

Bones as Artists' Tools

Archæology

The discovery of ornamented pottery that belonged to prehistoric inhabitants of Britain, and buried near the pottery a small bird bone, has set an archæologist, Miss Dorothy M. Liddell, on the track of what sort of tools were used by Stone Age artisans in impressing designs in clay household ware. The bird joint fits neatly in the pattern of the pottery, she reports in the current issue of *Antiquity*.

It has been supposed that irregular pieces of stick must have been the customary stylus used in decorating such pottery. Leg bones and wing bones of such birds as the rook, magpie, pigeon, blackbird, and goose provided irregular joint ends capable of making a wide variety of the designs popular in Stone Age art. Miss Liddell's investigation has demonstrated.

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Dogs and cats suffer from attacks of as many as 475 species of insect parasites.

Find New Cold Spot in Siberia

Climatology

In the northeastern corner of Siberia, Prof. S. W. Obrutchev of the Russian Academy of Sciences and a party of fellow scientists have been seeking colder places than any that have previously been reported to science.

Two years ago Prof. Obrutchev, on another exploring expedition in the district known as Oimekon in northeast Siberia, found a region where comparative temperatures were lower than those at Verchojansk, up to the present time the acknowledged pole of cold. Verchojansk is roughly 500 miles distant in a northwesterly direction from the new cold spot and well within the Arctic Circle. The new cold area lies slightly below the circle in the temperate zone.

When the explorers set out the first time they did not anticipate such extreme cold and had not included alcohol thermometers in their equipment. Consequently, they could not take observations below minus 39.4 degrees Centigrade, or 48.9 degrees Fahrenheit

below zero, the point at which the mercury thermometers froze. They stayed frozen, however, for 12 days, during a period in the month of November when, it was ascertained, such temperatures only lasted for two or three days at a time at Verchojansk. In October they found that daily temperatures averaged about nine degrees Fahrenheit below that of Verchojansk. The lowest cold temperature officially recorded for the latter place is 90 degrees below zero Fahrenheit.

If confirmatory data on these temperature relations are gathered on the present expedition, it will be apparent that the area of the world's coldest regions extends much farther to the southwest than was previously believed, a fact of considerable importance in making meteorological studies. Isotherms which were previously disposed in rings around Verchojansk must be transferred to include the region around the Okhotsk Sea.

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Radio Checks Earthquakes

Seismology

The dots and dashes of radio transmission from an ordinary commercial station are now checking the times of southern California earthquakes. At the Seismological Laboratory of the California Institute of Technology at Pasadena, the code messages from the station are continually received, and recorded by a flashing light on a revolving sheet of photographic paper. An accurate clock is recorded on the same sheet, so that the exact time of any dot or dash may be determined.

Scattered throughout southern California are a number of other seismograph stations, cooperating with the central station. At each of these is a similar automatic radio recorder, continually taking down the messages of the station. A clock, in which accuracy is not essential, records its ticks on the same sheet with the radio records. The same clock makes similar marks on the sheet on the seismograph drum, where the earthquakes are recorded.

In use, this permits the seismologists to tell the exact time at which the earthquake waves reach any station. For instance, suppose an earthquake record begins while the station is sending the word "ship". At Pasadena the record starts on the letter "s", while at Santa Barbara it begins

on the letter "h." As the signals arrived at both stations simultaneously, the difference is due to the greater time it takes the wave to travel to Santa Barbara, and from the records of the standard clock at the central station this time may be precisely measured.

From the studies thus being made, it is planned to detect even the slightest tremblings of the earth in this region. From this it is hoped that enough may be learned of the dangers, so that proper precautions can be taken to prevent damage by earthquakes, or that a severe quake might be predicted sufficiently far in advance to prevent loss of life.

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Wonders of Chemistry

Chemistry

QUOTED in *Journal of Industrial and Engineering Chemistry* from the *New York Times*:

Maud Muller, in this chemic day,
Far from the meadow sweet with hay,
Treats herself to a coat of tan
Out of a cute, convenient can.
Give her a can of tan, and soon
She has an August brown in June.
No more of looking broiled till fall,
No freckles, blisters, burns at all.

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Enjoying Tragedy

Psychology

The actress who weeps through a tragic love scene and has her audience weeping with her is probably thoroughly enjoying the evening's work. The actor who is so despicable a character that the audience yearns to come up on the stage and take a hand in his downfall probably has no feeling of repugnance toward his part in the drama.

This personal relation of the actor toward his roles has now been studied by a psychologist, Prof. John T. Metcalf, of the University of Vermont. He has found that the actor enjoys his work when he is satisfied with his art, and his work is unpleasant when he feels his own shortcomings.

To what extent an actor feels the emotions he portrays has long been a matter of interest and dispute. Prof. Metcalf has concluded that the actor does imaginatively identify himself with some person and situation outside of himself. And the more fully he is capable of this, the more successful he will be in conveying the desired effect on the audience. But if he begins to experience the real sensations of anger or sorrow, he slips up in his art, for then he is behaving in a real and practical way instead of using his art to represent an imagined situation in the realm of unreality.

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