

BIOLOGY

War is Not Necessary Or Inevitable Biologically

**Cooperation Is as Natural as Competition; Animals
Need the Group in Order To Survive, Biologist Finds**

WAR is not a necessary or inevitable thing. Apologists for the war system present only a part of the picture of life when they prate of the jungle law of tooth and claw, and equate the survival of the fit with the survival of the fittest. Biology knows basic cooperation as well as competition; living together for mutual advantage is as fundamental to many orders of animals as is struggle for individual advantage.

These are inferences to be drawn from a survey of group action among animals, presented in a series of lectures given under the auspices of the Norman Wait Harris Foundation, by Prof. W. C. Allee of the University of Chicago.

Prof. Allee has examined typical groups representing the whole of the animal kingdom, from protozoa to man. At each level he has found that behavior and life processes are modified if the animals live together instead of separately, and that often such modifications are to the decided advantage to both individuals and species.

Among the humblest animals, and with one-celled plants as well, it has been found that when a lot of them are bunched together they are harder to poison and to kill with lethal rays than when they are all scattered singly. Also, the individuals live longer and more normally in such social groups.

"Massed spermatozoa retain their power to fertilize eggs longer, and in the animal tested, massed eggs divide more rapidly than if isolated." Prof. Allee reported. "It is of even greater significance that the direction of growth in eggs of certain marine algae may be determined by the relation of the eggs to each other. This means that the fundamental organization of the body may be a result of the position of a given egg with reference to its fellows."

Among higher organisms, the Chicago zoologist found that while over-crowding slows down the rate of growth, a "proper" amount of crowding stimulates growth. This was tested carefully in the case of fishes; and under certain experi-

mental conditions was found to hold true for mice also.

In nature, Prof. Allee pointed out, "In an isolated habitat, a given species requires a certain population to be present if it is to survive. This varies with different species and under different environment conditions. There is recent evidence concerning the minimal numbers present which will allow population growth for several different species."

That is, to paraphrase a famous Biblical passage, it is not only not good for a creature to live alone; it may be impossible.

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PSYCHOLOGY

Hitler Rose to Power Because He Felt Personally Insecure

By DR. HAROLD D. LASSWELL

University of Chicago, Author of
"Psychopathology and Politics."

DICTATORS are anxiety types. They rise to power as heroes of the insecure because they are themselves profoundly insecure. Their personalities are divided within themselves. They strive to quiet their basic anxieties by demand-

ing unlimited deference from others. They are partially reassured by admiration and acquiescence. Their intensity, their seeming strength of will, are adaptations to acute internal difficulty.

The demagogic dictators of our time, like Mussolini and Hitler, have grown to power by mass appeal and by tactical cunning. Thrilling orators are anxiety types who fly into orgies of identification with the moods of crowds which they seem to dominate. Tactical cunning depends upon basic anxiety. The cunning are alert to threats. The alert are basically anxious and fearful.

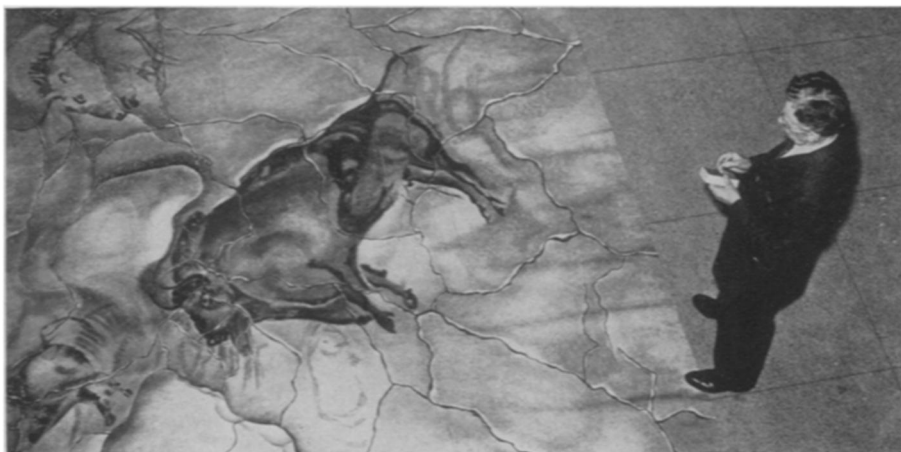
By the road of the dictator lie the heads of those whom he has suspected of disloyalty. Anxious and alert, the dictator strikes down before he is struck down. He lives in perpetual fear and profound isolation. His suspiciousness may overreach itself in an excess of murder which provokes the avenging assassin and the revolutionist. Unbroken success may lead to the arrogance which arises from the appeasement of anxiety, and the loss of alertness which led to power.

