SOME ABORIGINAL USES OF PLANTS BY THE ARIKARA INDIANS

It is always a matter of much interest to observe the relation of a people to the floral environment, which surrounds them. Their familiarity, or their lack of acquaintance, with the indigenous flora of the region, and the degree to which they have discovered economic uses for the native plants is an index in some measure of the length of time the given region has been occupied by this people. The manner of life of any primitive people is strongly influenced by their physical environment. Two very important elements of this environment are the native fauna and flora. A people restricted to local resources through lack of facilities of transportation for distant products will sometimes show wonderful ingenuity in the utilization of such things as nature has provided for them near at hand. Even a plant, which to people of our present form of civilization may seem to be of no significance may be of considerable importance in the economy of a people living under another complex of circumstances. For example, the common cat-tail of our marshes. In aboriginal times in America, this humble plant found many uses for utility and for play among the people of various Indian tribes. It supplied materials for food, for leather dressing, for cushions, for sanitary appliance, and for children's games. The Arikaras are a people who, for several centuries, have resided in the Missouri River valley and the High Plains adjacent thereto, gradually advancing, during that stretch of time, up the course of this river. Gradually they have adjusted themselves to the new floral conditions successively met in the consecutive stages of their northward progress from their former southern habitat.

In the following pages, I shall discuss some of the uses of the native plants of this region as I have learned them from the Arikara by observation and inquiry during several years. I shall list the plants in their natural taxonomic order from the lower to the higher, and discuss the uses of each by that tribe.

Equisetum sp. Horsetail

Areas in the river valleys abounding with *Equisetum* were considered the most valuable pasture grounds for their horses. They even gathered quantities of this plant as forage for the horses kept for immediate use at their villages.

There is a considerable deposit of silica in the tissues of these plants, and the stems are corrugated. Because of these properties, they are used for finely abrasive material for polishing objects, just as emery paper is used by white people.

Pinus ponderosa Dougl. Western Yellow Pine *Natsisu*

The leaves, *Nakaragu*, were used for incense. In a house where there was a case of serious illness pine leaves would be burned every morning as an incense to drive away evil and to deodorize the house. Also those who attended the sick would incense themselves with it, inhaling the smoke and incensing their hands and rubbing it over their bodies.

Picea canadensis (Mill.) BSP. White spruce *Natsisu-nakanawire*

The Arikara name, *Nasisu-nakanawire*, is compounded from *natsisu*, "pine", and *nakanawire*, "fragrant." The leaves are used for perfume by both men and women. Women bruised the leaves by slight chewing so that the aromatic odor was given off, then they would place these bruised leaves among their clothing. They would also perfume their hair with the bruised leaves, taking them in their hands and rubbing them through the hair. Men also used spruce leaves to perfume their bodies after the vapor bath, rubbing the bruised leaves all over themselves while still hot and moist from the bath.

Juniperus virginiana L. Red Cedar *Tahsaku*

This tree has an important place in religious ritualism. Its leaves and twigs were used for incense in many ceremonies. It is the incense to be used in a ceremony to avert lightning when a thunderstorm approaches. In the Sacred Legend, it is told that when revelations were made and divine instructions were given as to rituals and ceremonies in religious observances, the Voice of the Holy Cedar Tree promised protection and help to the people and gave directions for the use of cedar leaves as incense, and also for medicinal use. One of the annual religious events of the Arikara is an all-day observance of the Holy Grandmother Cedar Tree ceremony. In this ceremony a cedar tree is finally erected beside the sacred Standing Rock in front of the tribal temple and remains there from that day on through autumn and winter until the ice goes out the next spring, when it is carried in religious procession down to the Missouri River and placed adrift in the current, as elsewhere described.

The mystery societies, such as the Bears and the Owls, whose mysteries are connected with the woods, use cedar for their incense.

In medicinal use, a decoction of cedar leaves is drunk as a remedy for chills and colds, at the same time the whole body is subjected to a warm fumigation under a blanket, using hot vapor from cedar leaves.

Juniperus horizontalis Moench. Ground Cedar T*ahsa-katoh*

The name, *tahsa-katoh*, means "flat cedar" (*katoh*, flat). This species is used medicinally, and also for incense, in the manner as *J. virginiana*.

Typha latifolia L. Cat-tail *Tsiri-tsinu*

I will give here some of the old time uses of this plant by the Arikara Indians, a tribe resident on the upper Missouri River in what is now the state of North Dakota. The Arikara are a tribe of the same racial stock as the Pawnee, a tribe perhaps better known, residing on the Platte River, in what is now the state of Nebraska.

The name, *Tsiri-tsinu*, means "eye-inflammation," from the effect on a person's eyes when the light, downy seeds of the plant are blown into one's eyes by the wind. They call the rootstock of the cat-tail *stkatats*, "tallow," because it tastes like tallow. The Arikara people, especially the boys, dug the rootstocks to use as food because of their rich, agreeable taste.

