

could see in the tree, Mr. Jackson made an estimate of the feeding preferences of the birds. This estimate, he says, supports the idea that birds really do avoid "warningly" colored butterflies.

In this conclusion, Prof. Carpenter and Mr. Jackson are at variance with the opinion of an American zoologist, W.

L. McAtee of the bureau of biological survey, U. S. Department of Agriculture, who some time ago stated that insects and other animals get killed and eaten approximately in proportion to their numbers in a given place, regardless of coloration.

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the convicts were laborers, skilled or unskilled.

A far larger proportion than you might expect were foreign born. Of the 1,166 victims, 481 were foreign born, and 55 per cent. of these were Italians. Of the 632 native born victims, 112 were Negroes. The convicts showed a similar picture of foreign and Negro frequency. Of the 388 convicted, 142 were foreign, and 91 were from Italy.

The typical murderer is not a college graduate putting his learning to evil uses by concocting weird poisons for his victims. He is a comparatively uneducated person. Of the 388 persons convicted of murder included in this survey, only 38 had ever attended high school and of these only six had ever gone to college. Not a single one of the women had gone beyond elementary school. And 62 had had no formal education at all.

#### Poisoning Infrequent

Actually, poisons are very seldom used. By far the most common way murdered persons meet death is by firearms, 64 per cent. of the men and 59 per cent. of the women having been shot down. Next in frequency comes the knife or other cutting or piercing instrument, which is particularly common among the Negroes.

Fracture of the skull or a blow on the head, such as killed the little Lindbergh baby, accounted for 78 of the male deaths and eleven of the female. But burns, acid, and poison together took toll of only eight men and nine women.

The solution of the murder problem in the United States does not lie in excluding persons of any special hereditary background, is the conclusion of the investigators, J. V. DePorte and Elizabeth Parkhurst, who made the survey (*Human Biology*, Feb.)

The germ plasm has nothing to do with the case, they conclude. Although the homicide rate was exceptionally high among Italian immigrants, the rate among the native-born of Italian parentage was only 8 per cent. of the rate among Italian immigrants, and the rate among the immigrants much higher than that prevailing in Italy.

The only guarantee of the worth of an individual for the breeding of a superior race is not its own superiority, but the superiority of its progeny, and this is just as true of the human "bean" as of the vegetable bean about which the statement was originally made, the investigators conclude.

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#### CHEMISTRY

## 20 New Kinds of Matter Reported By British Chemist

**D**ISCOVERY of some 20 new varieties of the chemical elements, called isotopes, was announced to the Royal Society, London, by the world authority and Nobelist, Prof. F. W. Aston of Cambridge, as the result of several years of exacting spectrographic work on a dozen elemental substances.

The census of isotopes kept by Prof. Aston shows that 247 stable element varieties are now known from 79 of the 92 elements.

Isotopes in chemistry correspond roughly to non-identical twins in animals, since they are the same stuff but the atom of one isotope has a different mass or weight than another isotope of the same element.

The new isotopes are of the elements hafnium, thorium, rhodium, titanium, zirconium, calcium, gallium, silver, carbon, nickel, cadmium, iron and indium. They were discovered by mass spectrograph analyses made either by the anode ray or more usual discharge method. The mass spectrograph is an instrument that serves as an extremely sensitive balance for weighing the elements.

Important also was Prof. Aston's announcement that he had discovered rays from hafnium, thorium and rhodium for the first time.

Because an average of three and a tenth isotopes for every chemical element has been discovered, this is taken to mean that there is a stable elementary atom for every whole number weight from one to 210.

"This is an astonishing situation," Prof. Aston said, "and I believe the discovery of many more such isotopes is unlikely at least for many years unless by quite new methods."

Prof. Aston cited with approval the theory of Prof. Gamow, Soviet physicist now lecturing at George Washington University, Washington, D. C., that if more isotopes are discovered they will probably be radioactive, breaking down into other isotopes.

Not content with his pioneering explorations of atom varieties, Prof. Aston said that he would modify his apparatus in the hope of obtaining still finer and more accurate measurements of atomic masses.

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#### SOCIOLOGY

## Most Murderers Are Laborers, Survey Shows

**D**O you picture the average murderer as being a "master mind" with superior crafty intelligence and good education, and the victim as a "wealthy clubman" or a person of wealth and prominence like Lindbergh?

Study of the homicides actually committed over a decade in 37 counties in New York state shows that this favorite picture of fiction is not based on fact. If the New York situation is typical of the nation as a whole, neither victims nor persons convicted of murder belong, in general, to the respectable, well-to-do classes. It was found that 57 per cent. of the victims and 77 per cent. of

## ● RADIO

Tuesday, March 5, 4:30 p. m.

THE MAGIC AGE OF ALLOYS, by A. B. Parsons, Secretary, American Institute of Mining & Metallurgical Engineers.

Tuesday, March 12, 4:30 p. m.

GLAND FACTORS IN PERSONALITY, by Dr. R. G. Hoskins, Memorial Foundation for Neuro-Endocrine Research, Harvard University.

In the Science Service series of radio addresses given by eminent scientists over the Columbia Broadcasting System.