

For eating their mush the Hupas employ a rather pretentious spoon of horn (Fig. 59), bowl-shaped like that of a large kitchen spoon. The handle is short and zigzag with a spoon-shaped grip at the upper end. The typical characteristics are the zigzag or notched handle, the projections like *quillons* near the bowl, and the spoon-shaped grip. Quite a number of spoons from the Klamath area present these marks. For savage spoons these are small specimens, but they are much larger than ours. It must be remembered, however, that the Indian dips his food from a common pot, and that his spoon is rather more of a ladle and soup plate than a mere conveyer from a dish to his mouth. The eater holds his spoon near his mouth in his left hand and alternately conveys a morsel therefrom to his mouth, sipping the liquid portion from the rim as from a porridge bowl.

On the testimony of both Mr. Powers and Mr. Purcell, a species of food not enticing to civilized stomachs is relished by the California savages. When the rain falls in autumn enough to give the earth a thorough soaking and the angle-worms begin to come to the surface, then the Yuki housekeeper turns her mind to a good bowl of worm soup. Armed with her "woman stick," the badge of her sex, which is a pole about 6 feet long and $1\frac{1}{2}$ inches thick, sharpened and fire-hardened at one end, she seeks out a piece of rich moist soil and sets to work. Thrusting the pole into the ground about a foot she turns it around in every direction and so agitates the earth that the worms come to the surface in large numbers for a radius of 2 or 3 feet around. She gathers and carries them home and cooks them into a rich and oily soup.*

Mr. Purcell says: "The Indians of Round Valley go out when the ground is wet to catch angle-worms. They take a pole, sharp at one end, and punch it as deep as possible in the earth. They then work it back and forward and in a short time the fish worms, made uncomfortable by the extra pressure, will begin to crawl out. These worms are eaten raw or made into soup."

While treating of the food customs it may be well to speak of the closely woven food or table mats, the pretty salmon dishes of twined openwork basketry in osier. (Fig. 60.) For the warp six osier rods are overlaid by six others at right angles, and held in place by an osier wrapped around the outside of the crossing. The warp rods are then separated radially and held by three coils of close twined weaving. The coil is then continued in open work, each turn removed farther as it passes outward. New warp rods are added at each turn to keep the meshes at a uniform width. There is no fastening off at the margin, the twine clasping the ends of the soft osier sufficiently to hold. These tray-like baskets are about 1 foot or more in diameter and 3 inches deep. They are used to serve up salmon.

Salmon baskets of open willow work, 10 and 11 inches wide, $3\frac{1}{2}$ deep, are formed by a series of warp-sticks one-sixteenth of an inch thick and

* Frequently the worms are brought to the surface by the Indians dancing over the ground to make the game uncomfortable below.

the same distance apart, held firmly in place by a continuous coil of twined osier about three-fourths of an inch between the turns. Four radial bars of black break the monotony of the fabric and produce a pretty effect.

PIPES AND SMOKING.

The Indians of northern California smoked formerly a wild tobacco, *Nicotiana quadrivalvis* (Gray), *N. plumbaginifolia* (Bolander). It was smoked alone or mixed with dry manzanita leaves (*Arctostaphylos glauca*). Mr. Powers says that it has a pungent, peppery taste in the pipe, which is not disagreeable.

The pipes are conoidal in shape, and are either of wood alone, stone alone, or latterly of stone and wood combined, as will appear further on. (Plate VIII-IX, Figs. 61-73.) The beginning of such a pipe would be a hollow reed, or pithy stem, with the tobacco deposited in one end. A plain cone of wood fitted for smoking starts the artificial series. (Fig. 61.) Rude pipes are cut out of one piece of laurel or manzanita and shaped like a fisherman's wood maul or one of the single-handed war-clubs of the Pueblo Indians. (Fig. 62.) The length of stem is about 11 inches; length of bowl, $2\frac{1}{4}$ inches; diameter of bowl, 2 inches; of stem, $\frac{3}{4}$ of an inch. The bowl is a cup-shaped cavity, very shallow. The whole specimen is very rude, looking as though it had been chipped out with a hatchet or heavy fish-knife.

The next grade of pipes are of hard wood resembling the last described in type, but very neatly finished. The stem is about 14 inches long and $\frac{9}{16}$ ths of an inch thick. The head is spherical, $1\frac{3}{4}$ inches in diameter. The bowl is cup-shaped and the cavity nearly 1 inch in diameter. (Fig. 64.)

A small pipe of soapstone is also used, in which the straight pipe is presented in its simplest form. (Fig. 65.) Length, $2\frac{5}{8}$ inches.

There are also pipes of fine-grained sandstone of graceful outline, resembling in shape a ball bat, 7 inches long, $7\frac{1}{2}$ inches wide in the thickest part. A very noteworthy thing about this pipe is the extreme thinness of the walls. (Fig. 63.) At the mouth part, where it is thickest, the stone does not exceed one-eighth of an inch, while through the upper portion it is less than one-sixteenth of an inch in thickness. The cavity does not present the series of rings which appear in stone that has been bored out, but innumerable longitudinal scratches fill the inner surface.

The only solution of this appearance is that the interior was excavated by the use of a file or other hard tool. By the great size of its interior, this pipe is connected with the tubular objects from the mounds called telescopes by some, sucking tubes by others, and pipes by others. (See Dr. Abbott's paper in Wheeler's Survey West of One Hundredth Meridian, Vol. VII, pl. VII and text.)

The stone pipes were taken from old graves, and this kind are now no longer in use.