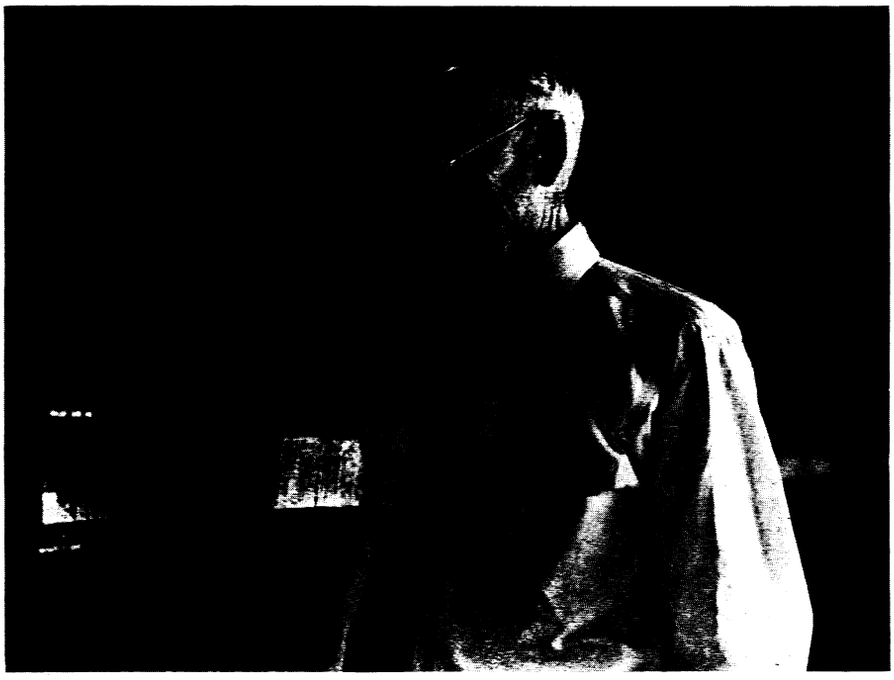

11 TO 1937

Dr. A. E. Douglass, University of Arizona's noted astronomer, has reason to smile at his tree ring calendar, which stretches way down the wall to the right. After 36 years, he has obtained a continuous record of annual growth rings in Arizona pine trees from 11 A. D. to 1937. Evidence of weather cycles related to solar phenomena, revealed in the rings, should lead to long range weather prediction, he believes. Archaeologists use the tree ring calendar to establish dates for prehistoric Indian ruins—the earliest so far dated 348 A. D.

ENTOMOLOGY

Aerial Attacks By Hoppers Bring War Into New Areas

By WATSON DAVIS
Director of Science Service

DANGEROUS aerial attacks by flying grasshoppers are predicted for middle western states about now. (July 25). Out of the skies are likely to come great hordes of this insect pest, now in its flying or aviation phase, traveling with favorable winds hundreds of miles in a single day. This is likely to bring the grasshopper war into fields of farmers who thought they were safely remote from the battle front they had heard about miles away.

Despite this new phase of science's battle against the plagueful hoppers, Dr. W. R. Walton, senior entomologist of the U. S. Department of Agriculture's bureau of entomology, is feeling fairly well pleased with the defense being waged against these insects. As he checks his insect war plans, consisting of tables showing allotments of poison purchased with the million dollars appropriated this spring by Congress, he finds that the most serious foe is aligned from Arizona to the Canadian border.

This kind of grasshopper—locusts to the entomologist—is the lesser migratory locust, technically known as Melanoplus mexicanus. Some entomologists think it is an evolution of the old Rocky Mountain locust of years ago. The present variety is very much the same except that its wings are shorter.

This pest is just now getting to be grown-up and with this adulthood comes its dangerous ability to fly.

Front line reports from Dr. J. R. Parker, Uncle Sam's representative in the Colorado grasshopper war area, bring Dr. Walton the pleasing news that the strenuous poison warfare against that infestation of another and larger kind of hopper is proving successful. Enough arsenic poisoned bran and sawdust has been mixed and spread to secure very good control in that general locality—which is justification of the strenuous fight whose beginnings I saw in the field several weeks ago. (See SNL, July 10.)

Just now the bottom of the war chest of a million dollars is being scraped to keep poison flowing to the fighters in the field and there is hope that Congress will further implement the grasshopper war with an additional appropriation of $500,000 to $1,000,000. The U.S.D.A. original estimate of $2,000,000 needed for this year's war was halved by Congress when it appropriated this spring.

This money is spent for poison, sodium arsenite, which states and counties mix with sawdust and bran and spread thinly as bait in the path of the hoppers. Millions are killed in this way.

Grasshoppers are rated among the most destructive of insect pests, not only in America but throughout the world. They strip bare the fields upon which they light and they are partial to the juicy corn that is now swelling to bumper proportions in the fertile fields of our agricultural midwest. One peculiarity has the bug-hunters puzzled. The grasshopper does not like sorghum, although it is a near relative to corn. He will pass up a field of it and devastate all other crops nearby.

Science News Letter, July 24, 1937

ETHNOLOGY

Basque May Have Been Language of All Spain

BASQUES have figured prominently in the news of late, especially in their protracted defence of Bilbao and in the stubborn resistance they continue to offer the insurgent forces. The very fact that their unique language seems to set them apart from all the rest of the world casts glamor over their wars.

