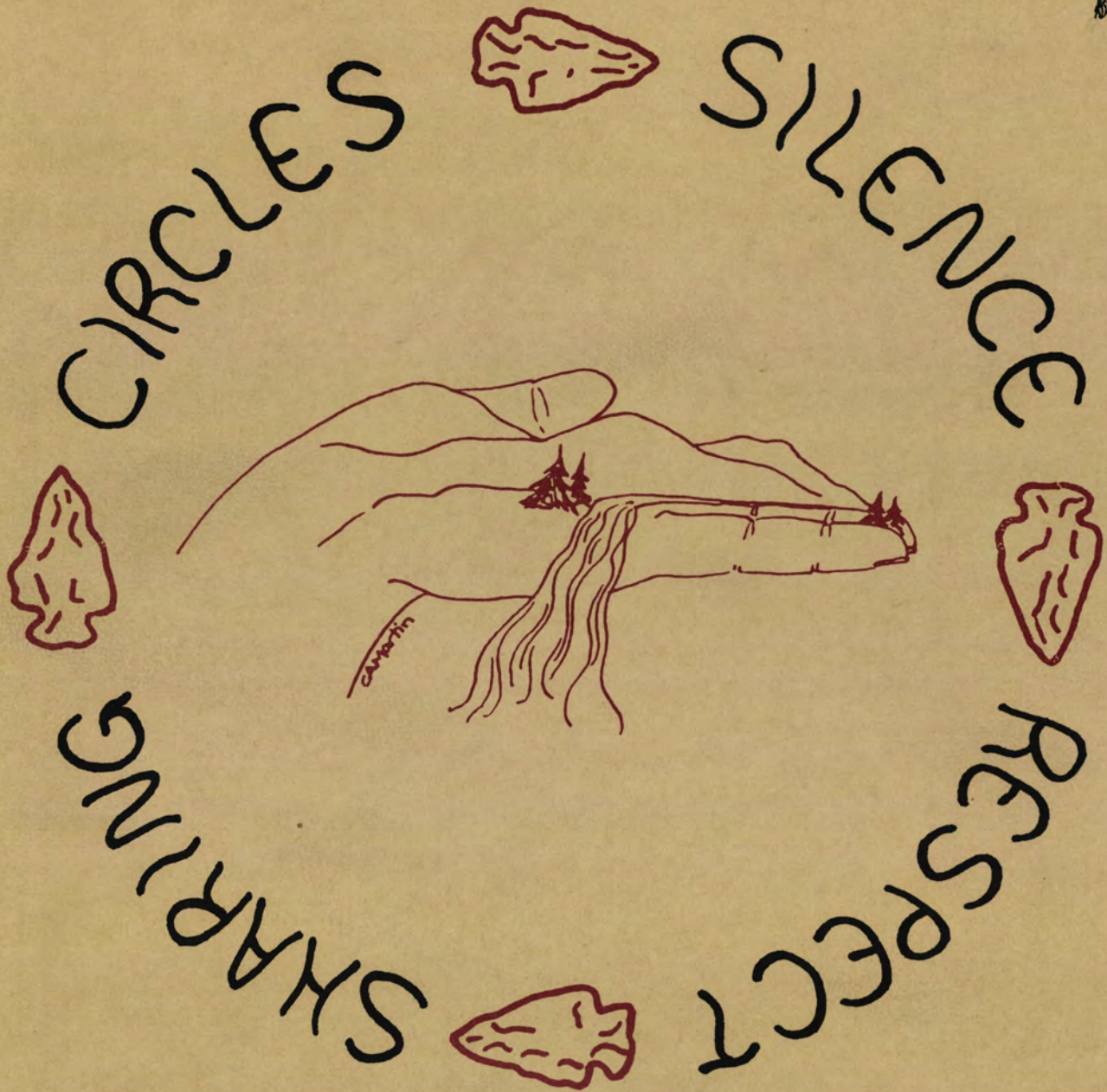


Nature Study



Native Americans

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NATIVE AMERICAN PLACE NAMES AND THEIR SIGNIFICANCE

Charlotte Baybutt

Native Americans, like other ethnic groups, used descriptive yet simple terminology in designating places. Early white settlers discarded many Indian names in favor of ones of their own choosing. A look at any map, however, reveals the Indian influence that persists. From Nashua, NH and Canajoharie, NY, to Minnewaukan, ND and Winnemucca, NV, the legacy of the Indian lives on.

We all can recognize the beauty in an Indian place-name. Names like Chillisquaque ("place of snowbird"), Susquehanna ("beautiful smooth water" or "straight flowing stream"), and Tulpehocken ("land of the turtles") just can't be compared to Potsdam, Peoria, and Plainview. But Indian place-names are more than just beautiful, and sometimes, unpronounceable.*

These place-names provide us with the means to study Indian culture. They find their roots in points of geography, settlement, and significant events. Uncovering the meaning of a local place-name reveals the history of the people of that area. In the classroom, such research can be the springboard for discussion of Indian values, folklore, and legends.

Places were bestowed with names by the Indian for a purpose. The name Secaucus, which translates to "black snake" or "fright land" (because of the snakes), warns others of what to expect in that area. The joining of two

branches of a stream is designated by the name Neshaminy, or "double stream." It has been said that Indian chiefs would often change place-names to confuse enemies known to be approaching. Place-names might also signify an important event that occurred at that spot.

Native Americans held a deep respect for the land, so it is not surprising that many Indian place-names are descriptive of natural features. Buc-kabuck-ka, or "mountains butting opposite each other," is the appropriate Indian name for the Delaware Water Gap. This is the point where the Delaware River makes a deep cut as it passes through the Blue Mountains.

Since the time when a name was given, however, the landscape and topography may have changed. "Beautiful meadows" may now be a parking lot. Coaquannock, the Indian name usually applied to the site of Philadelphia, has been interpreted as "the grove of tall pines" or "tall pine tree stream." Still, we can learn of what a place once was by discovering what the Indian called it.

For those interested in learning more about Indian place-names and their significance, a partial bibliography follows. A trip to your local library should provide you with any further information you might need. For a wide selection of references look under American Place Names as well as Indian Place Names.

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* Ed. Note: One of the longest on record is Lake Chagogagogmanchaugagogcharbunagungamaug, in central Massachusetts, roughly translated "you fish on your side of lake, I fish on mine, no one fish in middle."

Charlotte Baybutt is a photo-journalist at Pocono Environmental Education Center, PA.

