



A Killer Lake

by

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Milla was returning to his village of Lower Nyos, Cameroon. He had spent the past week with his small cattle herd in the highlands, where grazing was much better at this time of year. It was early morning and Milla was slowly approaching the village. He looked forward to hearing the voices of fellow villagers. It was rare to see, much less talk, with another person in the highland fields.

The last few months had been warm and dry in the lowlands, but now the temperature was cooling. In fact, it had been quite cool the past few nights and the late summer rains were returning. Milla could tell that it had rained hard the night before. The ground was still wet in places. But something was different. Usually when conditions were this wet, the insects, particularly the biting flies, were very active, but Milla hadn't had to swat a single mosquito. Suddenly, Milla noticed an unusual sight just off the path. It was a lone cow lying motionless in the grass. Milla was sure it was dead, but he wanted to identify it so he could inform the owner once he arrived in Lower Nyos.

Milla's own cattle had slowed down because of the wet ground, which gave him a chance to investigate. He often encountered dead animals along the commonly traveled paths, but rarely cattle, and something was very strange this time. The carcass wasn't warm, so it had been dead for some time, but there was no rotting smell, no swarming flies.

Milla began to worry. As he surveyed the area, looking for some clue that might help him understand this strange sight, it only got worse. He noticed another animal a few meters away. Same situation: a dead cow and no signs of decomposers. Ominously, he could see many more cattle lying on the ground.

Frightened, Milla began to run down the path. He knew that the Achirri family lived just outside the village. He would wake them and they would help him to understand this strange scene of death. As he approached the Achirri home, he repeatedly called out to them, "Achirri! Achirri! Please come see the cattle! They are lying dead in the fields. All of them!"

By the time he reached their door, he was short of breath. He was so upset he almost entered their home without permission. He again spoke in breathless tones, "Please, Achirri, wake up and follow me into the upper field. They are dead. The cattle are dead and no life can be found." There was no response.

Looking through the doorway, Milla could see that the family was still in bed sleeping. He spoke louder, "Please wake, I have to show you the cattle lying dead in the upper field! Please wake up and come with me!" No one stirred.

Frantic, Milla went inside the house and began to shake the man in the bed nearest the door. "Achirri, you must wake! You must wake!" When there was no response, he leapt over to the other bed and tried to wake the woman, but with the same result.



With no regard to his own cattle, Milla ran into the village. Along the path he could see the occasional dog lying motionless. It appeared as if everything was dead. To his horror, the scene he had encountered by Achirri was repeated many times throughout Lower Nyos. Whole families were lying on the ground, as if they had lain down to sleep never to wake again. Many of them were noticeably blue around the lips.

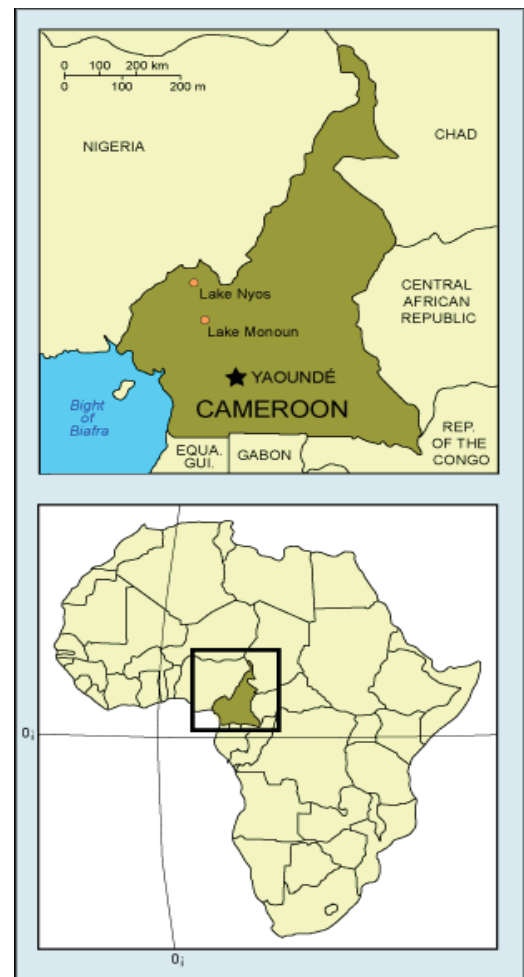
Milla remembered the story his grandmother told of the myths of the Water Mammies—spirits of the dead who inhabited the lake’s depths and who, when angered, would come out and kill villagers. Surely this is what had happened, Milla thought. He must get to the elders who knew of such things. They stayed on the higher ground outside of the valley.

The elders were disturbed to hear Milla’s story of the death in Lower Nyos. Much to his surprise, however, they told Milla that it could be the lake that caused the death, and not vindictive Water Mammies. These wise men had heard of a similar event that had occurred at neighboring Lake Monoun two years earlier. There, 37 villagers were found dead. Limnologists and volcanologists had determined that the lake was the source of a huge gas cloud that erupted from the lake and moved along the ground. Everyone in the vicinity died of asphyxiation. The cloud erupted because volcanic activity, which had created the lake, had also caused the lake to de-gas a huge amount of carbon dioxide that was stored in the bottom layer of water.

The elders had just been visited a few weeks earlier by an expedition of limnologists. The elders assured Milla that they would contact the scientists to see if they could help shed light on what had happened in Lower Nyos. In the meantime, word would be sent to neighboring villages to help bury the dead villagers of Lower Nyos.

Over 1,700 people had died in Lower Nyos, and many others were left homeless and sick. In response, the international community sent doctors and scientists to the region. When the limnologists finally arrived, they were taken out onto Lake Nyos. The water had an odd rust color and large amounts of vegetation were floating on the surface. Once they had reached a deeper section of the lake, the team leader dropped his Van Dorn bottle overboard and let it sink to near the bottom of the lake (about 208 meters down). When the water sample was retrieved and the near ice-cold water poured into the sample jar, it looked as if an Alka-Selzer® tablet had been dropped into the jar. Gas was violently bubbling out of the water. Immediately, the team leader ordered a vertical profile of temperature, pH, and conductivity. After reviewing the data, the limnologists went back to the village to discuss their results. When they learned that the victims were blue-lipped, suggesting asphyxiation, and that the victims were all from the area within the valley leading away from the lake, they believed that the lake was the cause of the deaths.

Do they have enough evidence to show that the lake is responsible for the deaths of the livestock and people?



Questions

1. How are many of the lakes in this region of Cameroon formed?
2. How else can volcanoes form lakes?
3. What clue helps us determine that the people of Lower Nyos died of asphyxiation?
4. What gases could be accumulating in the deeper waters of Lake Nyos? How might the volcanoes affect the gases in the lake?
5. In limnological terms, where was the gas accumulating?
6. What is meromixis, and what might it have to do with this story?
7. What caused the reddish, rust color of the water?