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The experimentation of S. Weir Mitchell with mescal

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Most neurologists are familiar with the name of Silas Weir Mitchell (figure). There is a brief mention in a recent publication of Mitchell's experience with the hallucinogenic drug mescal,[1] and at least one biographer of Mitchell has commented on this subject.[2]

Weir Mitchell (1829-1914) was born in Philadelphia and entered the University of Pennsylvania at age 15. He entered the Jefferson Medical College in 1848, where his father was then Professor of the Practice of Medicine, and graduated in 1850, at age 21. After a year of study in London and Paris, he served as physician to the poor at the Southwark Dispensary in Philadelphia. The 10 years before the Civil War were taken up by general medical practice, clinical research, and early work in natural science and toxicology. In the late 1850s, Mitchell became acquainted with Dr. William A. Hammond, which facilitated the development of his interest in neurology. This interest was enhanced by Mitchell's Civil War experience, during which he served under Surgeon-General Hammond in the huge hospitals surrounding Philadelphia.[2-4]

Mitchell was a prolific writer. He is best remembered for his scientific contributions regarding peripheral nerve injuries,[5] and it is accepted that he was the first to describe causalgia.[6] Mitchell was the author of over 250 scientific and medical books and papers published between 1852 and 1917. His diverse interests included comparative respiratory and circulatory physiology, dermatology, headache, sleep disorders, epilepsy, reflexes, cerebellar physiology, movement disorders, pharmacology, and toxicology. He also published over 35 novels, short stories, and books of poetry between 1866 and 1914, and a number of historical essays.[2,3]

Mitchell's interest in pharmacology and toxicology, in addition to neurology, was shared with Hammond; both were interested in rattlesnake venom, a subject on which Mitchell published several scientific works.[2,4] Other substances Mitchell investigated include arsenic, chloral hydrate, chloroform, ether, bromides, amyl nitrite, potassium nitrite, opium, cinchona, sassy-bark, South American arrow poisons, gila monster toxin, and other snake venoms.[2] During the years 1895 to 1897, Mitchell had taken a particular interest in psychiatric disorders, insane asylums, and the treatment of the mentally ill[3] as reflected in several publications.[2] Considering his fascination with pharmacology, toxicology, and psychiatric disorders, it is not surprising that Mitchell was interested in an article that appeared in the *Therapeutic Gazette* in 1895 on the use of hallucinogenic mescal buttons by the Indians of New Mexico.[7]

Mitchell obtained some extract of mescal from one of the authors, Dr. D.W. Prentiss, of Washington, DC.[8] He described his personal experience with ingestion of the drug in a report read before the twenty-second annual meeting of the American Neurological Association in Philadelphia on June 4, 1896. The paper was read by Dr. Wharton Sinkler for Mitchell, in his absence, and there is no record of its reception or discussion.[9] A detailed report of his observations was subsequently published in the *British Medical Journal*.[8]

Mitchell took the drug "at 12 noon of a busy morning" on May 24, 1896. Throughout the afternoon, he continued to take extra doses of the nauseating mescal, observed "a sense of great gastric discomfort," and developed a headache. He noted facial flushing, "the pupils were dilated midway, the pulse 80 and strong. The knee jerk and station were normal." He noticed "an unusual amount of physical endurance," and went about his usual business of calling on patients, while he began to notice "a transparent, violet haze" and developed "a certain sense of the things about (him) as having a more positive existence than usual." Perceiving a "consciousness of power," he tested his reasoning capacity by reading "a certain paper on psychology," which a week before he "had laid down in despair." He found that the paper "was less to be comprehended than ever."

At 5:20 in the afternoon, he "began to see tiny points of light . . . which came and went in a moment. . . . The display which for an enchanted two hours followed was such" that Mitchell found "it hopeless to describe in language which shall convey to others the beauty and splendor of what (he) saw. . . . Time passed with little sense of its passage." He perceived stars, delicate floating films of color, and "zigzag lines of very bright colours." This was followed by a perception of "definite

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Figure. The Holl portrait of S. Weir Mitchell (from Burr, 1929).

objects associated with colours.... A white spear of grey stone grew up to huge height, and became a tall, richly finished Gothic tower of very elaborate and definite design.... Every projecting angle, cornice, and even the face of the stones ... were covered or hung with clusters of what seemed to be huge precious stones. ... These were green, purple, red and orange. ... All seemed to possess an interior light.... After an endless display of less beautiful marvels, I saw that which deeply impressed me. An edge of a huge cliff seemed to project over a gulf of unseen depth.... Above hung a fragment of some stuff. This began to unroll and float out to a distance which seemed to me to represent Time as well as immensity of Space."

Mitchell's anecdotal description of his subjective experience is followed by reflection on a similarity between his initial cephalalgia with scotomata and some "cases of megrim with visions" that he had previously reported. He noted that "for the psychologist this agent should have value. To be able with a whole mind to experiment mentally upon such phenomena ... is an unusual privilege." However, he predicted "a perilous reign of the mescal habit when this agent becomes attainable."[8]

Mitchell's account of his experience with mescal was read by Dr. Havelock Ellis, an English physician and writer, who further experimented with the drug. Ellis was best known for his seven-volume *Psychology of Sex,* which was banned by the English courts as obscenity. Ellis published an essay on his experiments with mescal in the *Contemporary Review* in January, 1898.[1,10] The title of his essay, in which Ellis recorded in glowing language the effects of mescal on two poets, an artist, and himself, was "Mezcal: A New Artificial Paradise." The editors of the *British Medical Journal,* who had published Mitchell's more conservative observations on the effects of mescal, were moved to warn that Ellis' paradise was actually a "New Inferno," pointing out that "such eulogy for any drug is a danger to the public."[10] No further account of experimentation with mescal by Weir Mitchell has been found.

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