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# Reconceptualizing Schizophrenia

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**The recent emphasis for research on psychiatric disorders focuses on supposed underlying processes and their biological elements. Although such a direction may be fruitful, it would be a mistake to ignore more integrated approaches for understanding the mysteries of schizophrenia or other psychiatric disorders. The complexity of the biopsychosocial paradigm should not lead to ignoring its potential value for understanding these disorders. The role of subjective data other than those identified as "symptoms" is also likely to be crucial.**

*Key words:* biopsychosocial/complexity/processes

The title for my report was suggested by the organizing committee in February of 2013. The theme of reconceptualizing schizophrenia is especially relevant since shortly afterwards Dr Insel in his blog of April 24, 2013 stated that NIMH research will focus on the assumption that "mental disorders are biological disorders" and did not include any reference to life experiences or context as issues of interest. He stated that diagnosis in psychiatry was at such a problematic level that NIMH was going to focus its funding on research that centered on the basic processes of psychiatric disorder.

Will Carpenter and I have been interested in this problem for some time, at least since 1973, 40 years ago to be exact. It was in that year that the article, "Diagnostic Models and the Nature of Psychiatric Disorder"[1] was published in the Archives, soon to be followed by "Speculations on the Processes that Underlie Schizophrenic Symptoms"[2] reintroducing to modern psychiatry the neurologist Hughlings Jackson's concept of positive and negative symptoms. These articles were followed by many others (eg, Strauss et al[3–5] and Carpenter[6]) where we focused on the questions of diagnosis and basic processes, and the fundamental question of the actual characteristics of psychiatric disorder in contrast to concepts that only roughly reflected the realities. For example, the history of the concept of schizophrenia and the subsequent ideology promulgated the idea that people with schizophrenia had an inevitable downhill course. We demonstrated that this was not the case. We showed also that positive and negative symptoms needed to be differentiated in terms of process because positive symptoms had limited prognostic value while negative symptoms indicated an unfavorable prognosis.

A particularly important aspect of the decision not to fund research on the basis of diagnosis but on what is assumed to be more basic processes is that, in a major sense, it returns our field to the times before Kraepelin, who has generally been considered to be the founder of modern psychiatry. Kraepelin's decision to put together 3 very different syndromes under the diagnostic label "dementia praecox," later renamed "schizophrenia" was viewed by him and others as a major revolution because it defined diseases in psychiatry just as was common in other branches of medicine and thus made us full partners in the medical field. This approach followed the successful principles put forth by Sydenham in the 17th century and in ancient times by Hippocrates. It moved our field from focusing on the appearance of symptom groups (syndromes) at a single point in time which were viewed as basic clinical processes into conceptualizing diseases, identified as such by their specific longitudinal course.

## *The Problem of Classifying Reality*

Actually the concept of a diagnostic category represents one of the most crucial and basic questions in science and life more generally, representing our ideas about the building blocks of reality. Questions about such categories and their defining features go back at least to the philosophers of ancient Greece, the problem of "cutting nature at the joints" the problem of nouns, of how we understand and deal with reality. When it was realized, eg, in the 19th century that the diagnosis "dropsy" indicating general body swelling was not really a single disease but involved totally separate diseases reflecting either pathology of the kidney, the heart, or endocrine systems, this radically

changed entire approaches to diagnosis and treatment for this (these) disorder(s).

The problem of cutting nature at the joints is not a simple one. When I was a member of the Classification Society focused especially on "numerical taxonomy" the application of clustering algorithms to the problems of classification, I became aware of how central this question of classification is to such diverse fields as physics, biology, and marketing as well as medicine. Categorizing, deciding how to categorize and what levels of variables should be used as criteria is not trivial; on the contrary, it is the basis for all knowledge, and most actions, scientific and otherwise.

Unfortunately, questions of diagnostic categories and the processes they represent are often reduced to ideologically based beliefs founded on little data regarding demonstrably important groupings of characteristics. In our research, eg, we were told at one point by a leader in the field that "people with schizophrenia don't get depressed" in contrast to the data we had collected where many people who met diagnostic criteria for schizophrenia did in fact report being depressed.

