

# PROFESSIONAL ISSUES

## Remembering Neal Miller

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*The author describes two encounters with Neal Miller, including a discussion of the pioneering curare/visceral learning experiments and of Miller's perspective on the biofeedback training paradigm.*

My favorite Neal Miller memories come from two separate biofeedback conferences. First, while in Japan to attend the Third International Bio-behavioral Health and Self-Regulation meeting in 1993, I had the distinct pleasure of sitting next to Dr. Miller for more than an hour on a bus ride in Tokyo.

At that time, I questioned him about why it had been so difficult to replicate his classic paralyzed rat studies that essentially laid the foundation for biofeedback, or at the very least helped established evidence for voluntary control over the autonomic nervous system. Among other hypotheses, he disclosed several possibilities, including that the specific compound (curare) used to paralyze the rats was no longer available and that other subsequent manufacturing sources had perhaps inadvertently altered its original formula. He also mentioned that his collaborator and colleague Leo DiCara was undergoing a stressful divorce at the time, and there may have been some potential errors. Nevertheless, I appreciated his candor, and it was exciting to discuss with him firsthand the potential threats to the internal validity of these classic studies.

My second poignant memory comes from a presentation Dr. Miller gave at the 1991 Association for Applied Psychophysiology and Biofeedback meeting in Dallas. He presented an interesting analogy demonstrating the

importance of the role of a biofeedback therapist. Paraphrasing him, he said,

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Imagine you are in a tour group on an African safari and the guide says, "Look up in the trees and see the DODO bird." The typical group response is, "We don't see the DODO bird." The guide then says, "Look through these binoculars specifically aimed to see the bird." The group repeats, "We still don't see the DODO bird." The guide responds, "That's because the bird is green and it is hanging upside down." "Oh, now we see it!" exclaims the group.

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Dr. Miller helped us appreciate that the binoculars represent the specific configuration of the biofeedback instrumentation, and the guide represents the biofeedback therapist whose role is to interpret the meaning of the physiological feedback. In other words, both are seen as essential components of the biofeedback therapeutic process.



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