When the cat-tail heads were just ripe they were gathered to use in finishing the dressing of tanned deerskins. The fine, granular, chaffy seeds were plucked from the cat-tails and spread upon a tanned deerskin pegged down upon the ground. When a thick layer of cat-tail seeds had been thus deposited another deerskin was spread over the first, having at each end a stick attached horizontally for a handle. Then some cobblestone were laid upon the upper deerskin to hold it down. The process was operated by two women sitting upon the ground facing each other with the deerskins between them. They each grasped with both hands one of the sticks fastened at either end of the upper deerskin, and each alternately drew the upper deerskin towards herself; thus it was drawn forth and back, with the stones bolding it down and furnishing friction for the buffing of the two skins by the fine downy cat-tail seeds between them, ultimately giving to both skins a very fine surface finish. Obviously this work must be done inside the

house, or if outside, only at such times as the weather was perfectly calm, for the slightest breeze would blow away the cat-tail down.

Children used cat-tail in an active game. Three long leaves or cat-tail were plaited together in such fashion as to form a cross. To form the cross one leaf was laid down and then another leaf was attached at right angles by bending one end squarely about the middle of the first leaf. The third leaf was attached in like manner, but extending at right angles on the opposite side of the first leaf from the second.

This game might be played by girls alone or by boys and girls together. Four children would step up to the cross of leaf blades and join hands diagonally over it. Thus holding hands they must dance rapidly about the cross, being careful to step over and not upon the crossed leaves. If one should misstep and stumble upon one of the leaves all would immediately loose hands, the one who made the misstep would run away, and the other three would give chase, each armed with a cat-tail stalk. With these they struck the fleeing one if able to overtake him. When the fugitive was struck the cat-tail clubs shed their downy seeds and the air was full of the flying down. The children had a merry time.

Another use of cat-tail was for the care of young infants. When a new little member of the family expected all the female relatives of the mother busied themselves to help in gathering a supply of cat-tail down to provide for the expected need. No white mother takes greater care in the preparation of the layette for the advent of her darling than did the Indian mother and her relatives. Cat-tail down was used to pad the cushioned lining of the cradle to be a soft nest for the little one. The Indian mother in old times had no cotton diapers to provide for her infant as the white mother has, but in place of these she provided a sufficient supply of cat-tail down to be used as an absorbent pad within the soft-tanned deerskin swaddling, a supply sufficient for renewing at ever need of change. The deerskin swaddling was not wrapped diaper-fashion as white people do, but was wrapped cylindrically, band-like about the hips and thighs of the infant, with a soft pad of cat-tail down laid under the hips and between the thighs.

Andropogon furcatus Muhl. Blue Stem Grass *Hoh-wahat*

The name *Hoh-wahat* signifies “red grass”, *hoh*, “grass”, *wahat*, “red” from the natural coloration, which this grass takes on when mature in the fall.

This species of grass was used in house-building when mature and dry, being laid on the willow mattress of the roof and then over the grass earth was laid to a depth of about one foot or more, in the circular wall and the done-shaped roof of the earth-covered house.

It was also used for lining storage pits, which were excavated underground for storing the crops of corn, beans and other produce and all kinds of food supplies. For this purpose this species of grass was used because it was found, by experience, that it would not mold and decay as other species of grass did when in contact with the earth.

Temporary ropes were made by twisting together to any length required, the soft basal blades of this grass.

Stipa spartea Trin.

Calamovilfa longifolia (Hook) Hack. Sand Grass *Pakscisu*

The name *Pakscisu* means "straw stalk," *paks*, "straw," and *cisu*, "stalk."

The stalks of this grass, when headed out, were used as an honor badge in a similar manner as eagle feathers were used. The stalk of this grass is the badge of one who, in a scouting party, has entered the camp of an enemy alone and has killed one or more. One entitled to this honor wears attached to his hair one stalk of this grass for each enemy he has killed under these circumstances.

The stem of this grass is also used as a cleaner for pipe stems.

Spartine michauxiana Hitchc. Slough Grass *Hanuht-cihahkt*

The name, *hanuht*, means "grass," and *cihahkt*, "slough."

The lower blades of this grass were used to make mats in a manner similar to the making of braided mats from bulrush.

The Arikara also cut this grass with their knives to make hay to feed their horses. It was bound in bundles to keep for winter.

Phragmites communis Trin. Reed grass

The hollow culms of *Phragmites* were used by children in play to make cylindrical beads by cutting them into short pieces and, some being green, others nearly white and still others red, they thus made

vari-colored beads.

