

Sheldon Clark Reed (1910-2003)

Sheldon Clark Reed helped establish the profession of genetic counseling in the US during the twentieth century. In 1947 Reed coined the term genetic counseling to describe the interaction of a doctor explaining to a patient the likelihood of passing a certain trait to their offspring. With physicians being able to test for genetic abnormalities like cystic fibrosis, Reed helped trained individuals give patients the tools to make informed decisions. In 1955 Reed published the book *Counseling in Medical Genetics*. Reed educated patients about how certain genetically transmitted traits could adversely affect their offspring and provided options for remedying those effects.

Reed was born in Barre, Vermont, on 7 November 1910. In 1928 Reed enrolled at Dartmouth College in Hanover, New Hampshire, as a biology major. In his third year at Dartmouth, he worked with George Davis Snell, who researched genetic mutations in mice. Reed discussed the genetics of the harelip mutation in mice, known as a cleft palate in humans which is a condition that occurs when the mouth of a fetus does not develop properly during pregnancy. In 1932 Reed graduated from Dartmouth with a bachelor's of science in biology and he matriculated to Harvard University in Cambridge, Massachusetts, to pursue a PhD.

At Harvard, Reed continued his research in genetics by looking at mutations in rabbits and mice, focusing on the physical traits and development of mutations in utero. Reed worked with William Castle and together they published nine genetics papers, comparing observations they made in mice to human development and mutation. In 1935 Reed received his PhD in genetics.

Reed obtained a job working in the laboratory of Sewall Wright at the University of Chicago in Chicago, Illinois. In 1936 Reed moved to work as an instructor at McGill University in Montreal, Canada. At McGill University Reed studied newborn mice to determine how genes influenced physical characteristics like hair color of the mice after birth.

In 1940 Reed returned to Harvard University where he researched the behavior of the fruit fly *Drosophila*, with Carroll Williams, a graduate student. They investigated the number of times fruit flies beat their wings. They assumed that, because each fruit fly is the same size, they would beat their wings the same number of times. The results showed that the size of wings and the size of thoracic muscles controlled differences in the number of wing-beats among the fruit fly population. From their research, Reed and Williams concluded that there was a relationship between genetics and behavior.

During World War II in 1942 Reed moved to London, England, and assisted in the war effort of the US. His task was to assist in interrogations of imprisoned German scientists. The military also utilized Reed's background in statistical sciences to advise them on how to get ammunition factories operational as quickly as possible after an attack.

In 1945 Reed returned to Harvard and continued his research work on genetics. He met Elizabeth Beasley, a widowed assistant professor of biology, and they married in 1946. Reed became a stepfather to John, and he later fathered two children, Catherine and William.

In 1947 Reed became the director of the Dight Institute for Human Genetics at the University of Minnesota in Minneapolis, Minnesota. The Dight Institute was established with an endowment on behalf of Charles Fremont Dight to open a clinic in his name to teach courses in human genetics, host research studies, and allow patients and doctors alike to receive heredity and genetic advice and consultation.

During his time at the Dight Institute, Reed and his team came up with a name for the consultation

that they were providing to doctors and patients. In Europe, the term genetic hygiene was popular, but according to Reed and his team, they felt that it was overshadowed by the eugenic view of human genetics, and that heredity was a social problem, rather than medical. Although the term was widely understood, Reed was intentional in choosing another title rather than genetic hygiene to establish a clear difference between what the institute and himself were interested in from the ideas of Nazi Germany at the time. Reed stated that genetics should not be used as a governmental tool to eradicate any population, or purposefully choose particular traits. The term genetic hygiene had become intricately woven into Nazism and the mantra of a perfect race that is achieved by the intentional killing or sterilization of those that the government saw as unfit to bear children. According to Reed, he felt that the science he was interested in was significantly different than eugenics. To make this distinction clear, in 1949, Reed coined the term genetic counseling. That term he used to describe conferring accurate genetic information to families without the eugenic overtones of the past and presented it to his committee at the Dight Institute.

Throughout the 1950s Reed handled many cases of genetic counseling, particularly familial heredity questions and abnormalities, and he began establishing a philosophy for the goals of counseling patients. In 1955 Reed authored *Counseling in Medical Genetics*. The book explains best practice for introducing genetic information to families with a specific focus on the delivery of the information. Reed explains the importance for a genetic counselor to be sensitive to the self-blame, guilt, and strain parents feel after finding out they carry a genetic abnormality places and for genetic counselors to learn how to respond and help them cope. This counseling practice served a large purpose in differentiating the role of a geneticist, an obstetrician, and a genetic counselor. In 1955 Reed also served as President of the American Society of Human Genetics and gave many lectures on the philosophy and information from his book.

Reed retired in 1978. Reed bred African violets and orchids and was an active member in his church. Reed learned Hmong, the language of an ethnic group living in China and Southeast Asia, after his church hosted foreign families while they adjusted to US culture. He later taught Hmong students to read and write in their own language. Reed died on 1 February 2003.

Sources

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