

On Pseudoscience in Science, Logic in Remission, and Psychiatric Diagnosis: A Critique of Rosenhan's "On Being Sane in Insane Places"

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Rosenhan's "On Being Sane in Insane Places" is pseudoscience presented as science. Just as his pseudopatients were diagnosed at discharge as "schizophrenia in remission," so a careful examination of this study's methods, results, and conclusion leads to a diagnosis of "logic in remission." Rosenhan's study proves that pseudopatients are not detected by psychiatrists as having simulated signs of mental illness. This rather unremarkable finding is not relevant to the real problems of the reliability and validity of psychiatric diagnosis and only serves to obscure them. A correct interpretation of these data contradicts the conclusions that were drawn. In the setting of a psychiatric hospital, psychiatrists seem remarkably able to distinguish the "sane" from the "insane."

Some foods taste delicious but leave a bad aftertaste. So it is with Rosenhan's study, "On Being Sane in Insane Places" (Rosenhan, 1973a), which, by virtue of the prestige and wide distribution of *Science*, the journal in which it appeared, provoked a furor in the scientific community. That the *Journal of Abnormal Psychology*, at this late date, chooses to explore the study's strengths and weaknesses is a testament not only to the importance of the issues that the study purports to deal with but to the impact that the study has had in the mental health community.

Rosenhan apparently believes that psychiatric diagnosis is of no value. There is nothing wrong with his designing a study the results of which might dramatically support this view. However, "On Being Sane in Insane Places" is pseudoscience presented as science. Just as his pseudopatients were diagnosed at discharge as "schizophrenia, in remission," so a careful examination of this study's methods, results, and conclusions leads me to a diagnosis of "logic, in remission."

Let us summarize the study's central question, the methods used, the results re-

ported, and Rosenhan's conclusions. Rosenhan (1973a) states the basic issue simply: "Do the salient characteristics that lead to diagnoses reside in the patients themselves or in the environments and contexts in which observers find them?" Rosenhan proposed that by getting normal people who had never had symptoms of serious psychiatric disorders admitted to psychiatric hospitals "and then determining whether they were discovered to be sane" was an adequate method of studying this question. Therefore, eight "sane" people, pseudopatients, gained secret admission to 12 different hospitals with a single complaint of hearing voices. Upon admission to the psychiatric ward, the pseudopatients ceased simulating any symptoms of abnormality.

The diagnostic results were that 11 of the 12 diagnoses on admission were schizophrenia and 1 was manic-depressive psychosis. At discharge, all of the patients were given the same diagnosis, but were qualified as "in remission."¹ Despite their "show of sanity" the pseudopatients were never detected by any of the professional staff, nor were any questions raised about their authenticity during the entire hospitalization.

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¹ The original article only mentions that the 11 schizophrenics were diagnosed "in remission." Personal communication from D. L. Rosenhan indicates that this also applied to the single pseudopatient diagnosed as manic-depressive psychosis.

Rosenhan (1973a) concluded: "It is clear that we cannot distinguish the sane from the insane in psychiatric hospitals" (p. 257). According to him, what is needed is the avoidance of "global diagnosis," as exemplified by such diagnoses as schizophrenia or manic-depressive psychosis, and attention should be directed instead to "behaviors, the stimuli that provoke them, and their correlates."

The Central Question

One hardly knows where to begin. Let us first acknowledge the potential importance of the study's central research question. Surely, if psychiatric diagnoses are, to quote Rosenhan, "only in the minds of the observers," and do not reflect any characteristics inherent in the patient, then they obviously can be of no use in helping patients. However, the study immediately becomes confused when Rosenhan suggests that this research question can be answered by studying whether or not the "sanity" of pseudopatients in a mental hospital can be discovered. Rosenhan, a professor of law and psychology, knows that the terms "sane" and "insane" are legal, not psychiatric, concepts. He knows that no psychiatrist makes a diagnosis of "sanity" or "insanity" and that the true meaning of these terms, which varies from state to state, involves the inability to appreciate right from wrong—an issue that is totally irrelevant to this study.

