

twice the size of this country, as it appears on the Mercator maps widely used in geographies and atlases.

On a chart of another form of the butterfly map, any straight line is a great circle. Thus it is possible to find the exact distance between any two points simply by measuring it directly on the map. At the present time such a course must be calculated. A straight line

across Mercator's map from San Francisco to Libson, for example, would go through the United States to Chesapeake Bay, whereas the real short route is by way of Winnipeg, Hudson Bay and Labrador.

A third type of the butterfly map is suggested as a base for weather charts. Its scale increases equally in both directions.

Science News Letter, April 22, 1933

MEDICINE

Monoxide Poison Victim Unable to do Arithmetic

A CASE of carbon monoxide poisoning which left the patient unable to do any arithmetic has been reported by Drs. H. Douglas Singer and Abraham Low of Chicago, Ill. The name of the strange ailment is acalculia, meaning inability to do simple arithmetical calculations.

The patient was the 44-year-old assistant superintendent of a firm of boiler and water tank engineers. In the course of his work he had to estimate the costs of his jobs and to keep track of the time and wages of the men under him. His employers had been well satisfied with his work. When the psychiatrists examined him following the poisoning, he was unable to do such simple arithmetic as adding 5 plus 6.

He had been found unconscious in his garage one day after work, evidently overcome by carbon monoxide from the exhaust of his automobile which he had been inspecting. He was unconscious for several days. When he regained consciousness he suffered from confusion and forgetfulness of various things. For example, he could not dress himself properly, putting his right foot into his left trouser leg. When the sheet on the left side of his bed became wrinkled, he pulled at the sheet on the right side in an effort to straighten it. He had difficulty in locating and using his fingers and could not tell time, although he could tell the numerals on a watch or clock.

He gradually improved in these respects, but could not learn to write legibly nor to do simple arithmetic, even after months of instruction. He could do what psychologists call mental counting, meaning the one, two, three, four, kind. But he could not count or add three trucks and four automobiles

to make a total of seven vehicles. That is, he could not count discontinuous objects.

A number of cases of acalculia have been reported in cases of mental disease in which there were other signs of aphasia or forgetfulness. However, this is apparently the first case of this strange condition occurring as the only after-effect of carbon monoxide poisoning.

Science News Letter, April 22, 1933

TOXICOLOGY

Scientist Wants Liquor Regulated as Narcotic

AFTER REPEAL of the eighteenth amendment the stronger alcoholic beverages must be absolutely separated from the weaker ones and controlled essentially as morphine and cocaine are controlled under the Harrison act.

So warned Prof. Yandell Henderson of Yale University, who, as he expressed it to the medical scientists meeting in Cincinnati, acted as toxicologist for Congress of the United States. It was on Prof. Henderson's authority that the alcoholic content of beer was fixed at 3.2 per cent.

The alcohol question is a problem in national toxicology, Prof. Henderson declared. He considers the stronger alcoholic beverages to be in a class with the narcotic drugs, morphine and cocaine, while the weaker alcoholic beverages he classes with coffee and tobacco.

He pointed out that what the chemists call the mass law applies to this question. That is, any chemical in high concentration acts powerfully, but when sufficiently diluted it loses its harmful action.

Science News Letter, April 22, 1933

PSYCHOLOGY

Man Sees Gray World Entirely Without Colors

THE DISCOVERY of a young man who sees a completely colorless, gray world was revealed by Dr. Frank A. Geldard, of the University of Virginia.

Only ten other such cases have hitherto been discovered in America. There are many who cannot tell the green of a "go" light from the red of a "stop" light, but inability to see any thing but gray color in spring flowers, vivid millinery, or gaily painted pictures is extremely rare.

Mr. J. M., 23-year-old graduate student, as Dr. Geldard identified the unusual individual in reporting him to the scientists, was asked to pick out a card containing red or reddish dots. He picked one with red, green and gray spots. Then the test cards were shuffled and he was asked to pick a card with green or greenish dots. He picked the same red, green, gray dotted card.

Careful study of this interesting case, which was facilitated by the fact that Mr. J. M. is a graduate student and cooperated willingly, showed conclusively that the eyesight defect is caused by failure of the cones of the eye's retina to operate, Dr. Geldard said.

Mr. J. M.'s vision is entirely through the rods of his retina, giving him vision only in twilight illuminations. His acuity of vision is only one-tenth normal and he is extremely nearsighted. Bright flashes of light temporarily blind him and crossing a street on a sunshiny day is a dangerous adventure for him.

Science News Letter, April 22, 1933

CHEMISTRY

New Light-Sensitive Substance Found

A NEW MEMBER of the family of chemical substances that turn dark on exposure to light was announced to the American Chemical Society by Dr. Oskar Baudisch of Yale University and Dr. F. L. Gates of Harvard University.

This is piperidine vanadate. Its crystals change from their original white to black or brown on exposure to light just a little down the wave-length scale from the invisible ultraviolet. The new compound, however, is still so new that practical applications have not yet been suggested.

Science News Letter, April 22, 1933