The Basques themselves have always insisted that their language marked them as a race apart from all other inhabitants of Spain. But a writer in the quarterly journal *Thought,* Dr. Owen B. McGuire, is not so sure about that.

Indeed, Dr. McGuire, who has had a seventeen-year resident in pre-revolutionary Spain says:

"Who the Basques are and where they originally came from is a problem 'in a state of well-ascertained and scientific ignorance.' But that is true of all the people of Spain."

The Basques themselves do not like the suggestion that in ancient times their language covered the whole Iberian peninsula, but due to recent research by a noted German scholar, Dr. W. H. Schuchardt, "it is today considered the most probable solution of the problem."

Dr. McGuire upsets some rather widely accepted ideas about the Basques. They are not a unified people, he points out, and they never were. They have always been more interested in preserving a whole host of small local autonomies than they have in a large nationalism, either of all Spain or even of their own racio-linguistic group.

Nor are they proudly self-conscious of their language. Less than half the persons in the Basque provinces know Basque, and a great many of them do not habitually use it. The most popular Basque newspapers are published in Spanish. In brief, the situation is not unlike that in Ireland, where the native language has been "revived" by rather artificial means.

Science News Letter, July 24, 1937

ASTRONOMY

Finsler's Comet Will Grow In Brightness For Next Month

Can Now Be Seen Without Optical Aid; With Pair of Binoculars, Small Tail Might Be Observed

FINSLER'S comet, found by a Swiss astronomer on July 4, has now reached naked eye brilliance in the northern sky, and by mid-August will be as bright as Megrez, the star in the Big Dipper where the handle joins the bowl. At that time it will be passing above the dipper and through the stars of the handle.

Just now the comet is in Perseus, a constellation which can be seen low in the northeast, under the W-shaped group of Cassiopeia, about midnight. It is just bright enough to be seen as a fuzzy spot of light without optical aid if the sky is very clear and free from smoke and glare. A small tail has been observed by astronomers, and this might be seen with a pair of binoculars, which will help in locating the object. Its distance is about 110,000,000 miles, but in August it will be less than half as far away. As it approaches, the tail will increase in prominence. About August 15 it will be nearest the sun, at a distance of about 79,000,000 miles.

Curiously, it was just a year ago that Peltier's comet shone in the evening sky, the first to be seen easily without a telescope since 1910. Finsler's is better placed for viewing, however, for last summer the moon was full at the time the comet was brightest, thus spoiling the spectacle to a large extent. Next month the moon will not appear prominently until about the tenth, and it will not be full until the 21st, by which time the comet, near Arcturus, and high in the western sky, will have begun to diminish in brilliance.

Science News Letter, July 24, 1937

ASTRONOMY

Legend of Seven Pleiades Gets Astronomical Support

SCIENTIFIC corroboration of a world-wide legend, rooted in ancient mythology, that once the six resplendent star "sisters" of the Pleiades numbered seven, was offered by Dr. William A. Calder, of Harvard Observatory.

The star "Pleione," identified by astronomers as "Number Seven" of this group, has been suspected in the past as the mysteriously disappeared sister, and careful comparative measurements of stellar magnitudes in this region by Dr. Calder tend to confirm this suggestion, it was reported.

Pleione was observed to diminish in light about a sixth of a magnitude in a slow continuing decline during the winters of 1935-36-37, Dr. Calder says. Before this investigation, slight changes in the brightness of certain members of the group had been suspected but seldom proved.

In this study, Harvard cameras utilized a potassium-hydride photo-electric cell, permitting very exact detection of slow or minute variations in the star light. In all, the relative brightness of twenty-five of the most conspicuous stars in the Pleiades region were observed during the three winters of the survey.

Dr. Calder's report included a reminder, which he did not elaborate, that the spectrum of Pleione formerly had emission lines and resembled that of P Cygni, a star that was at one time a nova. In recent years, he said, the bright lines of Pleione have disappeared.

"That some change has taken place in the Pleiades is borne out by tradition," Dr. Calder said. "Almost all nations of the earth have legends about the 'seven who are now six.' The surprising universality of this impression is difficult to explain unless a now diminished seventh Pleiad formerly was conspicuous."

Six Pleiades are normally visible to the unaided eye, but under exceptional conditions double this number have been noted. Telescopes reveal a population here of several hundred stars which for the most part are members of a physically related aggregation, as is shown by a general unanimity of motion.

Science News Letter, July 24, 1937

RADIO

Paris To Have Powerful Television Transmitter

THE WORLD'S most powerful television transmitter is now in limited service at the Paris Exposition, reports the U. S. Bureau of Foreign and Domestic Commerce.

By fall the peak power of 30,000 watts is expected to be available. Transmission of television pictures from the Eiffel Tower antenna will give a definition of 405 lines to the picture.

Recent demonstrations of television in America have shown a definition of 441 lines to the picture but the power of transmission has been less than the 30 kilowatt effort of the French.

Science News Letter, July 24, 1937

London's famous clock Big Ben was in error by as much as a second on only five days during the past year, says a report of the Astronomer Royal.