Detecting the Sanity of a Pseudopatient

However, if we are forced to use the terms "insane" (to mean roughly showing signs of serious mental disturbance) and "sane" (the absence of such signs), then clearly there are three possible meanings to the concept of "detecting the sanity" of a pseudopatient who feigns mental illness on entry to a hospital, but then acts "normal" throughout his hospital stay. The first is the recognition, when he is first seen, that the pseudopatient is feigning insanity as he attempts to gain admission to the hospital. This would be detecting sanity in a sane person simulating insanity. The second would be the recognition, after having observed him acting normally during his hospitalization, that the pseudopatient was initially feigning insanity. This would be detect-

ing that the currently sane never was insane. Finally, the third possible meaning would be the recognition, during hospitalization, that the pseudopatient, though initially appearing to be "insane," was no longer showing signs of psychiatric disturbance.

These elementary distinctions of "detecting sanity in the insane" are crucial to properly interpreting the results of the study. The reader is misled by Rosenhan's implication that the first two meanings of detecting the sanity of the pseudopatients, which involve determining the pseudopatient to be a fraud, are at all relevant to the central research question. Furthermore, he obscures the true results of his study—because they fail to support his conclusion—when the third meaning of detecting sanity is considered, that is, a recognition that after their admission as "insane," the pseudopatients were not psychiatrically disturbed while in the hospital.

Let us examine these three possible meanings of detecting the sanity of the pseudopatient, their logical relation to the central question of the study, and the actual results obtained and the validity of Rosenhan's conclusions.

The Patient is No Longer "Insane"

We begin with the third meaning of detecting sanity. It is obvious that if the psychiatrists judged the pseudopatients as seriously disturbed while they acted "normal" in the hospital, this would be strong evidence that their assessments were being influenced by the context in which they were making their examination rather than the actual behavior of the patient, which is the central research question. (I suspect that many readers will agree with Hunter who, in a letter to *Science* [Hunter, 1973], pointed out that, "The pseudopatients did *not* behave normally in the hospital. Had their behavior been normal, they would have walked to the nurses' station and said, 'Look, I am a normal person who tried to see if I could get into the hospital by behaving in a crazy way or saying crazy things. It worked and I was admitted to the hospital, but now I would like to be discharged from the hospital'" [p. 361].)

What were the results? According to Rosenhan, all the patients were diagnosed at

discharge as "in remission".² The meaning of "in remission" is clear: It means without signs of illness. Thus, all of the psychiatrists apparently recognized that all of the pseudopatients were, to use Rosenhan's term, "sane." However, lest the reader appreciate the significance of these findings, Rosenhan (1973a) quickly gives a completely incorrect interpretation: "If the pseudopatient was to be discharged, he must naturally be 'in remission'; but he was not sane, nor, in the institution's view, had he ever been sane" (p. 252). Rosenhan's implication is clear: The patient was diagnosed "in remission" not because the psychiatrist correctly assessed the patient's hospital behavior but only because the patient had to be discharged. Is this interpretation warranted?

I am sure that most readers who are not familiar with the details of psychiatric diagnostic practice assume, from Rosenhan's account, that it is common for schizophrenic patients to be diagnosed "in remission" when discharged from a hospital. As a matter of fact, it is extremely unusual. The reason is that a schizophrenic is rarely completely asymptomatic at discharge. Rosenhan does not report any data concerning the discharge diagnoses of the real schizophrenic patients in the 12 hospitals used in his study. However, I can report on the frequency of a discharge diagnosis of schizophrenia "in remission" at my hospital, the New York State Psychiatric Institute, a research, teaching, and community hospital where diagnoses are made in a routine fashion, undoubtedly no different from the 12 hospitals of Rosenhan's study. I examined the official book that the record room uses to record the discharge diagnoses and their statistical codes for all patients. Of the over 300 patients discharged in the last year with a diagnosis of schizophrenia, not one was diagnosed "in remission." It is only possible to code a diagnosis of "in remission" by adding a fifth digit (5) to the 4-digit code number for the subtype of schizophrenia (e.g., paranoid schizophrenia is coded as 295.3, but paranoid schizophrenia "in remission" is

coded as 295.35). I therefore realized that a psychiatrist might intend to make a discharge diagnosis of "in remission" but fail to use the fifth digit, so that the official recording of the diagnosis would not reflect his full assessment. I therefore had research assistants read the discharge summaries of the last 100 patients whose discharge diagnosis was schizophrenia to see how often the term "in remission," "recovered," "no longer ill," or "asymptomatic" was used, even if not recorded by use of the fifth digit in the code number. The result was that only one patient, who was diagnosed paranoid schizophrenia, was described in the summary as being "in remission" at discharge. The fifth digit code was not used.