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NATURE IN NATIVE AMERICAN MYTHS:

A Program in Environmental Ethics

Michael J. Caduto

Up until a decade ago, few people believed that any permanent Indian settlements occurred in Vermont. Fortunately, a number of professional and amateur anthropologists have dedicated much of their life's study to uncovering the archaeological, oral and living history of Vermont's native people. Today, it is generally accepted that permanent Indian settlements were located in Vermont as early as 11,000 years ago. Cultural continuity and development can be established as having existed among these settlements during the past 6,000 years. Family bands were concentrated along the northern shore of Lake Champlain near the mouth of the Mississquoi River, and in the Connecticut River Valley.

During the past 2 years I have designed and presented a Native American education program around Vermont. The focus of the program has gradually evolved into "Nature in Indian Myths." People's behavior toward the environment is a primary concern of the Vermont Institute of Natural Science, and Native American cosmology is fertile educational ground for teaching positive environmental values.

A variety of teaching techniques are used in Nature in Indian Myths, including storytelling, free association, play-acting involving members of the audience, dancing and sharing of artifacts during a question and answer period about Vermont Indians. I have presented the program to elementary school classes and the general public around Vermont and New Hampshire, and as a workshop at the New England Environmental Education Alliance Conference in Southwest Harbor, Maine, in October of 1983. The program has received an enthusiastic response and has stimulated participants' natural curiosity about the original people of the northeast.

Four lessons are taught through the sharing of Indian myths. These have been distilled from Native American beliefs that have been garnered from oral and written research and personal contacts around New England and in the Midwest. Emphasis is placed on some original material learned from Tall Oak, a Narragansett Indian, and on recent findings about Vermont's Indians, the Western Abenakis, whose name means "Dawn Land People."

Much of this information, and pointers for further contacts and sources, has been shared by John Moody, a local historian, and Joseph Bruch III, an Abenaki poet, philosopher and novelist of Greenfield Center, New York.

We begin the program with a story of how Tabaldak, the Owner or Creator of earth, made people.

Tabaldak carved the first man and woman out of stone, but these did not please him for they were cold and lifeless. He broke them into pieces and threw those aside. Tabaldak then carved a man and woman from the wood of the sacred ash tree, which he shot with arrows of power that brought them to life. These became the ancestors of all people.

When Tabaldak was done with his creation he brushed off his hands and the dust fell earthward. A new being sprung up from this dust who was called Odziozo, a name meaning "he who created himself from dust." Odziozo was the changer or transformer of the landscape. Wherever he sat an ocean formed. His

footsteps filled with water to create lakes and ponds. When he kicked his feet or moved his arms he pushed up the mountain ranges and hills. Rivers formed wherever Odziozo dragged a stick, leaving a long, deep furrow that filled with water.

Odziozo grew wise as he molded the earth and in time his work was nearly complete. He went to a place far to the north and there, between two rows of beautiful mountains, he created a magnificent lake. So pleasing was this final work that Odziozo wanted to gaze out upon it forever, so he sat down on an island and changed himself into a rock. Today this water is called Lake Champlain and Odziozo is known as Rock Dunder. As late as the 1940's the Abenakis canoed out to this island, located in Burlington Bay, Vermont, to leave offerings for Odziozo.

Following the story of creation we discuss circles, the dominant shape that Indians saw in nature, as in the sun, moon, earth, trees, rocks and seasons. Then, through a question and an-



Telling story of creation - Tabaldak, Idziozo

swer period, we see how natural events are *cyclical*, like the cycle of tree growth, seed production, death of the tree, return to the soil and finally seed germination into a new tree. A Narragansett Indian dance follows to honor the circles and cycles of nature. Next comes an event that is the heart of the program. Everyone lies on her or his back, eyes closed, and imagines the following journey that accurately depicts the nature of Abenaki existence, and shares some important lessons that are commonly found in Native American cosmology. A drumbeat accents the action in this fantasy journey.

Our journey begins in the pine woods. As we walk, the wind sighs through the pine boughs and causes them to wave. Little patches of sunlight shine on the soft pine needles beneath our feet. A twig cracks underfoot. There is a clearing in the distance and a gentle curl of smoke rises into the sky. The smell of burning wood meets our noses as we approach.

In the clearing are some long, white shelters made of birchbark wrapped around poles. There are holes in the roof for chimneys and smoke pours out of them. Many lodges are arranged in a big circle that is surrounded by a high log fence. We walk over to one house and feel the lines in the birchbark on its side. There is a pair of snowshoes leaning on the house.

We turn and walk to a great fire-ring in the center of the camp, where a group of men and women are warming themselves by a blazing fire.

The women wear their hair long, as do the men. Women are wearing leather skirts and leggings with mocassins attached. A blanket covers their head and flows down over a leather coat. Men wear a small, shirt-shaped piece of leather and leggings also. But on their head is a hood-like cap with two feathers sticking out of the tip. A bow and arrows are carried by the men, along with spears and knives that are laced to their belts.

Soon the men leave the fire ring, carrying their weapons, and walk through the pine grove.

Some faint deer signs are found and two of the hunters begin to



Doing the circle dance

follow the trail very quietly. After a long, slow, tiring search some animals are heard chewing on the buds of small trees up ahead. The hunters creep closer and look through the branches of a low bush - the animals are deer! And so we learn one of the lessons of survival in nature - SILENCE.

In an instant several arrows are strung and sent whistling through the air. Only one deer is shot and it falls kicking on the ground, blood flowing from wounds in its side. One deer alone is taken because the others are needed to keep the herd alive for the long winter. A second lesson of survival in nature is learned - RESPECT - respect for other life besides people.

The men quickly skin the deer, cut it into pieces and lash these onto a pole which is carried between them on their shoulders. When they arrive in camp much laughter and happy screams can be heard. "A successful hunt," cries a child. "We will have food."

But the deer is not kept by the hunters and their families, it is cut into smaller pieces and given to all those who need food. The final lesson is learned of how people can survive in the natural world and with one another - SHARING - sharing the gifts of nature.

SILENCE - RESPECT - SHARING

- CIRCLES - these are lessons to be remembered each day. If we live by them we will be able to exist in peace and harmony with the earth, other people and all living things.