Scirpus validus Vahl. Bulrush *His*

The culms of bulrush were used to form the weft in making mats and bags, the woof being the rawhide thongs. These mats were made for household furnishing and also for use in the sacred lodge or tribal temple. In one form of mat, two lines of pegs were driven into the earth. These pegs being a few inches apart in line and the lines being at a distance from each other according to the length they desired to have the mat, a rawhide thong was attached to the end peg in one of these lines and stretched to the corresponding end peg of the other line, then around the second peg in this line and back to the second peg in the other line, and from it around the third peg and to the third peg in the second line, etc., until a figure of parallel thongs covered the space desired for the size of the mat to be made. Then bulrushes in pairs were alternately woven over and under these parallel thongs and thus the weaving was continued until the pattern was filled in. The selvage edge was made by turning the outer ends of the bulrushes back over the outside thong.

Another form of mat was made by braiding in broad braids four, six or eight rushes together and these broad strips were then joined side by side by threading in another bulrush. Thus, the joined, broad flat braids made a mat.

In the old time, when the tribal temple ceremonies were celebrated in their completeness, there was a ceremony in autumn to dramatically represent the seasonal change in all nature, when the plants became dormant and many forms of animal life go into hibernation. In this ceremony an artificial pond was made before the altar, and around the border of this pond was planted a realistic setting of bulrushes, the stalks and rhizomes attached being lifted entire from their natural habitat and set here.

Acorus calamus L. Sweet Flag *Csehc*

Calamus was very highly valued for many medicinal uses. It is said to be good for toothache by chewing some of the rhizome and holding it against the affected tooth.

When on a hazardous undertaking, it is believed to be a good thing to have some of the rhizome of *calamus* in the mouth. Then no harm can overtake one. It is also believed if one goes where there is

danger from rattle snakes, a bit of *calamus* held in the mouth will prevent the person from being bitten by the rattle snakes.

It is especially useful to ward off the "dangers of the night" such as evil powers and ghosts.

The Arikara, and Indians of other tribes as well, are always very greatly pleased to receive presents of rhizomes of *calamus*. This plant is not found in the Arikara country. At one time, when I brought a present of some *calamus* to an Arikara, he received it with expressions of great thankfulness and took the rhizomes into his hands in a reverent manner and blessed himself by the usual gestures of blessing, stroking first his right hand reverently over the plant and passing it then over his head, shoulders and body, and then repeated the gesture with his left hand in a similar manner.

Smilax herbacea L. Carrion Flower *Nacikaukwh*

The hard, shiny seeds of this plant were used for making rattles.

Salix

Populus

Chenopodium sp. Goosefoot Lamb's-quarter *Hawahtatu*

When it was young and tender it was cooked as greens. It is said that long ago the stems of *Chenopoldium*, when blooming and gray, were used instead of *Artemisia* in the ceremony which is now commonly called "The Sage Dance."

Atriplex argentea Nutt. Salt Plant *Hatawawis*

This plant grows in alkali flats and takes into its own tissues much of the salt in heavy solution in that kind of soil. As the plant matures, it becomes strongly saturated with salt so that it is very perceptible to the taste. There are no salt marshes or other salt deposits in the Arikara country from which they could obtain this commodity in old times, so they made use of this plant to give savoriness to their food. They

gathered quantities of the plant and placed some in the cooking pot with meat or other food. The salt in the tissues of the plant was dissolved by cooking and absorbed by the other food. A supply of the plants would be gathered in early fall and preserved by drying for future use.

The Arikara also mixed *Atriplex* with the fodder, which they provided for their horses.

Thalictrum sp. Meadow Rue *Skanic*

The seeds of *Thalictrum* were used for perfume by men, being chewed and put on most of the clothing. It was also supposed to be a love charm, which would attract women.

Anemone cylindrical Gray Cylindric anemone *Ksko'du*

The Arikara name, *Ksko'du*, means "down-feather-weed;" compounded from *Kasu*, "root or herb," "plant or weed," and *ko'du* meaning "down-feather. Thus, the name *Ksko'du* is descriptive, meaning down-feather-weed, referring to the feathery appearance of the seed-head of the plant when the seed begins to shed.

The down of this plant was also used for absorbent padding in the care of the infants, just as cat-tail down was used, and was preferred for very young infants because it is softer.

The root of this plant had some medicinal use, but what it was I have not yet learned.

Anemone virginiana L. Anemone *Nakahnansawahu*

The name *Nakahnansawahu* means "weed with cotton hanging on," *nakah*, "cotton," *nansa*, "hanging on," and *wahu*, "planting."

The cottony seed of this plant was used in sanitary care of the new-born babies.

Clamatis ligusticifolia Nutt. Virgin's Bower *Pahkasu*

The name *Pahkasu* means "white hair."

The vines of *Clematis* with their bunches of feathery white plumed fruits were used by children in play. They would attach them to their heads in the manner of a wig to look like the white hair of old persons. Thus, they "played old person.. Also, boys "played war dance" by putting garlands of this vine with its plumed fruits on their ankles as ornaments.