To substantiate my view that the practice at my hospital of rarely giving a discharge diagnosis of schizophrenia "in remission" is not unique, I had a research assistant call the record room librarians of 12 psychiatric hospitals, chosen catch as catch can.³ They were told that we were interested in knowing their estimate of how often, at their hospital, schizophrenics were discharged "in remission" (or "no longer ill" or "asymptomatic"). The calls revealed that 11 of the 12 hospitals indicated that the term was either never used or, at most, used for only a handful of patients in a year. The remaining hospital, a private hospital, estimated that the term was used in roughly 7% of the discharge diagnoses.

This leaves us with the conclusion that, because 11 of the 12 pseudopatients were discharged as "schizophrenia in remission," a

³ Rosenhan has not identified the hospitals used in this study because of his concern with issues of confidentiality and the potential for ad hominem attack. However, this does make it impossible for anyone at those hospitals to corroborate or challenge his account of how the pseudopatients acted and how they were perceived. The 12 hospitals used in my mini-study were: Long Island Jewish-Hillside Medical Center, New York; Massachusetts General Hospital, Massachusetts; St. Elizabeth's Hospital, Washington, D.C.; McLean Hospital, Massachusetts; UCLA, Neuropsychiatric Institute, California; Meyer-Manhattan Hospital (Manhattan State), New York; Vermont State Hospital, Vermont; Medical College of Virginia, Virginia; Emory University Hospital, Georgia; High Point Hospital, New York; Hudson River State Hospital, New York, and New York Hospital-Cornell Medical Center, Westchester Division, New York.

² In personal communication D. L. Rosenhan said that "in remission" referred to a use of that term or one of its equivalents, such as recovered or no longer ill.

discharge diagnosis that is rarely given to real schizophrenics, the diagnoses given to the pseudopatients were a function of the patients' behaviors and not of the setting (psychiatric hospital) in which the diagnoses were made. In fact, we must marvel that 11 psychiatrists all acted so rationally as to use at discharge the category of "in remission" or its equivalent, a category that is rarely used with real schizophrenic patients.

It is not only in his discharge diagnosis that the psychiatrist had an opportunity to assess the patient's true condition incorrectly. In the admission mental status examination, during a progress note or in his discharge note the psychiatrist could have described any of the pseudopatients as "still psychotic," "probably still hallucinating but denies it now," "loose associations," or "inappropriate affect." Because Rosenhan had access to all of this material, his failure to report such judgments of continuing serious psychopathology strongly suggests that they were never made.

All pseudopatients took extensive notes publicly to obtain data on staff and patient behavior. Rosenhan claims that the nursing records indicate that "the writing was seen as an aspect of their pathological behavior." The only datum presented to support this claim is that the daily nursing comment on one of the pseudopatients was, "Patient engages in writing behavior." Because nursing notes frequently and intentionally comment on nonpathological activities that patients engage in so that other staff members have some knowledge of how the patient spends his time, this particular nursing note in no way supports Rosenhan's thesis. Once again, the failure of Rosenhan to provide data regarding instances where normal hospital behavior was categorized as pathological is remarkable. The closest that Rosenhan comes to providing such data is his report of an instance where a kindly nurse asked if a pseudopatient, who was pacing the long hospital corridors because of boredom, was "nervous." It was, after all, a question and not a final judgment.

Let us now examine the relation between the other two meanings of detecting sanity in the pseudopatients: the recognition that the pseudopatient was a fraud, either when he sought admission to the hospital or during

this hospital stay, and the central research question.

Detecting "Sanity" Before Admission

Whether or not psychiatrists are able to detect individuals who feign psychiatric symptoms is an interesting question but clearly of no relevance to the issue of whether or not the salient characteristics that lead to diagnoses reside in the patient's behavior or in the minds of the observers. After all, a psychiatrist who believes a pseudopatient who feigns a symptom *is* responding to the pseudopatient's behavior. And Rosenhan does not blame the psychiatrist for believing the pseudopatient's fake symptom of hallucinations. He blames him for the diagnosis of schizophrenia. Rosenhan (1973b) states:

The issue is not that the psychiatrist believed him. Neither is it whether the pseudopatient should have been admitted to the psychiatric hospital in the first place. . . . The issue is the diagnostic leap that was made between the single presenting symptom, hallucinations, and the diagnosis schizophrenia (or in one case, manic-depressive psychosis). Had the pseudopatients been diagnosed "hallucinating," there would have been no further need to examine the diagnosis issue. The diagnosis of hallucinations implies only that: no more. The presence of hallucinations does not itself define the presence of "schizophrenia." And schizophrenia may or may not include hallucinations. (p. 366)