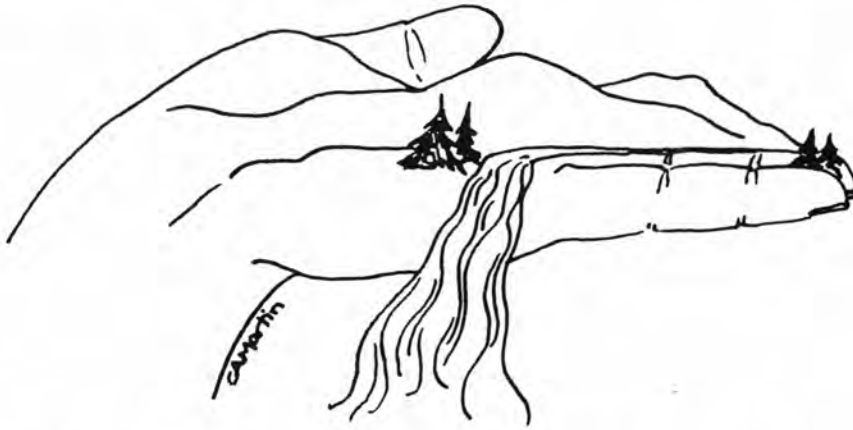


Participants are given a few moments to reflect on the Journey, then they open their eyes and sit up. We use artifacts to learn about the archaeological and cultural history of the Abenakis as well as their present-day circumstances. This is done through questions, answers and stories that recall what it would have been like to have grown up and lived as an Abenaki. The program concludes with a ceremony during which each person strings a necklace with four wooden beads, reminders of the four lessons that guided the Northeast Indians in their conduct

toward each other and the environment. □

Michael Caduto is an author and free lance environmental educator associated with the Vermont Institute of

Natural Science, the Community College of Vermont, and the University of New Hampshire Extension. He is currently writing a book for UNESCO and another for Prentice Hall.



The Center for American Archeology: A Pioneer in the "New Archeology"

Robert W. Kling

Since its inception twenty years ago, the Center for American Archeology (CAA) has sponsored research and training programs at archeological sites across North America. Under the direction of the Center's founder and president, Dr. Stuart Struever, CAA's mission has been to conduct comprehensive research into the life-ways and civilization of prehistoric America. Through its work the Center seeks ways to share the insights, excitement, and adventure of archeology with as many people as possible, and to conserve North America's archeological record by preserving or excavating important sites before they are destroyed forever by construction or vandalism. This rich record of North America's ancient life is a non-renewable resource which once disturbed can never be replaced.

The three facets of CAA (research, education, and conservation) and their inter-locking activities may be observed at the Center's two residential campuses. At its 24-building complex near St. Louis, the Kampsville Archeological Center is the focus of the most ambitious archeological program in American history. The long-range goal of the Kampsville program is to write a comprehensive history of 12,000 years of human life in the lower Illinois valley – one of the richest archeological zones in the United States. Beginning

in 1968 with the discovery of the famous Koster Site, the Kampsville project has expanded to cover 26 major excavations and has involved more than 15,000 persons of all ages. In its studies the Center directs special attention to one of the great civilizations of the New World – Cahokia, a city of perhaps 30,000 inhabitants where small factories produced consumer goods such as copper tools and great works of art. Much of the work in Kampsville focuses upon prehistoric sites once occupied by rural, independent settlements surviving on agriculture and wild game. These family-based societies were absorbed into the urban culture dominated by Cahokia and the Center seeks to better understand the events of this important transition from rural to urban society.

The Center's second, and most recent campus, is the Crow Canyon Archeological Center near Cortez, Colorado, in the Four-Corners region of the Southwest. Crow Canyon is nestled in a pinyon and juniper forest located at the foot of Mesa Verde. A new lodge, integrating frontier and prehistoric motifs into a contemporary design, contains accommodations for 42 persons, kitchen and dining facilities, and a library clustered around a moss rock fireplace. The Crow Canyon research laboratory is just a few steps away from the main lodge.

Crow Canyon lies at the crossroads of the overlapping histories of the American Southwest. The goal of the Crow Canyon research archeologists is to trace the human saga of the region from the arrival of its first people at least 11,000 years ago, through the development of the complex Anasazi (Pueblo) civilization, to the decline of that civilization in about A.D. 1300. The Duck Foot archeological site is one of two areas currently under excavation by Center archeologists and students. The site, which dates to A.D. 850, is a Pueblo I village of 15 rooms and three pithouses. During the first week of excavations in 1983, a high school student located an unusual ceramic webbed foot, thought to be the base of a vessel; hence the name of the site – Duck Foot. This Pueblo dwelling was most likely occupied by two or three extended families and the Center's work there will seek to illustrate what the Anasazi lifestyle was like one thousand years ago. At the end of the 1983 field season, Crow Canyon archeologists reached the bottom of one of the pithouses to discover that it had burned, trapping its inhabitants along with all of their day-to-day artifacts. This exciting discovery has afforded the Center the opportunity to glimpse a moment frozen in time for the past millennium.

The second site under excavation at the Crow Canyon is Sand Canyon Pueblo. Twice the size of the largest cliff dwelling at Mesa Verde National Park, the Sand Canyon ruin is bounded by a stone wall almost a third of a mile long with eight stone towers spaced along the wall. More than 90 underground ceremonial chambers and an estimated 500 rooms are included in this ruin which dates to A.D. 1300. Equal in scope to Pueblo Bonito at Chaco Canyon, this ruin represents an opportunity to utilize the most sophisticated archeological techniques to investigate the function of this site and the possible causes of regional abandonment by the Anasazi peoples 700 years ago.

In addition to its excavations in Kampsville and Crow Canyon, the Center conducts numerous programs in Native American studies. Archeology seeks to understand, as well as uncover, ancient cultures and CAA has found that one of the best ways to develop an appreciation for and understanding of the lifeways and accomplishments of prehistoric man is to experience them. It is for this reason that the Center has developed studies in Native American technologies at

both of its campuses. The Ancient Life-ways program at Kampsville is directed by John White, an anthropologist of Cherokee and Scottish descent. With Mr. White's experienced guidance, participants come to know in an intimate way the ancient Woodland traditions of eastern North America. As they recreate the activities of thousand-year-old cultures, students and adults gain new insights and respect for these vanished civilizations. Included in Mr. White's program are activities in ceramics, stone toolmaking (flint knapping), weaving and basketry, and Native American construction techniques.

The Native American Studies program at Crow Canyon is conducted by Bruce Bradley, a research archeologist and expert in lithics and experimental archeology. Included in Dr. Bradley's program are activities in pottery, stone toolmaking, and a specialized workshop entitled "The Primitive Harvest" which is centered around the Crow Canyon Indian garden and examines the skills of the Anasazi tradition in harvesting, processing, preparing and storing food stuffs in the fall. Participants in this program prepare stone tools for harvest purposes and learn the various techniques for basket-making and cordage necessary for collection and storage.

By involving the public in its research, the Center has demonstrated for over 20 years that adults and students as young as twelve can make a significant contribution in unlocking the archeological record of North America. In working with younger students the Center's aim is not to train future archeologists; rather it seeks to instill a respect for the scientific approach, the capacity to work as part of a team, and the ability to follow directions under close supervision. By becoming directly involved in the daily work of archeology, students develop a deeper understanding of the methods which apply to all sciences – attention to detail, the process of interpretation and deduction, and the interrelationship of scientific disciplines. For the first time, many students see science being practiced in the real world, an experience which may lead to greater and renewed interest in learning and academic pursuits.

