ANTHROPOLOGY

Ancient Skull Puzzles

➤ THE 45,000-year-old Neanderthal skull recently assembled from fragments found in Shanidar Cave in Iraq presents a real scientific puzzle to anthropologists because, although his face was very primitive, the back of his head was more like modern man.

The description of Shanidar Man as a being who appeared to be a totally different creature depending on whether he was seen coming or going was presented to the American Association of Physical Anthropologists meeting in Cambridge, Mass., by Dr. T. Dale Stewart of the Smithsonian Institution.

This is a case where, if less had been found, the problem would have seemed less difficult.

If Dr. Ralph Solecki, also of the Smithsonian, who unearthed the puzzling bones, had found only parts of the ancient face, anthropologists would have been surprised that such a primitive creature should have lived so recently as 45,000 years ago.

If, on the other hand, he had come across only fragments of the back of the head, the anthropologists would have been surprised that Shanidar Man was so similar to modern man.

Putting the tiny pieces together was a super-difficult jigsaw puzzle, but Dr. Stewart reported he was able to fit them together so neatly that he satisfied himself they were all originally parts of the same individual skull.

"The skull belonged to quite a different being from any modern man whose bones I have examined," Dr. Stewart told his colleagues.

Scientists who have in the past studied the bones of Neanderthalers showing a similar mixture of primitive and modern characteristics have theorized that such a creature may have resulted from hybridizing between Neanderthalers and modern man living at the same time.

"But," Dr. Stewart pointed out, "hybridizing just does not result in a creature with the face of one parent and the back of the other."

Science News Letter, May 24, 1958

CARTOGRAPHY

Date Early Road Maps

➤ HISTORY is hidden within the accordion folds of your road map.

As a matter of fact, the shape of maps has changed little since the early Chinese switched from rolled maps and books, some 30 feet long, to the familiar folded form, pointed out Dr. Richard C. Rudolph, professor of oriental languages at the University of California, Los Angeles.

He has collected 200 Chinese, Korean and Japanese maps during his numerous trips throughout Asia on scholarly and archaeological missions. None is less than 100 years old.

In his collection are maps vividly colored by means of vegetable pigmentation applied through block printing or by hand painting. These maps, which depict battlegrounds, city streets, harbors, countries and the world, are often composed of many separate paper sheets joined together.

One unusual Japanese wood engraving dating before 1824 is so carved that a print made from it appears as an aerial view of all the Japanese Islands with the outline of Korea in the distance. In this "prize of proportion," the mountains, harbors, sailing boats and temples are graphically, not symbolically, represented, thus giving the impression that one is actually seeing all of Japan.

One Japanese map shows California as an island. The Chinese maps have south where European maps have north. Nearly all of the maps are highly decorative, the color printing process often requiring the use of five separate wood engravings.

During the 18th century the Jesuits came to China and the effect of their scientific teachings soon left its mark on the maps of the Orient. The attention paid by the Jesuits to mathematics, geography and astronomy, combined with the existing native artistry, created maps which in shape and accuracy closely resembled today's gasoline station road maps.

Science News Letter, May 24, 1958

ENGINEERING

River Development Poses Flood Threat in West

➤ HOW DO you control a river that is moving sideways at the rate of three miles every four years?

A river in India, the Kosi, which is about the size of the Colorado River, has shifted 75 miles in the past 100 years. Engineers have been trying to confine it by building levees as was done in the Lower Mississippi. But this is only a stop-gap solution.

Wherever it is, an unstable river channel such as that of the Kosi is likely to be a threat to river bank communities and to bridges and other structures.

What is needed, Dr. L. B. Leopold, chief hydraulic engineer with the U. S. Geological Survey, said, are answers to some basic problems in geology, hydraulics and soil sciences.

We need to know more about what happens when "clear water" from a reservoir is released into a river channel composed of alluvial material, he explained. This clear water is likely to cause the channel to change in depth or position.

The rapid development of rivers, particularly in western United States, will pose problems of this type which engineers will be called upon to solve, warned Dr. Leopold.

It is as a result of channel changes in the Colorado River, controlled by the Hoover Dam system, that a threat of floods exists at Needles, Calif.

Better sampling techniques to compute the debris carried by a stream, and facts on the mechanics of how rivers operate and the nature of water's action on river banks are necessary, Dr. Leopold said. Stream channel engineering — a new technical specialty—was discussed by Dr. Leopold at a meeting of the Washington Society of Engineers.

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