Unfortunately, as judged by many of the letters to *Science* commenting on the study (Letters to the editor, 1973), many readers, including psychiatrists, accepted Rosenhan's thesis that it was irrational for the psychiatrists to have made an initial diagnosis of schizophrenia as *the most likely condition* on the basis of a single symptom. In my judgment, these readers were wrong. Their acceptance of Rosenhan's thesis was aided by the content of the pseudopatients' auditory hallucinations, which were voices that said "empty," "hollow," and "thud." According to Rosenhan (1973a), these symptoms were chosen because of "their apparent similarity to existential symptoms [and] the *absence* of a single report of existential psychoses in the literature" (p. 251). The implication is that if the content of specific symptoms has never been reported in the literature, then a psychiatrist should somehow know that the

symptom is fake. Why then, according to Rosenhan, should the psychiatrist have made a diagnosis of hallucinating? This is absurd. Recently I saw a patient who kept hearing a voice that said, "It's O.K. It's O.K." I know of no such report in the literature. So what? I agree with Rosenhan that there has never been a report of an "existential psychosis." However, the diagnoses made were schizophrenia and manic-depressive psychosis, not existential psychosis.

Differential Diagnosis of Auditory Hallucinations

Rosenhan is entitled to believe that psychiatric diagnoses are of no use and therefore should not have been given to the pseudopatients. However, it makes no sense for him to claim that within a diagnostic framework it was irrational to consider schizophrenia seriously as the most likely condition without his presenting a consideration of the differential diagnosis. Let me briefly give what I think is a reasonable differential diagnosis, based on the presenting picture of the pseudopatient when he applied for admission to the hospital.

Rosenhan says that "beyond alleging the symptoms and falsifying name, vocation, and employment, no further alterations of person, history, or circumstances were made" (p. 251). However, clearly the clinical picture includes not only the symptom (auditory hallucinations) but also the desire to enter a psychiatric hospital, from which it is reasonable to conclude that the symptom is a source of significant distress. (How often did the admitting psychiatrist suggest what would seem to be reasonable care: outpatient treatment? Did the pseudopatient have to add other complaints to justify inpatient treatment?) This, plus the knowledge that the auditory hallucinations are of 3 weeks duration,⁴ establishes the hallucinations as significant symptoms of psychopathology as distinguished from so-called "pseudohallucinations" (hallucinations while falling asleep or awakening from sleep, or intense imagination with the voice heard from inside of the head).

Auditory hallucinations can occur in sev-

eral kinds of mental disorders. The absence of a history of alcohol, drug abuse, or some other toxin, the absence of any signs of physical illness (such as high fever), and the absence of evidence of distractibility, impairment in concentration, memory or orientation, and a negative neurological examination all make an organic psychosis extremely unlikely. The absence of a recent precipitating stress rules out a transient situational disturbance of psychotic intensity or (to use a nonofficial category) hysterical psychosis. The absence of a profound disturbance in mood rules out an affective psychosis (we are not given the mental status findings for the patient who was diagnosed manic-depressive psychosis).

What about simulating mental illness? Psychiatrists know that occasionally an individual who has something to gain from being admitted into a psychiatric hospital will exaggerate or even feign psychiatric symptoms. This is a genuine diagnostic problem that psychiatrists and other physicians occasionally confront and is called "malingering." However, with the pseudopatients there was no reason to believe that any of them had anything to gain from being admitted into a psychiatric hospital except relief from their alleged complaint, and therefore no reason to suspect that the illness was feigned. Dear reader: There is only one remaining diagnosis for the presenting symptom of hallucinations under these conditions in the classification of mental disorders used in this country, and that is schizophrenia.

Admittedly, there is a hitch to a definitive diagnosis of schizophrenia: Almost invariably there are other signs of the disorder present, such as poor premorbid adjustment, affective blunting, delusions, or signs of thought disorder. I would hope that if I had been one of the 12 psychiatrists presented with such a patient, I would have been struck by the lack of other signs of the disorder, but I am rather sure that having no reason to doubt the authenticity of the patients' claim of auditory hallucinations, I also would have been fooled into noting schizophrenia as the most likely diagnosis.