Does the diagnostic category schizophrenia, as one often hears, just represent "an illness like any other"? There are many political reasons and reasons for obtaining funding to say yes. But as Robin Murray has pointed out (verbal report) "An illness like any other" is a strange concept. High blood pressure is not "like" pneumococcal pneumonia. The first is too much of a necessary thing, blood pressure, that you already need to stay alive, the second is an invasion by an outside organism. I suspect that all illnesses are complex phenomena but sometimes we find a treatment that makes that issue mostly irrelevant. Syphilis was an extremely complex disease, but when the sensitivity of the spirochete to penicillin was discovered the complexity became less important.

So where does this leave us with this question of reconceptualizing schizophrenia? For one thing it leads us to considering Insel's proclamation that the main direction of psychiatric research should be the study of underlying biological processes. That is one reasonable idea, an idea particularly popular currently. Interestingly, it also goes back to the mid-19th century before Kraepelin, to Griesinger's claim that mental illness is brain disease.

That direction may of course turn out to be the most fruitful, that mental disorders are essentially caused by a particular brain process such as found in Huntington's disease or tertiary syphilis. The brain is certainly important in psychiatric disorders just as it is important in all human behavior and experience, eg, influencing each of the keystrokes I make when writing this. But for much human activity there is complex interaction best viewed from the vantage point in terms not only of brain function but also of psychological processes and social interactions. It seems to me shortsighted to assume that the study of the brain should be chosen as the only strategy used in trying to understand what we have been calling schizophrenia. It is at least as important given our relative ignorance, not to assume definitively that this is the only possibility or that research or treatment should be limited to that orientation.

I believe another conceptualization should also be pursued. That conceptualization is much beloved, but more honored by omission than by application, the possibility of considering a biopsychosocial approach. The brain is a major mediator of interaction of the person with the social and material world because it influences and is influenced by these domains. But a major problem facing those embracing the biopsychosocial approach has been how exactly to consider these domains together.

> We used to think that if we knew one, we knew two, because one and one are two. We are finding that we must learn a great deal more about 'and.'
>
> Sir Arthur Eddington

What would the complexity of looking at the links between these domains look like? A major issue for understanding the role of biological, psychological, and social factors in schizophrenia as well as in other psychiatric disorders is how to learn about and understand complex processes and their interactions. From some unrelated personal experiences, I have become increasingly aware of the difficulties in understanding complex processes in general. Several years ago, I was with my children at the Canadian island north of Toronto that is owned by my extended family. During a quiet afternoon, I decided to make sugar cookies like those my grandmother used to make. I did not have her recipe with us, but how difficult can it be, only sugar, flour, and butter. Well, it turns out, incredibly difficult. There is an infinite number of quantitative possibilities in mixing even only 3 ingredients. More recently, last month after the annual American Psychiatric Association meeting in San Francisco, I visited my son who has a small vineyard. He was going to do some wine tasting. His vineyard has 4 kinds of varietal grapes. These get mixed together in various ways, put to age in oak barrels which provide oxygen and various trace chemicals, and then the process evolves. Apparently the experts know pretty well the various results of mixing several types of grapes, depending on the year of growth and the characteristics of the growth season. But then there are the tannins, complex compounds which evolve in complicated ways that even master winemakers cannot predict. So even simple complex processes are complex.

> *And of course, people are not grapes.*
>
> Maria O'Connell

> *What people want in fact is not knowledge, but certainty*
>
> Bertrand Russell

We human beings find simple explanations attractive even in face of strong evidence of their inadequacy. In the 2013 annual meeting of the American Psychiatric

Society a beautiful and powerful film, "A Sister's Call," was presented, the story of a man who had developed schizophrenia and disappeared from his family and after 20 years, returned and was helped back to major improvement by his sister. In her almost superhuman efforts she worked hour after hour, month after month, talking with her brother and helping him reconnect to the everyday world, to find an apartment, to find a social worker who expended considerable effort for him, and finally, with impressive struggle by the brother himself (Call) to his reconnecting with friends and with the family. In the film you could see Call begin to develop insight into his previous illness, a sense of humor and a reconnection to everyday life. After the film ended, the sister, Rebecca, came on stage to answer questions. One of the questions was that what was the thing that helped him recover, to which her answer was, it was his receiving the medication Seroquel. All the effort expended by her, by Call, the social worker and others, the apartment, the love, the dedication, were not mentioned, just Seroquel. This is a sad and impressive discounting of all those variables by this dedicated woman, meeting the current zeitgeist rather than attending to all these interacting processes.

