



**MOUNTAIN MEASURING**—Jack Lyon and Toivo J. Nelson (left to right), U. S. Geological Survey engineers, sight on ice-clad Mount Rainier while a Bell Aircraft Corporation helicopter flies by. The helicopter, piloted by William Quinlan of Bell, carried two engineers and nearly 200 pounds of instruments and equipment to the top of the 14,410-foot summit to assist the survey project.

## GEOGRAPHY

## Mount Rainier Measured

► MOUNT RAINIER is only two feet higher than previously recorded.

The new official altitude for the northwestern volcanic cone is 14,410 feet above sea level, a measurement just made by scientists of the U. S. Geological Survey. The previously accepted height of 14,408 feet was found by the Survey in 1913.

In June, 1955, a final resurvey of Mount Rainier in Colorado showed that it was actually 21 feet higher than had been recorded. At that time, Mount Rainier was listed as the fourth highest mountain in continental United States. However, with Mount Harvard recorded at the new height of 14,420 feet, it became the third highest and 14,418-foot Mount Massive, also in Colorado, dropped to fourth, dropping Mount Rainier to fifth.

Mount Whitney in Sequoia National Park, California, at 14,495 is the highest, and 14,431-foot Mount Elbert in Colorado, second highest.

A helicopter, Bell Model 47-G-2, supplied by the manufacturer, transported a crew of four men to the summit of the mountain from the vicinity of Paradise Valley. It has a higher ceiling than earlier helicopters.

Surveying was done by triangulating from three points already accurately located in the area north of the mountain: Spar Tree, O'Farrell Lookout and Sun Top Lookout.

Work on the crest of the mountain was directed by Charles R. Lloyd and Toivo J. Nelson, veteran geodetic engineers of the Geological Survey.

They were assisted by photographer William Kirscher of the Survey, and William J. Butler, assistant chief ranger of the National Park Service. The pilot was William Quinlan of Bell Aircraft Corporation. Preston Macy, superintendent, Mount Rainier National Park, and Robert O. Davis, region engineer, Geological Survey, were in general charge.

Prior to the 1913 survey that set the elevation at 14,408 feet, the height of the summit had been determined no less than three times.

S. S. Gannett of the Geological Survey determined the altitude by angulation from the Cascades in 1895 as 14,532 feet. G. E. Hyde of the Geological Survey took about 40 angles from various points in the Cascades to the northeast with distances averaging about 25 miles. The altitude determined was 14,519 feet.

The U.S. Coast and Geodetic Survey determined the height by angulation from the west at long distances and obtained an altitude of 14,440 feet. The average of these elevations, 14,490 feet, is considerably above the newly measured elevation.

Science News Letter, September 1, 1956

## PSYCHOLOGY

## Meaning of Wound Determines Its Pain

► HOW MUCH a wound hurts depends a lot on its meaning to the victim.

War wounds are likely to hurt much less than the "surgical wounds" of civilian patients after operations, although the war wounds may be more extensive and serious.

The reason: The men wounded in war see their wounds as "good fortune" because they are the means of deliverance from an area of "desperate anxiety." Civilians, on the other hand, see their surgical operations as "depressing, calamitous events."

This explanation of the difference in the hurt of war wounds and civilian surgical wounds is reported by Dr. Henry K. Beecher of Harvard Medical School in the *Journal of the American Medical Association* (Aug. 25).

It is based on two surveys, one among 150 men wounded at the Anzio beachhead during World War II and the other among 150 civilians undergoing various types of surgery.

Among the war wounded only 32% wanted a pain reliever a few hours after the injury, while 83% of the surgical patients did.

Not all injured persons need to be given pain-killing drugs, it appears from these findings. A considerable number, Dr. Beecher said, may be helped simply by "alterations of mood," such as relief of anxiety.

The findings also suggest that experiments in testing pain-killing drugs may be limited in usefulness, since experimental pain carries with it little anxiety.

Science News Letter, September 1, 1956

## AGRICULTURE

## Time and Energy Studies Increase Farm Efficiency

► TIME AND ENERGY studies now being made on farms are the newest approach to the problems of farm efficiency.

The studies resemble time and motion studies in industry. The results show what methods are easier on the laborer and the difference in effort between the various ways of doing jobs.

For instance, a time and motion study of tobacco priming shows that the present accepted rate of priming, 130 leaves per minute, can easily be surpassed, but an energy analysis of the same task shows that efficiency quickly decreases when operational speeds are above this level.

Energy output can be measured by the performance of certain body functions, such as the rate of heartbeat.

The advantages of time and energy studies on farms were described by two North Carolina State College researchers, C. W. Suggs and W. E. Splinter, speaking at a meeting of the American Society of Agricultural Engineers in Roanoke, Va.

Science News Letter, September 1, 1956