The Center for American Archeology publishes an annual catalog of its educational programs which contains complete information on the activities and opportunities for the general public at

both the Kampsville and Crow Canyon campuses. For a complimentary copy you may write to: Educational Programs, Center for American Archeology at Northwestern University, P.O. Box

1499, Evanston, IL 60204. □

Robert Kling is Director of Education for the Center for American Archeology.



Student archeologists here are carefully exposing some mussel shells that had been used as food at a village covered long ago by soil erosion from nearby hill. Each piece must be carefully drawn on a chart of the "square" assigned to them. Size & locations of all "cultural data" are carefully measured so that all information can be reassembled later like a scientific jig-saw puzzle.



THE CHIEF'S POINT

Mary U. Chiltoskey

A sizable piece of rock outcropping between U.S. Highway 441 and the Council buildings of the Eastern Band of Cherokee Indians in Cherokee, North Carolina, is alive with activity at the present time. This rock complex is the foot of Mt. Noble where the Cherokee Indian Boarding School, founded by the Quakers in the 1880's, was located and remained a 12 year school for several years after the boarding facilities had served their purposes. When two large trees, an American Beech (*Fagus grandifolia*) and a Southern Red Oak (*Quercus falcata*) were removed in the interest of safety this Spring, many memories were awakened in the minds and conversations of former students, teachers and friends of the old school.

Alert to any idea or action that would tend to preserve the sacred past of his people – the Cherokees – is one who attended the old school, served in the

United States military service during World War II and was elected to the office of Principal Chief of the Eastern Band of Cherokee Indians in 1983. This man is Chief Robert Youngdeer. With this man's background, it makes it easy for those who are working daily and weekly to restore this sacred bit of ground. They speak unofficially of it as "The Chief's Point."

Many plans are in a state of either being made a reality or suggested for further implementation. Before much could be done the overgrowth of Poison Ivy (*Rhus radicans*) needed to be destroyed without doing away with the many wild plants that helped to make the point sacred to former students and teachers who had, during Boarding School days, spent hours gathering and planting the pretties from the surrounding area. The replanting of these salvaged plants will soon be done. As time goes on each

former plant that does not again take root on the point will be replaced by another of its kind. A careful listing has been made of what was alive before the destruction of the Poison Ivy. This listing will continue throughout the year.

The following trees growing on the point were used by some of the villagers to keep the Council fires alive: Oak, Hickory, Beech, Birch, Maple, Sourwood, and Locust. This knowledge is sacred to the Cherokee.

As the work progresses on the re-setting and nurturing of the native plants to make the sacred "Chiefs Point" a place of beauty, the sharing of Cherokee Legends by both old and young has become the most sincere desire of the workers. It is through these legends that we know how the Cherokee of ancient times developed the deep relationship with a Being more powerful than himself.

To the Cherokees, the white man's "Good-bye" means, "I'll never see you again anywhere." He prefers to say, "Da na dega hunh" which means, "I'll see you again, even if 'up there'." As he says this, he points to the sky where he knows a Powerful One is always standing by.

Memorial plaques inside a raised seven-pointed bed of small rocks, a concrete Seal of the Cherokee Nation, and concrete walkways are being planned and sketched. The old stone wall along the side next to the highway is being repaired by the Job Corps boys in the same manner as it was originally made by the Boarding School boys – using rocks from the Oconaluftee River just across the highway.

As a variety of friends work together under the able direction of the Agricultural Extension Agent and the Home Economics Extension Agent, much of the snatches of conversation that is heard has to do with reference to a Cherokee Legend or an account of something about a bit of nature as had been told to the speaker by some older Cherokee person.

From that long ago time, before the use of written history to the present day, the Cherokee people of what is now North Carolina have used stories to explain or illustrate a point. These stories have come to us by word of mouth, thus acquiring the name of legend or myth. We might think of an old Indian answering a child's question, "Why," with an interesting story. Today, many people are wanting to know about the Indians, and these

same old stories may be told with a modern twist, to describe a people of one area to those of another background. With this in mind, let us have a legend or so.

Smoky Mountains and Indian Pipes

Before selfishness came into the world – that was a long time ago – the Cherokee people were happy using the same hunting and fishing lands as the neighboring Tribes of Indians. But all this changed when Selfishness came into the world and men began to quarrel.

The first quarrel of the Cherokees was with the Tribes of the East. Finally, the Chiefs of the Tribes met in council to try to settle the quarrel. They smoked the pipe and quarreled for seven days and seven nights.

The Great Spirit was displeased because people are not supposed to smoke the pipe until they make peace. As He looked down upon the old men with their heads bowed, He decided to do something to remind all people to smoke the pipe only when making peace.

The Great Spirit turned the old men into grayish-looking flowers that we now call "Indian Pipes" (*Monotropa uniflora*) and made them grow wherever friends and relatives have quarreled. None of these flowers has been found among the many plants on this Point. We know that no friends or relatives have quarreled there.

The Great Spirit made the smoke; people all over the world learn to live together in peace.

The Corn Maiden

When the Great One (you may call him God) made the first four colors of men to be put here on earth, he made the Red Indian for the Americas. He put the Cherokee man in the Southern Appalachian Area. The Great One showed him how to make a bow and arrow so that he could get food, meat, and some of the other things he needed in order to live.

The man wanted only to kill animals whether he needed the meat or not. This disturbed the animals very much. The deer knew that man would have to depend most on his clan for what he needed such as food, clothing, medicines, and some of the tools. The deer were willing to share themselves with the man who had been given a strong brain meant to be used to make the world a better place for both men and animals. After a few days of humans being on earth, so many animals

had been killed and not used that the whole place was permeated with a very unpleasant odor, and besides the animals were afraid they would soon be gone. More deer had been killed than any other animal. Man seemed to get great pleasure out of shooting the beautiful, graceful deer and then just leaving them to rot. It was getting to be quite a mess. The animals decided to do something about it.

It is no surprise to us that the deer took the lead in calling this Council to make a decision. As the Council gathered heads of all clans to talk, everyone seemed to be in agreement that Man should be disciplined. Something had to be done or the animals would soon be gone. A very small animal spoke up and said that he thought they should call on the Great One to come down to the Council because after all the Great One had sent the Man and surely he would have some idea of what to do about the problem. They called the Great One. He came immediately and asked, "What is your problem?" They told him that man was needlessly killing animals, and that they would soon be gone, which meant that Man of course would not be able to survive if he did not have the animals to depend upon. The Great One replied, "Well, maybe Man is just a little slow about learning. Suppose we give him two or three weeks to see if he can't get himself together and begin to do these things he has been told to do. I tell you, I'll just go back to Falunladid, you know that place up above the sky, and in a couple of weeks, I will return and see what we can do."

