Introduction

According to the World Health Organization, four of the 10 leading causes of disability in developed countries are mental disorders such as major depression, bipolar disorder, and schizophrenia. In any one year, approximately 23% of adults fulfill the diagnostic criteria of a mental disorder.

To support research into psychiatric disorder, Dr. Harvey C. Stancer in 1980 established the Canadian Psychiatric Research Foundation (CPRF), a national non-profit organization. Harvey Stancer graduated from Medicine (University of Toronto) in 1957, trained in psychiatry, and obtained his PhD in biochemistry, one of the first psychiatrists in Canada to obtain a PhD degree. For many years, he was Director of Research at the Clarke Institute of Psychiatry. In his honor, the University of Toronto’s Department of Psychiatry Research Day is appropriately called Stancer Day.

The aim of CPRF is to raise and distribute funds for research to Canadian universities and teaching hospitals. It operates with a very lean staff, a volunteer Professional Advisory Board and a volunteer Board of Directors. To date, CPRF has provided more than $10 million in support to over 300 researchers for work in child and adolescent mental health, mood disorders, addictions, and schizophrenia. The Foundation specifically targets young researchers at the threshold of their careers.

Few young scientists, however, are featured in this book. This is because youth is the promise of tomorrow – today, the stars among young scientists are difficult to identify while the achievements of their seniors, with the passage of time, are easier to spot. Science is a young person’s sport, it is said, but Galileo was 52 when he discovered that the rate of fall does not depend on weight; Roentgen was 50 when he stumbled upon X-rays. Pasteur made his most significant contributions to science between the ages of 55 and 58. In today’s technological world, scientific experiments require expensive equipment and a large network of collaborators. This is a problem for the young. That being said, young scientists play a crucial role in the future of science. They continue to produce the most original ideas; unless Canada invests in them – there will be no scientists, young or old, tomorrow.

Psyche in the Lab is about the achievements of psychiatric research. The treatment of Alzheimer’s disease and memory deficits and mood disorders, the understanding of genetic variation, cognitive therapies, schizophrenia, anxiety disorders and stress, sleep, child and forensic psychiatry, developmental disabilities, substance abuse, family dysfunction, and end-of-life distress would be lacking without the scientific advances
Introduction

of the Canadian scientists chronicled in this book. The reader will be exposed to information about molecular neuroscience, neuroimaging, bedside studies, population genetics, and classical epidemiology, techniques used to explore the mind and its many complexities.

The reader will also meet individuals who are not scientists but who have furthered the cause of psychiatric research in other ways. Those with experience of mental illness, family members, private donors, and policy makers have contributed their time and their money in the hope of solving the riddles of complex diseases of the mind. Each chapter acquaints the reader with current day understanding of disorders of the psyche in order to inform and to encourage more young people to enter a field of science that melds biology and culture, experience and experiment, nurturance and nature.

“The search for the truth is more precious than its possession.”
Alfred Einstein

In writing this book, we learned what the scientific method was – an original idea, a hypothesis, leading to experiments intended to prove the hypothesis wrong. Good scientists, we came to realize, always try to disprove their hunches. They may not ever prove their discoveries to be right but they continue to conduct more and more experiments to try to prove them wrong. Competing scientists, of course, also try to prove them wrong. Eventually, one way of interpreting clinical observations is accepted as probably correct. Little by little, opposing hypotheses are discarded. That is how scientific breakthroughs are born, through this very gradual testing and retesting of possible mechanisms in an effort to explain observable facts.

There is a second way of doing science, a “neutral” way. Many experimentalists may start with no hypothesis at all. They accumulate data and make correlations; evidence emerges. While doing away with bias, this method makes it difficult to ascertain cause and effect. For instance, a positive correlation between happiness and the state of being married can mean that marriage leads to happiness, but it can also mean that happy people are more likely than grouches to get married in the first place. Another possibility is that the two factors that correlate with each other are both due to a latent variable, a third factor that no one has considered. An instance of this is the correlation between television viewing in children and their subsequent inclination to aggression. Both, from what we know at present, probably result from a third independent factor, i.e., parental neglect.

