

side and have a bit of room left over.

The spots are huge tornadoes in the sun's atmosphere. Actually they are brighter and hotter than an electric arc, but appear dark by contrast with the hotter and brighter surrounding regions. (The vertical line is a plumb line photographed on the plate to help orient it.)

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ASTRONOMY

## Great Solar Activity Taxes Code for Reports

**S**O NUMEROUS have sunspots become in the latest bursts of solar activity that the scientists' own radio code, by which far-flung observatories throughout the world communicate with one another, has become ineffectual.

The code of the International Scientific Radio Union, whose code name is URSI and whose messages are called ursigrams, has space for telling the number of sunspots up to 99. Seldom is this number exceeded in any day's observation. But in recent weeks, however, messages have been coming through marked 40 add 100 or 20 add 200, as examples, which mean 140 spots and 220 spots respectively. Peak number was on February 1, when 370 sunspots were observed.

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ASTRONOMY

## Sun's Surface Is Stormy At Times of Total Eclipse

**G**REAT storms sweep the sun's surface at the time of a total eclipse, declared Dr. S. A. Mitchell, director of the Leander McCormick Observatory of the University of Virginia, in a lecture given under the auspices of the Smithsonian Institution.

Evidences of extreme solar activity have been obtained from photographs made during recent total eclipses, especially as shown by the coronal streamers and the lower but more intense flaming outbursts known as prominences. A comparison of all these photographs, said Dr. Mitchell, shows that the great activity of the sun was found not only at eclipse time but persisted throughout the whole period of four days covered by the plates.

Despite all the study that has been lavished on the corona, the great extension of pearly light around the sun visible only during a total eclipse, scientists are still in considerable doubt as to its real nature. That its great

domes and streamers are in some way linked with the flaming prominences of the sun's body itself was suggested long ago, but the nature of the connection is still obscure. Photographs taken during one recent eclipse "demonstrate the fact that the longest coronal streamers, on which the shape of the corona more or less depends, are always located near prominences but are not necessarily exactly connected with the prominences which at the time of the eclipse are of the greatest height."

Astronomers' inability to answer all questions about solar phenomena observable during an eclipse should not be held too hard against them, Dr. Mitchell indicated. If there were now living any one astronomer old enough to have started his work in 1842, when really scientific eclipse observations be-

gan, and if he had "taken in" all total eclipses since that date, with the average amount of bad luck with the weather, he would in that near-century have had only about one hour's observation-time of the totally eclipsed sun.

Typical of the sun's unsolved mysteries on which data obtained with total eclipse observations provide only the merest hint, is the nature of the dark lines which appear in the spectrum of the light from the outer corona. Whether such observed dark lines really are coronal in origin or whether they are produced by the scattering of sunlight in the earth's atmosphere is still uncertain. Probably they originate, indeed, in the corona but the present evidence is not wholly conclusive, said Dr. Mitchell.

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ARCHAEOLOGY

# Connecticut Yankee Steps Into Ancient Literary World

## Young Scholar Learns To Read Rare Mayan Works That Escaped the Flames of the Spanish Conquerors

**A** CONNECTICUT Yankee is stepping across the centuries, not into King Arthur's court but into the literary world of the Mayan civilization.

He is having the thrill of reading slowly—but very surely, as he believes—words in Mayan books that were last read and understood by Mayan Indian scholars in their temple libraries in Yucatan, centuries ago.

For one thing, he has learned to tell the words from the pictures, and that is no simple thing in a kind of writing that has often been called picture writing. On the brightly colored pages of a Mayan book, it appears, you can find our own popular modern method of telling a story by pictures and captions.

At the annual meeting of the American Anthropological Association, this young man from Wethersfield, Conn., Benjamin Lee Whorf, surprised his fellow research workers by reading off sentences from two of the famous Mayan books. Various scholars have attempted to read these books. Mr. Whorf's interpretation of the ancient text is entirely different from anything that any one had heretofore found on the Mayan pages. To account for his

reading, he carefully analyzed his method of deciphering no less than 41 Mayan words.

Study of ancient languages began as a hobby with Mr. Whorf, and he has gradually become more and more engrossed in America's own prize puzzle,



**BENJAMIN LEE WHORF**

*He says: "Mayan writing is phonetic."*