

MEDICINE

Fingerprinters Poisoned

Mercury powder used in developing fingerprints by policemen was found to be a poison hazard when men were exposed to it 250 hours per year.

► THE fingerprint men in police departments are in danger of getting mercury poisoning from the dusting powder they use.

Discovery of this danger, which may be widespread in England and in the United States where the same mercury-chalk powder is used, was made when an outbreak of mercury poisoning occurred in the Lancashire Constabulary.

The cases, believed the first of this new occupational poisoning to be recognized, are reported by Dr. John N. Agate and Monamy Bucknell of the Medical Research Council, the London Hospital, in the LANCET (Sept. 10).

The Lancashire Constabulary consists of a detective chief inspector and some 32 detective sergeants and constables who specialize in taking and developing fingerprints at the scenes of crimes with mercury-with-chalk powder.

With the exception of one man, all vol-

unteered to be examined. Of the 32, seven had symptoms of tremor which affected the hands in each case. Three of these also had tremors of the lips and tongue and three of the eyelids. Two other symptoms known to be caused by mercury poisoning were also present: loosening of the teeth and irritability and embarrassment which caused the men to blush easily.

Although their urine was examined for traces of mercury, this was not a good test for determining mercury poisoning, the scientists pointed out. However, they said that the amount of mercury excreted by the men was abnormally high.

Estimates were made of how many hours were devoted by the men to developing the latent fingerprints. The technique used is to apply the mercury powder with a soft brush and then to blow off or brush off the excess. One of the affected patients had been exposed for only 160 hours for one year while the others varied between 250

and 460 hours per year. The scientists conclude that 250 hours per year constitute a danger.

The mercury was believed to have been either inhaled by the policemen while they were dusting the fingerprints or from the mercury dust lying around the laboratory where they worked, or it could have been absorbed through the skin. Some may have acquired the mercury by putting their hands to their mouth with the mercury dust on them.

Measures for protection, such as rubber gloves or masks, do not seem adequate to these scientists. They suggest that a substitute powder be found which will accomplish the same thing.

This was actually done in the Lancashire Constabulary by the officer in charge. When the origin of the trouble among his men was found he experimented and discovered a substitute which is credited as being an improvement over mercury powder and forbade the use of the mercury compound.

Policemen who do fingerprinting as a part-time duty are not in much danger of being poisoned, the scientists stated. At the same time they pointed out that certain people may have a special sensitivity to mercury and the hazard for these would be real.

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ASTRONOMY

Year's Fifth Comet Visible Through Telescope

► THE year's fifth comet discovered in Russia will approach closest to the earth on Oct. 22, 1950, but it will not be a conspicuous sight that you can see in the sky.

Dr. Allan D. Maxwell, professor of astronomy of Howard University in Washington, has computed an orbit based on observations from Russia and the U. S. Naval Observatory. Just now, the comet, visible only through a fair-sized telescope, is about 345,000,000 miles from the earth and 437,000,000 miles from the sun.

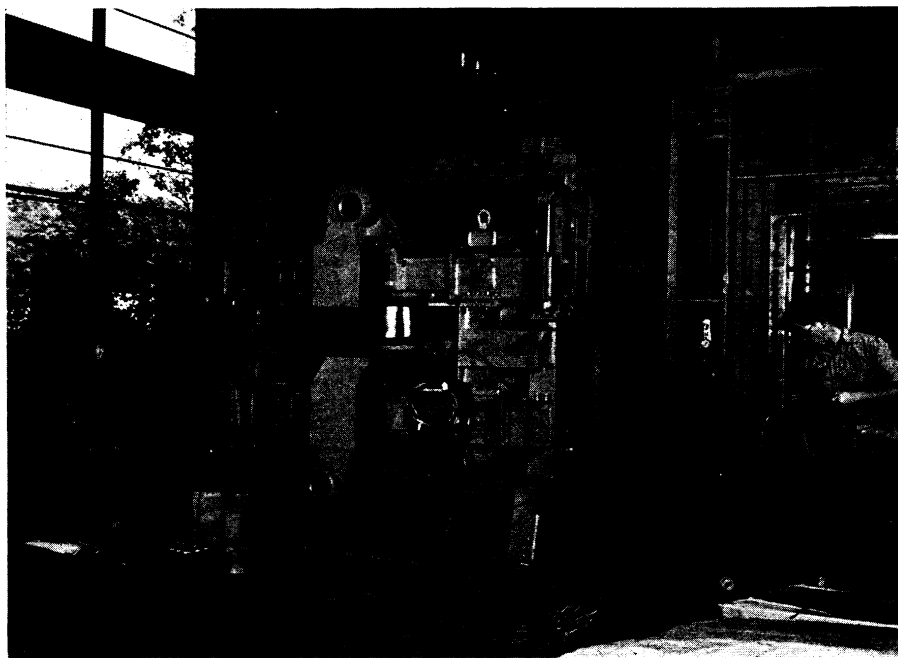
Next year, on its closest approach, it will be 90,000,000 miles from the earth and 182,000,000 miles from the sun. It is coming in toward the sun and the earth very slowly and traveling southward. It is probably traveling in a parabolic orbit.

The whole of its travel through the solar system is beyond the earth's orbit and it is tilted 34 degrees to the plane of the earth's travel.

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Of the nation's 624,000,000 acres of forest land, 196,000,000 acres are in public ownership and the rest in private ownership.

Radioactive materials, injected into the trunk, branches or roots of trees, offer a new and rapid means of studying tree nutrition.



80,000,000 ELECTRON-VOLT SYNCHROTRON—The first application planned for the new Iowa State synchrotron, which is shown here in the final stages of wiring, is the study of nuclear reactions produced by the high-energy X-rays of the machine. Since the energy attained by this atom-smasher is above that obtained from natural radioactive sources, it is expected to extend knowledge in this field. The machine was built by General Electric Co., and is housed in the Iowa State College Institute for Atomic Research.