Actaea arguta Nutt. Western Red Bane-berry *Skani-katit*

The Arikara name, *Skani-katit*, refers to the plant's numerous black roots. They say this is one of their most valued medicines. In case of a cold in the chest the root of this plant is pulverized and mixed with certain other medicines, whose identity I have not yet discovered, and an infusion made of them, which was taken internally.

As a remedy for headache the root was infused and both taken internally and applied externally to the head. It is said to give cooling relief.

Another use is related to the Arikara belief or superstition in regard to supposed "prenatal influence" on an unborn child. This belief is not peculiar to Arikara alone. White people also hold this belief to some extent, that is, that if a mother sees some startling sight during the period of gestation, if will have the effect to put upon the child some birthmark. This is the popular superstition in this regard among white people. But with the Arikara there is the additional feature in their belief that a startling experience by either mother or father during the period of the mother's pregnancy will cause a "mark" upon the child. According to Arikara belief, this "mark" may be either physical or psychical.

My informant told me of such a case in his own family as he thoroughly believed. He said that one of his children, a boy, was ailing during infancy, and they could not tell what the ailment was. He called in a medicine man who examined the child and diagnosed it as a case of "birthmark." He said to the father of the child, "During the time of your wife's pregnancy with this child you were startled by the sight of a snake and that affected the child. The father then recalled that he had indeed been startled one time during that period by the sight of a snake. So he believed it was true that this fact had had a bad effect upon the unborn child.

Then the medicine man made an infusion of the roots of red baneberry and of certain other medicinal roots. He burned some sweetgrass as incense. Then he held up the child by the shoulders and, taking the medicinal infusion into his mouth, he sprayed the child's body with it. It is said the child's suspended body "wriggled like a snake" and then became quiet and that it afterwards recovered from its ailment and became perfectly well.

In the first bath of a newborn Arikara child, an infusion of the roots of red bane-berry was used to

wash out the mouth, nostrils and eyes, then a drop of this infusion mingled with a certain other medicine, (identity unknown to me), was placed in the right side of its mouth if the infant was a girl, and in the left side of the mouth if a boy.

If the mother has not a sufficient flow of milk for her infant, an infusion of the root of red bane-berry is used to bathe her breasts. They believe this will cause an increased flow of milk. In case of inflammation of the breasts, some root of red baneberry is pulverized and mixed with the powdery mass of spores of a ripe puffball to make a poultice to apply. It is said this quickly relieves the pain and swelling.

Actaea argentea is also the medicine provided for use in case a man is stung by the catfish while he is operating a fish trap. When a man undertakes the setting up and operating of a fish trap there are certain mystical requirements connected therewith. He must make the required sacrificed and offerings and prayers; he must abstain from connection with his wife, and he must purify himself in the vapor bath. And he must approach the undertaking in a proper attitude of mind, having a feeling of reverence for all nature, and of gratitude to the river and to the fish. If he does not so prepare himself, he will be severely punished by the poisonous stinging of the catfish when he enters the trap to lift them out with the dipping basket. As a remedy for the effects of such stinging the chewed root of *Actaea rubra* must be applied and rubbed into the wounds.

Cleome serrulata Pursh. Bee Balm *Atit-neksanu*

The name *Ati-neksanu* means “ghost bean,” *atit*, “bean,” *neksanu*, “ghost.”

Rosa pratincola Greene Prairie Wild Rose

Insect galls from the wild rose together with a certain root whose identity I have not yet learned but whose Arikara name is *Ksarari* were dried and comminuted by pounding, mixed, boiled and strained to drink as a remedy for sore throat.

Rosa woodsii Lindl. Wild wood rose

The inner bark of the bushes of this tall spiny wild rose was used for a drink like tea. The spines and outer bark were scraped off, then the inner bark was stripped off and tied up in small bundles and dried. When desired for use these bundles of bark were steeped in hot water to make a pleasant beverage.

Prunus besseyi Bailey | Nebraska Sand Cherry
Bessey's Cherry | *Kwapanu*

Arikara name, *Kwapanu*, means "sitting-hiding."

The Arikara say that in ancient time this was one of the principal food fruits used by their people. It is a low-growing shrub, a dwarf cherry tree only a few inches tall, or at most a foot and a half or two feet high, but profusely bearing large-sized purple-black cherries which are of good flavor. The sand cherry was abundant in the Sand Hills region of north-central Nebraska, which was a part of the realm of the Arikara nation about four or five centuries ago. It also occurs to some extent in sandy places in North Dakota.

The Arikara made sauce and sand cherries. They also mixed sand cherry juice with corn meal to make a corn pudding. Corn pudding was also made by mixing into the corn meal the whole of sand cherries, pits and all pounded to a pulp. Sometimes the broken fragments of seed-pit shells were strained out in a basket strainer before mixing the cherry pulp with the corn meal to make the pudding.

