Niels Birbaumer provides personal reflections on the life and work of Neal Miller, including his pioneering laboratory investigations of visceral learning. He also describes Miller’s study of psychoanalysis in Vienna, and Miller’s efforts to translate the concepts of psychoanalysis into the language of learning theory.

During the early 1970s we read for the first time about the curare experiment: Completely paralyzed rats were able to learn in an operant learning situation to control different aspects of their physiology. These reports, which later turned out to be unreplicable, electrified us because they opened the door for learning treatment of medical diseases. I decided to meet the hero behind these experiments in person and traveled to New York and visited Neal in his lab at the Rockefeller University on 1st Avenue. I vividly recall this first formal meeting of a young researcher and behavioral therapist from Vienna with one of the most famous psychologists of all time. It was a very friendly and warm encounter from the beginning. Neal recalled his experience with psychoanalysis in Vienna during the early 1930s and the simultaneous rise of the Nazi movement, anti-Semitism, and all of the other political illnesses that have plagued Vienna and Austria until today. (I returned my Austrian passport after Jörg Haider’s neo-Nazi party was accepted in the government during the 1990s.)

This first meeting with Neal was probably around 1972 or 1973. He showed me the lab, and I saw various experimental setups for research on motivation (hunger and thirst), but nothing of the curare experiments. He told me that he couldn’t show the experiments to me on that day because the responsible graduate student wasn’t there. On the same day I met Barry Dworkin, at that time also a graduate student, who explained to me that they had some problems with the replication of the curare experiments and introduced me to another problem, namely, the biofeedback treatment of scoliosis and kyphosis. Barry and I have been lifelong friends since that day and have published many papers on scoliosis and baroreceptor physiology and blood pressure learning over the years. It was Barry who tried to replicate the curare experiments over many decades without success. In the process he discovered many other new effects of learning, particularly classical conditioning of nerve firing. In the late 1980s he wrote a famous paper in which he tried to explain the lack of replication and pointed out that “experimenter effects” may have caused the early success of these experiments. After several visits in those early days to Rockefeller University, and the beginning of an international cooperative project on the behavioral treatment of scoliosis and kyphosis, which was later published in the Proceedings of the National Academy of Sciences, Neal and Barry visited my laboratory at Tübingen, and we organized an international meeting on biofeedback and operant treatment of disease on the occasion of the 500th anniversary of Tübingen University, held on a romantic medieval castle near Tübingen. The papers from this conference were published in a book edited by Birbaumer and Kimmel (1979).

The fact that Neal’s name became associated so strongly with the failure of replication of the curare experiments and the lack of replicability of many biofeedback studies in general is very unfortunate because Neal’s work, particularly his book on psychotherapy, constitutes the foundation of behavior therapy and experimentally based psychotherapy in general, which now dominates psychological and psychiatric treatment all over the world. Neal’s motivation to write that book and to build an experimentally oriented psychotherapy was driven by his appalling experience with psychoanalysis and the psychoanalysts in Vienna: He started a self-analysis with Ferenczi or one of the students of Ferenczi during his year in Vienna and experienced the pseudologic and mystical drive concept as a trainee himself. Neal was one of the psychologically most healthy persons I ever met in my life, and that was probably the basis of his sensitivity to the pathologizing theory and practice of psychoanalysis. Only a healthy mind can create such an intellectual wealth and scholarly productivity as the work of Neal Miller.
In the References I have cited the papers that Neal Miller, Barry Dworkin, and I wrote or edited during our collaboration of many years.

References


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