Abstract
This review considers theories currently in circulation regarding the death of the “Iceman” or “Otzi,” a 5000-year-old frozen figure, found in 1991 in a mountain pass in the Italian Alps. The first section of this review introduces the Iceman and the time period in which he lived, along with the initial theory that he froze to death. The second section includes two theories — one that the Iceman died as a result of a boundary related dispute, and another that he died in ritual sacrifice. These theories derived from information gained by scientists during later in-depth investigations of the Iceman’s corpse and its location. In the end, no single theory predominates. However, this review includes evidence supporting both of the most recent theories, and in the conclusion suggests areas for further research.

Introduction
In 1991, hikers in the Italian Alps stumbled upon a frozen figure. Experts soon identified it as the preserved body of a man over 5,000 years old, dating back to Neolithic times (Bortenschlager, Oeggl; Fowler; Friend; Ives). According to Bortenschlager, Oeggl, and Fowler, the freezing climate of the Alps kept this man, referred to as the “Iceman” or “Otzi”, intact through the centuries, enabling scientists to use Otzi’s body for research purposes in piecing together clues of the past. A review of the literature of the past twenty years suggests some consensus among researchers regarding the cause of death of Otzi; however, discrepancies in theories arise among researchers in regards to the events leading up to his death.

Historical Background and Early Research Findings
Studies and experiments such as radiocarbon dating and DNA testing reveal facts about Otzi. Radiocarbon dating, a method used to date very old objects, confirmed that the body of the iceman is 5,300 years old, and that the age of the Iceman when he died is between 40 and 46 years (Fowler; Ives; Rogglia). Figuring out the age of the corpse made it possible to place Otzi’s time on Earth in a specific time period, presumably the end of Neolithic time period (Stone Age), and beginning of the Bronze Age (Rogglia; Bortenschlager, Oeggl; Fowler; Friend). Knowing the time period and general location that Otzi lived in allows for speculation of lifestyle and culture. During the time of the Stone Age, settlements and societies were emerging, and on the cusp of transition from hunting and gathering to farming and trading. When Otzi was discovered, he was found frozen with an ax, tools, and clothing (Ives; Friend). Samples found inside of the Iceman’s body, bones, and dental enamel provide clues to his diet, lifestyle, and physical conditions (Rogglia; Hall). Hall writes that evidence from bone and dental enamel samples indicate that the Iceman was not in good health. The fact that he was ailing, and found frozen alone in the Alps led to the initial theory of many scientists and researchers, that Otzi froze to death while hunting (Fowler; Friend; Holden; Rogglia). DNA analysis later revealed that blood found on Otzi’s knife, clothing and tools were from different people, which suggests a fight may have occurred before Otzi died on the
mountaintop (Friend; Holden; Ives). Because the DNA analysis indicated that Otzi was in contact with others, the idea that Otzi may not have been alone when he died waned scientists from their original theory. The original theory was completely rejected when an X-ray of Otzi taken by an Italian radiologist in 2002 (Holden; Friend; Ives) yielded new evidence—an arrowhead lodged in Otzi’s left shoulder blade, indicating that he had been shot. This led to the emergence of a few different theories explaining the events prior to Otzi’s death. However, it still goes unchallenged by any scientist or researcher that Otzi’s death was a homicide.

Areas of Controversy among Experts

In the same year that an X-ray of Otzi’s body revealed that he had been shot in the shoulder and DNA analysis revealed that Otzi was not alone around the time of his death, two conflicting theories emerged. One theory, depicted in the articles of Friend, Ives, and Holden, is the theory that Otzi died in a boundary related fight. Archaeologist Thomas Loy is mentioned in the three articles and believes this theory is true, drawing his inferences from the examination of Otzi’s body, as well as the traces of blood found on his belongings. The other theory, that Otzi died as a result of human sacrifice, is mentioned by Ives and in a National Geographic article by an unknown author. Both of these articles mention archaeologist Johan Reinhard, and state that he derived his human sacrifice hypothesis primarily from the location at which Otzi was discovered, and the cultural beliefs of the time period he lived in.