So how can we deal with the probable complexity of schizophrenia and other psychiatric disorders? There are real difficulties understanding complex processes, but there are also helpful means to dealing with such problems. Approaches such as complexity theory, while certainly not providing a panacea, do provide conceptual and operational models for tackling complex problems. In other domains, the field of history for example, it is common to use layered attempts to understand the roles of various factors to understand complex processes.[7] In describing the causes of the first world war or the French revolution for example, economic, social, cultural and political factors are often considered as interacting in important ways. Schizophrenia, and other psychiatric disorders may be a result of analogous complex interactions, in this case among biological, psychological, and social domains.

Beyond dealing with complexity, a second important aspect of reconceptualizing schizophrenia is to pay more attention to issues of subjectivity. By subjectivity here, I mean not merely the usual suspects of what we call symptoms (another historically and philosophically interesting concept assuming that there are external findings related to internal pathological states),[8] but to the many apparently important aspects of subjectivity including personal meanings of experience that do not fall under the category of symptoms. For example, in the situation of Rebecca and Call above, the onset of Call's psychosis occurred when he was 20 and on entering the house saw his mother sprawled on the floor covered in her vomitus. She was dead from an overdose of pills and alcohol. It would seem to be a serious error in understanding the onset of psychosis in Call to ignore the meaning of this experience. Such an error would be especially problematic when one considers also that she had been his major source of support in this very troubled family. There would of course be a way of ignoring such meaning, a research or clinical interview supposedly used to assess the patient is much like a microscope or an functional magnetic resonance imaging, if used in inadequate ways much crucial data will never be noticed. A highly structured interview or a 30-minute clinical evaluation followed by brief "medchecks" every few months would be highly unlikely to obtain this information about Call.

There is a long history of viewing a major problem in schizophrenia as the fragmentation of one's world into an experience of terrifying incoherence and loss of an acceptable sense of self. There are many clues as to the nature of this incoherence and of the experiences that help to worsen or redress it. When a person with schizophrenia who has improved relates that the most important source of that improvement was "someone who cared," it is poor science just to ignore that report because of difficulties in measurement or because it does not fit into one of our accepted theoretical schemes. The field of psychology is littered with similar errors, for example by reducing the relationship aspect of psychotherapy to the rubric of "non-specific factors" so that it can subsequently be ignored. Similarly, reports by people improved from schizophrenia about the role of subjective will (eg, "I decided I had to pull myself together") or "non-treatment" factors (eg, "When I work I don't hear voices"), need to be taken more seriously and pursued in spite of some of the methodologic difficulties involved, such as problems demonstrating the efficacy of efforts to improve by the person with disorder.

So, reconceptualizing schizophrenia, it is essential not to assume that we understand the boundaries of this problem and how to conceptualize it or to assume, given our ignorance, that only a single approach to solving it should be pursued. Rather, several alternative pathways should be followed. For now, it seems to me that a prime candidate for reconceptualizing schizophrenia is seeing it as a group of human processes given particular properties of certain people's nervous systems to dealing with rather specific kinds of severe and probably repeated life experiences. For example, there is evidence from clinical research that hallucinations and delusions are closely related processes, emergent and/or compensatory efforts to control for loss of a cohesive subjective view of the self and the world and the extreme level of affect that might involve. All of this may possibly be generated by a succession of life experiences.[9] Pursuing such possibilities in the study of brain function, as well as in psychological and social investigations and their combinations might clarify the relevant mechanisms. If processes such as these are involved, our best conceptualization may be viewing schizophrenia as a biopsychosocial problem needing to be pursued with models dealing with this complexity and generating treatment approaches that recognize complexity as well.

The most likely approach to a solution for such complexity is found in work like that of Ralph Hoffman (personal communication) looking at psychological, social and biologic explanations interacting in a deleterious way, or some of the approaches to posttraumatic stress disorder looking at personality characteristics, nature of stressors, and biological characteristics, interacting.[10] And especially for what we call schizophrenia, it is important to be able to consider meanings contained in subjective experience, the personal experience around an event or situation, and the earliest learning of how to handle the meaning of such experiences, often occurring in the setting of the family. It is these kinds of approach that are most likely to find the answers to what we call schizophrenia, and they provide models for how we should proceed. Schizophrenia has been an important although often misunderstood concept. We are ready to pursue some of the more complex models that are most likely to provide the keys to understand this tragic evolution of human experience.

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