GENERAL SCIENCE

British Scientists Hear An Optimistic View of Future

Huxley Expresses Hope That Evolution Will Produce Great Improvement in Man's Brain; Telepathy Possible

At the meeting of the British Association for the Advancement of Science in Blackpool, England, speakers stressed the importance of the study of man. Prof. Huxley's glimpse of the future, many year's distant but biologically near, was balanced by report of civilization in India some 6,000 years ago. These articles give you news from this meeting.

EVOLUTION

Brain Can Be Improved By Planned Evolution

HIGH hopes that the human brain can be greatly improved by planned evolution, even so far that telepathy and other extra-sensory activities of the mind are as commonly distributed as musical and mathematical gifts today, were expressed by Prof. Julian S. Huxley, leading British biologist and head of the London Zoological Gardens, in his presidential address before the zoology section of the British Association for the Advancement of Science.

The main part of any large change in man's biologically near future must be sought in the improvement of the brain, Prof. Huxley declared. Conscious and conceptual thought is the latest step in life's progress and in the perspective of evolution a very recent one. Prof. Huxley believes that its main effects are indubitably still to come.

"There are many obvious ways in which the brain's level of performance could be raised," he said. "If for all the main attributes of mind the average of a population could be raised to the level now attained by the best endowed ten-thousandth or even thousandth, that alone would be of far-reaching evolutionary significance. Nor is there any reason to suppose that such quantitative increase could not be pushed beyond its present upper limits.

"There are other faculties, the bare existence of which is as yet scarcely established. These too might be developed until they were as commonly distributed as, say musical or mathematical gifts are today. I refer to telepathy and other extra-sensory activities of mind, which the work of Rhine, Salter and others is now forcing into scientific recognition."

Man is not to follow the lead of the social insects, like ants and bees, in developing altruistic instincts such as they display. Prof. Huxley believes that this is impossible so long as our species continues in its present reproductive habits.

But if the dream of some biologists of "test-tube babies" were realized it might be different.

"If we were to adopt some system for using the gametes of a few highly endowed individuals, directly or from tissue-cultures, to produce all the next generation, then all kinds of new possibilities would emerge," Prof. Huxley said. "Man might develop castes, and some at least of them might be endowed with altruistic and communal impulses."

Prof. Huxley repudiated guidance of life by some external power, or the idea of a purpose in evolution. He considers "wholly false" the idea that we can trust some external power for further guidance in the future.

"Any purpose we find manifested in evolution is only an apparent purpose," he said. "It is we who have read purpose into evolution, as earlier men projected will and emotion into inorganic phenomena like storm or earthquake. If we wish to work towards a purpose for the future of man, we must formulate that purpose ourselves. Purposes in life are made, not found."

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PHYSIOLOGY

Civilization To Blame For Serious Diseases

CIVILIZATION is to blame for serious diseases which are increasingly threatening life and health, Prof. R. J. S. McDowall of Kings College, University of London, told medical scientists at the meeting.

The diseases which Prof. McDowall called "definitely diseases of civilization" are diseases of the blood circulation apart from diseases of the heart itself. Failure of the circulation, he said, takes toll of thousands of lives each year.

In order to control these diseases, by better methods of treatment or by preventive measures, medical scientists need to know much more than they do at present about the mechanics of circulation. The purpose of blood circulation, Prof. McDowall explained, is to supply the tissues with nourishment and particularly with oxygen. Because various parts of the body differ enormously in their activity from time to time, their needs vary also.

The mechanism which supplies extra blood to a muscle during exercise is the same as that used by the body in defending itself against disease and injury. The mechanism is extremely complicated, requiring the combined efforts of heart, veins and arteries, nerves, glandular hormones and other chemicals produced in the body.

Two Supply Methods

When a muscle is used and needs more blood, it may be supplied in two ways: 1. By increased heart action which pumps blood out to the body faster. 2. By redistribution of the blood, less active and temporarily less important parts of the body being deprived of some blood which is sent as increased supply to the active muscle.

Formerly the heart was thought to be under the control of two sets of nerves, the sympathetic, which when stimulated makes the heart go faster, and the vagus, which makes the heart go slower. Now, Prof. McDowall said, there is almost complete evidence to show that the heart is really under the control of two sets of reflexes. These reflexes are responsible for speeding up the heart when the body needs more blood to resist injury or to exercise or perform work. Scientists are now working to learn exactly what sets off these reflexes.

Control of Redistribution

Redistribution of the blood from inactive to active parts of the body results from constriction and dilation of the veins and arteries through which the blood flows. Where less blood is needed the blood vessels are considered and where more is needed, they dilate. This mechanism affects the pressure of blood and when the walls of the blood vessels lose their elasticity and so cannot contract and dilate readily, serious disease may result. The dilation of the blood vessels is brought about by both chemical and nervous means. Of the chemical means, in Prof. McDowall's opinion, the most important is change in acidity.

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