

~~SECRET~~

19 July 1945

IMPRESSIONS OF TRINITY TEST

THIS DOCUMENT CONSISTS OF 2 PAGE(S)  
NO. 1 OF 3 COPIES, SERIES A

I shall try to describe the Trinity test as seen from the "Hill Station", twenty miles from the event. None of my estimates of times or magnitudes can be considered very accurate, as I have found by comparison with others a wide variation, illustrating the difficulty of personal judgment without instruments.

The shot went off at about 5:30 a.m., just before sunrise. I was watching the shot through a piece of dark glass such as is used in welders' helmets. An exceedingly bright light appeared and expanded very rapidly. I was aware of a sensation of heat on my face and hands, which lasted about a second. After about two seconds, I took the glass away. The sky and the surrounding landscape were brightly illuminated, but not as strongly as by full sunlight. The "ball of fire" was still too bright for direct observation, but it could be seen to be rising and expanding and slowly fading out. At some time during this stage, the layers of clouds above the explosion evaporated, forming a hole which rapidly got bigger.

At about thirty seconds, the general appearance was similar to a goblet; the ball I estimated to be about a mile in diameter and about four miles above the ground, glowing with a dull red; a dark stem connected it with the ground, and spread out in a thin dust layer that extended to a radius of about six miles. When the red glow faded out a most remarkable effect made its appearance. The whole surface of the ball was covered with a purple luminescence, like that produced by the electrical excitation of air, and caused undoubtedly by the radioactivity of the material in the ball. This was visible for about five seconds; by this time the sunlight was becoming bright enough to obscure luminous effects. (H)

At some time near the end of the luminescence (I am not sure whether it was before or after) a great cloud broke out of the top of the ball and rose very rapidly to a height of about eight miles, expanding to a rather irregular shape several times as large as the ball. At about two minutes, the blast came. It was remarkably sharp,

CLASSIFICATION CANCELLED  
OR CHANGED TO Unclassified  
BY AUTHORITY OF H. F. Carroll  
BY B. Wise DATE 1-27-65

~~SECRET~~

~~This document contains information affecting the national defense of the United States within the meaning of the Espionage act, U. S. C. 50; 31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.~~

~~SECRET~~

being more of a "crack" than a "boom". I did not feel any earth shock.

The later stages of motion of the cloud consisted of a slow drifting in the wind, showing the existence of several different wind directions at different altitudes. A current at a few hundred feet carrying the lower part of the "stem" toward the North 10,000 station was particularly striking. The cloud was a different color than the ordinary clouds through which it passed, having a brownish tinge; this could be caused by nitrogen dioxide formed from air by the intense ionization.

The whole spectacle was so tremendous and one might almost say fantastic that the immediate reaction of the watchers was one of awe rather than excitement. After some minutes of silence, a few people made remarks like, "Well, it worked," and then conversation and discussion became general. I am sure that all who witnessed this test went away with a profound feeling that they had seen one of the great events of history.

*Edwin M. McMillan*  
Edwin M. McMillan

mr

~~SECRET~~