

short distance to the northeast of the main Pomo territory, the nearest rancherias of which are those of the northern Clear Lake region and of Potter valley.

Considering that they are separated from all the remaining Pomo by Wintun and Yuki territory and by the main crest of the Coast Range, the language of the Stony Creek Pomo is not so divergent as might be expected. The dialect is quite distinct, but does not differ as much from certain of the other Pomo dialects as some of these differ from one another. It seems to differ less, on the whole, from the majority of Pomo dialects than does the dialect of the lower end of Clear lake.

Notwithstanding the fact that the Stony Creek Indians are Pomos, it would seem that they were formerly on more friendly terms with their nearer neighbors, the Yuki of Gravelly valley on South Eel river, than with any of the groups of their own linguistic family. These Yuki had certain hunting and food-gathering rights which were not enjoyed by others, and also had free access to the salt deposits within the Stony Creek territory. They occasionally intermarried with the Stony Creek Pomo.

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#### Method of Preparing *Tesvino* Among the White River Apaches. —

While measuring the White River Apaches (Hyde Expedition, 1900), I befriended an Indian named John Riley, one of the more intelligent English-speaking young men in the tribe, and one day, while visiting him, was invited to partake of some of the prohibited *tulipi* ("yellow water"), the Apache name for that which farther south is generally known as *tesvino*. This liquor, of which all present drank freely, was nearly of the color and consistency of whey, and of a slightly acid, rather pleasant taste. On inquiry I was given the following data concerning the history and preparation of the drink:

*Tulipi* was introduced among the White River Apaches, within the memory of men of middle age, by an old man of the tribe, still living in 1900, called "Brigham Young." It was brought from the more southerly Chiricahuas, who were said to have learned to make it in Mexico. In manufacturing it a woman takes some dry corn and soaks it over night in water; in the morning a hole is made in the ground, the bottom of which is thickly covered with yucca leaves, on which the corn is spread and covered with a gunnysack. The corn is then sprinkled once a day with warm water, until it begins to germinate, when it is allowed to grow under the sack until the sprouts are about two inches in height, which takes a week, more or less, according to the weather. The corn is next taken out and spread on a blanket, where it is left one day to partially

dry. On the next day two women grind the corn, one rough and one fine, and mix and knead it like dough. To about ten pounds of the dough are added, in a large earthen vessel, about four gallons of water. The whole is thoroughly stirred, then placed on the fire, and boiled down to about one-half the original quantity. During this boiling is added the "tulipi medicine" (to make the otherwise weak liquor intoxicating and exciting), composed of certain roots which I was afterward told were those of the loco weed, or jimson weed (*Datura meteloides*).

After the first boiling, enough water is added to make up for the loss, and the mixture is boiled for the second time, until reduced again by one-half. The liquid is then strained through a can with many perforations, cooled till luke-warm, and poured into the tulipi jug, a vessel used only for tulipi, and never washed. Finally some coarsely ground wheat is added and left floating on the surface, soon after which fermentation begins.

It is best to put the liquid into the tulipi jar and to add the wheat in the evening, for then the mixture is well fermented by morning and fit to drink at noon; but as it then rapidly increases in strength and acidity, to prevent spoiling it must be used on the first day after fermentation has commenced. If good tulipi is to be had, all these points must be well observed.

While under the influence of tulipi one becomes quarrelsome and irritable, and its use frequently results in brawls in which the participants are often severely maimed or killed. The "after effects" of excessive tulipi drinking are not serious—consisting mainly of headache and depression.

A. HRDLICKA.

**Water Transportation by the Early Crows.**—To prevent their ammunition, fire-arms, and other articles from getting wet, when crossing streams, the Crow Indians, many years ago, took as many buffalo hides as were thought necessary and placed them one upon another; around the entire edge of the bottom one a gathering string was run which, when drawn, caused the robes to assume a globular form. The articles to be kept dry were placed in it with a ballast of stone. By means of a line attached thereto, the skins were towed by hand when in shallow water, but as soon as water which would not permit of wading was reached, the end of the towing line was placed between the teeth of the tower, who swam with it until he reached shallow water or the shore.

Another method was to arrange and bind three poles in triangular form, over which a buffalo hide was spread and securely fastened at