What does Rosenhan really mean when he objects to the diagnosis of schizophrenia be-

⁴ This was not in the article but was mentioned to me in personal communication by D. L. Rosenhan.

cause it was based on a "single symptom?" Does he believe that there are real patients with the single symptom of auditory hallucinations who are misdiagnosed as schizophrenic when they actually have some other condition? If so, what is the nature of that condition? Is Rosenhan's point that the psychiatrist should have used "diagnosis deferred," a category that is available but rarely used? I would have no argument with this conclusion. Furthermore, if he had presented data from real patients indicating how often patients are erroneously diagnosed on the basis of inadequate information and what the consequences were, it would have been a real contribution.

Until now, I have assumed that the pseudopatients presented only one symptom of psychiatric disorder. Actually, we know very little about how the pseudopatients presented themselves. What did the pseudopatients say in the study reported in *Science*, when asked, as they must have been, what effect the hallucinations were having on their lives and why they were seeking admission into a hospital? The reader would be much more confident that a single presenting symptom was involved if Rosenhan had made available for each pseudopatient the actual admission work-up from the hospital record.

Detecting Sanity after Admission

Let us now examine the last meaning of detecting sanity in the pseudopatients, namely, the psychiatrist's recognition, *after* observing him act normally during his hospitalization, that the pseudopatient was initially feigning insanity and its relation to the central research question. If a diagnostic condition, by definition, is always chronic and never remits, it would be irrational not to question the original diagnosis if a patient were later found to be asymptomatic. As applied to this study, if the concept of schizophrenia did not admit the possibility of recovery, then failure to question the original diagnosis when the pseudopatients were no longer overtly ill would be relevant to the central research question. It would be an example of the psychiatrist allowing the context of the hospital environment to influence his diagnostic behavior. But neither any

psychiatric textbook nor the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1968) suggests that mental illnesses endure forever. Oddly enough, it is Rosenhan (1973a) who, without any reference to the psychiatric literature, says: "A broken leg is something one recovers from, but mental illness allegedly endures forever" (p. 254). Who, other than Rosenhan, alleges it?

As Rosenhan should know, although some American psychiatrists restrict the label of schizophrenia to mean chronic or process schizophrenia, most American psychiatrists include an acute subtype from which there often is a remission. Thus, the *Diagnostic and Statistical Manual*, in describing the subtype, acute schizophrenic episode, states that "in many cases the patient recovers within weeks."

A similar straw man is created when Rosenhan (1973a) says,

The insane are not always insane . . . the bizarre behaviors upon which their [the pseudopatients] behaviors were allegedly predicated constituted only a small fraction of their total behavior. If it makes no sense to label ourselves permanently depressed on the basis of an occasional depression, then it takes better evidence than is presently available to label all patients insane or schizophrenic on the basis of behaviors or cognitions. (p. 254)

Who ever said that the behaviors that indicate schizophrenia or any other diagnostic category comprise the total of a patient's behavior? A diagnosis of schizophrenia does not mean that all of the patient's behavior is schizophrenic anymore than a diagnosis of carcinoma of the liver means that all of the patient's body is diseased.

Does Rosenhan at least score a point by demonstrating that, although the professional staff never considered the possibility that the pseudopatient was a fraud, this possibility was often considered by other patients? Perhaps, but I am not so sure. Let us not forget that all of the pseudopatients "took extensive notes publicly." Obviously this was highly unusual patient behavior and Rosenhan's quote from a suspicious patient suggests the importance it had in focusing the other patients' attention on the pseudopatients:

"You're not crazy. You're a journalist or a professor [referring to the continual note-taking]. You're checking up on the hospital" (Rosenhan, 1973a, p. 252).

Rosenhan presents ample evidence, which I find no reason to dispute, that the professional staff spent little time actually with the pseudopatients. The note-taking may easily have been overlooked, and therefore they developed no suspicion that the pseudopatients had simulated illness to gain entry into the hospital. Because there were no pseudopatients who did not engage in such unusual behaviors, the reader cannot assess the significance of the patients' suspicions of fraud when the professional staff did not. I would predict, however, that a pseudopatient in a ward of patients with mixed diagnostic conditions would have no difficulty in masquerading convincingly as a true patient to both staff and patients if he did nothing unusual to draw attention to himself.

Rosenhan presents one way in which the diagnosis affected the psychiatrist's perception of the patient's circumstances: Historical facts of the case were often distorted by the staff to achieve consistency with psychodynamic theories. Here, for the first time, I believe Rosenhan has hit the mark. What he described happens all the time and often makes attendance at clinical case conferences extremely painful, especially for those with a logical mind and a research orientation. Although his observation is correct, it would seem to be more a consequence of individuals attempting to rearrange facts to comply with an unproven etiological theory than a consequence of diagnostic labeling. One could as easily imagine a similar process occurring when a weak-minded, behaviorally-oriented clinician attempts to rewrite the patient's history to account for "hallucinations reinforced by attention paid to patient by family members when patient complains of hearing voices." Such is the human condition.

