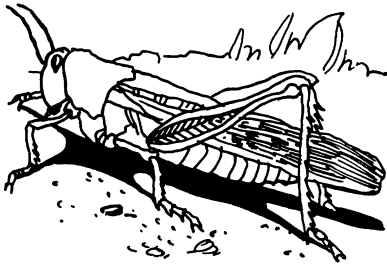


ENTOMOLOGY  
**NATURE RAMBLINGS**  
by Frank Thone



**The Years of the Locust**

**N**EXT SUMMER the grasshoppers are going to be bad in the Northwest, as they were last summer, and the summer before, and the summer before that. The Years of the Locust are upon us again.

The Bureau of Entomology of the U. S. Department of Agriculture has had its field men out looking over the ground, and they report that there are formidable numbers of eggs in the soil, left there by last year's 'hoppers to hatch out this spring, first as tiny creeping insects that move over the ground in crowds, then as full-grown, winged and devouring terrors that may fill the air with their clouds. No old settler who lived on the Great Plains in the early days doubts the literal accuracy of the tenth chapter of Exodus.

For our western grasshoppers are real locusts, not the same exactly as the Biblical ones, but close cousins nevertheless. There are four species of them, that make most of the trouble in the wheat belt. And by a curious inadvertence of popular naming, we have given the locust's ill repute and terror to two relatively harmless insects, for the dog-day "locust" and the seventeen-year "locust" are not locusts at all but cicadas.

Scientists long ago learned how to fight our grasshopper-locusts with considerable effectiveness, by scattering baits of arsenic-poisoned bran in the way of the creeping hordes of young insects, before they take to their wings. The state of

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Minnesota has reduced the depredations of the pest to minor proportions during the present locust cycle by using this method of warfare, but the less wealthy states to the west, the Dakotas and Montana, have not had the money for bran or arsenic or man-hire, so they have been caught in a vicious and ever-widening spiral of the devouring pests. If they cannot find money to carry on the war, only a cold, wet spring or some other combination of natural factors unfavorable to the locusts can save them.

The Bureau of Entomology has been cooperating with the states as far as its funds have permitted. But their already severely retrenched locust-fighting funds are threatened with still further retrenchments.

At the same time, the mild winter weather that has lain over all the West seems to be favoring these insect enemies of man. It has been somewhat droughty, to be sure, but there seems to have been enough moisture to keep the eggs from being killed. There has been some blowing of soil, but probably not deep enough to expose the eggs in most places. And if the mild winter passes into an unusually early, warm spring, there is grave danger that the locusts will hatch and begin crawling before the poison-spreading armies can take the field against them. If that happens, no one can even guess at the consequences.

*Science News Letter, March 3, 1934*

**PHYSICS**

**Prof. Compton Interprets Stratosphere Results**

**T**HE RECORDING cosmic-ray meter taken to an altitude of 61,243 feet on the Settle-Fordney stratosphere flight brought back a message that Prof. A. H. Compton and Dr. R. J. Stephenson of the University of Chicago interpret as meaning that cosmic rays are charged particles, not radiation like super gamma rays or X-rays.

To the American Physical Society in New York recently Dr. Compton announced this interpretation. The relationship between the ionization shown by the meter and the altitude is such that Prof. Compton does not believe that it can be explained by radiations of the gamma ray type, but it does fit in with the effects produced by alpha rays or ionizing particles with a definite range.

*Science News Letter, March 3, 1934*

Three species of oyster are cultivated in the United States.

**AERONAUTICS—PHYSICS**

**Infrared Lights Declared Impractical for Fog Flying**

**H**OPES that flying in foggy weather could be made safer by the use of infrared radiation were blasted by scientists and engineers gathered in Washington at the request of the Bureau of Aeronautics of the U. S. Department of Commerce for a conference on the problem of overcoming the hazard of fog.

There is no known source for obtaining infrared radiation of the wavelengths necessary for penetrating fog in energies of more than a few millionths of a millionth of a volt, it was pointed out by Dr. Irving Langmuir of the General Electric Research Laboratory and others in the discussion. No one knows how to produce this type of radiation in useful amounts. The discovery of a way to produce such radiation would be a stroke of genius and is not likely to occur during routine experimentation.

The scientists also discouraged Governmental experimentation with proposed schemes for dissipation of fog by use of the Tesla coil and other means. Such plans have been tested for many years, but it is well known to physicists that it is theoretically impossible for them to work well enough to be of practical use, Dr. W. J. Humphreys told the gathering. Those that are based on sound scientific principles are too expensive for use in aviation.

Two possible solutions to the problem of fog landings were, however, given sanction by the meeting, and intensive research along these lines was urged. The first aid to the fog-bound flyers will be the radio, it was suggested. It is known positively that radio will penetrate fog. And radio signals can indicate to the flyer, by the use of instruments, his location with reference to the flying field. It is true that they do not

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