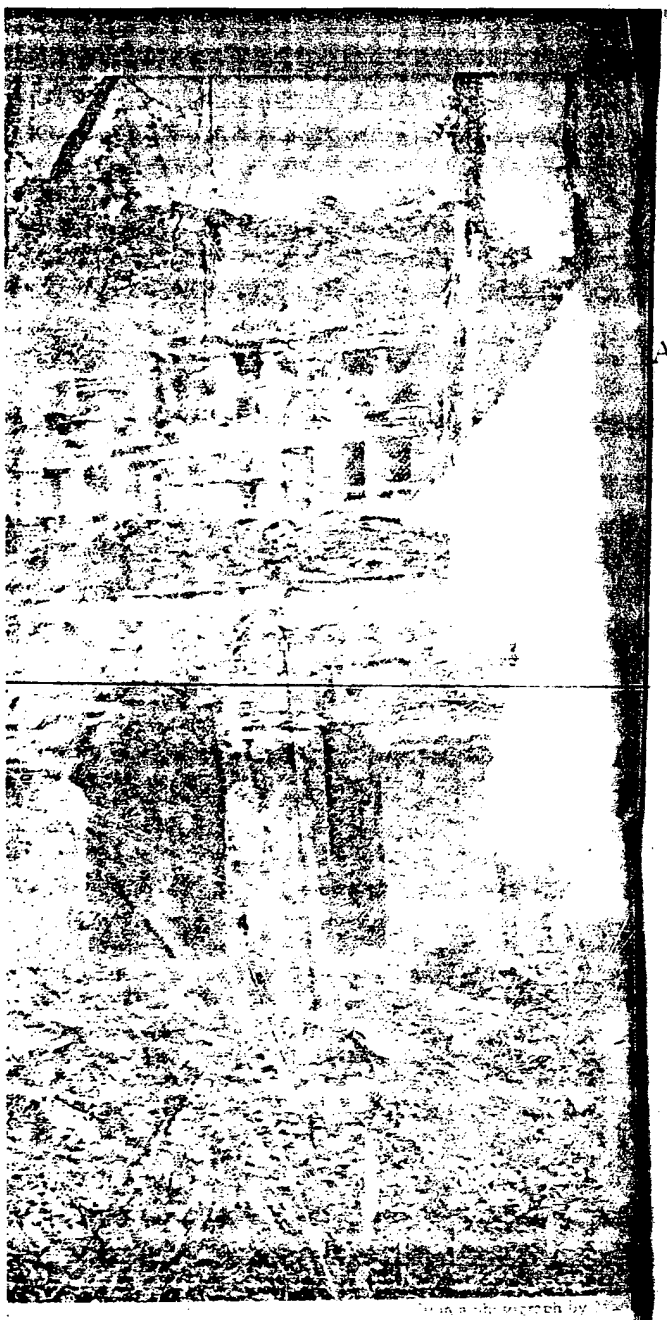


[illegible] on the ground, about 25 feet high without the "roof-comb," a [illegible] were particularly well preserved. Like all the structures of the group, this [illegible] height. The construction is stone; ornamentation, stucco. Charnay calls [illegible] to a Japanese temple. On pages [illegible] the constructive features are [illegible] reduction of a tablet from it, and on page 238, second figure, is the ground plan [illegible] the group, and page 436 shows geographical location.

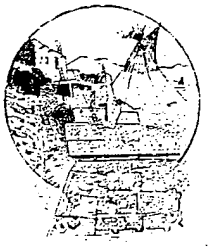
The North-Americans of Yesterday

A Comparative Study of North-American Indian Life Customs, and Products, on the Theory of the Ethnic Unity of the Race

By

Frederick S. Dellenbaugh

"But their name is on your waters,
Ye may not wash it out."



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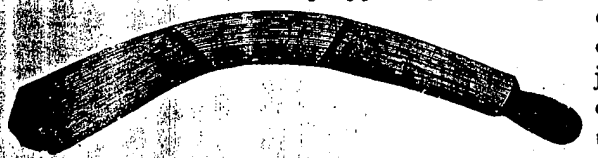
HP454

about as thick as telegraph wire. It was about fifty feet long and three feet broad, and was propped up on the ground on a number of slender rods, one net being joined to another's end until a large semi-circle was formed into which rabbits from a large area were frightened by noises. Caught in the meshes, they were soon despatched by their pursuers. Many Amerinds used nets for fishing, and the Eskimo make a fine, strong one of sealskin, with which they catch the seal itself as it rushes after prey in the waters near some beach where the net is stretched. I obtained one that is fifty feet long and about six feet wide, with meshes seven inches square.



