

EDUCATION

New Teachers Quit Soon

The problem of educating and training future scientists is complicated by our present teacher shortage and the fact that those in the profession are leaving it.

► EVERY OTHER person who began teaching last year plans to quit teaching in five years. Two out of every ten teachers last year did not even plan to return to teaching this year.

This surprising and unexpectedly high turnover in beginning teachers was uncovered in a questionnaire survey made by Dr. Ward S. Mason, a specialist in teacher personnel statistics at the U.S. Office of Education, Washington, D.C.

Although only preliminary results are thus far available, the study implies that low salary and lack of preparation are two of the reasons behind the heavy losses among beginning teachers. Another significant factor, however, particularly in women teachers, is marriage and family.

"We suspect," Dr. Mason told SCIENCE SERVICE, "that salary will be important for some kinds of teachers, but not others."

Dr. Mason's preliminary studies of future plans of first year teachers show that, in general, women are far more likely to leave teaching in five years than are men.

The highest percentage of secondary school teachers who plan to leave in five years are those teaching non-academic subjects such as home economics, music and shop.

Of the men in secondary school teaching,

the greatest percentage is in science and mathematics (34%). Statistics on the number of beginning women secondary school teachers in science and mathematics who will leave have not been computed because too few women teachers in these subjects were included in the preliminary sample.

Preliminary findings from the survey, published in *School Life* (Dec.), the official journal of the Office of Education, show:

1. The expected turnover for beginning teachers is nearly 20% after the first year and 50% by the end of five years. This is in comparison to the seven and one-half percent normally chalked up as annual losses to the entire teaching profession through death, retirement and other factors.

2. The turnover is significantly high when matched with the fact that the shortage of qualified teachers last fall was 135,000.

3. Figures on average salaries might shed some light on the heavy losses. The median salary for all beginning teachers last year was \$3,600. It was highest in the Far West (\$4,000) and lowest in the Upper South (\$2,750).

Both a more detailed report and a follow-up study on why the teachers leave and where they go is now being made.

Science News Letter, December 21, 1957

GENERAL SCIENCE

Top 1957 Science Events

► THE TOP important advances in science and technology during 1957 as picked by Watson Davis, director of SCIENCE SERVICE, are:

1. Launching of man-made earth satellites, or artificial moons, called sputniks, by Soviet scientists, the first placing of an object in outer space into an orbit around the earth.

2. Development of a blunt nose for U.S. missiles that beats their heat death when they return from their outer space trajectory into the atmosphere of the earth, thus allowing H- and A-bomb loads to be carried by intercontinental ballistic missiles.

3. Successful use of vaccine against the world-wide Asian flu epidemic.

4. The Nobel-Prize-winning demonstration that a previously accepted law of matter, the conservation of parity, is not rigorously true in weak nuclear reactions.

5. Photographing of the sun from an unmanned balloon at high altitude showing greater detail of the surface of the sun.

6. Addition of chemical element 102, named nobelium, to the periodic table through synthesis of a small number of its very radioactive atoms.

7. Occupation of Antarctica as part of the IGY, which began in midyear, and the

cruise of the atomic submarine Nautilus under the arctic ice sheet.

8. Improvements in electronics and related devices, including a chemical memory device, better batteries, generation of electricity from radioactive heat and new improvements on transistors.

9. Discovery in the blood of schizophrenic patients of a substance that produces the psychotic symptoms in normal persons.

10. The awakening in America, engendered by the Soviet sputniks, of the necessity of better and more widespread training of scientists for the future and the need for more basic or pure research to provide technological advances for the future.

Science News Letter, December 21, 1957

BIOLOGY

Garlic Juice Stops Cancer in Mice

► GARLIC JUICE has been able to stop the growth of cancers in mice, Drs. Austin S. Weisberger and Jack Pensky, Western Reserve University, Cleveland, Ohio, report in *Science* (Nov. 29).

The juice contains a substance called alliin, known to be a powerful killer of bac-

teria, which was tried on the cancers. The scientists used alliin because it inhibits certain enzymes but not others. The ones it does inhibit are found in abnormal amounts in some tumor cells.

Since natural alliin is too unstable, a similar and more stable compound was prepared and mixed with the cancer cells for ten minutes before the cells were injected into the mice.

None of the mice receiving the treated cells developed tumors, and all remained alive. In contrast, control animals receiving untreated cells developed tumors rapidly.

The compound was also tried in mice after virulent cancer cells had been inoculated into them. Injections of the garlic chemical delayed the onset of malignancy and in some cases prevented it completely.

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