

ery, for theory led them to expect that resistance would increase as the cold increased.

To demonstrate this persistence of an electrical current in a metal at a temperature near absolute zero, Colonel the Master of Sempill, a famous British aviator, flew over to Leyden and brought back with him a nest of vacuum bottles, containing at their heart a lead ring with a current flowing within it. The ring was immersed in liquid helium, and the helium flask was kept cold in two bottles of liquid air. The electrical current was still flowing for the edification of the British audience even after the thirteen hours of the international air trip across the North Sea and the auto journey from the airport to London.

The virtual disappearance of electri-

cal resistance in gold, silver, tin, mercury and some other metals at extremely low temperatures may raise hopes of practical application, but further research dashes them.

For twenty years metals and their alloys have been tested and superconductivity has not yet been found to occur at a temperature higher than 263 degrees below zero Centigrade. Such temperature is achieved in only a few laboratories. Prof. John F. Allen of the University of Toronto who investigated superconductivity believes:

"It is impossible to say what will happen or be discovered in the future, still it is fairly certain that no direct practical value at least for power transmission will ever come out of the phenomenon of superconductivity."

*Science News Letter, September 3, 1932*

## EUGENICS

## Larger Families May Again Become Fashionable

**L**ARGE FAMILIES may become fashionable again. A small but distinct tendency in that direction has been discovered among the abler people of the upper social and economic classes, Dr. J. Sanders, of Rotterdam, told the Third International Congress of Eugenics at its meeting in New York. If the war and the post-war period of economic hardships had not had such severe dysgenic effects, the tendency for more offspring among the more gifted would be more widespread, he believes.

Dr. Sanders addressed himself to the problem of taking advantage of this eugenic psychology, so that more as well as better children may be produced by those whose scientific, artistic or organizing abilities give promise of transmission to the next generation. The prime factor, he said, must be public opinion: people must be educated to feel that large families are right and desirable, and especially so among the more talented. This must be done not only by well-directed general propaganda, but must be carried on intensively in the universities, among those preparing for the professions.

In direct economic encouragements, by state grants or remittances of taxes, Dr. Sanders did not express such great confidence, although he believed they might accomplish some good, especially if such aids are directed toward the

special end of securing adequate educations for really gifted children. He made the much more radical suggestion, however, that the size of the individual inheritance of children in small families might be limited by law.

*Science News Letter, September 3, 1932*

## ZOOLOGY

## Two Weeks' Delay Precedes X-Ray Sterility In Mice

**X**-Rays, long known to cause sterility in male animals if applied in sufficiently heavy doses, yet give mice two weeks of grace before sterility sets in.

This has been determined by experiments performed at the University of Texas, and reported by Dr. George D. Snell before the meeting of the Sixth International Congress of Genetics.

After the mice had been X-rayed, he stated, two weeks elapsed before they became sterile; though litters which they sired during this time were reduced in size. And even after sterility set in, the sperms that were in the tubes leading away from their sex glands were still alive. Living reproductive cells were found still lurking in such mice seven weeks after they had been X-rayed. After that, some months elapsed before the sterile condition passed.

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## PUBLIC HEALTH

## Yellow Fever Certificates Recommended for Tropics

**T**RAVELLERS from countries where yellow fever exists, particularly those travelling by air, should have certificates based on blood serum tests showing that they have acquired resistance, or immunity, to the disease, Dr. B. J. Lloyd, assistant to the director of the Pan-American Sanitary Bureau, told the Conference of State and Provincial Health Authorities of North America.

Dr. Lloyd pointed out that yellow fever is still a menace to life and particularly to commerce in the Americas. He quoted a statement of Dr. F. F. Russell of the International Health Division of the Rockefeller Foundation to the effect that, because of the very rapid development of air travel, population centers which once had yellow fever but have now been freed of it are again threatened with reinfection with the disease unless persistent, continued effort is made to keep it within bounds.

Recent discoveries of a method of testing for immunity to yellow fever and of vaccinating against it make possible the certificate-method which Dr. Lloyd suggested. By this means it would be possible to tell definitely whether or not a person desiring to leave a yellow fever community would endanger the country to which he was going. If the test showed that he had immunity to the disease, that would mean either that he had had yellow fever or had been vaccinated against it. In either case, he would not introduce it into a yellow-fever-free country by developing it soon after his arrival.

