

## AERONAUTICS

**Akron, in Motion, Has Increase of Lifting Power**

**A**BOUT NINETY TONS will be the useful lift of the new airship *Akron*, hovering in the air with her engines cut off.

But turn on her eight Maybach power plants, send the ship speeding along at better than 60 miles per hour, and 20 tons will be added to her useful lift. She will now be able to carry 110 tons of men, munitions and fuel, instead of 90.

This strange ability of an airship to carry more while moving than at a standstill is called aerodynamic lift, Dr. Karl Arnstein, veteran airship builder and designer of the *Akron*, explained. Aerodynamic lift aided German Zeppelins in soaring above the clouds and bombarding England during the World War, it was stated by Dr. Arnstein, who built 68 airships for Germany during the war.

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## ENTOMOLOGY

**Bugs from India Destroy Homes of Poisonous Snakes**

**C**OCHINEAL bugs are used to destroy cactus clumps that harbor dangerous snakes in southern India. The bugs were imported by C. T. Jacob, as an experiment.

Two months or more after the insect had been set to work, the cactus plant begins to show the effects, and puts on heroic efforts to bear fruit. But it collapses instead. After that, Mr. Jacob noted that the insects breed mostly males with wings. Female cochineal has no wings. The insect, too, shows very safe tastes. Grass and weeds that spring up immediately where the cactus dies are untouched by the insect pest.

Cactus and cochineal both are native to America, probably to Mexico, for there more species of the plant are found than in any other place. Before the Spanish conquest of the New World the Aztecs of Mexico raised cochineal on cactus for dyes. The natives still use it in places today. The Spaniards took it to the Canary Islands, and ran a very profitable business there, until the Germans discovered aniline dyes in modern times. Other countries had imported the cactus too, for the same reason, but in some cases with disastrous results.

In Europe cactus did no harm, but in Australia it has infested great grazing

areas, and in South Africa too it is becoming a problem. The fact is conditions were too ideal for its propagation. The natural enemies of the genus did not exist in Australia and other places as they existed in America. In Mexico, land of the cactus, it has reached a nice biological balance with its natural enemies.

One of these enemies is the cochineal bug. The species *Dactylopius tomentosus* is the one that has now been imported into South India. The cactus that it fights there is the *Opuntia dillenii*, which forms the lair of dangerous snakes.

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## PSYCHOLOGY

**Parents Responsible For Bright Child's Failure**

**I**N GIVING mental tests to children sent to the Bureau of Children's Guidance because of failure and difficult behavior in school, psychologists there made the interesting discovery that a large number of these backward children were "intellectually supernormal."

Dr. Jeanette Regensburg, a member of the staff of the Bureau, undertook a special study of these children in order to find out what would cause such very bright children to fail so conspicuously in the very type of work where they might be expected to shine. A report of her findings is soon to be published in the scientific journal *Archives of Psychology*.

The fault was found to lie often with the parents, and the chief hindrance to success was in a desire "to keep my baby a child as long as I can." A love for books and excessive reading did not lead to high grades in school for these bright children. In fact, the chances for school success were better with those who had been encouraged by the parents to give up books in favor of a more active chumming with "the gang."

The grades of bright children most often began to fall off at the time they entered junior or senior high school. This, Dr. Regensburg believed, was because the school work and outside study is conducted in a more grown-up way in high school; there is less supervision and check-up. Because the bright child is often advanced until he is in a grade with others who are much older, he is often not mature enough to assume responsibility as well as the rest of his class.

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**IN SCIENCE**

## ZOOLOGY

**Growing in Close Quarters May Change Sex of Oyster**

**A**MONG oysters, the female of the species is larger than the male.

Not only that; she was a he before he turned into a she.

The tangled tale of sex and size in the bivalve world has been worked out by M. D. Burkenroad of the Louisiana State Department of Conservation and is reported in *Science*.

Mr. Burkenroad examined and measured a thousand oysters, taken at random. He found that almost all of them less than about one and a half inches long were males, and those that were longer were females.

However, further observations showed that it wasn't all a mere matter of size. Crowding also seems to influence oyster sex. Oysters above the minimum "female" size grown close together had a considerable proportion of males.

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## METEOROLOGY

**Weather Study Precedes Location of Air Terminal**

**W**ITH the *Akron* soon ready to give more definite test to the practicability of trans-Atlantic air travel, the vicinities of Richmond, Washington, and Baltimore are under consideration as the location of a possible terminal for such commerce. Philadelphia has also been included in the group as being the most northerly point in the suitable area.

The locality of these four cities was recommended by Ward T. Van Orman, of the Goodyear-Zeppelin Corporation, builders of the *Akron*, after a thorough investigation of weather conditions along the Atlantic seaboard. The United States Weather Bureau cooperated in obtaining for him the necessary climatological and meteorological data. At present, devices to measure wind speed and direction have been erected at these cities and the resulting records will determine largely which one is to have the new air harbor.

