

squash-bugs, box-elder bugs, giant water-bugs and the cicadas, often mis-termed "locusts," that shrill interminably in the summer trees.

Spiders, centipedes, "thousand-leggers," scorpions, ticks and a number of other frequently rather disagreeable creeping things are lumped together in a rather miscellaneous class called arachnids. All of them differ from the insects in having more than six legs (spiders, with eight, have the fewest), and in not having a head distinct from the thorax or chest, as in insects.

There is one all-inclusive word for this whole array, insects, arachnids, crustacea, and all. It is "arthropods"—Greek for "jointed legs." But the word is itself many-jointed, somewhat harsh-sounding, and a bit professorial in appearance. So it has never found its way into common speech. So we continue to say "insect" or "bug" when we mean arthropod—to the sustained distress of entomological purists.

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#### MEDICINE

### Thyroxine Replaced In Treatment of Gland

**A** NEW chemical preparation that can be used instead of thyroid extract for the treatment of one type of thyroid gland disorder is reported by Dr. A. B. Anderson of University College Hospital, Prof. C. H. Harington of London University and Prof. D. M. Lyon of Edinburgh University in *The Lancet*.

The new preparation has the scientific name 3-5-diiodothyronine. It has been used successfully in the treatment of myxedema, a condition due to underactivity of the thyroid gland characterized by dropsy-like swelling especially of the face and hands, dulling of mental activity, drying and wrinkling of the skin, falling hair and general sluggishness.

Daily doses of the new medicine relieve the symptoms of this disease without producing any ill effects. It is given by mouth and produces results comparable to injections of thyroxine, the thyroid gland preparation generally used to treat this condition.

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Snake charmers have no supernatural powers, says a zoologist; they simply understand the psychology of the poisonous snakes.

#### ASTRONOMY

## Aluminum-Coated Mirrors New Aid to Astronomy

**S**TARS THAT are hotter and brighter than science ever conceived, which make our own sun-star look like a candle beside a powerful beacon, have been "captured" in the aluminum mirrors of the Boothroyd expedition, just returned to Cornell University from a mountain peak in Arizona.

For the first time, the ultraviolet spectra of about 80 stars have been photographed, opening up an entire new field to astronomers in the study of stellar matter and stellar temperatures.

This feat was accomplished as the result of a new process developed by two young Cornell physicists, by which chromium and aluminum can be deposited on glass. The silver-coated mirrors hitherto used in reflecting telescopes have been able to capture the spectrum only as far as the yellow-green region, and were unable to catch the high wavelength of the violet emanations, which tell more than anything else about the temperature and condition of the stars.

Prof. S. L. Boothroyd, head of the Cornell Astronomy Department, who organized the expedition to Arizona to

put the new invention to practical test, reported on his return that not only did their spectrograms confirm previous ideas on the hotness of certain stars, but indicated that some of the so-called "dim" stars are in reality brighter, photographically, than those hitherto considered the brightest.

These tremendously hot stellar bodies are called "blue stars," as contrasted with red and yellow stars. They are dim, if not wholly invisible, to the human eye, because their ultraviolet rays escape the eyesight. The aluminum-coated mirror, however, proved much more effective than the human eye.

The Cornell scientists were given cooperation by the Lowell Observatory at Flagstaff, Ariz., and made use of the observatory's mountain station, 11,500 feet above sea level on Schultze Peak, some ten miles north of Flagstaff. This location was chosen because of the clearness of the atmosphere and the comparative absence of dust, which absorbs much of the ultraviolet spectrum at lower levels.

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### Fog Loses Its Peril To Aviation

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his satisfaction with the new aids to aeronautic navigation and said that it was the greatest single achievement in recent aviation history. With the research work being carried forward by the Bureau of Standards, engineers predict that airplane schedules will become increasingly regular and that bad weather will no longer be a reason for delay.

This group of workers has struggled with these problems and has put up a winning fight against Nature's perverseness. Leading them in this battle is Dr. J. H. Dellinger, chief of the radio section of the Bureau of Standards. His principal collaborators have been Harry Diamond and F. W. Dunmore, research scientists at the Bureau. James L. Kinney, the Department of Commerce pilot assigned to this development, succeeded Marshall H. Boggs who was killed in an accident while temporarily assigned

to other duties on the West coast. Colonel Clarence M. Young, Assistant Secretary of Commerce for Aeronautics, was the government director of this work under the Hoover administration, and is succeeded by E. L. Mitchell, who will carry on the plans for its coming commercial use. Research will continue, on a lesser scale due to the economy cuts, under the direction of Major J. C. Cone, Assistant Director for Aeronautic Development of the Aeronautics Branch of the Department of Commerce, Dr. L. J. Briggs, Director of the Bureau of Standards, and Dr. Dellinger.

At present the blind landing apparatus is installed only at College Park and at Newark but engineers feel that it is only a matter of time before it will spread over the airways just as the earliest light beacons have done. Then the mail will go through regardless of weather.

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