

POPULATION

Differential Birth Rate Ascribed to Birth Control

Professor Pearl Reports No Evidence of Biological Inferiority Among Intellectual and Wealthy Parents

THE STORK visits the homes of the very poor and the ignorant with much more frequency than he lights on the homes of the educated and wealthy. This discrimination may be laid directly at the door of birth control and the American habit of postponing marriage, new scientific research has revealed. This research is published in a new book *The Natural History of Population* (Oxford).

Analyzing an intimate study of more than 30,000 mothers, the author, Prof. Raymond Pearl, biologist and student of population of the Johns Hopkins University, found no evidence of any biological inferiority among the wealthy to account for their diminishing families. Neither does religion play any important part in these differential birth rates.

If it were not for the effect of birth control efforts, Prof. Pearl said, and the practice of criminal abortion, together with habits of postponing marriage, there would apparently be little or no significant differential fertility between economic, educational or religious classes of urban American married couples.

Half Practice It

Nearly half (43 per cent.) of the American white women studied by Prof. Pearl practice birth control. The practice is much more frequent among older women with a large number of children than among young wives. Since his study includes only women giving birth to a child, Prof. Pearl estimates that the proportion may run somewhat higher in the general population. He puts it roughly at between 55 and 60 per cent.

Yet, obviously, efforts at birth control did not result in childlessness for these women. For many these efforts are intermittent or are unsuccessful either because of ignorance or because they planned for and wanted a child.

By figuring the time lag between arrival at child-bearing age and the actual birth of the first baby, and by other complicated statistical procedures, Prof. Pearl was able to estimate the effect that birth control does have on reducing the natural growth of the population. It has

much less effect than has sometimes been claimed.

Negro mothers, like white mothers, are having smaller families. Yet birth control is not widely practiced among Negroes. Of the Negro mothers included in Prof. Pearl's study, 83 per cent. had never practiced any birth control method.

Much more important than its effect on the fertility of American mothers, is the effect of birth control on reducing the numbers of the "better classes" as compared with the economic and social unfortunates.

The rate of births is just about 66 per cent. higher for very poor mothers than it is for well-to-do and wealthy mothers. But among those who practice no birth control no such disparity exists. The rate for all economic classes is on very much the same level except for a slight lowering of the rate for those in moderate circumstances.

Among those using birth control, on the contrary, the rate of births goes steadily down with increasing wealth, just as it does for the whole population.

The proportion of women making use of birth control methods varies with the amount of their wealth. It ranges from a little more than 30 per cent. of the very poor to more than 80 per cent. of the well-to-do and rich.

Prof. Pearl is not hopeful that any attempt to control size of family either by propaganda or legislation will have much effect upon this tendency. Desire for motherhood and the sex relations are extremely personal affairs, he points out. In this matter, at least, humans are most likely to have self-government.

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ARCHAEOLOGY

'Potato Spirit' Believed Ancient Indian God

CALLING a man "Old Potato" may be all right in this country. But in Peru, where the Irish potato got its start, a spud was no joking topic, if there is fact behind strange theories of Dr. Redcliffe N. Salaman, a physician and bot-



SPIRIT OF THE POTATO?

Dr. R. N. Salaman says prehistoric Indians symbolized in such vases as this the actual sacrifice rite of marrying human faces, all to get a big potato crop.

anist, member of the Cambridge University faculty.

He is convinced that these Indians had a potato religion, revered a potato spirit. He even believes that they sacrificed human life to the potato spirit, later substituting a gruesome mutilation of human faces with the deadly serious intent of impressing the potato spirit, and getting a big crop. Indians in Central America and farther north had religious rites surrounding the corn crop. Why not a potato religion in Peru?

The potato was first tamed, Dr. Salaman concludes, because prehistoric Indians at some distant, unknown time in South America drifted west and found themselves clear out of the jungle in the bleak highland country of Peru and Bolivia. Taming the wild potato, they managed to stay there. It was safer than the tropical rain forest. Farther west still, on the coast of Chile, another prehistoric potato belt was developed.

That Indian potato growers worshiped a potato spirit, and sacrificed to it, is deduced by the British scientist from the quantity of potato vases found in Indian graves along the Peruvian coast. Chimu Indians of that region had a custom of making funeral vases in such varied shapes that they show the plants, animals, and customs (*Turn to Page 159*)



Get After the Weeds!

WEEDS aren't getting their fair share of attention from the CCC, in the opinion of Prof. M. L. Fernald of Harvard University. The efforts of the young men could be better spent against "the vagrant pests which crowd us" than in much of the work they are doing in woodlands, where "they unconsciously become destroyers of the natural equilibrium of nature," he declares.