One final finding requires comment. In order to determine whether "the tendency toward diagnosing the sane insane could be reversed," the staff of a research and teaching hospital was informed that at some time during the following three months, one or more pseudopatients would attempt to be

admitted. No such attempt was actually made. Yet approximately 10% of 193 real patients were suspected by two or more staff members (we are not told how many made judgments) to be pseudopatients. Rosenhan (1973a) concluded: "Any diagnostic process that lends itself so readily to massive errors of this sort cannot be a very reliable one" (p. 179). My conclusion is that this experimental design practically assures only one outcome.

Elementary Principles of Reliability of Classification

Some very important principles that are relevant to the design of Rosenhan's study are taught in elementary psychology courses and should not be forgotten. One of them is that a measurement or classification procedure is not reliable or unreliable in itself but only in its application to a specific population. There are serious problems in the reliability of psychiatric diagnosis as it is applied to the population to which psychiatric diagnoses are ordinarily given. However, I fail to see, and Rosenhan does not even attempt to show, how the reliability of psychiatric diagnoses applied to a population of individuals seeking help is at all relevant to the reliability of psychiatric diagnoses applied to a population of pseudopatients (or one including the threat of pseudopatients). The two populations are just not the same. Kety (1974) has expressed it dramatically:

If I were to drink a quart of blood and, concealing what I had done, come to the emergency room of any hospital vomiting blood, the behavior of the staff would be quite predictable. If they labeled and treated me as having a bleeding peptic ulcer, I doubt that I could argue convincingly that medical science does not know how to diagnose that condition. (p. 959)

(I have no doubt that if the condition known as pseudopatient ever assumed epidemic proportions among admittants to psychiatric hospitals, psychiatrists would in time become adept at identifying them, though at what risk to real patients, I do not know.)

Attitudes Toward the Insane

I shall not dwell on the latter part of Rosenhan's study, which deals with the ex-

perience of psychiatric hospitalization. Because some of the hospitals participated in residency training programs and were research oriented, I find it hard to believe that conditions were quite as bad as depicted, but they may well be. I have always believed that psychiatrists should spend more time on psychiatric wards to appreciate how mind dulling the experience must be for patients. However, Rosenhan does not stop at documenting the horrors of life on a psychiatric ward. He asserts, without a shred of evidence from his study, that "negative attitudes [towards psychiatric patients] are the natural offspring of the labels patients wear and the places in which they are found." This is nonsense. In recent years large numbers of chronic psychiatric patients, many of them chronic schizophrenics and geriatric patients with organic brain syndromes, have been discharged from state hospitals and placed in communities that have no facilities to deal with them. The affected communities are up in arms not primarily because they are mental patients labeled with psychiatric diagnoses (because the majority are not recognized as ex-patients) but because the behavior of some of them is sometimes incomprehensible, deviant, strange, and annoying.

There are at least two psychiatric diagnoses that are defined by the presence of single behaviors, much as Rosenhan would prefer a diagnosis of hallucinations to a diagnosis of schizophrenia. They are alcoholism and drug abuse. Does society have negative attitudes toward these individuals because of the diagnostic label attached to them by psychiatrists or because of their behavior?

The Uses of Diagnosis

Rosenhan believes that the pseudopatients should have been diagnosed as having hallucinations of unknown origin. It is not clear what he thinks the diagnosis should have been if the pseudopatients had been sufficiently trained to talk, at times, incoherently, and had complained of difficulty in thinking clearly, lack of emotion, and that their thoughts were being broadcast so that strangers knew what they were thinking. Is Rosenhan perhaps suggesting multiple diag-

noses of (a) hallucinations, (b) difficulty thinking clearly, (c) lack of emotion, and (d) incoherent speech . . . all of unknown origin?

It is no secret that we lack a full understanding of such conditions as schizophrenia and manic-depressive illness, but are we quite as ignorant as Rosenhan would have us believe? Do we not know, for example, that hallucinations, in the context just described, are symptomatic of a different condition than are hallucinations of voices accusing the patient of sin when associated with depressed affect, diurnal mood variation, loss of appetite, and insomnia? What about hallucinations of God's voice issuing commandments, associated with euphoric affect, psychomotor excitement, and accelerated and disconnected speech? Is this not also an entirely different condition?

