

The Salem Journal: The Aftermath

Witches' Remise

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Ergot Theory Could Clear Accused Witches

By Anna K-Z



A huge miscarriage of justice may have been perpetrated. A recent scientific study shows that the answer to the recent "bewitchments" may be ergot poisoning. The farmland conditions, especially in the western part of Salem Village, match perfectly with where the fungus, ergot, can grow. This poison grows in rye, the staple crop in Salem, and thrives in warm, damp, swampy places, just like the Putnam land. Given that thirty of the thirty-two afflicted live in the western section, or had a reason why they would have gotten grain from the western section, ergot seems to be the explanation for the "bewitchments". For example, one of the afflicted girls is a servant of a doctor, and probably ate Putnam grain, since the doctor had no grain of his own; the Putnams have a huge amount of farmland, so many people receive the Putnam grain. Everything matches up; the answer could be ergot.

What is Ergot?

Ergot is a poisonous fungus that grows in rye and other cereal grains as well. Ergot thrives in warm, damp, rainy springs and summers. Ergot can infest a crop of rye one year, but by the next crop, all signs of ergot have vanished. Ergot is generally quite localized. It may be in absolute abundance in one place, but just a couple of miles away there will be no sign of it. When ergot first contaminates a head of rye, the rye will spew out yellow-colored mucus, often called "honeydew", which contains the fungal spores. The fungal spores land on other heads of rye, infecting each head that a spore touches. This is how ergot spreads. Ergot poisoning affects the nervous system. Common symptoms of ergot poisoning are the afflicted person twisting and contorting their body in pain, trembling, shaking, muscle spasms or contractions, confusion, delusions, and hallucinations. The afflicted person may also experience a fixedly twisted neck. Ergot is a poison, not a disease, so it is not contagious.

The Fits of Hysteria

Abigail Williams was the first to become overcome by fits of hysteria, when she had her first fit a few days

after January 15, 1692. Betty Parris soon sickened, and soon after her two more cases appeared. On February 25, 1692, Ann Putnam Jr. and Betty Hubbard first became ill with hysteria. During the fits, nobody could communicate with the girls, and when a physician arrived, he found nothing wrong with them. He claimed Satan caused the fits. During the fits of hysteria the afflicted were bitten and pinched by invisible attackers, and their arms, backs, and necks turned one way, then another, jerking to and fro, making it impossible for them to do anything for themselves. Other symptoms included hallucinations, delusions, stiffening muscles, and extreme confusion. After the afflicted claimed to have been bitten, bite marks were visible. An eyewitness of one of Abigail Williams' fits said she became violently agitated; she cried "Whist, whist, whist!" then continued, "Do you not see her" Why there she stands! I won't, I won't, I won't take it, I do not know what book it is: I am sure it is none of God's book, it is the devil's book, for ought I know." This shows an example of the kinds of hallucinations the victims had, although, most likely the talk of witchcraft around the afflicted influenced them. The fits of hysteria stopped abruptly in the late fall of 1692. Nobody in Salem has ever reported being afflicted since.

The Cause of the Fits of Hysteria

Quite probably, ergot poisoning caused the fits of hysteria. All of the facts add up. The afflicted people lived in a small geographical region; they all either lived in the western part of Salem Village, or ate grain from this part. The climate of the summer in 1691 (the crop of grain they would have been eating) led to perfect conditions for an infestation of ergot. It was warm, damp, and rainy, and the farmland became unusually swampy. These conditions help ergot thrive. Also, the symptoms match up perfectly.

Symptoms of Fits of Hysteria	Symptoms of Ergot Poisoning
Hallucinations	Hallucinations
Muscle spasms	Contractions of muscles
Confusion	Confusion
Delusions	Delusions
The afflicted feeling as if bitten or pinched	Feeling as if someone is biting or pricking you

Ergot poisoning would also explain the sudden end to the "bewitchments," as the following year (1692) there was a drought, so ergot would not have infested the rye crop. The physician did not originally diagnose the girls with a disease, because he knew that diseases were contagious. Since it seemed as if the fits did not spread quickly throughout the population, he did not pursue alternative medical explanations. This is why the physician believed that it must be Satan who was responsible.

Alternative Theories

Although ergot seems the most likely, in the past many other theories (for the cause of the fits of hysteria) have been suggested. One such theory is that the afflicted girls' behavior was completely fraudulent. The girls might have been trying to gain popularity or trying to protect themselves from being punished if an adult heard they had been practicing black magic with Tituba. A major flaw to this theory (that the girls purposely had the fits of hysteria) is that there are many eyewitness accounts describing the extremity of the affliction, which would be hard to fake. Another suggested theory is that the magic practiced by Tituba made the girls hysterical and overexcited. This soon spread to the rest of the society, creating mass hysteria. This would mean that the girls developed hysteria simultaneously, which is very unlikely, and implausible. Both of these commonly suggested theories are inadequate, leaving ergot as the most probable cause.

Many lives may have been lost due to the physician's negligence. The physician that saw to Abigail

Williams, Betty Parris, Betty Hubbard, and Ann Putnam Jr. made an incorrect diagnosis, and too quickly decided the fits were being caused by something spiritual. His mistake caused this huge crisis. Although other possibilities have been suggested, ergot poisoning seems the most likely. A recent scientific study shows that the conditions and symptoms of the fits of hysteria match up perfectly with those of ergotism (ergot poisoning). Although ergotism sparked the fits of hysteria, the problem spiraled due to subconscious fraud by the afflicted as to the nature of their hallucinations. For example, in Abigail Williams' fit (mentioned above), she, supposedly, is asked to take the devil's book. This is probably not what her hallucination would have been about, had there not been so much talk of witchcraft and possession by the devil around her. There was also fraud as to who was accused by the afflicted. For example, the first three people to be accused of witchcraft were thought of as outcasts from society. Sarah Good's neighbors had previously accused her of witchcraft and she was a beggar, Sarah Osborne was involved in a legal battle with the family of one of the afflicted, and Tituba was linked to the Indian Wars, as she was Native American. Neither Sarah Good nor Sarah Osborne regularly attended church. The Salem Witch Trials started due to ergot poisoning, but once the trials started, the afflicted took it out of control, subconsciously building on what was happening to make it believable that witchcraft was the cause. Without much further study, it cannot be determined with certainty whether ergot poisoning caused the fits, or not. It seems extremely likely that ergot poisoning triggered the fits of hysteria, but chances are, the cause will never be known for sure.

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