

ORIGINS OF THE VULNERABILITY THEORY

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It is as difficult to trace the roots of a developing concept as it is to trace the origins of a river since many tributaries, springs and run-offs contribute to its final course.\* In retrospect, the driving force which led to the development of the concept of vulnerability was the realization that phenomenology alone in the form of descriptive psychopathology was only the surface appearance of the mental disorder and gave no clues as to its origin. In searching for the etiology of schizophrenia, which was the major focus of vulnerability theory, all the various schools of etiology from the purely environmental to the purely biological were examined. I had been driven to do this by my students at Columbia University where for many years I taught a course on Advanced Abnormal Psychology. The students found the experiments in psychopathology which I described (e.g., effects of ECT on memory; changes in behavior after topectomy; prognosis of outcome of insulin treatment through use of sorting tests) quite interesting but could find no common link in these isolated experiments. They wanted to know why I performed them. My explanation was - sheer curiosity - but then why was I curious about

\*Wayfarer, there is no road, you make it as you go. (Wanderer, gibt kein weg, der weg eststeht beim gehen. - Antonio Machado)

some phenomena and not others? I began to wonder how other sciences dealt with the question of how to integrate experimental findings and discovered that philosophers of science when faced with phenomena whose causes were unknown used their imagination to contrive tentative models of causality. Why not treat psychopathology in the same way? Without such models, a field is cluttered with a plethora of facts and theories that do not mesh.\* The available techniques for testing the tenability of models in the form of psychological tests were not sufficiently reliable nor valid to use. This led to the development of a Mendeleev-like table of the relationship between stimuli and responses in schizophrenics as contrasted with normals (Zubin, 1958). The stimuli were classified on one axis as energy, signal and symbol stimuli and the responses, on the other axis as physiological, sensory, perceptual, psychomotor and conceptual (now called cognitive). This table provided a systematic experimental approach to determine the patterns of stimulus-response paradigms which differentiated schizophrenics from normals. This strategy seemed to open up an entirely new approach - we called it the biometric

\*A poem by Edna St. Vincent Millay ( ) I came across recently seems to probe the dilemma to its true depth:

"Upon this gifted age, in its dark hour,  
Rains from the sky a meteoric shower  
Of facts ... they lie unquestioned, uncombined.  
Wisdom enough to leech us of all our ills  
Is daily spun; but there exists no loom  
To weave it into fabric..."

The loom for weaving the wisdom into fabric is in our case the scientific model.

approach. The models included in this approach (Zubin, 1972) consisted of the ecological, developmental, learning, genetic, internal environment, neuropsychological and more recently the neuroanatomical models. Was there a common factor running through these models? Finally, I realized that each model had a place in the etiology and that a superordinate model was required to make room for all seven models. The vulnerability model was the result.

It's final formation was greatly influenced by my contacts with European psychiatrists which began with the US-UK Project on Diagnosis. Sir Aubrey Lewis' stress on the psychosocial factors, especially as represented in Wing's work, Essen-Moller's personality, diagnostic and genetic studies, Stromgren's epidemiological work and Bleuler's long-term follow-up studies (to which I was exposed only after 1972) all had their impact. In the United States, Morton Kramer's epidemiological studies, Franz Kallmann's genetic studies, Paul Hoch's diagnostic studies and Carney Landis' experimental psychopathological studies helped shape the eventual development of the theory.

The most recent impact of the long-term follow-up studies of Bleuler, Ciompi and Muller, and Huber helped give the more optimistic tinge to the theory. The original proposal for the vulnerability theory appeared in an obscure journal (Zubin, 1963) about the same time as Meehl's (1962) seminal article and Rosenthal's (1970) on the diathesis stress model. Unfortunately I had not been aware of their work at the time, but my subsequent articles on the topic benefited

from the more general theory of the diathesis-stress model especially Falconer's (1965) formulation. The special characteristics which differentiate the vulnerability from the general diathesis-stress model have been indicated in the following quotation from Zubin and Spring (1977):

Why then is this article necessary, if its main thrust has been anticipated by several earlier publications (Gottesman & Shields, 1972; Meehl, 1962; Millon, 1969, Rosenthal, 1970)? The answer lies in the fact that although the data on which vulnerability was based are known, their organization and application have lagged. Further, although vulnerability has been proposed several times, it has never caught on in schizophrenia. We have arrived at this formulation independently of our predecessors, driven to it not by the weight of evidence that has accumulated but by the way in which it illuminates the meager evidence. In addition, we have suggested biometric approaches for testing the tenability of the vulnerability model by indicating the need for measures of life event stressors, competence, coping, and vulnerability to schizophrenia as well as markers of the onset and offset of schizophrenic episodes.

The search for markers has recently received a new impetus by introducing the consideration of information processing into the search.

One underlying question might be raised why I was so deviant in not accepting the established view of the day (e.g., psychoanalysis, phenomenology, etc.). It may be that I had been a maverick throughout my career, perhaps because of my being an immigrant rather than a native born American. (I was born in Lithuania and came to the U.S.A. at age 9.) This may be the reason for not accepting such main props of the establishment as the Rorschach, clinical phenomenology and the

diagnostic schema of the day.

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