of those who experiment in feeding animals and those who get their information from observing "native" peoples. Specifically, lean muscle has been reported as of little or no anti-scorbutic value with experimental animals, though it appears to be a sufficient anti-scorbutic when used by Eskimos or polar explorers.

The statement is frequently seen that carnivorous man would suffer from scurvy on a diet of meat, except that he is protected by eating such organs as the liver which are rich in Vitamin C. A variant of the statement is that you can remain in good health on a meat diet, provided you eat the whole animal or practically the whole of it.

One of the conclusions which most of those concerned drew from the experiment where two of us lived exclusively on meat for a year, under the supervision of the Russell Sage Institute of Pathology,[1] was that you do not need to eat the whole animal, or anything approximating that, in order to be protected from deficiency diseases.

The explanation has been advanced that if a guinea pig develops scurvy on lean meat and a man does not it is because men differ in some ways from guinea pigs. Another point seems worth raising.

The flesh food of most or all carnivorous people, such as uncivilized Eskimos or northern explorers who live by hunting, contains a great deal of blood. But (perhaps deriving our method from Semitic practice) our butchers are careful to bleed animals. A given weight of animal food as consumed by an Eskimo therefore contains a considerable proportion of an ingredient nearly absent from butcher's meat or from meat as obtained by farm butchering.

The all-meat diet which protected Karsten Andersen and me from scurvy for a year (1928–29) in New York had occasional meals of liver and bacon. But the diet which brought a rapid recovery from advanced scurvy to Lorne Knight and Harold Noice in 1917, as described on pages 615–619 of my book, "The Friendly Arctic" (New York, 1921), contained no liver. There were absent from it, too, most of those organs which are usually cited by dietitians in explaining how it is that carnivorous man does not have scurvy. The things eaten were chiefly lean muscle.

It would, then, seem worth considering whether the discrepancies between human and animal experimentation with regard to the anti-scorbutic value of flesh foods may not be due to the presence of considerable quantities of blood in one diet and to the comparative absence of it from the other.

VILHJALMUR STEFANSSON

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[1] Clarence W. Lieb, M.D., *Jour. of the American Medical Association*, July 6, 1929.

## THE INCIDENCE OF COLOR-BLINDNESS AMONG JEWISH MALES

THE writer gave the Ishihara color-blindness test to 529 New York Jewish boys and men, 474 of whom were students in New York University. No subject was included unless his parents and all four grandparents were Jewish.

Each subject was tested individually, one eye at a time, under good light. If he misread or was unable to see the numbers on two or more of the ten plates normally read by people with complete color sense the subject was classed as color-blind or color-weak.

Forty subjects, or 7.56 per cent. of the total number tested, were color-blind or color-weak. Of this number, three were unable to see a single number beyond the first and may be considered totally color-blind. Eighteen others were so defective that they misread every plate beyond the first. The other 19 subjects made errors on from three to nine plates. None of the 40 made fewer than three errors. In common with other investigators we found green-blindness to be more prevalent than red-blindness. Eleven *Ss* were completely green-blind but not completely red-blind, while two were only red-blind.

For the most part the *Ss* were equally blind with their two eyes. However, we found three cases of differential blindness. One subject had normal vision with one eye, but incomplete color-vision with the other, as shown by the fact that he misread three plates with this eye. Two *Ss* could read no number beyond the initial one with one eye, but one of these students was only red-green blind in the other eye, while the second was only green-blind in the other eye.

About one half of the subjects' parents or grandparents were born in Russia, the rest being largely of Austrian, Polish, German and Hungarian stock. We considered the records of the Jews of Russian descent separately and found 8.1 per cent. of them to be color-blind.

In conclusion, our experimental results do not bear out Garth's[1] finding that Jewish males are different from other white males in color sensitivity.[2]

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## SYMBOLS FOR THE ARTIFICIALLY RADIOACTIVE ELEMENTS

IN the issue of SCIENCE of August 21 (84: 183, 1936) Gerald M. Petty proposes to designate artificial

[1] T. R. Garth, SCIENCE, 71: 462, 1930; 77: 333–334, 1933.

[2] For further reference, see F. Clements, SCIENCE, 72: 203–204, 1930; K. B. M. Crooks, SCIENCE, 80: 269, 1934; L. G. Kilborn and Y. T. Beh, SCIENCE, 79: 34, 1934; W. Miles, *Jour. Gen. Psychol.*, 2: 535–543, 1929.