"Oh, Sir, I hate to disagree with you," said the leader of the deer clan, "but it seems that you didn't quite get the point of our problem. Now, if you will just come over here so you can look to the outside, I think you will see what I am talking about."

The Great One looked outside and there was Man right in the middle of the day lying down on his back in the broad open sunshine sound asleep with his face turned up to the sun. "Now look, Sir," said the deer, "you know that we larger animals hunt a cave or thicket to go into when we want to sleep, and the middle sized animals will crawl under a log or into a hollow stump or maybe go into a small cave. Why, even the smallest creatures that you made, the insects, have sense enough to curl a leaf around them when they want to sleep. But, look at this creature, the one that you say has

such a wonderful brain. Why, he doesn't have sense enough to get out of the hot sunshine when he wants to go to sleep." "Oh, thank you, thank you," said the Great One. "You have brought to my attention something I had forgotten. I will take care of it right now. You fellows can watch me if you want to, but just stand back and give me a little room."

As the creatures moved back to a respectable distance, they began to realize that right above the Man's heart a plant was growing, a straight plant, that grew tall and gracefully up toward Heaven. On the plant's right appeared long blades, ribbon-like leaves that hung gracefully pointing toward the earth. The creatures thought it was a beautiful sight, but up at the top of the plant was the most beautiful part of all. Suddenly, a woman appeared. It was the first woman sent to be Man's Companion, because the Great One realized he had forgotten to make a companion for the man. Although humans needed some time to be alone, the Great One knew they also needed companions.

At first the man lying there thought he was only seeing this beautiful woman in his dreams and thought, "Oh, how I would like to have her as my companion, as my helper. Then, I think I could do those things that the Great One wants me to do." As soon as he said this, the Great One, who knew all things, made the man realize he wasn't dreaming, and that this woman was created for him.

So the man crawled out from under the stalk of corn (for that was the plant growing above him). He dusted himself off, stood up straight and with the most beautiful manner he helped this creature down from the plant to the earth by his side. He put his arms around her and claimed her as his own. They started a short distance away to build a home, their first home. But, before she left this plant, she plucked two of the ears; this was the season of the year when the corn was ripe. So she took the corn with her to her new home. Any why do you think she took it? No, she didn't take it for food. She didn't know that it was food. She took it because she wanted what everyone wants. She wanted something of her heritage. Something of her background. Something of her roots to go with her.

Every spring, she planted some of the corn, keeping some kernels during the winter until the next spring so she

could have fresh corn to plant. It was pretty growing up near the cabin door. She thought of it as we think of our roses and daffodils. One morning quite early when looking out the door, she saw a bird, a wild turkey, which is sacred to the Cherokees. She saw that bird eating some of the corn. This was the time of year that the corn is juicy and good to eat – the kind that we like to eat – you know, off the cob. She had never seen anybody eat it. She didn't even know how to cook it, but she knew if the wild turkey ate it, it would be safe for her to eat and serve some to her husband.

Well, when she got ready to make the evening meal, she cooked out in the yard over an open fire as was the custom in those days. She cooked a pot of stew – meat and vegetables that she knew about, and when she got that started, she plucked some of these nice green juicy ears of corn and laid them around the fire close to coals and kept turning them over and over. When it was time to serve the meal, she still hadn't told her husband they were going to have corn for supper. And to this day, many of the Cherokee housewives do not tell their husbands when they are going to serve the first corn of the season. It is kind of a little game you might say that they play. After serving the stew to her husband on a piece of chestnut bark, she reached down and picked up the cooked ears of corn. She pulled back the shucks and handed the corn to him. He took a bite and knew it was the best think that he had ever tasted. To this day, that's the way many of the Cherokee people still feel about the corn.



The Gift of Wild Strawberries

Many months have passed by, even years, and the Cherokee and his wife were happy. The man would make arrows, bows, and blow guns for hunting. He would even take a piece of wood and rub it with a rough rock until he had shaped a spoon. She would make pottery vessels. They were getting their house and their place equipped very well, but one day right after breakfast, she became angry and the man realized she was a bit upset, but he was busy sitting over by the fire working on an arrow that he was chipping and heard her go out the door making a loud noise, stomping her feet against the ground. He thought to himself, "Oh, well, she doesn't feel very well and when she gets out in the fresh air, she will feel better and be back in a little while." So he kept on with his work. He had really forgotten she had left and when he turned around to ask her to hand him something he suddenly realized that she was gone. He went to the door, looked out across the way and there was a high mountain close by. She had climbed almost to the top of the mountain and was moving very fast because angry persons have some extra help in making them move along. On the other hand, the man was sad because he was thinking about when he didn't have a helpmate, he didn't have a wife, a companion. So he started after her. His heavy heart made his feet heavy and it took him a long time to get to the top of the mountain. When he got up there, he looked across at the next ridge only to see his wife going over the top of that mountain. He hardly could imagine how he could ever catch up with her, but he tried. He stumbled down the side of the mountain across the branch and up the other side. When he got to the top of that ridge, he couldn't take another step. He just fell down on the rocks, put his head down in his hands, and began to talk just as if he knew someone was hearing him. He was talking to someone who was hearing him – he was talking to the Great One. He said, "Oh, Great One, you will have to come down here and make her come back. I can't live without her. I will just die if I don't have her by my side. I just can't stand it. I can't travel as fast as she can." He just kept saying the things he couldn't do and just kept saying to the Great One, "You just have to do something about this."

About the time he got well into his complaints, the Great One tapped him

on the shoulder and said, "Why, here I am, what's your problem?" This made the man just a little bit angry; as if the Great One didn't know his problem! So he went over it again, and then he said, "Oh, please, will you get her back for me?" And of course, when he said that, that made all the difference in the world, and when he got to the end of that sentence the Great One said, "I'll tell you what. You just stay here and rest awhile, don't stay too long because then you might begin to get lazy, but you rest, and I'll run along and see if I can slow her down so you can catch up with her." The Great One whizzed along as fast as he could and after awhile the man started out trying to catch up with her. The Great One went on and caught up with her. He didn't let her see him though, of course. She was walking along with her head straight up in the air, and she could hardly see where she was putting her feet. So the Great One made the beautiful Sarvis tree to grow up with the pretty white blossoms that come so early in the spring. You know you just have to stop and look at that tree because it is so pretty, but she didn't pay any attention. She just looked right through those pretty flowers, and then the Great One made those flowers turn into red berries that ripen in June. That's the reason some people call them June berries. You would think she would want to reach up and get a handful to eat, but she wasn't thinking about anything like that - she was thinking about her husband.



Blueberry branch showing alternate leaf arrangement.

