

Harlem Valley Revisited

I am delighted to be here today and most honored to have been chosen to receive this year's ^{Distinguished Scholar's} Award of the Harlem Valley Psychiatric Center. ^{And} ~~all~~ through a strange and fortunate combination of ^{and N.Y. Medical College} circumstances, it so happens that this is my second visit to Harlem Valley - the first time I came here was, almost to the day, fifty years ago: in the late spring of 1938. At that time I had come here to learn about a revolutionary, new treatment of schizophrenia, the first treatment ever that, until then, had been able to influence the symptoms of acute schizophrenia and produce remissions, at least for a while. That treatment was insulin coma therapy which had been developed in Vienna. Your hospital - Harlem Valley - was then among the most progressive ones in North America, under the dynamic leadership of Dr. Ross; and the director of the mental hospital in Montreal where I worked as a young hospital psychiatrist, had sent me here to learn as much as possible about this new treatment so that I could help to establish a similar program back in Montreal. I did learn here how to do it and brought my new knowledge back to Montreal.

But insulin coma treatment was only the first of several future therapies for schizophrenia - unfortunately none ^{yet} leading to a cure for this terrible disease. A quarter of a century after my visit here we developed another treatment, the pharmacotherapy for schizophrenia, at my hospital in Montreal; and this time your patients here could benefit from what we had done across the border.

Finally, now, after half a century, I find myself again here, for another visit; this time for a happy conclusion to our enduring mutual exchange of knowledge. Little did I expect in 1938 that this

early example of true technology transfer would bear such beautiful fruit.

Now I have been invited to speak for about 10 minutes on research in psychiatry. Shall I use these few minutes to talk about psychiatric research in the last 50 years? I shall do better - I will attempt to give a thumbnail sketch of all research in psychiatry since it began its existence. That was only 200 years ago, at the time of the French revolution when Pinel, a young activist physician, brought mental patients out of the dungeons where they had been kept in the Salpêtrière, and struck their chains off them. With this gesture Pinel indicated that from then on medicine would take responsibility for the care of the mentally ill who until then had only been charges of charity and the church. Pinel, the first professional psychiatrist, also wrote the first textbook of psychiatry. But research in this new ^{by created} medical specialty had to wait for more than half a century when - inspired by the declaration of the German psychiatrist Griesinger that all mental diseases are brain diseases - researchers into the anatomy of the brain, that is the study of the brain's structure, made important discoveries..

But these discoveries of the brain's architecture - valuable as they were - could not yet be applied to psychiatry, because psychiatry had not yet found a systematic way of diagnosing its various disorders, and all research must start with clear definitions and classifications of the phenomena it is studying. Only by the end of the last century Kraepelin succeeded to establish a solid system of classification in psychiatry that allowed psychiatrists to make diagnoses of general validity. Until then every country,

every hospital, every psychiatrist had had their own diagnostic system and researchers had lacked a common language.

At about the same time, that is during two or three decades at the turn of the last century, many great scientific discoveries were made. Einstein published his first papers on relativity; Planck discovered the quantal nature of energy; Pavlov developed his ^{experimental, and} physiological theories of conditioning - and Freud discovered the phenomena of the unconscious mind and laid the groundwork for psychodynamic theories that, for the first time, made it possible to understand the meaning of seemingly nonsensical symptoms and behaviors that were observed in psychiatric patients.

Optimism was running high among psychiatrists when - still in the early years of this century - the cause of an important mental disease that led to dementia and death - general paresis of the insane - was discovered as being syphilis and, at the same time a physical, specific test for its accurate diagnosis was developed. Psychiatric optimism, however, was premature if we expected to soon discover the causes of all other important psychiatric disorders and specific tests for their diagnosis. We are still frustrated in our search for the causes of most mental diseases and for biological markers to diagnose them.

However, at the end of World War I a successful treatment was discovered for general paresis, the dementing sickness, and the Austrian psychiatrist who had discovered it, got the Nobel prize. During the next 30 years virtually all research in psychiatry was now centered on treatment. In the thirties and forties insulin coma therapy and electroconvulsive treatment (ECT) were developed, and

virtually all research was concerned with special techniques and various modifications of these treatments for schizophrenia and depression. Not quite all research - I did some research of my own in other fields than treatment. And this was my equipment! A pencil and a scratch pad, a stopwatch and a set of Rorschach cards. (Much cheaper and a lot more portable than the million dollar cyclotrons and mass spectrometers of today's researchers.) What was I researching? The way mental patients of different diagnoses expressed themselves in their drawing; the speed of their mental word associations; their phantasies and perceptions. How insignificant this sounds today, but only 40 years ago it was quite respectable - and publishable - research.

Then we discovered the new drugs - the antipsychotics, anti-depressants, tranquilizers - in the fifties, and suddenly there was embarrassment: here were revolutionary new drug treatments, real breakthroughs, that were marvelously effective - although no cures - for the treatment of psychoses, depression, anxiety; and clinicians had found these treatments, empirically, at the bedside, not researchers in their laboratories. In fact, nobody had the slightest idea how and why these treatments worked.

That was a challenge, and neuroscientists rose to it quickly. With newly developed, sophisticated instruments that enabled them to detect and measure incredibly small amounts of chemicals in the brain, they discovered how disturbances in brain hormones were involved in the manifestations of mental diseases and how drugs could reestablish the correct balance of the substances in the brain. Other new

instruments, combining x-rays and radioactivity with imaging computers made it possible to actually see new details of the structure and even the ongoing functioning of the living brain. Breakthroughs in genetics determined the exact site on chromosomes of genes that ^{are} ~~were~~ partial causes of mental diseases. We know the gene for Alzheimer's disease, ^{also that there are} at least three genes for depression and other mood disorders, and geneticists are close to tracking down a gene for schizophrenia. There has been a veritable explosion of fundamental knowledge about the working of the brain, an undreamed-of expansion of our scientific understanding to what extent brain disorders underlie mental diseases.

From reading the science section of the New York Times and watching some of the recent fascinating TV programs, one might be tempted to believe that these breakthroughs are all we need to solve the riddles of psychiatry and mental health. Not so. Rather, we are on the the brink of a new era of research in the mental health field, an era that hopefully will be characterized by successful efforts to pull together all we know about the as yet somewhat isolated fields of diagnosis, ^{epidemiology,} ~~psychological~~ theory, clinical treatment and biological mechanisms of mental disorders, into a new system of scientifically based prevention and treatment, a system that will integrate ^{our} ~~over~~ recent spectacular achievements in the biological neurosciences with our older knowledge about psychological and social factors ^{that play such an essential role in psychiatry.}

Psychiatry has now reached the scientific level of the rest of medicine but, ~~unlike all other branches of medicine,~~ psychiatry's task is more complex - it has to combine scientific biological data with our knowledge of human experience and behavior.

More than any other physicians, psychiatrists have to be able to understand their patients, not only, as our dramatic biological breakthroughs are doing, explain their diseases. To illustrate the difference: a blind person may give a perfect explanation of the nature of colors - that is, definite ranges of wavelengths in the visible spectrum of light - but can he or she understand our ^{experience of} seeing of color?

Scientific progress in the two centuries of psychiatry's existence seems, until now, to have proceeded in 30-year-steps. The biological research era has now been with us for some 30 years. I, for one, wish that the psychiatric research that will carry us into the year 2000, will focus on the integration of biological science with humanities - in the ever-continuing service of mental health.