

A Science Service Feature

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? WHY THE WEATHER ?

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By Charles Fitzhugh Talman,
Authority on Meteorology

ANALYZING THE LIGHTNING FLASH

Much interesting information about lightning has been obtained from photographs taken with a camera mounted on a vertical axis and turned at a fixed speed by clockwork. The perfection of this device is due in part to A. Larsen, in America, but especially to Dr. B. Walter, of Hamburg, Germany.

The pictures are taken at night, the shutter being left open until a flash occurs. The movement of the camera tends to spread out the image of the flash on the plate, and the longer the duration of the flash the more widely the image is spread. The most important fact revealed by this process is that many lightning flashes consist of several discharges occurring in rapid succession along a common path. Photographs of such "multiple" flashes taken with the revolving camera show several parallel streams of light, more or less distinctly separated by darker spaces. As the speed with which the camera turns is known, the whole succession of events can be timed.

Thus we find that a multiple flash may last for half a second or more. Each of the successive discharges of which it is composed is almost instantaneous - lasting perhaps two or three hundred-thousandths of a second - while the intervals between the discharges vary from a few thousandths to one or two tenths of a second. The flickering appearance that we often observe in lightning is due to these multiple flashes.

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SCIENCE SERVICE,
21st and B Sts.,
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