

THE EUREKA HUNT

Why do good ideas come to us when they do?

BY JONAH LEHRER

The summer of 1949 was long and dry in Montana. On the afternoon of August 5th—the hottest day ever recorded in the state—a lightning fire was spotted in a remote area of pine forest. A parachute brigade of fifteen firefighters known as smoke jumpers was dispatched to put out the blaze; the man in charge was named Wag Dodge. When the jumpers left Missoula, in a C-47 cargo plane, they were told that the fire was small, just a few burning acres in the Mann Gulch.

Mann Gulch, nearly three miles long, is a site of geological transition, where the Great Plains meet the Rocky Mountains, pine trees give way to tall grasses, and steep cliffs loom over the steppes of the Midwest. The fire began in the trees on one side of the gulch. By the time the firefighters arrived, the blaze was already out of control. Dodge moved his men along the other side of the gulch and told them to head downhill, toward the water.

When the smoke jumpers started down the gulch, a breeze was blowing the flames away from them. Suddenly, the wind reversed, and Dodge watched the fire leap across the gulch and spark the grass on his side. He and his men were only a quarter mile uphill. An updraft began, and fierce winds howled through the canyon as the fire sucked in the surrounding air. Dodge was suddenly staring at a wall of flame fifty feet tall and three hundred feet deep. In a matter of seconds, the fire began to devour the grass, hurtling toward the smoke jumpers at seven hundred feet a minute.

Dodge screamed at his men to retreat. They dropped their gear and started running up the steep canyon walls, trying to reach the top of the ridge. After a few minutes, Dodge glanced over his shoulder and saw that the fire was less than fifty yards away. He realized that the blaze couldn't be outrun; the gulch was too steep, the flames too fast.

So Dodge stopped running. The decision wasn't as suicidal as it appeared: in a moment of desperate insight, he had devised an escape plan. He lit a match and ignited the ground in front of him, the flames quickly moving up the grassy slope. Then Dodge stepped into the shadow of his fire, so that he was surrounded by a buffer of burned land. He wet his handkerchief with water from his canteen, clutched the cloth to his mouth, and lay down on the smoldering embers. He closed his eyes and tried to inhale the thin layer of oxygen clinging to the ground. Then he waited for the fire to pass over him.

Thirteen smoke jumpers died in the Mann Gulch fire. White crosses below the ridge still mark the spots where the men died. But after several terrifying minutes Dodge emerged from the ashes, virtually unscathed.

There is something inherently mysterious about moments of insight. Wag Dodge, for instance, could never explain where his idea for the escape fire came from. ("It just seemed the logical thing to do" was all he could muster.) His improbable survival has become one of those legendary stories of insight, like Archimedes shouting "Eureka!" when he saw his bathwater rise, or Isaac Newton watching an apple fall from a tree and then formulating his theory of gravity. Such tales all share a few essential features, which psychologists and neuroscientists use to define "the insight experience." The first of these is the impasse: before there can be a breakthrough, there has to be a mental block. Wag Dodge spent minutes running from the fire, although he was convinced that doing so was futile. Then, when the insight arrived, Dodge immediately realized that the problem was solved. This is another key feature of insight: the feeling of certainty that accompanies the idea. Dodge didn't have time to think about whether his plan