

ANTHROPOLOGY

Neanderthal Found in Iraq

A recent Smithsonian Institution expedition provides scientists with important information on what one early man looked like and how he lived.

See Front Cover

► THE CAUSE of a death that occurred some 60,000 years ago is revealed by Dr. Ralph S. Solecki of the Smithsonian Institution, recently returned from the Near East. The victim was a Neanderthal man, extinct "uncle" of modern man.

It was a rockfall in a cave in Iraq, probably caused by an earthquake, that killed the primitive man. His bones, terribly crushed by the falling rock, were found by Dr. Solecki at a depth of 23 feet below the floor of Shanidar Cave in the Zagros Mountains of northern Iraq. (See SNL, July 25, 1953, p. 56.)

Above this skeleton, at a depth of 14.5 feet, lay another skeleton possibly 45,000 years old. Its skull appears in the cover photograph.

Both skeletons were well-preserved by the soil of the cave and were not fossilized. They were identified as Neanderthal men of the type known to anthropologists as "conservative," similar to the type found in La Chapelle-aux-Saints, France.

The upper, or more recent, skeleton was

of a person who must have been about five feet, three inches tall. He was beetle-browed with sloping forehead and protruding teeth. Two of his front teeth had been knocked out during his lifetime. The falling rocks that killed him cut off his feet, all but cut off his head, crushed his chest and bashed in the vault of his skull.

The skull of this Shanidar man, shown on the cover of this week's SCIENCE NEWS LETTER, has one very apparent difference when compared with that of the Neanderthal man found in France. The brow ridge is broken between the eyes instead of being carried across above the eyes in a continuous bulge or "torus."

Although not members of the *Homo sapiens* race to which modern man belongs, these ancient people used tools and fire. Primitive tools of chipped stone and the remains of hearth fires were found with their bones.

In spite of their antiquity, the skeletons are of particular interest to anthropologists because of their youth, not their age. This is because some 600 miles away at Mount Carmel in Palestine, Neanderthal bones have been found that are much more like

modern man. Yet the Mount Carmel men are believed to antedate Shanidar men.

On the same expedition, Dr. Solecki's party explored a New Stone Age village site that dates from the same time as the long occupancy of Shanidar Cave. The stone foundation remains they uncovered indicate some kind of rude architecture, one of the earliest found in Mesopotamia. The site is older than the village of Jarmo in Kurdistan, excavated by a University of Chicago expedition in 1948.

Members of the Smithsonian expedition led by Dr. Solecki included his wife, Dr. Rose L. Solecki, and Dr. Philip Smith of Peabody Museum, Harvard University; and George Maranjian of Arabian American Oil Co. in Saudi Arabia.

Science News Letter, October 12, 1957

AERONAUTICS

First Automatic Computer Controls Air Traffic

► AUTOMATIC CONTROL of most airplane flights—commercial, military and private—is scheduled for completion within four years. It will make air trips both safer and speedier.

The first automatic computer, scheduled to be standard equipment for all Civil Aeronautics Administration control centers, is now in operation at Indianapolis, Ind. It regulates air traffic in the fourth busiest center in the country, an area 400 miles long and 250 miles wide in the nation's midsection.

The computing machine does in 20 seconds calculations what would take a man about four minutes. Added to the time saved is the elimination of human errors.

Automation applied to aircraft flights does not mean, however, that control tower operators will be out of jobs. On the contrary, they will be able to concentrate their full attention on safety measures. Now they must spend fully 50% of their time on the routine daily processing that will be taken over by machines.

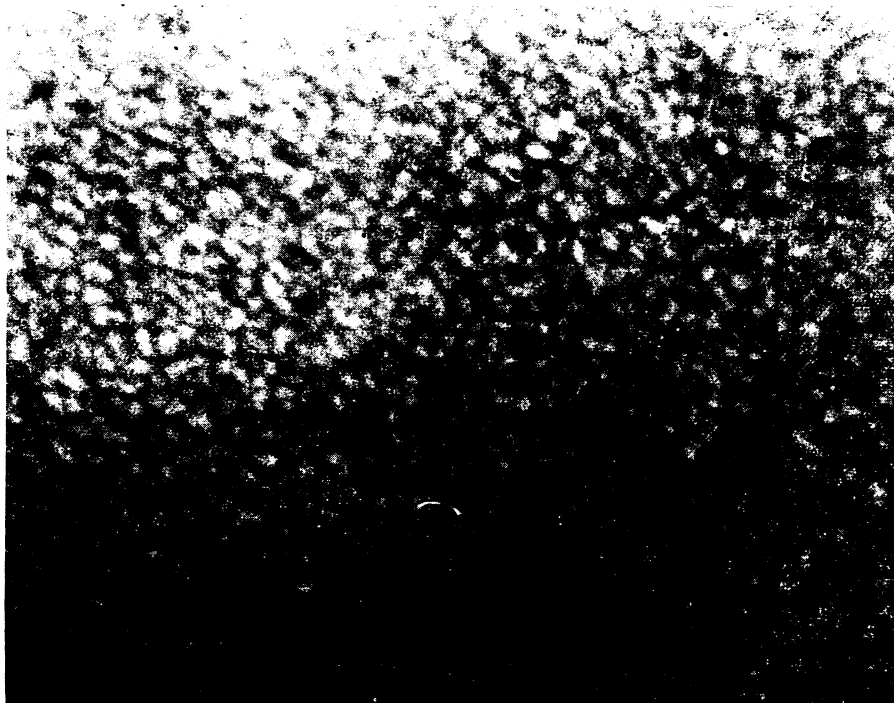
Using computers is only the first step in the CAA's plan to increase the safety and speed of aircraft flights. The system was pioneered by the CAA's Technical Development Center in Indianapolis, which is under the direction of D. M. Stuart.

The next step is to feed information on all flights passing over more than one center directly from one control computer to the next one. This would reduce manual operation from the present 100% to five-sixths percent.

This would be followed by installation of a device known as "Fliden," short for Flight Data Entry Device, which allows the direct input into the computer of flight data reported by a pilot to an outlying station.

Scheduled next is the addition of an automatic display and a controller's input device. Equipment to do both of these jobs is now being tested at the Technical Development Center. When incorporated into the planned flight control system, all but 17% of the present manual steps will be done automatically.

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TURBULENT SUN — This sun photograph taken at 81,000 feet by the stratoscope solar telescope camera shows the variation in brightness of the eddies on the sun's surface. These eddies are caused by turbulent motion and differ in temperature by many hundreds of degrees. The hotter eddies are brighter, the cooler ones are darker. The photograph was taken at $f/200$, at a speed of one-thousandth of a second. (See SNL, Oct. 5, p. 213.) White streaks and black spots are imperfections in the negative.