U. S. Bu. Eth.
MOKI THROWING-STICK, OR PUTCHKOHU. 1/6

For agricultural operations the Amerinds had various tools, which, though primitive, answered the requirements. Of the plough, or anything approaching it, they had no knowledge, the hoe being their chief implement. This was made of flint, the shoulder-blade of a deer or other animal, a turtle shell or some similar object. Spades were also made, often of wood, and in the Mississippi region of flint, but these are seldom found in the Atlantic division. In the Moki country corn is still planted with a dibble, a stick sharpened at one end and having on one side a projection to receive the foot, which pressed it into the soil. Having cultivated a crop of maize, the grain had to be reduced to meal before it would serve for winter use, and for this purpose

U. S. Bu. Eth.
PUEBLO PLANTING STICK. 1/10

U. S. Bu. Eth.
ZUÑI WOODEN SPADE. 1/10
Used for shovelling snow from roofs and for taking bread from ovens

Permission of the Century Co.

A MOKI THROWING THE PUTCHKOHU
From a drawing by the author

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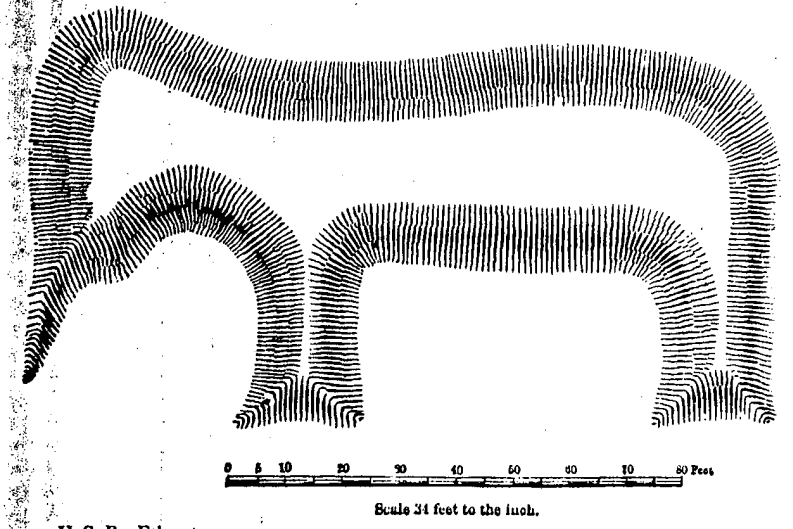
The "East Mesa" is seen in the right distance whereon are the three villages of—left to right—Walpi, Cichumovi, Tewa. The dressing of the hair is Navajo, as well as the turban, the model's uncle being Navajo but a Moki citizen

HP455

of population diminishes the food-supply; in an arid country where game is not plenty this diminution is rapid. A corresponding development of a food crop is the inevitable course, unless the tribe were to migrate to more humid regions. In this case, hostile people already there might have to be met, and it would be easier to remain at the old place and invent new methods of obtaining food. In some such way irrigating and its attendant

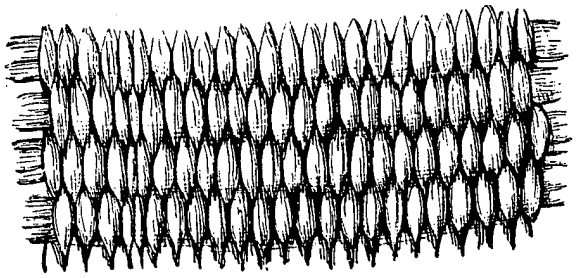


U. S. Bu. Eth.

SO-CALLED ELEPHANT MOUND, WISCONSIN
Has been ploughed over. Length, 140 ft.; greatest height, 4 ft.