Preparing biographical sketches for the chapters in this book bears an analogy to the two research methods described above. At times, we had a starting premise about the importance of the work of a particular scientist and the interviewer made sure to explore that premise. At other times, the interview was conducted with no preconceived ideas. The narrative unfolded by itself.

We wanted to capture the experience as well as the experiment. We wanted to understand the impact of psychiatric disorders on individuals and their motivation for
participating in a book about research. We knew that psychiatric illnesses caused not only subjective distress but often also lowered educational attainment, contributed to marital instability, aggravated difficulties with parenting, lessened job satisfaction and reduced income. We also knew that psychiatric illnesses took their toll on caregivers, emotionally, socially, and economically. What we learned from psychiatric patients and families made us realize something new. Yes, the toll is sometimes great, but so is the joy of recovery, the growing confidence when a challenge is overcome and help can be offered others in return for help received.

In writing this book about the achievements of psychiatric science, we were also aware that there is much to criticize about psychiatry. Mistakes have been made in Canada, as elsewhere, under the guise of psychiatric scholarship. There was the era when the world believed in eugenics and two Canadian provinces, Alberta and British Columbia, passed legislation to allow involuntary sterilization of mentally retarded and psychiatrically ill adults (1928–1972). Dr. Joseph Berg of Toronto, who has studied the figures carefully, reports that 2,800 adults were sterilized in Alberta alone during this period. Prominent Canadian psychiatrists were proponents of eugenics, believing that some people were inherently more worthy of survival than others.

As late as 1920, Dr. C.K. Clarke [1857–1957], Canada’s leading psychiatrist at the time, argued strenuously against allowing the immigration of refugee Jewish children from the Ukrainian famine on the grounds that they “ .... belonged to a very neurotic race.”

From Gerald Tulchinsky Taking Root: The Origins of the Canadian Jewish Community

The general public knows about these mistakes and is quick to ferret out scandal. Some are of the opinion that psychiatry is not to be trusted, that it advances its own agenda, which is to pathologize the problems of everyday life by, for instance, giving worry the official label of anxiety disorder and calling grief depression.

Who are psychiatrists, the critics ask, to determine what is a disorder, to decide what is or is not within “normal” range? Some think that too much money is being spent (wasted in their view) on psychiatric research. They cannot see how studying the brains of laboratory animals, which is what some psychiatric researchers do, is relevant to human health. They even question the peer review system (the way decisions are made about what research proposals are funded); they think there is something wrong when researchers who sit on peer review committees receive funds from the very committees to which they belong. They feel that there is not enough accountability and oversight. Chapter 31 on the protections accorded to psychiatric research participants addresses several of these issues.

Under Further Reading (below) the reader will find references to Canadian psychiatric scandals (C.K. Clarke’s eugenic convictions – he thought “mental defectives” should not only be kept out of the country but, if already in Canada, sterilized, D. Ewen
Cameron’s (1901–1967) psychic driving and LSD experiments, and David Healy’s recent (and strongly denied) assertions that the Centre for Addiction and Mental Health, Canada’s foremost psychiatric research institute, is “in the pocket” of pharmaceutical companies. But there is much more to psychiatry than scandal, real or imagined. This book illustrates how much the academic and private sector of a community can accomplish for humanity when they join forces and work together, and how important it is that they do so. We hope that everyone who reads Psyche in the Lab, including psychiatry’s critics, is lured by the sheer excitement of the quest into the often mysterious workings of the human mind.

Further Reading

Collins A. In the sleep room: The story of the CIA brainwashing experiments in Canada. Toronto: Lester & Orpen Dennys; 1988.
Joint Statement of Dr. David Healy, The Centre for Addiction and Mental Health and the University of Toronto http://www2.camh.net/press_releases/healy_camh_uoft_statement.html
Wray KB, Middle-aged scientists are most potent. The Scientist, 2004;18(22):6.