A good deal of "tidying-up" has been done in forests, and this is highly destructive of some of our choicest wild flowers and ferns, as well as disruptive to the economy of ground-dwelling birds and small mammals, Prof. Fernald points out. Wildlife generally needs a certain amount of judicious letting alone.

But nobody could object to a wholesale assault on such open and acknowledged pests as poison ivy, ragweed and Japanese honeysuckle. Our worst weeds are either uninvited immigrants or native species that have been encouraged to become vegetable gangsters through man's disturbance of the original state of nature. Like certain human types, they thrive best under conditions of constant disturbance.

Sometimes plant immigrants will be decent and well-behaved for a time, but fall into evil ways when conditions change. The esteem in which such plants are held is apt to undergo a corresponding change. Prof. Fernald mentions two examples: a plant originally known as Venus' Paintbrush is now called the Devil's Paintbrush; another, first called St. James' Wort, lost its odor of sanctity and now bears the ignominious title of Stinking Willie.

These aggressive foreigners, and natives gone to the bad, press hardest on the rarest and frequently the most beautiful of plants—at any rate, plants of

greatest interest and importance from the scientific point of view. And man aids and abets the weeds to which he has given their start in evil life by forest fires, by clearing out underbrush, by polluting rivers, and in a dozen other of his blundering ways.

Science News Letter, March 11, 1939

RADIO

Television Station Has Radically Designed Antenna

See Front Cover

A NEW type, cubic-shaped antenna for the 10-kilowatt television station of the General Electric Company atop a 1,500-foot mountain in the Helderberg hills region near Schenectady, N. Y., is nearing completion. It is pictured on the front cover of this week's SCIENCE NEWS LETTER.

Radical both in shape and design, the antenna will radiate picture-carrying waves polarized horizontally so that the signal will have more power than any existing television station in America.

Using four and one-half meter waves, the station, W2XB, will blanket the region of Albany and the entire capital district of New York state. Expected range of the station is about 40 miles, the distance to the horizon.

The radiating parts of the antenna are eight hollow copper bars, each four inches in diameter and seven feet long, arranged in sets of four to form the top and bottom of a perfect cube.

Schenectady's new television station will soon be completed but because there is much engineering investigation to be done prior to actual broadcasts, public transmission will not start before early summer.

Part of the system is an ultra short wave transmitter which will relay programs from Schenectady out to the mountain top station.

This relay station may be the forerunner of future chain television broadcasting for it has been suggested that major cities might be linked through such small relay stations spaced at intervals of 10 or 12 miles across country.

Science News Letter, March 11, 1939

From Page 151

of the people with vivid reality. Among thousands of such vases Dr. Salaman points to some shaped like potatoes, amazingly real; some that represent human beings, grotesquely decorated with potato "eyes"; and some that are

lumpy potato-shape with faces of men marked on them.

Some of the human faces are shown terribly disfigured by marred lips and noses. Dr. Salaman interprets these as exhibits of actual rites, done to human beings long ago. The theory is that Peruvian Indians thought of potato "eyes" as mouths, and the potato buds which sprouted from them resembled teeth in their imagination. Hence, they attempted to imitate this effect in human sacrifice, by the reasoning that savage minds have so often relied on. Supposedly, the spirit of the potato would be induced magically to bring to the fields the good crop that the sacrificial victim symbolized.

Dr. Salaman points out that these Indians regarded people born with hare-lip as endowed with peculiar powers, particularly with relation to frost. Therefore it was probably an additional advantage that a surgical rite to impress the potato spirit should convert the victim into a superhare-lipped individual, with upper lip cut away to expose bared teeth.

Disfigured lips and noses are prevalent in Peruvian art, apart from any potato association. Ordinarily, they are attributed to uta, a disease that destroys flesh of nose and lips, and it is usually supposed that a benevolent Stone Age surgery, not a cruel rite, was responsible for the trimmed away features to stop spread of the disease.

Science News Letter, March 11, 1939

METEOROLOGY

Lake Forms in Death Valley; Heavy Rains Responsible

WHEN really heavy rain falls in California, that's "unusual." But when enough rain falls to make a lake in Death Valley, that's news.

And that's what has happened, U. S. National Park Service observers report from the famous desert valley. The Armagosa river, usually nothing but a dry wash, has overflowed its banks and spread out into a lake dozens of square miles in extent.

Death Valley is not completely rainless, even in "usual" years. Its annual precipitation averages a trifle under an inch and a half. Even this little is enough to carpet the earth with flowers for a short time in the spring. This year, because of the heavy rains, the spring wildflower show is expected to be even finer than usual.

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