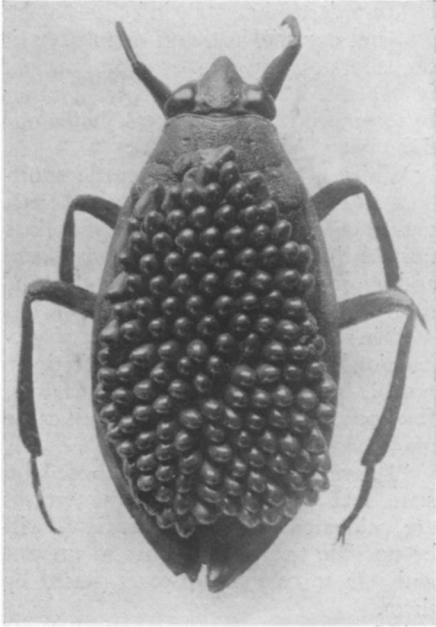
Dr. Lloyd recommended in addition that aerodromes in infectible territory be kept continuously and absolutely free from mosquitoes which carry yellow fever, and that fullest cooperation be maintained between nations, health authorities and transportation companies.

*Science News Letter, September 3, 1932*

## ENTOMOLOGY

## Male Water Bug Has Family Cares Thrust Upon Him

**A**FATHER, even a proud one, usually feels that he is being a bit put upon if he has to hold the baby. And if it's twins or more, he feels like a martyr indeed. But what would such a rebellious human male think if his wife were to treat him as the water-bug's



FATHER CARRIES BABIES

mate handles her husband? She is bigger and stronger and more masterful than he, and she has a habit of making him "hold the babies" to the extent of several score. And he can't get rid of the unwelcome burden until the eggs hatch.

The photograph is by Cornelia Clarke.  
*Science News Letter, September 3, 1932*

## ENGINEERING

## Engineers Plan Program Of Movie Standardization

**M**OTION pictures are to be standardized, not in drama and plot but in technological equipment and methods used in the industry, if recommendations made to the American Standards Association by the Society of Motion Picture Engineers are carried out.

Picturesque studio terms, such as "blimp," "zoom," "pan," "tilt," "wow," and "flutter" will be given definite meanings. Specifications for film, studio illumination, acoustic treatment, spot lights, cameras, recording equipment, re-recorders, printing equipment, laboratory processes, theater equipment, etc. will be compiled as a guide.

The making of talkies will be aided and made less expensive by such a program of standardization. When the project is approved by the American Standards Association, a committee of technologists representing all branches of the motion picture industry will be organized to work on the standards.

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## ECONOMICS

# Energy Survey Being Made By Jobless Technical Men

## Gigantic Study Covering North America For Past Century Considered Step Toward Depressionless Economic Life

**U**NLIKE a business run for profit, there are many different criteria for the success of a civilization. Successful living certainly can not be measured alone in dollars, shillings, francs, yens or talents of silver. Money is a commodity like wheat or iron.

At Columbia University there is in progress an "energy survey" of the North American continent which will be an important addition to the factual knowledge of the world in which Americans live. Three thousand charts are being constructed to trace the total energy required, the men employed, the man-hours worked, and the quantity of commodity produced year by year for the century ending 1930. Three thousand industrial and agricultural products are being surveyed. It is a gigantic task being pushed to completion with the aid of technically trained men which the economic disorder of our civilization has temporarily thrown out of regular jobs.

This will be a valuable supplement to weighted price indices and other financial figures that already exist. Such studies as these are steps toward a planned economic life of the nation in which a depression would be as inexcusable as the failure of a housewife to order the food for dinner. Planning on a national scale is manifestly a most complex problem impossible of solution unless full and current data are at hand.

### To Predict Human Needs

Science will play its part in future planning by furnishing methods for predicting human needs, as well as better and easier methods of fulfilling them. Some of the hardships of today are due to the inability of relationships among human beings and machines to keep up with the fertility of applied science.

Nowhere is a complete balance sheet of civilization needed more than in the difficult and basic adjustments of our economic structure in progress today. Attempts to treat the ills of depression without a complete picture of just what

is happening are as foolhardy as surgical operations performed in the dark.

The demand should be for more information and analysis before economic prescriptions are written. Then there will be less danger of killing the patient which is our body politic.

*Science News Letter, September 3, 1932*

## GENETICS

## Twins Reared Apart Develop Mental Differences

**I**DENTICAL twins separated in infancy and reared apart, as in Shakespeare's "Comedy of Errors," develop differences in mental traits that can be measured by appropriate tests. The summarized records of fifty pairs of such twins were presented before the Sixth International Congress of Genetics by Prof. H. H. Newman of the University of Chicago.

Prof. Newman subjected the fifty separated pairs to the Stanford-Binet intelligence test and the Stanford achievement test, and compared the records thus obtained with similar records from fifty pairs of identical twins who had been reared together, and also from fifty pairs of non-identical twins.

Prof. Newman concluded:

"Fraternal twins, which have half their heredity in common, differ twice as much as do identical twins, with all their heredity in common, when both are reared in the same environments. Identical twins reared in different environments differ twice as much as identical twins in like environments. Thus a 50 per cent. difference in heredity seems to have the same influence in producing differences as do the entire differences of environment in the cases studied. Hence, we may conclude that hereditary differences are about twice as responsible for the differences found as are environmental differences. This does not mean that heredity is twice as important as environment as a factor in development."

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