



ANCIENT TOOLS

At the left is a chopper used by an American who lived even before the Folsom Man. At the right is a spear head of Folsom make showing the groove characteristic of their workmanship.

ANTHROPOLOGY

15,000-Year-Old Stone Tools Reveal Dawn Men of America

**In California Have Been Discovered Crude Traces
Of Pioneers Who Lived Before Famous Folsom Man**

DISCOVERY of strong evidence that America had two prehistoric waves of pioneers before the famous Folsom hunters arrived on our shores is reported by the Southwest Museum.

The discovery is pronounced "of major importance to American archaeology." It is as surprising an addition to our prehistory as though it had been found that two boats earlier than the Mayflower bore colonists to New England shores in our historic era.

A joint expedition of Carnegie Institution of Washington and Southwest Museum, led by M. R. Harrington of the latter institution, unearthed stone relics of the long-departed and long-lost Americans. Investigating the shore of a brackish pond in Lake County, California, where C. C. Post of Berkeley had found spearheads of one of the oldest known cultures of America, the archaeologists

found brand new chapters of prehistory opening before them.

The surface layer, turned topsy-turvy by recent ploughing, contained spear heads, knives, drills, and scrapers typical of the Folsom hunters. With such implements, Folsom Men killed the mammoth and giant bison and prepared the kill for food and clothing. Seven to twelve thousand years ago is the loosely estimated antiquity of this Folsom era.

With Folsom Man's handiwork the archaeologists found quite different stone spear heads and other implements. These different tools have recently been turning up at Lake Mohave and another western site, leaving archaeologists doubtful as to whether they had found people older than the Folsom hunters, or not. Now, the mystery is believed solved, since digging into the Lake County

site revealed the Mohave type of tool in a camp deposit definitely below the Folsom tools—and therefore older than the Folsom tools.

There may have been, not merely one, but two kinds of primitive pioneers inhabiting America in those pre-Folsom days, at the same time. For Mr. Harrington reports finding a new type of spearhead, which he calls the Borax Lake type, buried at about the same levels as the Lake Mohave tools.

Most surprising of all, was the discovery that below all these relics lay still older weapons, made by people, "as yet entirely unknown quantities in American archaeology." These dawn men of America made crude and coarse stone implements, described by the archaeologists as mainly large scrapers and hand axes which they clutched in the fist, using no handle.

Finding the deep levels of the site thus undisturbed after thousands of years convinced Mr. Harrington that these unknown ancients lived about 13,000 B. C., or perhaps earlier.

The Southwest Museum says, "These are staggering figures to persons under the spell of the misleading implications behind the term 'New World,' but evidence is accumulating throughout the Americas that this hemisphere is no more new than its great western ocean is pacific."

Science News Letter, June 11, 1938

PHYSICS

Research Finds Secret Of Tone in Old Violins

AFTER TWO centuries, it now appears that scientific research is disclosing the secrets behind the tonal beauty which has rightly made famous the instruments of Stradivarius, Amati and other old Italian violin-makers. Of more practical importance to all lovers of music, the researches of modern science are showing what must be done to make instruments comparable in tonal qualities with those of the old masters.

Although many men, including some of the best scientists in the world, have tackled this problem, it has been only recently that progress has been made. The ability to amplify sound waves electrically and to present a visual picture of the wave characteristics on an oscillograph are the two key research wedges which are prying apart the long-lost secrets of an old violin's tones.

Once the wave form of a tone from a violin is obtained it is possible, by harmonic analysis, to discover the distribu-

tion of the sound energies among the fundamental tones and overtones. It is this distribution which sets off a Stradivarius from just another "fiddle."

Such overtones are caused by the multiple vibration of the bowed string. The existence of these extra vibrations can be shown by placing several little "saddles" of paper over the string and bowing it. Where the vibration is intense the saddles jump off. Where vibration nodes exist the saddles stay in place.

The Danish scientist Poul Jarnak, working in the United States through funds of the H. C. Oersted's Foundation, Copenhagen, has not only made studies on the tones of violins but has developed experimental instruments which compare very closely in tone with expensive 17th century Italian violins. This comparison is made not only by the oscillograph records but also by the ears of trained musicians, says Mr. Jarnak in a report published in the *Journal of the Franklin Institute*.

Science News Letter, June 11, 1938



'WAY DOWN DEEP

Curator M. R. Harrington of the Southwest Museum shows where he has found stone tools used by prehistoric Americans of surprising antiquity. Buried under seven feet, five inches, of accumulating earth, these stone tools, he says, mark the camp site of unknown primitives who invaded American shores about 15,000 years ago. These new-found Dawn Men will replace Folsom hunters in scientific annals as the earliest known people in America. The discovery site is in Clear Lake Park, California.

MEDICINE

Benzedrine Sulfate Is Found a Speedy Cure for Hangovers

Physicians Warn Against Going to the Drugstore For a Dose, However, Go to the Hospital Instead

SOBERING up is a speedy process by the benzedrine sulfate method, but— Unless the man with a hang-over is in the hospital it is not safe for him to use the drug.

Drs. Edward C. Reifenstein, Jr., and Eugene Davidoff of the Syracuse, N. Y., Psychopathic Hospital, give this warning in the course of an otherwise enthusiastic report. (*Journal, American Medical Association, May 28*)

The doctors have treated 28 patients with psychosis (mental disorder) due to intoxication from alcohol, and 93 per cent. of them showed definite and at times a marked acceleration of improvement. Pathologic intoxication, delirium tremens, acute hallucinosis and Korsakoff's psychosis were the conditions from which the various patients suffered.

In just plain, every-day drunkenness, where no psychosis was present, an even more satisfactory result was attained. In these cases the depressive effects of a hangover—headache, fatigue, languor and mental retardation—disappeared within an hour or so after a morning

dose of the benzedrine sulfate.

However, the Syracuse physicians are convinced that the drug in itself is habit-forming. It is open to question whether it should be administered to persons who have shown a tendency to addiction by their chronic alcoholic habits.

Only by restricting its use to hospital patients where the supervision is adequate can it be called safe to use, Drs. Reifenstein and Davidoff feel.

They fear not only addiction but untoward effects or serious toxic reactions among persons who seek the drug themselves from the corner pharmacy.

Under hospital conditions, however, they are hopeful that it may prove of value in overcoming the chronic alcoholic habit.

Their theory is that the benzedrine sulfate may produce these beneficial responses in alcoholic states through its action in stimulating the central and sympathetic nervous system and also directly by neutralizing and antagonizing the alcohol itself.

Science News Letter, June 11, 1938

PHYSICS

M.I.T. Gets Grant For Solar Energy Use Research

METHODS of creating "sun power" by converting the tremendous amount of solar energy into some form in which man can use it as a source of power will be the goal of a comprehensive program of chemical, electrical and mechanical research to be undertaken in the near future at the Massachusetts Institute of Technology.

Enabled by a \$647,700 gift from Dr. Godfrey L. Cabot of Boston, the research will be devoted specifically to a search for direct means of converting the sun's radiant energy into useful power or storing such energy for future use. Under the terms of the gift the income from the fund must be used in

these studies for at least 50 years, after which it may be diverted to other purposes at the discretion of the Institute's corporation.

While scientists at Technology will concentrate on direct physical and chemical methods of using solar energy, research workers at Harvard University, which received a similar grant from Dr. Cabot last year, are making a pioneering study of the possibilities of speeding up the growth of trees, and thus "streamlining" the conversion of sunlight into forms suitable for human use.

In announcing the gift, Dr. Karl T. Compton, M. I. T. president, commented on the enormous potential power of