triangular patterns, black and red. A rod is sewed into each of two opposite ends of this cloth and these rods brought together so that the rods lie parallel, their ends projecting like the boom of a vessel. The ends of the wallet thus formed are closed by bits of cloth and the ends of the rods covered with red cloth, one end having a plume of bird feathers. Among the Wilkes collections from this region is a carved bone nose-plug, with feather ornaments at the ends. (Fig. 49.) This form of adornment is not common at present, as no specimens occur in the collections of later explorers.

The necessary accompaniment of the dance costume is the toilet of the hair and face. Tattooing is done with the soot of the pine tree, macerated in deer's marrow. The juice of herbs is also employed. Then, again, there are vermin tools, consisting of a paddle-shaped scraper and a crusher. (Figs. 46, 47.) One of the former in this collection (77197) is of cedar, 13 inches long, made very smooth, and polished at the end by long use. The other is of the white portion of elk horn, resembling ivory, diamond shaped, with one end rounded, 7½ inches long, and nowhere over one-quarter of an inch thick. It has the appearance of old Eskimo ivory implements, amber-colored by long use. The rounded side is covered with the triangular markings so much affected by this people and apparently transferred from basketry. The crusher is a cylindrical section of an elk's femur, 6¼ inches long. The *modus operandi* is to stir up the vermin with the paddle and to crush them and their eggs by placing the crusher under the hair and pressing it with the paddles.

The hair-brushes of the Hupa are made of rigid vegetable threads and root fibers about 6 inches long (Fig. 48), by doubling the strands and inclosing them like the hairs of a white-wash brush in a handle or grip of elk skin sewed fast. The ubiquitous paint mill is made of granite or schistose rock, napiform, about 4 inches in the long diameter, with a globose depression from 2 to 3 inches wide at top. The cup is coated with ocher and becomes extremely smooth from constant mulling.

PREPARATION AND SERVING OF FOOD.

As late as 1850 all the bands of Indians now on the Hupa Valley Reservation were living in pristine simplicity of social structure, arts, and ceremonies, which even now survives to a large extent among the old and conservative. Dr. Moffatt, the surgeon of the reservation in 1865, says: "Their food varied with the season of the year; each successive month furnished its own peculiar staple articles."

Autumn supplied the all-important acorn, large quantities of which were collected and kept in store for use during the winter and ensuing spring. Winter was the great hunting time. Then they chased the *manwitch* (deer), and small game over the hills, bow in hand, or laid in wait for them in the thickets. Grouse, quails, and small birds were

hunted and shot with arrows or caught in rude snares set for them. The fruit of the chase, with the acorns, thus constituted the winter supply of food almost exclusively.

Spring brought new viands. Early vegetation furnished abundance in the form of young leaves and stems of succulent plants, with their roots attached, and various species of clover, which were gathered in large quantities and eaten. This was the season when the squaws might be seen setting out in procession, each with a basket swung upon her back, furnished with a piece of wood about 3 feet in length and sharpened to a point at both extremities to dig up roots, worms, etc. This was the season also when fishing commenced, sometimes earlier, sometimes later, according to the subsidence of the high water and other circumstances.

The summer months prolonged the same supply, with the addition of Indian potatoes, or soap-root, as it is called by the whites, a large and nutritious bulb which grows abundantly upon the hills, and various kinds of wild fruits and nuts, together with the rich, fat salmon. This was the feasting time par excellence of the California Indian. (Ind. Aff. Rept., 1865, 116.)

Both the land and the water yield an abundant supply of food to the natives in this region.

The vegetable food is gathered chiefly by the women, while it falls to the lot of the men to ransack the forests and the waters for game and fish. The outfit of the primitive gleaner, miller, and cook is worthy of special description, inasmuch as we are able to follow her steps from the beginning to the end of her laborious journey. While no edible root or fruit was despised, the oaks furnished the chief breadstuff. The acorns were gathered in an osier hamper, about 16 inches high and 20 inches in diameter (Plate VII, Fig. 50), built up by fastening the osier warp by means of a twined cord of the same material, the meshes about ¾ths by ⅛th inch, quite uniform in size. Around the top ran six or seven rows of close-twined weaving with brown rush and grass, in which the brown and the grass color alternately covered one another. That is, by using two colors the weaver could bring either one into view *ad libitum*. This form of basketry is used by the women in carrying loads, supported by a band across the forehead. Filled with acorns this hamper was placed on the back and held in position by means of the carrying pad (Plate VIII, Fig. 51), consisting of a disk of mat 5 by 4 inches, made by coiling loose, native-made rope, and sewing the coil with thread of grass. To each end of this pad is fastened, by a two-pronged attachment, the band of rope which passes around the back of the head to hold the pad in place. This consists of rope served with fine native twine. A collection of this type of pads from different tribes of men, as worn by the human beast of burden, would be an instructive chapter in the progress of our race, marked by the passage of the pad from the forehead to the crown, and of the carrier from a half-prone