engineering developed. Irrigating canals, then, are found not where any lost or mysterious race once dwelt, nor where any particular Amerind stock were living, but where the climatic conditions and population made irrigation imperative. These conditions prevailed on this continent in Mexico and our South-west, and there consequently are found the most important works of this kind. The remains of irrigating canals in the south-western United States are numerous. There are indications of them along the fertile bottoms of the Colorado River in Glen Canyon. These bottoms are deposits of alluvial soil, generally occupying the inside of a bend at the base of the cliffs. They are of various extent, about three to eight feet above ordinary high-water mark, and are fringed with willows. I remember examining several

indications of these "ditches," but as I made no notes at the time, and it was long ago, I cannot give details. There were ruins of houses here and there, both on the cliffs and below, and the cliff faces bore pictographs. Amongst these I found, and copied, one which suggested some kind of a scaffolding and sweep for lifting water, and it is not improbable that something of this kind was utilised for raising water from the river. As there would be no opportunity to construct a canal or ditch sufficiently long to receive water by natural flow from the river owing to the shortness of the alluvial stretches, a system of lifting it into the ditches might have been devised. Water might have been obtained also in another way. The country on both sides of the river at this point is composed chiefly of barren surfaces of homogeneous sandstone which collect enormous quantities of water, like the roof of a house, during rain-storms, and pour it over the edges of the cliffs and down the alcoves and lateral canyons. This water may also have been utilised for irrigating purposes. The Mokis utilise showers by collecting and guiding the streamlets with low dams



U. S. Bu. Eth.

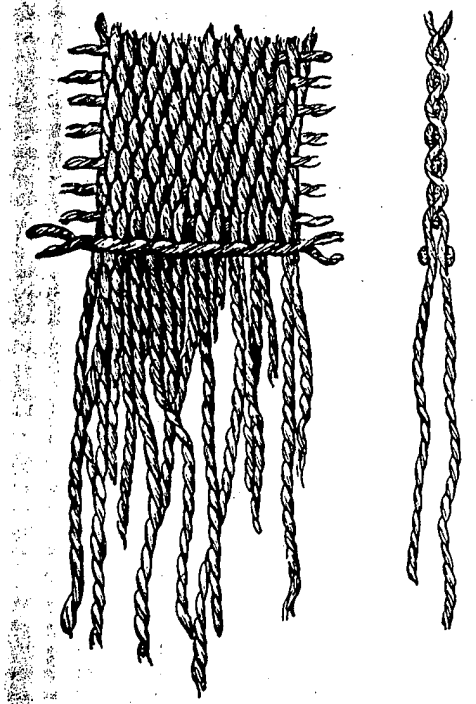
ANCIENT FABRIC DESIGN FROM IMPRESSION ON POTTERY, UTAH

hastily thrown up by their hoes, so it is certain that all these Amerinds understood thoroughly the importance of utilising shower-water on their crops.[1]

In the Verde River region of Arizona some very large canals or "ditches" have been observed. Mindeleff has described a number of these, and I will mention one which he says is one of

[1] From the Moki method of guiding shower-waters amongst the corn to guiding waters from a brook or river in that way would not be a great step; indeed, it would be most simple and natural and would easily be forced by circumstances.

the finest he has seen.[1] This is "about two miles below the mouth of Limestone Creek on the opposite or eastern side of the river." The canal extends across the northern and western part of an extent of fertile bottom land. In one place it is marked "by a very shallow trough in the grass-covered bottom, bounded on either side by a low ridge of earth and pebbles, at another it was cut through a low ridge. It is probable that the water was taken out of the river about two miles above this place, but the ditch was run on the sloping side of the mesa which has recently washed out." It is supposed that this ancient canal irrigated nearly the whole of the bottom land mentioned, which was recently again reclaimed by another "ditch" or canal constructed by Americans. "The ancient ditch is well marked by two clearly defined lines of pebbles and small boulders. . . . Probably these pebbles entered into its construction, as the modern ditch, washed out at its head . . . shows no trace of a similar marking."