So then the Great One made the beautiful huckleberry grow up by the side of her trail. Berries just all up and down those pretty bushes. Surely she would stop and take a handful. But no, she was walking along, swinging her arms and knocking the berries off onto the ground, still perfectly disgusted.



Fleshy fruit of blueberries showing scar where stigma was attached in center of sepals.

So then the Great One thought, "Uh, huh, I'll have to be a little tricky this time." This time, he made some blackberry and dewberry vines grow across the path. They pulled at her skirt, and they snagged the skin of her legs, making the blood run down. You know how you scratch your leg and you always have to reach down and rub it, but she didn't pay any attention. She didn't care whether she got hurt or not.



Palmately compound leaf of blackberry.

Well, the Great One thought, "I'm not doing a bit of good with her. I'm going to have to stop and think just a little bit. I must first think. What must she do to get over being angry? Oh, she is going to have to do two things. She is going to have to bow her head and bend her knees. What am I going to have to do to make her bow her head and bend her knees? How can I

ever get her attention. Oh," he said, "I haven't done a thing to arouse her curiosity. You have to get a woman's curiosity to get her attention. I know what I will do" said he. "I will just fix this one." So this time he made a little plant grow right down on the ground, the leaf, stem, flower and berries all were just right down on the ground. And they were beautiful, heart shaped, and red in color with a delightful aroma when they were stepped on and mashed. By the time the woman had stepped on a few of them and that smell had gotten to her nose, her curiosity had made her look down to see what she was stepping on. All right; when she looked down, she was bowing her head, wasn't she?

As soon as she saw the red, heart-shaped food that smelled so good, she went down on her knees right that moment to pick some to see how good they might taste. As soon as the first one of those strawberries, and that's what they were, touched her tongue, she thought, "Oh, these are so good, I'll have to pick some for my husband." She forgot completely what she was so angry about. So she started picking them, not having a thing but her hands to put them in, she picked with one hand and held them in her other hand. She wasn't picking those little old squiggly berries. You know those that were all kinda green on one side and red on the other or where a bug had chewed on it a little bit. She was picking the largest and the prettiest and the most perfect. And of course when she started doing this, the Great One made the large ones grow back in the direction of the way her husband was coming. Naturally, she turned and went that direction back to the large berries. When she got her hands just full as she could, she put some poplar leaves around under the berries to make a little more room. Just about the time she got them filled up, she looked up and saw her husband coming over the crest of the hill. As tired as she was, as far as she had walked, you would have thought she would have sat right down in the middle of the strawberry patch to wait for him to come and pick her up. But, no, oh no, she ran to meet him because she had something good to show him and, as soon as she got to him, she didn't say, "I'm sorry I ran off." He didn't say, "Why did you run away?" She just picked a berry and put it into his mouth. Because it tasted so good, he picked one out of her hand and put it into her mouth, and kept on

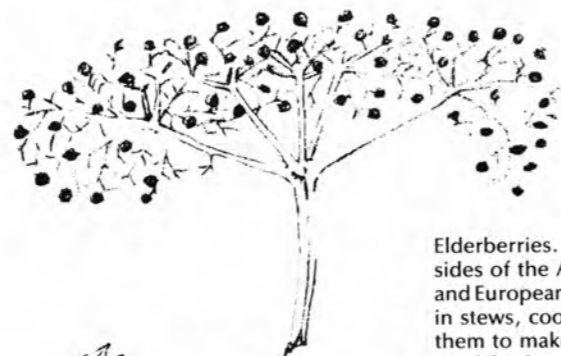
WILD PLANTS USED BY THE NATIVE AMERICANS

All illustrations in this, as well as in *Native American Foods* and *Cherokee Legends* come from *Foraging for Dinner*.

The drawings were done by Doris Shilladay Ross; the leaf rubbings by Robert S. Russell.



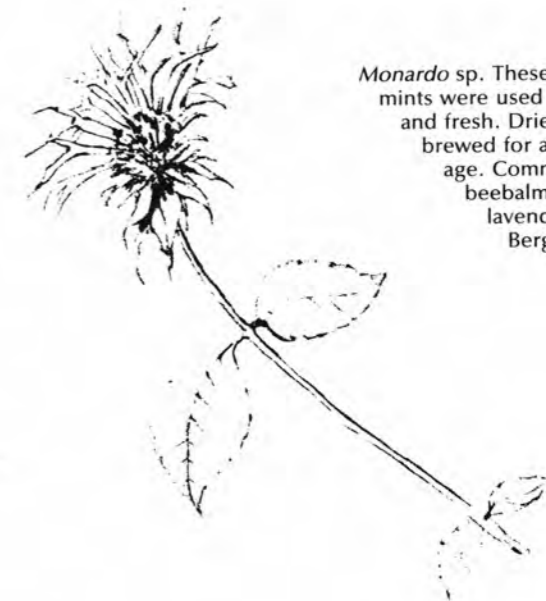
Rose Hips. Some Canadian Native Americans used rose hips in making pemmican.



Elderberries. Edible species grew on both sides of the Atlantic. Both Native Americans and Europeans used the flowers, dried & fresh, in stews, cooked them with berries, dried them to make a beverage. Berries were also used fresh and dried.

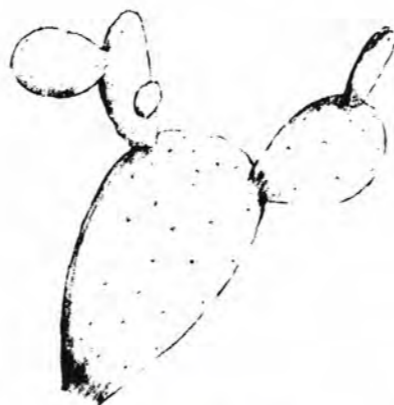


Wild persimmons grew from Pennsylvania and the Ohio Valley southward. Today an improved variety slightly larger in size with fewer seeds can be purchased in nurseries. When dead ripe the fruits were, and should be today, a favorite fruit.



Monardo sp. These Native American mints were used for flavoring, dried and fresh. Dried leaves were also brewed for a refreshing beverage. Common names include beebalm, Oswego Tea (the lavender species) Bergamot.

Common Milkweed, *Asclepias syriaca*. Young spring shoots, flower buds and flowers were all cooked and eaten. In the Northwest the silky parachutes were spun into an angora-like fiber and interlaid with cedar bark cordage in decorative wall hangings. Fibers of the mature plant stalk were made into cordage.



Cactus fruits were eaten raw, dried, used in cooking. The pads of various *Opuntia* were cut in strips and cooked.



Yucca. According to Bailey, there are 22 species of Yucca growing in continental U.S. Native Americans in the Southwest ate the flowers, and there certainly were an abundance to choose from, from the giant Joshua Trees to the widespread Adam's Needle which is frequently cultivated today. Fibers were used in producing cordage.