There is a belief concerning the sand cherry that one must approach it from the lee side when gathering it, for if one comes from the windward side the cherries will be bitter to the taste.

Amorpha fruiticosa L. | Indigo Bush | *Sirahu*

The shrub usually forms straight, even stems of light weight. They are therefore useful to make arrow-shafts, and were used by the Arikara for that purpose. Dried stems of this shrub were employed to ignite at the fireplace in the sacred lodge (tribal temple) and carry a light to light the sacred pipe in the ceremonies.

Amorpha fruiticosa is used as an incense in the ritual pertaining to Thunder, a ritual to avert lightning stroke or to make propitiation for any offense which may draw punishment by lightning. When lightning strikes near a man's house, it is a warning that he has offended some Higher Power, either by omission or commission. He may have committed some positive offense, wittingly or unwittingly, or he may have neglected, when he obtained game in the hunt, to make an offering of a small morsel of the meat as an acknowledgment for the favor, or he may have neglected some other duty to the supernatural powers.

A place where lightning has struck is considered dangerous to approach for a period of four days after the event, unless a propitiatory ceremony is made at the place by a man who is in possession of the ritual and sacred bundle of the Thunder rite. A recent example of this practice was the case of an Arikara friend of mine. Lightning struck an demolished one of the posts of his pasture fence. This made a gap in his fence and allowed his cattle to stray. Therefore, he could not wait for the lapse of the four days required for safety. His fence must be repaired at once. So he went to the keeper of the Thunder ritual and entreated him, of course at the same time bringing him a present as a fee for his service, to bring his sacred bundle and perform the required propitiatory rite on the spot so that it would be safe for him to mend his fence.

Amorpha microphylla Pursh. Least Amorpha *Hoh-tsipats*

The Arikara name, *Hoh-tsipats*, means "willow-weed;" from *hoh*, "weed," and *tsipats*, "willow." The leaves of this tiny shrub were used by women for decorative patterns for porcupine quill embroidery, and especially on the head chief's tunic.

The roots of the shrub were used medicinally as a styptic. For this purpose, they were pounded in a mortar until finely pulverized. For use, a sufficient quantity of this powder was placed in a medicine bowl made of ash wood. Hot water was poured into the bowl and the powder was stirred as it steeped. The water turns red. In case of nasal hemorrhage, this was snuffed up the nostrils. The dry powder might also be snuffed into the nostrils for nasal hemorrhage, and with like effect, but perhaps with less prompt action. The powder was also applied as a styptic in case of a severed vein or artery.

Glycyrhiza lepidota (Nutt.) Pursh. Wild licorice *Bira-atuh* & *Kskadari*

The name *Bira-atuh* means "small plant," *bira*, "small," and *utah*, "plant."

The burrs of wild licorice were used to clean old scores by abrasion. They were also used in the old time in the process of tattooing, being used as an abrasive for clearing off the epidermis before applying the tattooing needles. Incidentally, porcupine quills were used also in the old time for pricking the pigment into the skin in tattooing.

The Arikara name, *Kskadari*, is compounded from *kasu*, "root," and *kadari*, "rapid," because if cut

off it shoots up new growth again quickly.

The root is used medicinally for several ailments. For diarrhea, the dried root was pulverized and put into hot water and steeped. A half cupful is a dose. As a remedy for hoarseness and any trouble of the vocal organs a piece of the root was chewed and retained in the mouth and the insalivated juice was swallowed. It was also a remedy for colds and all bronchial trouble. It was given to horses as a remedy for colic.

Linum lewisii Pursh. Wild Flax *Nakahs*

The stalks of this plant were ground fine, boiled, and used for diarrhea. It was said that this use was learned by the Arikaras from the Chippewas. Bunches of stalks were also tucked into the nostrils of the ceremonial buffalo skull, which was always present near the southwest corner post of the medicine lodge during ceremonies.

Celastrus scandens L. Bittersweet *Najikawha*

The Arikara name, *Najikawha*, is derived from *najiku'ts*, "gourd," because the seeds of bittersweet were used in the gourd-shell to make the sacred rattles for religious ceremonies. The bittersweet was considered a divine gift because it is said that in Mother Corn's revelation of the ritual to be used in Mother Corn ceremonies the priest was instructed how to make the rattles to be used for marking time. He was told to go down into the timber and there he should find a certain vine climbing upon trees and bushes. The vine was described to him. It was the bittersweet vine. He was told to take twelve of its seeds, or else twice twelve, and place them in a gourd-shell. He was told that when the gourd-shell was shaken, keeping time to the hymns, which were sung in the ritual, the pulsing of these seeds in the gourd-shell, would be forever the voice of Mother Corn speaking to them in these ceremonies.