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# E FIELDS

## DEMOGRAPHY

### Religion and Life Length Apparently Correlated

**M**EMBERS of certain denominations should be better risks for the life insurance companies than are those who go to other churches, it is indicated by a report received by the American Genetic Association from Dr. Roland M. Harper, well-known Southern botanist and demographer.

In an effort to find out whether longevity is inherited or dependent upon other factors, Dr. Harper has gone through the cemeteries of different religious denominations and made records of the ages and dates of death as given on the tombstones. Tallahassee, Florida, was one of the cities studied.

It was found that the average age of those buried in the cemetery of the most aristocratic church in the city was considerably higher than those in other cemeteries. Even when only adults are considered—for the families in the aristocratic church have fewer children—the average age attained is greater than in other denominations.

In Jacksonville, Florida, one denomination has a cemetery divided by a wire fence into two parts, one side apparently being for orthodox and the other for reformed persons. The average length of life was about ten years greater on one side of the fence than on the other.

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## ANTHROPOLOGY

### Negroes, Formerly Slaves, Living in Soviet Russia

**N**EGROES, brought as captives and sold as slaves into a region that once supplied the fairest of white captives for the harems of Oriental potentates, are the singular discovery that has been made by a European anthropologist, Prof. B. Adler, now working in the U. S. S. R.

Recently he visited the Caucasian district of Abchasia and found there small colonies of Negroes, living quietly by themselves and keeping their blood relatively unmixed, in spite of encouragement recently received from Soviet of-

ficials to intermarry with the surrounding white population.

By following all local sources of information Prof. Adler obtained something of their history. At the beginning of the nineteenth century Mingrelian, Circassian and Abchasian chieftains used to raid Abchasia and sell their captives as slaves in Turkey, Egypt, Algiers and elsewhere in the East; frequently they exchanged them for Negro slaves. In this manner, at various times several hundred negroes came to Abchasia and their descendants are living there today in various villages, in each of which some negro families are to be found.

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## PSYCHOLOGY

### Learning Stages Similar For Both Man and Monkey

**I**F YOU were placed in a maze of passages without instructions, and your exit depended upon your catching on to the combination—two turns to the right, two to the left, two to the right and two to the left—could you make it? How many wrong turns would you make before you learned the system? How long would it take? Would nine-year-old Johnny get ahead of you on it? Could you show your superiority to monkeys?

At the psychological laboratories of Clark University adults and children were allowed to display their skill with this kind of unexpected problem in an experiment conducted under the direction of Dr. Walter S. Hunter by Louis W. Gellerman.

The maze was built of wall-board with inside partitions of the same material. The passages could be closed by doors operated by the unseen scientist on the outside. When the person tested took the correct turn he would find the door open, but it would close and lock after him. A wrong turning would bring one up against a locked door. No hint of what was coming was given the persons tested—they were merely asked whether they wouldn't like "to go in there and look around." Once in, they were locked in until they had solved the "combination."

Fortunately for man's pride, he did do better than the monkeys, though he went through similar stages of learning. At first he went through a "random" stage when he made many useless moves. Then he would begin to work out a system, finally taking the correct turns, hesitating only at points.

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## ENGINEERING

### Huge Generators Yield Beauty to Photographer

See Front Cover

**T**HROBBING electric generators, the machines which are the heart of the great system supplying light and power to more than 120 millions, are odd and beautiful subjects for the talented photographer. In the picture on the cover, Rittase of Philadelphia, has caught the spirit of one of the largest hydro-electric generators.

It is one of the seven 54,000 horse-power units of the Conowingo plant on the Susquehanna river in Maryland. This plant supplies a large share of the industrial load of the Philadelphia district and is so designed that its 378,000 horse-power of installed capacity can be increased at the demand of the market.

As large as they are, these generators are not a part of the biggest hydro-electric units in the world. Niagara Falls has such machines of 90,000 horse-power capacity and the Dnieprostroy project now being completed on the Dnieper river in the U. S. S. R. will contain 100,000 horse-power units.

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## ARCHAEOLOGY

### Fishing Tackle Outfit of Prehistoric Indian Found

**F**ISHING tackle belonging to some prehistoric Indian of the California coast has been discovered by Richard Van Valkenburgh, of the Los Angeles Museum, at an Indian village site near Redondo Beach.

Abalone and mussel shells were the favorite material for making fish-hooks in this region. Judging by the amount of fish bones found in the camp debris, the fisherman were highly successful with their shell hooks.

The fishing outfit which has been unearthed consists of a stone drill, shell blanks, and a partially completed hook.

To make a hook, the fisherman first broke a rough, oval piece of shell from a fresh abalone. This was ground down on a sandstone slab to a pear shape. Then a hole was drilled in the center of the blank shell and enlarged until only a rim was left. Then a cut was made in one side of the rim to create a rounded, incurving hook. The place where the line was to be attached was flattened at the top. To hold the line in place, it was cemented to the shell with tar.

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