



## POCKET-SIZE

*Baby seismograph, or "accelerometer" devised by Frank Neumann, seismologist of the U. S. Coast and Geodetic Survey, for measuring such things as short-wave vibrations in buildings.*

## EUGENICS

## Encouraging Fit Parents To Bear Children Advised

RACE betterment through the positive measure of encouraging the fit to bear children, instead of the negative one of sterilization of the unfit, was advised by Dr. Percy W. Toombs of Memphis at the meeting of the American Medical Association.

"If the laws of natural inheritance in human beings could be made to seem of as much economic importance as those which govern cattle breeding and poultry raising, progress in this direction would be promoted," Dr. Toombs declared. "It seems unlikely that the human race can be trained to consider selective breeding at the time when such consideration would be most desirable, but something can be done," he added.

The family physician is the best person to do this training, he said. Some of the measures he advocated are attention to diet and posture to improve the physical structure of the child, and immediate care of the expectant mother.

Prevention of rickets, for instance, which causes deformities of the bones, would reduce the number of cripples and also the deformities that constitute serious hazards of childbirth.

Proper diet and correction of faulty posture and carriage during adolescence and the eradication of congenital infections would insure better babies in a succeeding generation, he said.

*Science News Letter, May 14, 1932*

## SEISMOLOGY

# Little Earthquakes of Traffic Recorded by Tiny Seismograph

**New Device Is Sensitive Enough to Register Heartbeats Of Man Leaning Against Table on Which It Stands**

WHEN a big truck rumbles by, or a flat-wheeled street-car pounds past with such a bump-bump-bump that you think it's surely going to shake the house down, you can get a real record of just how much of a shaking the place is getting, with a new pocket-size earthquake detector which has just been completed by Frank Neumann, seismologist of the U. S. Coast and Geodetic Survey.

Classed as an "accelerometer" by its inventor, it operates on the same principle as the larger, more elaborate, and much costlier seismographs that report the occurrence of earthquakes in distant parts of the earth, often informing scientists of a wrecking shock hours or days before the news is sent by wire.

Mr. Neumann's instrument consists, essentially, of a pendulum and a means of making that pendulum's smallest vibrations seen. The pendulum is a flat, one-ounce bob at the end of a strip of phosphor bronze, hung on bearings as nearly frictionless as possible. It is hung horizontally, not vertically as in a clock, so that it will record the sidewise shiftings rather than the up-and-down jiggings of the structures whose tremors it is intended to measure.

The movements of the pendulum are very small, so that it is necessary to find a means of magnifying them greatly to make them visible and to get a record for analytical study by scientists. This is done by means of a tiny circular mirror, so hooked up to the pendulum that it causes a beam of light to shift, like a long, weightless pointer, registering a hair's-breadth change in the position of the pendulum by a shift of an inch or more in the position of the light-spot on a ground-glass screen or—for permanent record—on a slowly moving sheet of photographic paper.

The hook-up of the mirror to the pendulum, as devised by Mr. Neumann, is the most unique part of the apparatus. From the front end of the pendulum project two metal prongs. Stretched between them is a bit of thin, exceedingly flexible metal ribbon. One turn of this goes around a slender steel rod, only

about one twenty-fifth of an inch in diameter, on which the little mirror is mounted. Thus a very small movement of the pendulum gives a greatly magnified twist to the rod, and causes the mirror to swing through a wide angle. So sensitive is the device that it will register the heartbeats of a man leaning against the table on which it stands.

To prevent the pendulum from swinging too freely, it is "damped" by laying a film of castor oil between its lower surface and a flat piece of glass mounted just under it. Castor oil has the great advantage over most thick vegetable oils, of not drying out and becoming more viscous on exposure to the air; neither does it break down and turn rancid.

The possible uses of devices like Mr. Neumann's accelerometer are many. Engineers have suspicions that tremors of less than earthquake intensity, incessantly applied, may be damaging to buildings, piers, chimneys and other structures. But practical instruments for measuring the shakings due to traffic, wave action, high winds and other artificial and natural forces have not been worked out until within comparatively recent time.

*Science News Letter, May 14, 1932*

## ANTHROPOLOGY

## British Anthropologists Doubt Age of Oldoway Man

STRONG skepticism that the Oldoway skeleton from East Africa has a right to the important sounding title "oldest known authentic skeleton of homo sapiens" is expressed by two zoologists, C. Forster Cooper of Cambridge University and D. M. S. Watson of the University of London, in a communication to *Nature*.

The human skeleton which has awakened a spirited controversy among scientists was unearthed at Oldoway, Tanganyika, in 1913 and has been a storm center in discussions at intervals since.

*Science News Letter, May 14, 1932*