Yucca Flowers



Cattails. Native Americans used these plants in many ways. Roots, when pounded, release grains of starch which can be cooked. The male flowers produce quantities of pollen which can be used as flour. While the flowers can be eaten they were generally saved for more important uses. Dried they were dipped in fat to make torches. The fluff was used as disposable diapers on papoose boards, and as insulation in winter mocassins. The leaves were gathered and used in making mats and baskets.



Chenopodium sp. Lamb's quarters pigweed. Leaves of this plant were used in the stew pot and seeds were gathered and used whole or ground. In Peru a variety was, and still is, cultivated in the high mountains where other crops will not grow. Known by the Inca name Quinoa, Linne recognized its history and gave it the scientific name, *Chenopodium quinoa*

Hawthorn. A plant that delighted Europeans and Native Americans but frustrates botanists by its many species and wide distribution. Berries vary in flavor quality. Thorns vary in length and strength. Strong ones were used as pins or made into needles.

like this until they ate the whole handful. Nobody said anything about who did anything wrong. They just looked around at all those pretty berries there, and started picking them.

Well, they had only their hands to put them in. After the man had picked two or three, he thought, "U-Huh, these berries have brought the best, brought back my life, brought back my wife, my companion. I am going to take some of these plants home and plant them out there where she plants her corn because these strawberries will mean a whole lot to me forever and ever." So, he pulled up some of the plants and stuck them in his belt and kept on picking the berries. She wasn't thinking about anything like that. You know what she was thinking about? You know what many good housewives think about when she starts home? What am I going to have for supper? Yes, she was thinking what am I going to have for the next meal. Oh, we will have these berries. So they filled their hands with berries.

They were a long way from home but

it didn't make any difference. They were together. They didn't have any children so they didn't have anything at home that would miss them. Finally, they got to the house. The man stopped outside to plant his little berries because he wanted them to start growing. She stepped inside the door and when she did, all of a sudden it came to her. "How foolish I have been to think that I became so angry this morning that I walked off and left all of this. I don't even remember now what I was angry about. Oh, well, it doesn't make any difference. It is all right now," she said, "and we will have these berries for supper, and I think I had better keep a few around." Looking around to see what she had in the house, up on the shelf she spied a pottery jar. Some days before, maybe some weeks before, she and her husband had been out in the woods and had found some wild honey the bees had made. She had come to the house and gotten this jar, and they had put the honey and honeycomb into it, filled up just about to the top. Almost every

morning they had eaten a little bit of it. It was only about one half full now, but it was still just as good as when she had eaten it the last time. she thought, "This is what I will do with some of these berries. I will put some of them in the honey and I believe that will make them keep." So she went over to this little jar and dropped in berry after berry until it came almost to the top. Well, you might say that's the day that strawberry preserves were born or invented. Maybe that's when it was. I am not sure but I do know this – to this very good day, most real honest-to-goodness, serious-minded Cherokee housewives keep strawberries of some form in the house all year around. We might say, the strawberries insure domestic tranquility; you know, keep peace at home. □

Mary U. Chiltoskey, the author of The Cherokee Cookbook and The Cherokee Alphabet has been collecting and recording legends and oral tradition from "the old ones" of the community.



NATIVE AMERICAN STUDIES PROGRAM

Lib Roller



*Lib Roller - Coordinator
Environmental Outdoor Education
Director of Program*

The American Indian possessed a sense of time that has all but been lost today. We live by the tick of the clock and protest there are never enough hours in the day. We have something basic to learn from the customs and values of our "first" Americans and their unique dimension of time – one that recognized the enduring past and an enduring future; a sense of place, a sense of the beautiful, a sense of what had gone before, a sense of humanity and a sense of what was still to be.

A social studies unit on Native American Living, introduced at the fifth grade level in the Outdoor Education Program of Metropolitan Nashville Public Schools, brings back a culture that had as its prime value a love and understanding of Planet Earth – a concept sometimes difficult to grasp by children whose only environment has been the inner city and who are often far removed from the true extent to which they depend on earth for their very survival.

Introduced two years ago, the unit has since been offered 23 classes in the hope that – by learning the culture of

one ethnic group – students can better understand that all peoples are the same. It is only the pattern of living that makes one group differ from another. The lessons here carry over for our understanding and knowledge of cultures throughout the world.

Though the skills activities in themselves have great appeal, they are essentially designed to give the student a real "feel" for the way the Native American lived. Woven into the experience is an appreciation and awareness of the impact of the change which occurs when one culture intrudes upon another. The coming of the Europeans completely changed life as it had existed for the Indians.

First it was in visible things. Beads and crafts once fashioned from natural materials increasingly exhibited the man-made. Later the intrusions became more subtle, as the pioneers sought to impose their own attitudes, religions and customs to "civilize" and "educate" the native.

For many years, the study of the American Indian perpetuated many stereotypes, inaccuracies and biases of

everykind. Movies, comics, television – even library books and textbooks – mis-educated the American public. Directions and guidance for teachers to avoid the same pitfalls are an integral part of the curriculum content.

Emphasis is on activities that:

1. Break down stereotypes (All Native Americans did not wear feathers on their heads or live in Teepees. Each region had its own culture and activities.)
2. Be authentic. (Since the life of the Indians varied greatly from area to area, this unit – designed for Tennessee and the Southesat – contains activities native to this area. There are too many vast generalizations about Native American Life.)
3. Help students understand and respect cultural diferences. (This concept can help the attitudes learned carry over to units about other cultures.)
4. Increase appreciation for the contributions which Native Americans made to our way of life. (Their impact is greater than most of us are consciously aware. Their foods, skills, language, art and knowledge of nature have become an integral part of American life. Perhaps the greatest realization will come from the ground swell



An Indian Dance

of concern over the effects of pollution and wildlife destruction which today endangers many species, including humans.

The Native American reverence for the resources of nature is an attitude which we can well hope that today's young people will embrace and emulate.

Activity-centered, the unit has the student actually practice the skills of the Native American. By calling into use many senses other than those used in reading, the student is more likely to take the inquiry beyond the required minimums, impelled by a quickened curiosity about the people whose ingenuity and inventiveness they emulate in these simulated activities.

The Unit is divided into two sections:

An in-classroom unit using a kit of materials and equipment supplied by the Department of Outdoor Education.

An actual day at a woodland site, where students work on skills and actually "live" as the Indians did.

In Phase One, students have three assignments.

1. Make an Indian costume (using pictures of Southeastern Indians.)
2. Take an Indian Name from the resource materials and make a name tag of natural materials.
3. Make a "medicine bag."