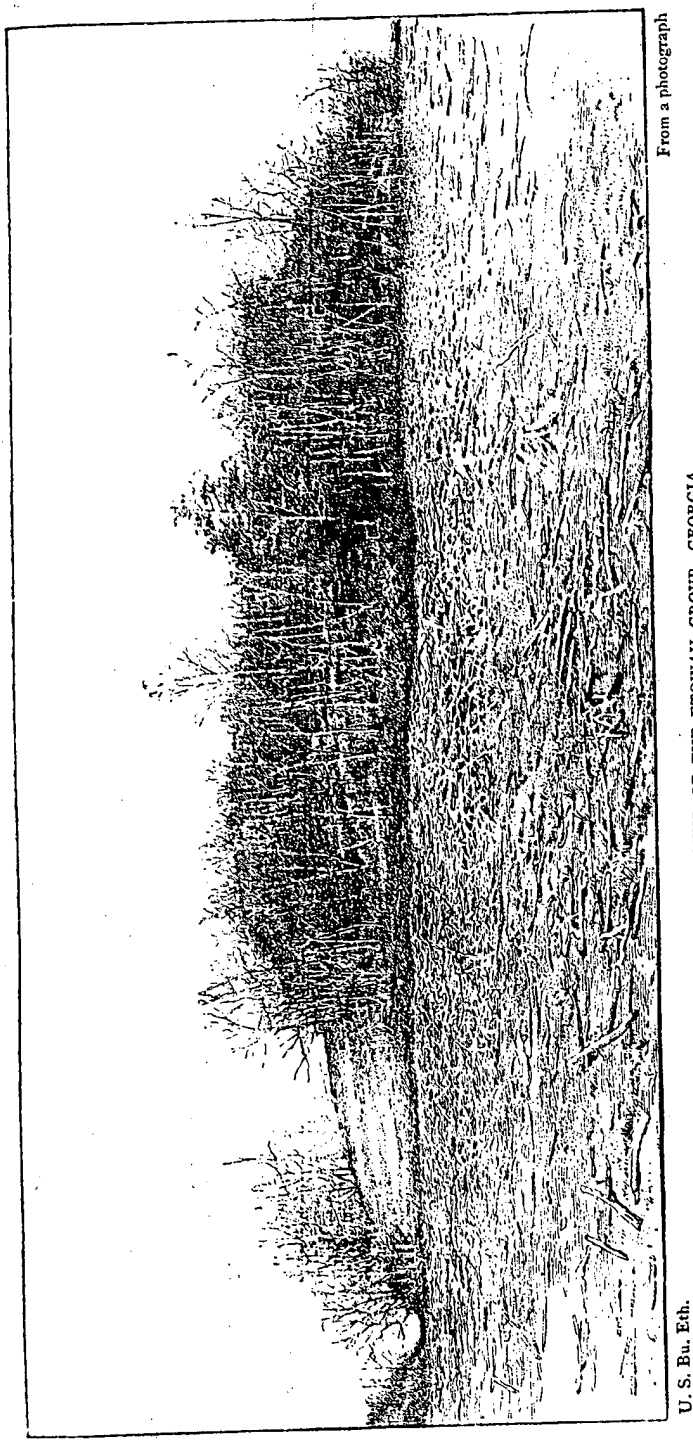
U. S. Bu. Eth.

ANCIENT FABRIC PRESERVED BY COPPER CELT, IOWA

See page 108

Farming was carried on very much as the Mokis carry it on to-day, except that the Mokis do not have to build irrigating ditches, the showers supplying by their method water enough to mature the crops. A German has recently settled south-westerly from the Mokis and, I have been told, grows good crops on his

[1] Cosmos Mindeleff, "Aboriginal Remains of Verde Valley," *Thirteenth Ann. Rept. Bu. Eth.*, p. 238.



From a photograph

U. S. Bu. Eth.

LARGE MOUND OF THE ETOWAH GROUP, GEORGIA

Next to the Cahokia, this is probably the most important work of its kind remaining in the Mississippi valley. It is sixty-one feet high, and the area of the base is about three acres. With several smaller ones, it stands in the middle of a tract of about fifty acres of rich land, bounded on one side by the Etowah River, and on the other by a semi-circular artificial waterway or moat. The top approximates a square, with a sort of roadway adjoining and leading up on the left. The entire contents are about 160,000 cubic yards. It is composed of earth which was taken from the moat and adjoining excavations

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