Chapter 6: Mad Mink

Bill Hadlow refused job at Patuxent but was approached in 1963 by Idaho farmer with mink showing neurological disease. After necropsy the disease was shown to be a brain spongiform disease and Hadlow would call the disease TME (transmissible mink encephalopathy). Hadlow began to look into the history of this disease. He found in 1947 Gaylord Hartsough had first identified a mink disease originally thought to involve neurotoxicosis. The disease was also reported in 1961, when it was identified on 5 farms in Wisconsin that all shared the same food source. Hadlow also found two more cases in Wisconsin, with other sporadic cases throughout the United States. TME had a long hidden history in the US. Through brain slurry inoculation experiments on mink subjects Hadlow confirmed TME to be transmissible to mink and other animals.

Richard Marsh, a veterinarian and the son of a mink farmer, entered the scene. Mink had been traditionally raised for their fur, mainly in Wisconsin. In the wild mink normally ate fish, birds, frogs, and small rodents but with advancements and economics in farming changing, many ranchers began feeding mink remains of dead cows. Marsh, worked with his previous professor, Robert Hanson, following up on Hadlow’s work on TME. Marsh and Hanson showed TME was transmissible to squirrel monkeys and that scrapie was transmissible to mink. This suggested the mink may have been scrapie sheep. After contacting both Gaylord Hartsough and Dieter Burger, Marsh concluded sheep had not transmitted the disease to mink, but rather downer cow remains could be traced to the TME outbreaks. In a 1964 NIH conference focused on kuru, scrapie, and CJD Gajdusek was convinced by Marsh’s evidence and concluded the family of these transmissible neurological disorders was indeed expanding.

Chapter 7: Cannibalism

Gajdusek would commute to New Guinea, to be among the Fore tribe, for months at a time, returning home occasionally. Among the Fore people Gajdusek was like a local celebrity to the tribes people of New Guinea, acting as a traveling pediatrician. Gajdusek also adopted native orphaned children, and helped 30 kids gain a westernized education. Many of these children would then return to New Guinea and Micronesia to contribute to the native people. Gajdusek believed that westernized society could not interrupt and contribute to the native “primitive” cultures and expect them to remain picturesque and unchanged. He believed people had an obligation to help one another in advancing one another, and if native peoples were curious they should be indulged. “It is an insult to their human aspirations and intelligence”.

Gajdusek’s high regard for the Fore people he was fiercely protective of them and their customs. When the connection between kuru and cannibalism was originally brought up, Gajdusek was quick to dismiss the notion. Instead he thought cannibalism might increase susceptibility. Another possibility was that there was a hereditary component to contracting kuru, since the disease was closely associated with mothers and children. But this idea was thought to be wrong, unless this ‘kuru gene’ provided a survival advantage.
Anthropologist couple, Robert Glasse and Shirley Lindenbaum, began researching to understand the mystery behind kuru’s cause. The rapid spread of the disease dismissed the hereditary theory. Lindenbaum took a more personal approach by gaining the trust of the Fore women to learn more. Lindenbaum learned cannibalism was a fairly recent custom that many of the women practiced. The practice was normally performed in secret and was thought to be a form of gender empowerment. Children were exposed as they would sometimes attend these cannibalistic events with their mothers and could eat or be exposed to brain tissue.

The physician Michael Alpers was dispatched by the Australian government to keep track of the kuru research being conducted by the American Gajdusek. Alper’s was more quiet than Gajdusek but the two worked alongside one another. Where Gajdusek was adventurous and loud, Alpers was calculating and reserved. With Gajdusek, Alpers discovered that kuru symptoms were less severe in children than in adults. After his work with Gajdusek, Alpers began working at the Patuxent facility. A meeting with Glasse and Lindenbaum began to get the wheels turning in their minds. In an article flatworms contracted a disease by through cannibalism. It clicked that maybe kuru was indeed the same, and maybe Gajdusek was wrong. Another scientist couple, Ann and John Fischer, published a paper again linking kuru to cannibalism.

In 1964, Alpers worked in the Patuxent facility when Georgette (a chimp) began showing signs of transmissibility through brain slurry inoculations. Alpers eventually compiled a comprehensive network tracking kuru. He found kuru was receding in the Fore peoples and there was decreasing mortality in children. By 1960 there was more epidemiological evidence linking kuru once again with cannibalism. In 1967 Alpers had an aha moment, when he finally could make sense of kuru being transmitted through cannibalism. Soon after Glasse and Lindenbaum published “Kuru and Cannibalism” in The Lancet.

The Patuxent facility decided to finally close the loop in connecting CJD and kuru. In similar brain slurry experiments they concluded CJD and kuru were indeed transmissible through the same process. After publishing a paper with Gibbs and Alpers, Gajdusek had come to the conclusion that kuru was indeed transmissible through cannibalism. In October 1976 Gajdusek learned he would win a Nobel Prize. Gajdusek travelled with 8 of his New Guinea boys to Stockholm to collect his prize. At his speech, he spoke for two hours.