

ENTOMOLOGY

Communication of Insects

► DANCES, smells, food, lights and sights all play an important role in the gossip of the insect world, the American Association for the Advancement of Science meeting was told.

Recent research on the communication techniques of blow flies, honey bees and ants was discussed by a panel of scientists to illustrate how these insects tell others in their colonies of the world around them.

Food passed from ant to ant in a colony, Drs. Edward O. Wilson and Thomas Eisner of Harvard University found, may serve as an important means of letting worker ants know the nutritional status of the colony, and also about the discovery of new food sources.

Dr. Arthur C. Cole of the University of Tennessee reported that ants use sight, sound, touch, smell and internal organs to communicate with one another and that these mechanisms may vary considerably with different ants.

He said that communication between ants depends heavily on an inter-individual stimulation of these senses and, possibly, they form a collective and coordinated pattern between a group of ants.

Of all the senses of the tiny insects, Dr. Cole noted, smell and touch seem to be the most generally distributed and the most frequently used. Some ants have eyes and others are eyeless, he said. Some ants can perceive two types of acoustic vibrations, aerial and substratal.

The sense organs of smell, Dr. Cole explained, seem to be confined to the antennae and ants also produce odors "powerfully aromatic to man."

The single file march of ants that harries picnickers and homeowners can result from trail following by the ants, which sniff their way along a trail blazed by other ants depositing chemicals en route.

A clue to the origin of the highly stylized

honey bee communicative dance has been found by Dr. V. G. Dethier of the Johns Hopkins University, Baltimore, Md.

Using blow flies, Dr. Dethier found that a single fly will perform a dance when presented with a drop of sugar. It responds to the sugar "after" it is removed by making repeated clockwise and counter-clockwise turnings, which the scientist says "strikingly resembles a dance."

Thus, Dr. Dethier suggested, the honey bee dance was derived from a primitive innate behavior pattern of the sort exhibited by flies.

Science News Letter, January 5, 1957

GENERAL SCIENCE

Cost of Another War

► ANOTHER WORLD war could cost Americans their democratic way of life and the world its western civilization, Dr. Benjamin H. Williams of the Industrial College of the Armed Forces, Washington, warned the American Association for the Advancement of Science meeting in New York.

It is well known, Dr. Williams said, that war has had important effects on the economic and political structures of many countries.

Even in victorious and uninvaded nations, such as the United States, the changes after a world war have been more profound than many people realize.

If there is another major war, Dr. Williams said, Americans can expect greater controls imposed on them by the Federal Government. This, he explains, is necessary to mobilize for victory, but the controls cannot be expected to disappear overnight.

"Should there be another major war," Dr. Williams stated, "the consequent institutional readjustments would doubtless exceed any made in this country in the past."

However, this is not the only grave danger of a Third World War, particularly if it is a nuclear war, Dr. Williams said.

Beyond these contingencies, he said, is the ominous possibility that the human race might be destroyed or, short of that, western civilization would be imperiled and that its institutions, which have contributed so richly to human welfare, would be supplanted by others of a rising regime from outside the circle of western states, perhaps originating in Asia.

Dr. Williams offered three suggestions to avoid what he calls "these threatening possibilities":

1. The maintenance of a position of strength to avoid aggression.
2. A tremendous effort to find defenses against nuclear attacks.
3. An equally tremendous effort to establish a system of international peace.

Do You Know?

Aircraft speeds are approaching the range in which excessive temperatures of the leading edges of wings may induce serious loss of metal by sublimation.

The New York Academy of Sciences was organized in 1817 and is the fourth oldest scientific society in the United States.

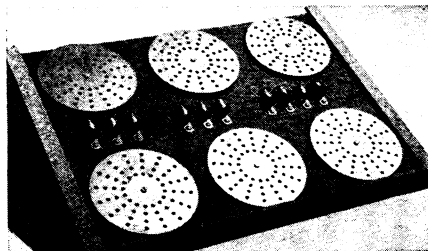
An outbreak of *erysipelas*, a disease commonly associated with pigs, was discovered in a commercial flock of pheasants.

More than 45,000,000 recreation visits were made to the national forests in 1955.

"If these processes fail," Dr. Williams cautioned, "there seems to be no reason to believe that the western world, including the United States, will have any immunity from the historic tendency toward institutional change occasioned by major war."

Science News Letter, January 5, 1957

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