ward and downward convection currents of incandescent gases in the stars like those in the sun, but of vastly greater velocity.

AN UNFINISHED PAPER

By Dr. Edwin E. Slosson.

At the moment when he was completing his demonstration of new radio waves Ernest Fox Nichols fell back upon the exedra in the rotunda of the new building of the National Academy of Sciences, His wife rushed to his side with restoratives, but in vain, for a few minutes later, President Michelson announced his death, and the adjournment of the session of the A cademy. Shorthly after, the Academicians were walking in procession down the marble steps through the newly planted garden following the body of their distinguished colleague.

Professor Nichols had died as he had lived, in the active promotion of science. Research was his life work, and although he had twice been tempted into administrative office, by serving as president of Dartmouth College from 1909 to 1916, and by accepting an appointment to the presidency of the Massachusetts Institute of Technology in 1921, he gladly returned again to his investigation of the laws of light.

Visible evidence of his ability as an experimenter was close at hand for while he was yet speaking visitors in a room next to the rotunda were examining the apparatus with which he proved the pressure of light. By touching a button of this ingenious mechanism, one can turn on an electric lamp and actually see for himself that the beam of light exerts a definite pressure upon whatever object it strikes. This pressure is so minute that it had never been observed until Prof. Nichols demonstrated it twenty-four years ago. Yet as we now know the sunlight falling daily upon the earth amounts to a weight of more than 100,000 tons. It is this light pressure that makes the tail of a comet by driving the infinitesimal dust particles away from the sun. It is also light pressure that keeps the gaseous stars like Betelgeuse swelled out to their gigantic size in opposition to the attraction of gravitation tending to draw them together into a solid mass. The actual demonstration of the fact that light produced a pressure effect was of espedial importance, since it is involved both in Maxwell's theory of the similarity of electrical and light waves and also in Einstein's more recent theory of relativity.

The life of Ernest Fox Nichols was cut short at fifth-five, yet few of his elder colleagues in American science have accomplished more. He was born in Leavenworth, Kansas, and being early left an orphan, was brought up by his uncle, General Fox. He went first to the Agricultural College at Manhattan, Kansas, and afterwards studied at Cornell, Cambridge and Berlin. At Berlin University, under Professor Rubens, be began his work on the long wave lengths about which he was talking when he died. While professor of physics at Dartmouth, he developed a radiometer of such delicacy that he was able to measure the heat that comes to us from the stars. In his last paper he was engaged in closing in the"mising link" between the longest of the heat waves and the shortest of the radio waves thus completing the series of the spectrum which runs from the "gamma rays" of radium,which are a hundred thousand times shorter than light waves, to the "wireless waves" which are miles in length.

It would seem almost that he had a premonition that he would not complete his paper, for he began by saying that he would reverse the usual order of procedure and present his conclusions at the beginning. So he showed his last slide first. His auditors assumed that he did this in order to avoid being interrupted by the president before he had completed his demonstration, as speakers often are. His paper, was, indeed, left unfinished as he feared, but it was a higher power than the president of the Academy who notified him of the expiration of his allotted time.

A PIN FALLS

A pin was dropped on a desk by a speaker at the dedication of the new building of the National A cademy of Sciences and the National Research Council in Washington. That pin-fall was perhaps the most significant and widely heard of any in all history. Without being warned to silence, every person in the high-domed, wide-winged hall plainly heard the pin as it struck the woodwork. Thousands of radio listeners, hundreds of miles away, also heard. Specially designed artificial stonewalls made the sound clear, distinct, without those hollow echoes which characterize high vaulted buildings of the past. That pin fall sounded an engineering triumph in the long-neglected science of acoustics.

SAVING BABY'S NECK

Eradication of tuberculosis among cattle is saving the necks of babies, literally saving their necks. According to Dr. James S. Stone of Boston who gave a public lecture at the Harvard Medical School, the condition formerly called scrofula in infants is on the decrease. This so-called scrofula was really a tubercular infection of the tonsils and lymph glands of the neck. The infection was the cattle type and the babies got it in their milk. Pasteurization of the milk and the fight against the disease in cattle now makes the milk supply safer. But, Dr. Stone warns, much remains to be done. The danger comes suddenly when tuberculosis develops in the udder of any cow, thus permitting the tubercule bacilli to pass directly into the milk.

VIOLINS

Old Italian violins used to be the despair of modern manufacturers. They could make nothing just as good. Then it was discovered that there was something in the wood of the instruments made by the old masters which gave the wood a hornlike structure. Working on this clue, a scientist found that treating the wood of violins with easily drying oils gave it the same appearance as the famous Italian fiddles. Putting the matter to the tests, new violins were found not only to look like those of the masters but to sound equally as well.

A frog raised from eggs which were never fertilized by a male frog is on exhibition in the new Academy of Sciences Building in Washington.