In the Mother Corn ceremony, smoke offering is first made towards the Southwest, the quarter dedicated to the Thunder, the Water of Life; then to the Northeast, the quarter dedicated to Mother Corn, the Giver of Food; then to the Northwest, the quarter dedicated to the Wind, the Breath of Life; then to the Southeast, the quarter dedicated to the Sunrise, the Energizer and Reviver of all Life; then to theWest, the place of the altar and of the Sacred Bundles; then to the two doorposts, the stations of Holy Grandfather

Rock and Holy Grandmother Cedar Tree; then to Mother Earth, and last to The Chief Above, Almighty God, Ruler of All.

Acer negundo L. Boxelder *Nisitc*

The Arikara name of the tree is *Ohwhaku*; the name of the seed capsule, *Nisitc*, means "knife," because of the resemblance of its shape to that of a hunting knife. A charming and fanciful story for small boys, as told among the Arikara, in connection with this resemblance has been set down already on other pages, q.v.

The branches of the tree were used for making hoe handles.

Vitis sp. Wild Grape *Scekaraku*

The fruit of the wild grapes were used for food cooked into a sauce or the fruit was dried to store for future use.

The leaves of the wild grape were used for playful divination by girls and young women. For this purpose a young woman, being in the woods where grapes abounded, would pick a grape leaf at random while thinking of her sweetheart. If she finds the mid-rib of the leaf branched in four veins she may trustfully accept him, but if only two veins are found in the leaf, she must not marry him or they will have bad luck.

Malvastrum coccineum (Pursh.) Gray False Red Mallow *Patuna-kasu*

Arikara name, *Patuna-kasu* means "cut vein," *patuna*, "vein," *kasu*, "cut."

The stems and leaves of this plant were dried, ground fine, and the resulting powder made into a paste in the mouth and applied as a plaster to a cut to stop bleeding.

Mentzelia decapetala (Pursh.) Urban and Gilg. *Narukahus-taka*

Arikara name, *Narukahus-taka*, means "white flower," *narukahus*,"flower;" and *taka*, "white."

The flower was used as decorative patterns in porcupine quill designs. A part of this plant was also used as a brush for decorative designs to be worked on clothing; the part used for a brush was the fine, hairy substance on the ovary after the flowers are gone.

Eleagnus argentea Pursh. Silver-berry Bush *Natara-kapacis*

The Arikara name, *Natara-kapacis*, means "We are poor," from *natara*, "we," and *kapacis*, "poor." This name is probably due to the legend connected with the use of the leaves of this shrub to make a pleasant hot beverage. This legend q.v., has been recorded already separately elsewhere in my field notes for this year.

Apocynum cannabinum L. Dogbane, Indian Hemp *Swa'nik'*

The fibers of the stalk were used to make cordage. For this purpose, the stalks of the previous year were used. Standing many months where they grew they were naturally retted by weathering. These stalks were gathered, hackled by the teeth of the operator, carded by his fingers, and the fibers twined by rolling under the palm of the hand of the bare leg. Such rope, twine and string were used for all purpose for which cordage of any kind was required.

The roots of the plant were used medicinally. Mixed with some other plant products not yet identified, and finely pulverized, it was presented to the nostrils of a patient in a stupor, and it caused him to rouse.

Asclepias syriaca L. Common Milkweed *Sako'gahgah*

This is a useful food plant. The young sprouts, the tender young leaves and tips, and the bud clusters and young seed pods were stewed either alone or with green or dried corn or with buffalo meat.

According to the "doctrine of signatures", the milky juice of the milkweed was used as a remedy in case a mother had an insufficient flow of milk to suckle her baby. For this purpose, the milky juice of the plant was drawn out and mixed in with the strained juice of fresh green corn, or of stewed dried green corn. The woman would drink this mixture. If corn could not be had, she would drink the pure juice of the milkweed alone. For four days after childbirth, the dose is one half cupful morning and evening. After four days, the quantity she may drink is not limited by prescription.

Agastache foeniculum (Pursh) Ktze. Wilk Anise *Kahts-waruhti*

The Arikara name of this plant, *Kahts-waruhti*, means "holy medicine," from *kahtsu*, "medicine," and *waruhti*, "holy."

The leaves and tops of this plant were used for a perfume, being put away with clothing as lavender

is by white people. It was used also to make a drink like tea, being steeped in hot water. It was regarded as a pleasant, cooling drink for hot weather. The infusion of its leaves was also taken as a remedy for fever. The leaves were used to rub on the body in the bath lodge for their cooling effect after the hot vapor bath.

Monarda fistulosa L. Horse Mint *Katitwasauh*

The name *Katitwasauh* means "round-head plant."