There is a purpose to psychiatric diagnosis (Spitzer & Wilson, 1975). It is to enable mental health professionals to (a) communicate with each other about the subject matter of their concern, (b) comprehend the pathological processes involved in psychiatric illness, and (c) control psychiatric disorders. Control consists of the ability to predict outcome, prevent the disorder from developing, and treat it once it has developed. Any serious discussion of the validity of psychiatric diagnosis, or suggestions for alternative systems of classifying psychological disturbance, must address itself to these purposes of psychiatric diagnosis.

In terms of its ability to accomplish these purposes, I would say that psychiatric diagnosis is moderately effective as a shorthand way of communicating the presence of constellations of signs and symptoms that tend to cluster together, is woefully inadequate in helping us understand the pathological processes of psychiatric disorders, but does offer considerable help in the control of many mental disorders. Control is possible because psychiatric diagnosis often yields information of value in predicting the likely course of illness (e.g., an early recovery, chronicity, or recurrent episodes) and because for many mental disorders it is useful in suggesting the best available treatment.

Let us return to the three different clinical conditions that I described, each of which had

auditory hallucinations as one of its manifestations. The reader will have no difficulty in identifying the three hypothetical conditions as schizophrenia, psychotic depression, and mania. Anyone familiar with the literature on psychiatric treatment will know that there are numerous well controlled studies (Klein & Davis, 1969) indicating the superiority of the major tranquilizers for the treatment of schizophrenia, of electroconvulsive therapy for the treatment of psychotic depression and, more recently, of lithium carbonate for the treatment of mania. Furthermore, there is convincing evidence that these three conditions, each of which is often accompanied by hallucinations, are influenced by separate genetic factors. As Kety (1974) said, "If schizophrenia is a myth, it is a myth with a strong genetic component."

Should psychiatric diagnosis be abandoned for a purely descriptive system that focuses on simple phenotypic behaviors before it has been demonstrated that such an approach is more useful as a guide to successful treatment or for understanding the role of genetic factors? I think not. (I have a vision. Traditional psychiatric diagnosis has long been forgotten. At a conference on behavioral classification, a keen research investigator proposes that the category "hallucinations of unknown etiology" be subdivided into three different groups based on associated symptomatology. The first group is characterized by depressed affect, diurnal mood variation, and so on, the second group by euphoric mood, psychomotor excitement)

If psychiatric diagnosis is not quite as bad as Rosenhan would have us believe, that does not mean that it is all that good. What is the reliability of psychiatric diagnosis? A review of the major studies of the reliability of psychiatric diagnosis prior to 1972 (Spitzer & Fleiss, 1974) revealed that "reliability is only satisfactory for three categories: mental deficiencies, organic brain syndrome, and alcoholism. The level of reliability is no better than fair for psychosis and schizophrenia, and is poor for the remaining categories." So be it. But where did Rosenhan get the idea that psychiatry is the only medical specialty that is plagued by inaccurate diagnosis? Studies have shown serious unreliability in the diag-

nosis of pulmonary disorders (Fletcher, 1952), in the interpretation of electrocardiograms (Davies, 1958), in the interpretation of X-rays, Cochrane & Garland, 1952; Yerushalmy, 1947), and in the certification of causes of death (Markush, Schaaf, & Siegel, 1967). A review of diagnostic unreliability in other branches of physical medicine is given by Garland (1960) and the problem of the vagueness of medical criteria for diagnosis is thoroughly discussed by Feinstein (1967). The poor reliability of medical diagnosis, even when assisted by objective laboratory tests, does not mean that medical diagnosis is of no value. So it is with psychiatric diagnosis.

Recognition of the serious problems of the reliability of psychiatric diagnosis has resulted in a new approach to psychiatric diagnosis—the use of specific inclusion and exclusion criteria, as contrasted with the usually vague and ill-defined general descriptions found in the psychiatric literature and in the standard psychiatric glossary of the American Psychiatric Association. This approach was started by the St. Louis group associated with the Department of Psychiatry of Washington University (Feighner, Robins, Guze, Woodruff, Winokur, & Munoz, 1972) and has been further developed by Spitzer, Endicott, and Robins (1974) as a set of criteria for a selected group of functional psychiatric disorders, called the Research Diagnostic Criteria (RDC). The Display shows the specific criteria for a diagnosis of schizophrenia from the latest version of the RDC.⁵

DIAGNOSTIC CRITERIA FOR SCHIZOPHRENIA FROM THE RESEARCH DIAGNOSTIC CRITERIA

1. At least two of the following are required for definite diagnosis and one for probable diagnosis:
 - (a) Thought broadcasting, insertion, or withdrawal (as defined in the RDC).
 - (b) Delusions of control, other bizarre delusions, or multiple delusions (as defined in the RDC), of any duration as long as definitely present.

