

commented Dr. M. J. Mayo of Harris Teachers College, St. Louis.

"Instinctive factors make contest but not war inevitable. The way to eliminate war is probably to eliminate nations," suggested Dr. Elmer Culler of the University of Illinois.

Prof. Fletcher in summarizing the vote pointed out that the question did not inquire whether human nature has pugnacious, competitive or predatory tendencies, nor whether clashes of interests must continue to arise between

nations. The question asked whether or not the mode of adjustment of conflicts between nations must inevitably lead to war, as tradition has maintained. He worded the answer as follows:

"Without raising the issue as to the inevitability of conflicting claims and interests arising between nations, American psychologists are almost unanimously agreed that the traditional opinion that instincts determine the mode of adjustment of these conflicts is without scientific warrant."

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ENTOMOLOGY

Rapid Evolution Produces New Insect Species Almost Daily

By DR. L. O. HOWARD, Prominent American entomologist, and former chief of U. S. Bureau of Entomology.

NEW SPECIES are appearing almost every day. Evolution is slow but in creatures that have many generations a year, it may seem rapid in comparison.

So said Dr. Paul Marchal, eminent French scientist, in his address as president of the Fifth International Congress of Entomology in Paris. He showed the enormous advance in general biology that has been made since the first International Congress of Entomology was held at Brussels in 1910.

Students of genetics have seized upon the little flies known as *Drosophila* as the most available form for study, and the T. H. Morgan school of geneticists has grown up from their labor. A *Drosophila* has 25 generations in a year. It would take the higher animals scores of years to pass through as many generations. Species are in the making all the time.

With a wealth of knowledge of results accomplished by workers in all branches of biology and in all parts of the world, Dr. Marchal delivered a brilliant and very convincing address.

Dr. Marchal also strongly advised Paris to follow the leadership of America and begin an anti-fly and mosquito crusade, when he told the president of the municipal council of Paris of the dangers to health existing in uncontrolled house flies and mosquitoes. The need for the campaign was stressed during Dr. Marchal's address at the official

reception tendered the congress at the Hotel de Ville.

Insects acquire immunity to bacterial diseases similarly to human beings, Dr. N. Metalnikoff of the Pasteur Institute, Paris, told the congress. He reported many experiments on the transfer of immunity from one species to another.

No added light has yet been thrown on tuberculosis in man through the study of the galleria genus of the wax moth, Dr. Metalnikoff said. The larvae of this moth feed on honey comb and as the tubercule bacillus is covered with a wax coating it was hoped that investigation of the insect might give some new suggestions in combatting tuberculosis.

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BIOLOGY

Earthworm Little Embarrassed By Total Lack of Brain

EARTHWORMS, humble as they are, cannot get along without any brains. But it does not seem to be more than moderately embarrassing for them to lose the little brain they have, known technically as the cerebral ganglion.

Dr. Henry G. Schwartz, of the Johns Hopkins University, removed the cerebral ganglion of an earthworm, by an exceedingly delicate and skilful operation. The earthworm lived on, and in a short time had replaced the missing nerve center with a new one. Curiously

BIOLOGY

Extra Hours of Moon Affect Reproduction of Animals

THE EFFECT of the moon on the reproductive cycle of living organisms, particularly marine animals, has been given a new explanation by Prof. H. Munro Fox, of the zoological department of the University of Birmingham, who believes that the lengthened hours of light at full moon hold the answer to the problem.

Scientists have been puzzled to account for this effect of the moon, since the intensity of the light of the full moon is only about one five-hundred-thousandth that of sunlight. Prof. Fox disagrees with the theory which has been previously advanced that the partially polarized light of the moon is the causal factor.

"Recent experimental work, however, or the influence of light on sexual periodicity in general, suggests a way in which moonlight might impose a lunar periodicity," he says in a report to *Nature*. "In mammals and birds the length of the breeding season appears to depend in part on the daily number of hours during which the animals are exposed to light. Thus the moon may perhaps cause a lunar cycle in reproduction, not through its relatively small intensity of light as compared with that of the sun, but by the additional total number of hours of illumination per 24 hours at full moon, over and above a threshold light value."

Prof. Fox urged test experiments.

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enough, however, the new "brain" was not regenerated from the nerve cells with which it had once been connected, but from neighboring connective tissues.

The operation was not an entire success, from the earthworm's point of view. Due apparently to the failure of the new "brain" to make connection with the rest of the nervous system, the worm could no longer burrow, and crawled about with raised anterior end, or "head."

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