SOCIOLOGY

Family Size vs. Social Rise

➤ THE SMALL families of parents moving up in the social scale are directly related to this upward social rise, Dr. E. Digby Baltzell of the University of Pennsylvania has concluded.

His finding is based on a study of the number of children of 770 Philadelphians listed in Who's Who in America in 1940. In this group, he compares the number of children of 226 persons also listed in the Social Register with the 544 not listed there.

Persons listed in the Social Register are more likely, on the whole, to have high social-class positions and less social mobility than those who have achieved their high occupational status through their own efforts, he reported.

Those listed in the Social Register also report larger families than the 544 persons listed only in Who's Who, he found.

As parents climb higher in the social scale, the requirements of more expensive living tend to keep families small. Dr. Baltzell points out that at the top of the social scale there is little social mobility.

There were 45 male parents in the Social Register group with parents in the 1900 register, indicating a long period of high family social position. More than 40% of these parents had four or more children, and the average was more than three.

Only 54 of the total group listed in Who's Who were women. The women also listed in the Social Register were much more likely to report marriage, and the mothers in the Social Register reported 266 children per 100 mothers as against 162 children per 100 mothers for the other group.

Pointing out that conclusions drawn from such a small study must be tentative, Dr. Baltzell emphasized that in every instance the less mobile group appeared to be more familistic. His research is reported in the *Milbank Memorial Fund Quarterly* (Oct., 1953).

Science News Letter, January 16, 1954

BIOPHYSICS

H-Bomb Cancer Attack

➤ WHETHER OR not an H-bomb is ever used as a military weapon, its special kind of hydrogen, called hydrogen-3, or tritium, may be used in an attack on cancer. Steps toward this were reported by Dr. Dietrich E. Beischer of the U. S. School of Naval Aviation, Pensacola, Fla., at a regional meeting of the American Chemical Society in New Orleans.

Tritium, which is now available to researchers in quantity, has an extremely short range of radiation, and it is this property that may make it particularly suited to the selective destruction of cancer cells, he explained. Certain chemical compounds are taken up by cancer cells more readily than by healthy cells, and if these compounds are "tagged" with tritium, the short-range rays will reach only the cells which take up the compound, leaving the neighboring cells undamaged, he said.

Dr. Beischer described the development of a new method which detects and measures the dose of radiation emitted inside tritium-tagged tissue. The method, called a radioautographic procedure, consists in clamping the tissue to an X-ray film and thus forcing the radioactive material to take its own picture.

Tritium is especially useful for investigations of biological systems, where hydrogen plays an important part as a constituent. Substitution of the radioactive form of hydrogen in such systems permits simple and effective radioautographic study of the systems.

Science News Letter, January 16, 1954

GENETICS

Genes Control Cells

➤ DISCOVERY THAT the heredity carrying genes control the number of white cells in the blood and also reactions to anesthetics is announced by Dr. Elizabeth S. Russell of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Me.

The findings were made on mice. Whether they apply also to humans is not stated in Dr. Russell's report. But the finding of genetic differences is considered important for future research and for choice of animals for experimentation.

Working with Dr. Russell in studies leading to the discoveries were two of the laboratory's summer college training program research apprentices, Miss Olga Budds of Flat Rock, Mich., and Gerald E. Abrams of Detroit. Both are now students at the University of Michigan Medical School.

The studies were made with healthy, purebred mice.

For years it has been known that the levels of certain white blood cells are known to rise markedly with infectious and other environmental influences. Since, however, healthy mice of one genetic strain have a higher white cell count than those of another strain, these variations are inherited.

Two main types of white blood cells, granulocytes and agranulocytes, were studied. The granulocyte cell is most commonly involved in myeloid leukemia and in the fighting of infections. The agranulocyte cell originates in the lymph glands and carries off waste materials. Different genes act on the two kinds of white blood cells.

A secondary finding of this experiment showed that there are genetic differences in the way mice of different strains react to anesthetics, they report in the *Proceedings of the Society for Experimental Biology and Medicine* (Oct., 1953.)

Science News Letter, January 16, 1954

SCIENCE NEWS LETTER

VOL. 65 JANUARY 16, 1954 NO. 3

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., NOrth 7-2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., $5.50; 2 yrs., $10.00; 3 yrs., $14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C., under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283), authorized February 28, 1950. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to Periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 1 E. 54th St., New York 22, ELdorado 5-5666, and 360 N. Michigan Ave., Chicago 11, STate 2-4822.

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