⁵ For what it is worth, the pseudopatient would have been diagnosed as "probable" schizophrenia using these criteria because of 1(f). In personal communication, Rosenhan said that when the pseudopatients were asked how frequently the hallucinations occurred, they said "I don't know." Therefore, Criterion 1(g) is not met.

- (c) Delusions other than persecutory or jealousy, lasting at least 1 week.
 - (d) Delusions of any type if accompanied by hallucinations of any type for at least 1 week.
 - (e) Auditory hallucinations in which either a voice keeps up a running commentary on the patient's behaviors or thoughts as they occur, or two or more voices converse with each other (of any duration as long as definitely present).
 - (f) Nonaffective verbal hallucinations spoken to the subject (as defined in this manual).
 - (g) Hallucinations of any type throughout the day for several days or intermittently for at least 1 month.
 - (h) Definite instances of formal thought disorder (as defined in the RDC).
 - (i) Obvious catatonic motor behavior (as defined in the RDC).
2. A period of illness lasting at least 2 weeks.
 3. At no time during the active period of illness being considered did the patient meet the criteria for either probable or definite manic or depressive syndrome (Criteria 1 and 2 under Major Depressive or Manic Disorders) to such a degree that it was a prominent part of the illness.

Reliability studies utilizing the RDC with case record material (from which all cues as to diagnosis and treatment were removed), as well as with live patients, indicate high reliability for all of the major categories and reliability coefficients generally higher than have ever been reported (Spitzer, Endicott, Robins, Kuriansky, & Gurland, in press). It is therefore clear that the reliability of psychiatric diagnosis can be greatly increased by the use of specific criteria. (The interjudge reliability [chance corrected agreement, K] for the diagnosis of schizophrenia using an earlier version of RDC criteria with 68 newly admitted psychiatric inpatients at the New York State Psychiatric Institute was .88, which is a thoroughly respectable level of reliability.) It is very likely that the next edition of the American Psychiatric Association's *Diagnostic and Statistical Manual* will contain similar specific criteria.

There are other problems with current psychiatric diagnosis. The recent controversy over whether or not homosexuality per se should be considered a mental disorder highlighted the lack of agreement within the psychiatric profession as to the definition of a mental disorder. A definition has been proposed by Spitzer (Spitzer & Wilson, 1975),

but it is not at all clear whether a consensus will develop supporting it.

There are serious problems of validity. Many of the traditional diagnostic categories, such as some of the subtypes of schizophrenia and of major affective illness, and several of the personality disorders, have not been demonstrated to be distinct entities or to be useful for prognosis or treatment assignment. In addition, despite considerable evidence supporting the distinctness of such conditions as schizophrenia and manic-depressive illness, the boundaries separating these conditions from other conditions are certainly not clear. Finally, the categories of the traditional psychiatric nomenclature are of least value when applied to the large numbers of outpatients who are not seriously ill. It is for these patients that a more behaviorally or problem-oriented approach might be particularly useful.

I have not dealt at all with the myriad ways in which psychiatric diagnostic labels can be, and are, misused to hurt patients rather than to help them. This is a problem requiring serious research which, unfortunately, Rosenhan's study does not help illuminate. However, whatever the solutions to that problem, the misuse of psychiatric diagnostic labels is not a sufficient reason to abandon their use because they have been shown to be of value when properly used.

In conclusion, there are serious problems with psychiatric diagnosis, as there are with other medical diagnoses. Recent developments indicate that the reliability of psychiatric diagnosis can be considerably improved. However, even with the poor reliability of current psychiatric diagnosis, it is not so poor that it cannot be an aid in the treatment of the seriously disturbed psychiatric patient. Rosenhan's study, "On Being Sane in Insane Places," proves that pseudopatients are not detected by psychiatrists as having simulated signs of mental illness. This rather unremarkable finding is not relevant to the real problems of the reliability and validity of psychiatric diagnosis and only serves to obscure them. A correct interpretation of his own data contradicts his conclusions. In the setting of a psychiatric hospital, psychiatrists are remarkably able to distinguish the "sane" from the "insane."

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