In the hypothesis that Otzi died as a result of a boundary related fight, Loy considers the evidence such as the cuts on Otzi’s hand, the arrowhead found in Otzi’s back, and the bruises on his torso (Holden). He also considers the blood found on Otzi’s knife, ax, damaged arrow, and coat. The DNA results of the blood samples indicate that the blood on Otzi’s belongings were the blood of four individuals. These factors lead Loy to believe that a boundary dispute broke out among several people. He speculates further that Otzi was carrying an injured companion (Ives), which explains the blood on his coat. Loy believes that Otzi shot two people with his arrow and was shot and killed by an enemy while he was repairing his arrow shaft. In Friend’s article, the bruises on Otzi’s torso seem to Loy as if Otzi had been beaten. This thought coincides with the idea that Otzi was involved in a fight. Holden writes in his article that an examination of Otzi’s tools indicates that he could have been a specialist hunter. This thought too coincides with the theory that Otzi was in a boundary related fight because as a hunter, crossing restricted boundaries could anger other hunters and result in a violent dispute.

The theory that Otzi died in a practice of human sacrifice is supported based on the area surrounding Otzi’s death, and the culture of the time period Otzi lived in. Archaeologist Johan Reinhard agrees with Loy that Otzi was murdered and that a fight could have broken out, however within “the context of a ritual” (Ives). Experienced in the researching of mummies and ritual sacrifice, Reinhard explains that mountaintops are a very common location for ritual sacrifice to take place, as they are the closest landmarks to the gods in the sky. Otzi was found in a mountain pass, and more specifically in a trench of that mountain pass. Reinhard voices his thought that those who killed him for the purpose of ritual sacrifice put him in this trench as a means of preserving his body for the afterlife. He argues that if Otzi was murdered or involved in battle, that once he was killed, the murderer would take his possessions because they were valuable. The fact that Otzi was found with his copper ax, knife, and clothing supports his theory because it is the general case that those killed as offerings to gods were left with valuables and weapons to use in their afterlife or as an additional gift to the gods. Reinhard states, “We know that people have been lured into places and killed. As an example, the Celts reportedly performed human
sacrifice by shooting people in the back” (Ives). The fact that Otzi, too, was shot in the back helps relate cultural traditions to what seems like a murder case.

Conclusion

While there are currently two main theories to the death of Otzi, more research could be done to further validate these existing theories, or possibly develop a new theory all together. For one, DNA testing for animal blood could be done to further the theory that Otzi was a specialized hunter killed in a boundary related fight (Friend; Holden; Ives). Finding evidence of the presence of animal blood on Otzi’s tools or belongings could provide relatively solid evidence that Otzi was in fact a hunter. Hunting in the wrong area would be a likely cause for a deadly dispute. More research could also take place near the area where Otzi was found. Because the traces of blood detected on Otzi’s possessions were of four individuals, it is presumable that Otzi was not alone around the time that he died. If this is the case, then an excavation of that mountain could yield the discovery of other bodies. If bodies are found, they may be from the same time period as Otzi or even involved in the supposed fight that Otzi was a part of. This could provide the evidence researchers need to produce one final, unchallenged theory- an incredible breakthrough. In making headway to the theory that Otzi’s death was a ritual sacrifice rather than a boundary related fight, more research into beliefs and practices of the people of the Neolithic time period and early Bronze Age could be done. Once again, excavating the area and surrounding areas of Otzi’s discovery could result in clues to the past. Sites could be uncovered and contain documents or burials that reference religion or religious sacrifice. This would provide scientists with information to further their hypothesis that Otzi was killed for religious practice. According to Friend, the Alpine pass is melting quickly, which means answers could be a few years away.

Works Cited


