

PSYCHOLOGY

Insects See Ultraviolet

Color vision has been demonstrated to exist in the lower animals without backbones and in some insects. Among mammals, only monkeys, apes and man see color.

➤ A BULL cannot see the red color of the rag waved at him, but an insect can "see" ultraviolet that ordinarily is not detected by humans. These facts about animal color vision were among many reported to the British Association for the Advancement of Science meeting in Brighton, England, by Dr. R. J. Pumphrey.

It may be, he said, that the insects actually detect the ultraviolet light as a bluish fluorescence of the optic media of the eye rather than through color perception as we generally think of it.

Color vision, when it does occur in animals, is rather closely similar to that of man, Dr. Pumphrey reported.

It is difficult to test, however, especially in wild animals. You can be sure that an animal distinguishes color only if color vision not only exists in the animal, but if it is important to him so that he pays some attention.

Color vision has been demonstrated be-

yond scientific doubt in the lower animals without backbones and in some insects. Among vertebrates other than mammals, it has been found in some bony fishes, reptiles and birds.

The only mammals that can see color are some monkeys, apes and man.

The case for cephalopod molluscs and crustacea is "non-proven."

For the rest of the animal kingdom it is probable that color vision does exist or, as Dr. Pumphrey says, "it has no importance for the animal."

There is an interesting difference between insect color vision and that of man, Dr. Pumphrey said. Insects see color as long as they can see at all. But vertebrates cannot see color when the light grows faint. As the old saying goes, "At night, all cats are gray."

All nocturnal vertebrates are probably color blind, Dr. Pumphrey said.

Science News Letter, September 25, 1948

GENETICS

Ills Lurk in Healthy

➤ MANY apparently healthy persons are nevertheless carriers of hereditary diseases which they can transmit to their children. How to spot such unwitting menaces is one of the big problems in building up a more healthy society, Dr. James V. Neel of the University of Michigan stated in

Washington in the principal address given before the meeting of the Human Genetics Society of America.

A healthy-appearing person can be the carrier of disease-causing genes in either of two ways, the speaker pointed out. He may be destined later to develop the disease, but the malady may be of such a nature that it comes on later in life, after he has married and had children. Among hereditary diseases that develop after early maturity, Dr. Neel mentioned gout and Huntington's chorea.

In addition to being hereditary, gout is sex-linked; that is, it occurs far more often in men than in women. However, a high concentration of uremic acid in the blood, one of the less conspicuous syndromes of the disease, is often found in non-gouty relatives, both male and female, of the gouty patients. This may be used in detecting "gouty families."

Since Huntington's chorea is primarily a disease of the central nervous system, it produces a typical brain-wave pattern. This pattern manifests itself even in still-healthy young persons who are doomed to develop the defect later in life. One possible use of this test which Dr. Neel suggested is on young immigrants, to prevent the entrance of bearers of this particular hereditary disease.

The second type of healthy carrier of hereditary disease, Dr. Neel stated, is the person who will never develop the malady himself but who carries a recessive gene for it. This gene is kept suppressed by the presence of an opposite, dominant gene, but it is ready in his germ-cells to mate with a similar recessive to produce an unfortunate child, doomed to disaster from the moment of his conception.

As an example of such a defect, the speaker described a peculiar kind of anemia, which occurs only in persons of Mediterranean origin or ancestry. When it develops, it is fatal during childhood, so that its victims cannot themselves transmit it. However, their seemingly healthy brothers and sisters carry the trait and can pass it on. Its presence in such persons is hard to detect, but certain peculiarities in their blood do betray it.

The Human Genetics Society of America is a new scientific body which held its first meeting in Washington. Its president is Prof. H. J. Muller of the University of Indiana, who received a Nobel Prize award for his demonstration of the possibility of producing evolutionary changes in germ cells by bombarding them with X-rays.

Science News Letter, September 25, 1948

PSYCHOLOGY

Night Vision in Young Better Than in Old

➤ OLD PEOPLE cannot see as well on a dark night as younger men, Dr. James E. Birren, of Baltimore City Hospitals, told the American Psychological Association in Boston. Dr. Birren compared 66 men aged 43 to 80, living in the Baltimore Infirmary, with 25 Navy enlisted men aged 18 to 23.

Some of the older men had structural defects which might account for the lack of dark adaptation. But others had no such defects.

Individual differences in the loss of ability to see in the dark are, however, great. The range for the older men is more than twice as great as for the younger men.

Science News Letter, September 25, 1948

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