

## The Unknown Experiments of Murray Sidman with Patient H.M.

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Dr. William Beecher Scoville (on left). (Courtesy of Luke Dittrich). Source: <https://why.org/segments/remembering-patient-hm/>

Within the rich career of Murray Sidman (1923-2019) in behavior analysis, there is a little-known set of experiments that included Patient H. M., Henry Molaison, as a research participant. Molaison (1926-2008), one of the most renowned cases in neuroscience, serving as a research participant from 1953 until his death. Pioneers in the fields of neuropsychology and cognitive neuroscience Brenda Milner (1918- ) and Suzanne Corkin (1937-2016) and surgeon and researcher William Beecher Scoville (1906-1984) studied Molaison intensively, setting the foundations for understanding the neurological underpinnings of memory.

Molaison suffered seizures from the age of



HM age 60, Source: Jenni Ogden: [Psychology Today](#)

10 and in 1953 underwent an extensive surgical procedure led by Scoville. The surgery involved severing areas of the brain such as sections of temporal lobes, hippocampi, and amygdalae. Although alleviating the seizures, the surgery caused irreversible memory alterations known as anterograde and partial retrograde amnesia rendering Molaison unable to live independently. Molaison retained only fragments of his short-term memory, which lasted only about 30 seconds or less, and some early memories from before the surgery.

Sidman worked with Molaison at the Neurology Service at Massachusetts General Hospital in 1966. Two publications by Sidman came out of such work; one from 1968, co-authored with colleagues in the journal *Neuropsychologia*, an interdisciplinary neuropsychology journal, the other, in 1969 in the *Journal of the Experimental Analysis of Behavior* (JEAB), the flagship journal

of the experimental analysis of behavior, in which Sidman was the sole author.

Both publications included the study of stimulus control using variations of matching-to-sample and delayed-matching-to-sample procedures, along with quantitative and visual analyses such as generalization gradients. The behavior-analytic procedures and analyses used by Sidman and colleagues in these publications offer sensitive and precise ways that capture dynamic aspects of learning and the potential for learning. Such quality and sophistication of behavior-analytic methodology holds great value in developing an integrated and collaborative approach in interdisciplinary fields such as neuroscience.

Based on these two publications by Sidman working with Molaison, Elcoro and Backer (2021) analyzed the role of behavior analysis in the history of the emergence of collaborative modern neuroscience. These authors included details about the two publications mentioned above, part of the history of the emerging intersections between behavior analysis and neuroscience, and how each field conceptualizes and examines memory. This work was published in a special issue of JEAB honoring the life and career of Sidman co-edited by McIlvane et al. (2021).



Dr. Murray Sidman



Brenda Milner, 2011. Source: [Wikipedia](#)

The literature on H.M. is vast. Much of the information on the case of H.M. has been compiled in two accessible books: *Permanent Present Tense, the Unforgettable Life of the Amnesic Patient, H. M.*, by Suzanne Corkin and *Patient H.M. A Story of Memory, Madness, and Family Secrets* by Luke Dittrich, the grandson of Scoville. Although useful and comprehensive, both book authors failed to include references to the work of Sidman with Molaison.



Suzanne Corkin. Source: [New York Times](#)

## References

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