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ARCHAEOLOGY

Stone Age Animal Painting Presented to Museum

FIRST of its kind to be viewed in America, a huge replica in oils of the famous Old Stone Age animal paintings on the ceiling of the Altamira Cave, near Santander, Spain, has been received by the American Museum of Natural History. It is a present from the noted German scientist-artist, Prof. Leo Frobenius of Frankfurt.



FROM STONE AGE SPAIN

Dr. N. C. Nelson examines a replica of cave drawings just received at the American Museum of Natural History.

The painting, 19 x 27 feet in size, will be hung on the ceiling of the hall containing exhibitions of the evolution of prehistoric culture, just as the famous paintings in Altamira appear. It will be some time, however, before this can be done.

The Altamira paintings were discovered in 1879 by the small daughter of the scientist Sautuola, who had accom-

panied her father on an exploration trip into the cavern. They have subsequently been determined by the famous French anthropologist, Abbé Breuil, as representing the highest stage in development of Old Stone Age art. Nothing to equal them was done afterwards for thousands of years, until the rise of civilization in the Mediterranean basin.

Science News Letter, March 26, 1938

GENERAL SCIENCE

World Fairs Planned to Show The Sciences in Action

Synthetically Fed Animals; Chemical Garden; Electrified Farm; Black Light Are Features Planned

See Front Cover

MR. and Mrs. America, 75,000,000 strong, will see the greatest science show on earth next year when the Golden Gate International Exposition in San Francisco and the New York World's Fair open for business.

Themselves two stunning examples of science in action, the two giant 1939 fairs, far surpassing anything ever done in the United States by way of taking the lid off science, will put on a breathtaking demonstration of what goes on amongst the quiet men who man the laboratories and what they teach for today and promise for tomorrow.

Advance reports, one year before elaborate ceremonies marking opening day, from both coasts promise exhibitions that will take visitors into every corner of the domain of science—from the tiny atom to the giant universe.

Huge industrial exhibits; striking stories of health and the war on disease; a pageant of transportation; laboratories on parade; plants grown without benefit of earth; magic carpets riding over cities of the future; "black light" wizardry painting pictures in the dark—these and many more will dramatize the part of science in today's and tomorrow's routine.

Railroad Pageant

Keynoted by a \$1,500,000 pageant, "Railroads on Parade," which will tell in an amphitheater seating 4,000 people, the story of the American railroad, New York's World Fair will take the visitor through an awe-inspiring succession of

exhibits painting a picture of scientific progress.

Working perhaps for the first time in public gaze, scientists on man-made Treasure Island in San Francisco Bay, will present a portrait of life in the future.

Laboratory rats will be fed on synthetic foods and will be shown to be healthier than their normal fellow-rodents. Synthetic foods will be manufactured in small quantities on the spot, while onlookers throng the Exposition laboratories. In the Hall of Science, microbes will be employed to do amazing

things. These germs introduced to different media will be made to produce a whole variety of products, such as flavorings, perfumes and medicines. Visitors to the Exposition will also have the opportunity of seeing the much-discussed but little-known hormones and vitamins manufactured.

A complete "chemical" garden growing indoors under ordinary incandescent lighting and without the usual soil promises to be a popular demonstration. Corn, peas, melons, squash, spinach and lettuce are some of the crops which will be grown in the Hall of Science without soil or sunlight.

An up-to-the-minute showing of General Electric's famous "House of Magic," in which electricity and electrons are made to perform astonishing feats will be a feature of the Hall of Electricity. "Willie Volcanite," Westinghouse's electrical robot who has even been caught smoking, will be put through his paces in this same building. Television demonstrations will be held. Visitors to the Hall will have an opportunity to listen to the footsteps of insects, as a part of a demonstration of the latest in sound amplification equipment.

Model Farm

A model farm, completely electrified for both housework and forced crop production, will be another unusual feature of the electrical show, it is stated. For the protection of orchards, tested color lamps will be used to attract crop destroying insects to a wire network high-



BRIDGE OF TOMORROW

Already in service on the grounds of the New York World's Fair of 1939. The graceful structure connects the second floor of the Administration Building with the site of one set of paygates in the central exhibit area. Of marine inspiration, clear-varnished fir, steel and insulating board are materials from which it is built.