There are two forms of *Monarda*, both of which white botanists call *Monarda fistulosa*. They are, however, distinguished by Indian botanists as two different species and used for different purposes and have two different names. As specifically differentiated by the Indians, one species is a robust plant and has a strong smelling odor, and the other is more delicate in structure and also the whole plant is very fragrant. These distinctions hold true in my own observation.

The one here considered is the fragrant one, and its leaves were used for tea and also to perfume clothing, and especially as a perfume for pomade for the hair.

Nicotiana quadrivalvis Pursh. Arikara Tobacco *Sakawiuh*

This is the species of tobacco, which has been cultivated by the Arikara since ancient time till the present. It is not now used for common smoking, but only for ceremonies. It is used in all ceremonial smoking. When an old man dies some of it is placed in his coffin. When a person is sick this tobacco is burned on coals as in incense to all dead relatives of the sick person and to all the elements of the universe as a prayer that the disease may be removed and the person may recover.

Symphoricarpos occidentalis Hook. Buck Brush Kapiniwuh

The name *Kapiniwuh* means "broom." It was so called because this brush was gathered into bundles to be used as brooms in sweeping the house floors and the ground about the doorways of the houses.

Cucurbita foetidissima HBK. Wild gourd

This plant is not indigenous in the Arikara country, but they are acquainted with its medicinal uses, and they import it from the south. It is native in western Nebraska and southward into Mexico. As among

other tribes, the root of this plant is very highly prized as a remedy for almost all ills. Among many other uses, it is employed as a remedy for ulcers and old, obstinate sores. The dried root is pulverized very finely and dusted over the sores.

As a remedy for dropsy, the dried root is finely pulverized and mixed in water to drink. At the same time, the pulverized root mixed with the fat of a snapping turtle is applied as an ointment to reduce the swelling and inflammation.

Grindelia squarrosa (Pursh.) Dunal Gummy Weed; Sticky-head *Pahcisisu-dadu*

The Arikara name, *Pahcisisu-dadu,* is compounded of *pahu*, "head," *cisisu*, "gummy filth," and *dadu*, "plant." The plant is of the family called composites, the family which included daisies and sunflowers. The bracts under the flower head are closely imbricated and are sticky with a resinous exudation. The ray flowers are bright yellow. The round head with its spreading yellow rays suggests, to the Indian beholder, a warrior's head crowned with a brilliant yellow feather war bonnet. And because of the stickiness of this resinous head it is compared to the sticky, dirty head of the one who has neglected washing and caring for his hair, hence the name, which means "sticky-dirty-head-plant."

Young women sometimes made use of the resinous heads of this plant in making their toilet for some public entertainment when they gave particular attention to their appearance. They rubbed over their hair, after they had combed it the way they wanted it to stay, the resinous heads of this plant in order to make their hair lie in place as they wanted it.

Arrow makers used the resin of this plant to attach the plumes to their arrows. They would take a bunch of these flowers and would run their sinew thread through them to gum it as a shoemaker makes a "waxed-end" of his sewing thread by passing it through a ball of shoemakers' wax. The Arikara arrow-maker then, with his gummed sinew thread wrapped the plumes very securely to the arrow-shaft.

Grindelia heads were used in conjunction with the pulverized root of *Amorpha microphylla* before mentioned, to make a styptic for wounds. Even if the *Grindelia* heads be dried they can be used for this purpose by moistening them with water, then their adhesive quality is recovered.

Iva xanthifolia Nutt. Marsh elder *Hawah-tatu*

The Arikaras say they formerly used this plant for potherb while it was young and tender. They cooked it as greens seasoned with alkali salt and suet. They said it tasted somewhat like string beans.

Having no alkali deposits in their country, they often made use of the salts deposited by evaporation in alkali flats. For this purpose, the white dust was swept up and placed in vessels and dissolved out in water. As the salts were taken into solution, the earthy matter was deposited as a sediment and after settling the salt solution was poured off into vessels and used as required in cooking.

Ambrosia

Echinacea angustifolia Moench. Purple Coneflower *Sapita-tahok*

The Arikara name, *Sapita-tahok*, is compounded from *sapita*, "hand," and *tahok*, "to whirl." It is so named from a children's game in which one coneflower stalk is held horizontally in hand and another is whirled vertically upon the first, the two stalks being in contact at the heads.

Lepachys columnarus (Sims) T. & G. Yellow Coneflower *Sahtiko*

Arikara name, *Sahtiko*, means "mouse-tail."

When a sinew snare was set for catching small animals, the seeds of this plant were scattered over it to mask the human odor.

Helianthus annuus L. Sunflower

The flower heads of sunflower were used in play by little boys for war bonnets.

