GENETICS

No A-Bomb Effects

➤ SO FAR, no bad effects of significance have turned up in the first generation of children born to parents who survived the atomic bombing of Hiroshima and Nagasaki, the Atomic Bomb Casualty Commission reports in *Science* (Nov. 6).

Such effects as could be found were mostly what geneticists expected. For example, if the mothers had been exposed to radiation from the bombing of Nagasaki, there were fewer boy babies, while if fathers had been exposed to the bomb's radiation, there were fewer girl babies. This change in the sex ratio, however, is not truly genetic and will not affect the next generation, because the effect was on the reproductive cells in the bodies of the irradiated parents.

An increase in stillbirths and in births of malformed babies was expected. The increase that occurred was so slight as to be barely significant.

Babies born of parents who survived the bombing although exposed to it were expected to be smaller and weigh less at birth. Contrary to the expectation, however, the babies did not weigh any less and, if anything, weighed a little more than the average. This may or may not be carried on to the next generation. It may be that the hardy, more robust persons with more flesh to protect their reproductive organs were the ones who survived the bombing with ability to have children, and these might be expected to have larger than average children anyway.

The report, termed preliminary, covers only the first generation of children after the bombing and only those conceived after the bombing.

Scientists making the report are: Drs. J. V. Neel and W. J. Schull, now at the University of Michigan; Dr. N. E. Morton, now at the University of Wisconsin; Dr. R. C. Anderson, now at the University of Minnesota School of Medicine, Minneapolis; Capt. J. Wood with the Air Force at Bolling Field, D. C.; statistician Richard Brewer, now with the Department of State on assignment to Teheran, Persia; Drs. S. Wright and J. Yamazaki, now at the University of California Medical Center at Los Angeles; and Drs. D. J. McDonald, M. Kodani, K. Takeshima and S. Kitamura, still with the Atomic Bomb Casualty Commission in Hiroshima.

Science News Letter, November 21, 1953

ASTRONOMY

Automatic Star Location

➤ A MACHINE that automatically scans photographic plates of the heavens, identifies and measures the exact location of stars, then punches their positions on cards is now in operation at the Watson Scientific Computing Laboratory of Columbia University, New York.

Dr. Wallace J. Eckert, director of the laboratory, which is operated jointly by the University and International Business Machines Corporation, says that the unique "star factory" makes as many measurements in one day as a highly-trained person can make in a week, and the accuracy is four times greater. It is the result of a six-year project.

Photographic plates 17 inches square, containing the image of about 400 stars each, are placed on the adjustable holder of the measuring engine while they are scanned by an extremely sensitive photoelectric cell.

From IBM cards, the approximate location of individual stars, obtained from a previous star catalogue, is transmitted to motors that move the appropriate image in front of the photoelectric eye.

The eye measures the exact position of each star to within a hundred-thousandth of an inch, then relays this exact position back to the same card that yielded the approximate information for punching on it.

In order to relate positions measured on the plate to the true positions in the sky, elaborate computations are necessary. Electronic calculators can do this brainwork automatically, using the punched cards from the star factory. The resulting true positions can then be printed electrically and reproduced photographically, thus completing the automatic operation.

"Now that the entire process is mechanized, it should be possible to do a star catalogue for the entire sky at one place in no longer than two or three years," Dr. Eckert states. Previous star catalogues have taken several persons at least a generation.

Some of the problems solved in building the star factory will also be applicable to automatic operation of machine tools and to manufacturing plants.

Science News Letter, November 21, 1953

NUTRITION

Turkey Crop Is Down From Last Year's High

➤ FIVE STATES will greet the holiday season this year with record turkey crops, but the national production is down from last year's record high.

Economists in the U. S. Department of Agriculture expect about 4,000,000 fewer birds than the 60,000,000 last year.

Michigan, Wisconsin, Minnesota, Delaware and New York are the states reaching new highs this year. New York will still have to import millions of birds, however, for its 1,000,000 turkeys will only grace one out of every six holiday tables in the state.

Prices both to the farmer and retail are about the same, the department reports. Wholesale prices on light birds are slightly advanced over last year. The smaller number of birds this year should act to make the prices stable.

Consumer demand for turkeys last year did not match the supply of birds, and the government stepped in with a surplus diversion program to keep prices up. About six percent of last year's crop was covered in this surplus diversion program.

The dry weather has been a contributing factor to good turkey production this year. Several diseases such as blackhead and bluecomb are much less prevalent in dry weather.

Science News Letter, November 21, 1953

TECHNOLOGY

Headlights of Future: More Light, Less Glare

➤ HEADLIGHTS, 10 times more powerful than those of today, will be used on automobiles in the year 2003 without blinding glare to approaching drivers, predicts Val J. Roper, General Electric engineer.

The solution of the problem of more light with less glare will be polarized lenses and windshields, he says. The polarization to cut out the glare will be of the type that can be removed with the flick of a switch for daytime driving.

Science News Letter, November 21, 1953

BIOCHEMISTRY

Find Hormone Helps Eyes See at Night

➤ RESEARCH SHOWING how a hormone from the pituitary gland helps eyes adapt to see in the dark is reported by Dr. Toshimasa Hanaoka of Nara Women's University, Nara, Japan, in *Nature* (Nov. 7).

The hormone is called the melanophore hormone, meaning that it deals with pigment formation. Injections under the skin of a highly purified fraction of this hormone, Dr. Hanaoka found, shortens the time it takes a person to adapt his eyes to seeing in the dark.

To learn more about how the hormone achieves this effect, Dr. Hanaoka carried out laboratory experiments with the hormone and the visual purple extracted from frog eyes. The visual purple is a light sensitive chemical in the eyes which is bleached by yellow light and is sometimes called one of the chemicals of vision.

The melanophore hormone helped the regeneration of the visual purple after it had been bleached. Some of the experiments suggest the existence of a factor which "cooperates with the melanophore hormone very effectively." Dr. Hanaoka is now investigating this aspect of the problem.

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