 9, 2008.
7. Schaler J. Mental illness: philosophy masquerading as medicine. *Br J Psychiatry*. September 6, 2007. <http://currentideas.blogspot.com/> and <http://bjp.rcpsych.org/cgi/eletters/191/3/271>. Accessed July 9, 2008.
8. Pies R. On myths and countermyths: more on Szaszian fallacies. *Arch Gen Psychiatry*. 1979;36(2):139–144.
9. Virchow R. In: Rather LJ (ed). *Disease, Life and Man: Selected Essays by Rudolf Virchow*. Stanford, CA: Stanford University Press, 1958.
10. Pies R. Moving beyond the myth of mental illness. In: Schaler JA (ed). *Szasz Under Fire*. Chicago, IL: Open Court, 2004:327–553.
11. Kendall RE: The myth of mental illness. In: Schaler JA (ed). *Szasz*

*Under Fire*. Chicago, IL: Open Court, 2004:29–48.

12. Cotran RS, Kumar V, Robbins SL. *Robbins’ Pathologic Basis of Disease, Fifth Edition*. Philadelphia, PA: W.B. Saunders, 1994.
13. Sheldon H. *Boyd’s Introduction to the Study of Disease, Eleventh Edition*. Philadelphia, PA: Lea & Febiger, 1992.
14. Phillips J, Murray PG Kirk P (eds). *Biology of Disease, Second Edition*. Hoboken, NJ: Wiley-Blackwell, 2001.
15. Wittgenstein L. *The Blue and Brown Books: Preliminary Studies for the Philosophical Investigations*. New York, NY: Harper Torch Books, 1965.
16. Talmud PJ, Humphries S. Molecular genetic analysis of coronary artery disease. In: McGee JO, Isaacson PG, Wright NA, Dick HM. *Oxford Textbook of Pathology, Volume 1: Principles of Pathology*. Oxford Medical Publications, 1992.
17. Esiri MM, Morris JH (eds). *The Neuropathology of Dementia*. Cambridge: Cambridge University Press, 1997.
18. DiMaio VJM, DiMaio D. *Forensic Pathology, Second Edition*. Boca Raton, FL: CRC Press, 2001.
19. Blumenfeld H. *Neuroanatomy Through Clinical Cases*. Sunderland, MA: Sinauer Associates, 2002.
20. *Prezbindowski’s Study Guide to Accompany Porth’s Pathophysiology, Seventh Edition*. Philadelphia, PA: Lippincott, Williams & Wilkins, 2005.
21. Aboraya A, Rankin E, France C, et al. The reliability of psychiatric diagnosis revisited: the clinician’s guide to improve the reliability of psychiatric diagnosis. *Psychiatry* (Edgemont). 2006;3(1):41–50. ●