Sunflowers were grown for their seeds used as food and a source of cooking oil. One use of sunflower seeds was to make what was commonly called corn balls. This article of food was composed of one part of parched sunflower seed ground to meal mixed with three parts parched sweet corn ground to meal. The sunflower meal and cornmeal were mixed and pressed together into spherical cakes and were very much liked by the Arikara, and also other tribes who cultivated corn and sunflowers. Wild sunflower seeds were also used for food. Arikara people told me that though the seeds of the wild are inferior in size they are superior in flavor.

Helianthus tuberosus L. Jerusalem Artichoke *Cowht*

The tubers of this plant were used for food, commonly eaten raw as a salad.

Artemisia frigida Willd. Least Wild Sage *Cewaut*

This plant is used medicinally and in religious ceremonies. In ceremonies, a bunch of this species is used to represent those who have gone before. For example, Albert Simpson so used a bunch of this species to represent and to honor the memory of Crowghost, Four Rings and others who had been his teachers in the ritual.

The fourth day after a death, a funeral feast is given after sunset and a bunch of this species of *Artemisia* is placed in front of the priest who is conducting the ceremony, to represent those who had passed away, one stalk in the bunch to represent the recent deceased in whose memory this ceremony is held. When the funeral feast is to be served, a dish with a bit of each sort of food prepared for the feast is set on this bunch of *Artemisia frigida*. After the close of the ceremony the next of kin, the widow, son, brother or other relative will take the bunch of *Artemisia* and the dish upon which the food offerings are placed and carry them out and place them on the grave of the recently deceased. After the feast is finished, the priest in charge of the ceremonies takes a bunch of this *Artemisia* and brushes to the right, left, front and all around all the remnants of food which each person has left over, beginning at the doorway and passing to the left at the south side, around to the altar, then he comes back to the bits of food at the waters' station and brushes around them likewise, then crosses over and beginning at the altar does the same with the remnants of food each person on that side has before him, and so on to the doorway, then returning to his place he does likewise for himself. He brushes away on the right side, then the left side, the front and back, then brushes at each pass. This brushing around the food is in dismissal of the spirits of the dead who are supposed to have sat with the living at the feast. This act is to let them know that the feast is now finished and that they may go. After this is done, the people gather up the remnants, which they had not eaten, and place them in the bags which they had brought along for the purpose of carrying home whatever food is left over. This is according to custom for food is held sacred and must not be wasted. And at any time when food is served more than can be eaten, the person so served is expected to pack away the superfluous food and take it home with him.

This species of *Artemisia* is also used as a brush in the sweat lodge to drive away any disease or evil

which might be lurking there. This is to avert evil from the person who is taking the treatment of vapor bath.

Artemisia tridentata Nutt. Common Sagebrush. *Nagadina*, *Napaut*, *Napo'nawis*

The name, *Nagadina*, means "Mother (Corn) Wood."

The wood of this shrub has many uses. Among these are the following: for pipe-cleaners, pipestems, basket-rims, basket handles, frames of baby cradles, decorative rings for bridles, earrings, hobbles for horses, and many other things. When used for hobbles they are linked together by thongs. By greasing, heating and straightening it would serve for arrow shafts, when nothing better could be had. The long stick on which are attached the ground rattles of the Sacred Bundles is of sage-brush wood straightened by greasing and heating.

Artemisia gnaphalodes Nutt. Wild sage or Mugwort *Cewo-nansisu*

The Arikara name, *Cewo-nansisu*, means "the real Artemisia."

In the ceremonies in the Holy Lodge this species represents all the different elements of the Holy Lodge; the four main posts in the circular wall of the lodge, the fire, the buffalo skull, the cedar, the rock, all vegetation, animals, birds and all living things, Mother Corn, the four mystery societies, that is, the Society of Ghosts, the Buffalo, the Owl and the Bear, and all departed persons.

This species is also used medicinally, especially in the vapor bath lodge.

Cirsium undulatum (Nutt.) Spreng. Thistle *Neskotc*

Arikara name, *Neskotc*, means "sharp."

The down of thistles was used in ancient time for decorative material on garments. For this purpose the thistle down was dyed and twisted into a fine yarn to use in embroidery in a similar manner as porcupine quills were used and as moose hair was used by the Indians of eastern Canada.

Thistle stalks were used by fasters to keep themselves awake while holding their vigils. They placed thistle stalks about themselves so that if they should fall asleep they would fall upon the thistle stalks and so be awakened.

Lycoperdon gemmatum Puffball *Ka'*

Calvatia cyathaformis	Puffball	*Ka'*
Bovista plumbea	Puffball	*Ka'*

Before maturity, while firm and white, puffballs were cooked and used for food. When ripe the puffball, as indicated by name, becomes a mass of dry, powdery spores. These spore masses were used by Arikara, and other Indians for their absorbent property. They were used on infants as talcum powder is used by white people. They were also used as a styptic to stop the flow of blood from wounds and other hemorrhages. When the umbilical cord of a new-born infant was cut, a puffball was bound upon it.