Following these activities the student may choose a speciality from among a

number of specializations, including potter, weaver, music maker, cook, warrior, builder, woodsman, woodworker, medicine man, hunter or artist. Kits provided for each include prescribed activities, directions, and materials. For every activity completed, the student receives a "coup," awarded as part of concluding ceremonies on Indian Day in the woods.



Gathering berries using a burden basket & strap.



Archery



Making a mat

Organization and extent of the in-class activities are decisions left to the classroom teacher. Students may fit their individual activities independently into their own schedules, but it is expected that every student will complete not only the three basic activities but a minimum of three "coups" as well. This is essential preparation for the student's day at the woodland site.

As preparation for teachers and parent assistants, scheduling an advance workshop is recommended, where the manual "The Indians of Tennessee" may be studied. Special instruction sheets should be prepared for parents, to maximize their potential help for both teacher and outdoor education coordinator, in the many supervisory demands of the day.

On their day to live in the woods as Indians, students may be transported to a nearby park, where there are the conveniences of water and restrooms. The only cost to the student is for the food and transportation to the site.

Once there, students carry on in their selected specialties, performing new activities not included in the kit. Using replicated utensils, they will cook such "Indian food" as succotash, jerky, bean cake and parched corn and brew sassafras tea. After lunch they will tell stories, play games and dance, settling down at the close for the special awards ceremony, to receive their "coups."

Evaluation of the program has been very positive. There are encouraging signs that learning about the Native American does indeed give succeeding generations a better understanding and appreciation for the many ethnic groups that make up our country today.



Medicine "man" & music makers

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For more information on the program or the Teacher Manual, contact Lib Roller, Head School, 500 20th Ave. N., Rockville, TN 37203. □



Working on bone tools

Lib Roller is the author of the activity manual "The Indians of Tennessee" and director of the fifth grade Native American program in Nashville.





NATIVE AMERICANS AND EDUCATION

David C. Dister

Native Americans have, until recently, acquiesced to generations of insensitive educational programs created by the federal government. Today, the emphasis of education better reflects Native American cultures in their goals toward self-determination. With a population of over 1.4 million comprised of nearly 300 individual tribes such a task in education, however formidable, is crucial to Indian sovereignty and retention of long-standing cultural identities and values. Current government aid stems largely from the Indian Education Act, begun in 1972. Recently, decisions at federal, state and local levels have opened the way for resource development on land owned by Native Americans. Teacher training has consequently emerged as a necessary step in providing skilled workers for diverse career opportunities which are certain to increase therefrom.

Historically, much of the failure of schooling efforts originated from the teaching of values contrary to Indian philosophies. Whereas our elitist society stresses competition and frugality the small egalitarian societies of Native Americans foster cooperation and generosity. In addition, the role of the teacher in Indian societies minimizes the usual authority status. These learning tendencies plus a preference for "self-testing" of skills reflect the complex nature of schooling in which American Indians must either adapt and adopt or fail in their attempt at educational success.

The circumstances just described are further enlightened by the fact that only 0.1 percent of those teaching Native Americans are themselves Native Americans. And of the 3,500 native people who are now teachers a large proportion do not teach native children. Consequently, to achieve parity a major emphasis is being placed on college-bound students to earn degrees in education. This, however, should be tempered with the realization that most other areas in the academic realm are lacking in native peoples. This is dramatically manifested in the situation that finds only 7 percent of all Indian college students were studying math or science in 1975/76.

With regard to elementary and secondary education, the last few decades have shown immense gains. The

number of Native American adults having finished high school, nationwide, doubled from one-third to two-thirds between 1960 and 1976. Grants from the Indian Education Act have also made possible programs and projects which have reduced drop-out rates and low enrollments among the 300,000 Indian children attending public schools. Such programs range in scope from learning traditional Indian arts and crafts to strengthening Native American studies and academic counseling.

Since higher education holds the key to the development of Indian lands the formation of Indian Colleges and associated projects comes at a most crucial time. As a result, the number of Indian college students soared from 1,400 in 1963 to 30,000 in 1978. Examples of such Indian Colleges "run exclusively by and for American Indians" include the Oglala Sioux Community College, Sinte Gleska College Center and the Navajo Community College. Other colleges which afford degrees and programs relating specifically to careers in science, for instance, include the Haskell Indian Junior College, Humboldt State University and the University of South Dakota.

As a consequence of the Alaska Land Claims Settlement Act opportunities for Native Americans in the business/management professions relating to land resources will be numerous. Nationally, additional government, state and local decisions have opened-up resource development on lands owned by Native Americans. Accordingly, Indian engineers, geologists, hydrologists and other specialists are in demand to best represent native peoples. Craig, Alaska, in particular, has been providing training applicable to its commercial fishing industry.

Unfortunately, education and job training too frequently remain inadequate, especially at the college level. Combined with the prejudices, poor counseling and scant fellowships that are encountered it becomes painfully clear why only 10 to 30 percent of native college students complete degree requirements. Thus, while Native Americans increasingly enter into colleges, their disillusionment often halts their careers in mid-stride.

Apart from the emphasis placed upon academics and career orientation the aspect of cultural identity and Indian sovereignty remains a prime focus

in education. Over 50 years ago the Meriam Report recognized the importance of maintaining ties with one's culture. Today, Native Americans are still struggling to preserve some cultural continuity and perpetuation of associated language forms. The challenging nature of these endeavors is explained by the fact that each of the 300 some tribes in the U.S. has its own culture, religion, and societal beliefs. Hence, a unified "Indian" heritage, culture or value system simply does not exist.

In implementing the above goals the role of bilingual/bicultural instruction becomes of prime importance. Under-scoring much support for bilingual education is the circumstance which finds nearly one of every four American Indian children unable to speak English upon entering school for the first time. Programs and projects which have been specially designed to foster Native American language and heritages range from Wisconsin's statewide project to tailored educational experiences for Arapaho and Shoshoni students in Wyoming. Perhaps the intrinsic advantage in bilingual/bicultural instruction may be that it engenders the capability for Native Americans to learn more objectively about our European heritage, and to strive equally with other Americans toward individual ambitions. In essence, if we can study classical English literature why then may not Native Americans study their ancestral languages?

Much progress has and continues to be made in every facet of education for Native Americans. Yet it is diverse political emphasis, from the local tribe to the federal government, which has threatened the gains in tribal sovereignty, teacher-training and self-determination. Local school districts, either on or adjacent to reservations, are seldom governed by school boards composed of native peoples. Fragmentation of tribes throughout the country adds to the difficulty in achieving a unified voice and the situation wherein certain tribes are historically enemies certainly complicates decisions. Add to these the steady decrease in federal money budgeted for Indian education during the last three years and the continuity of existing programs would appear less than stable.

Nevertheless, when viewed in an historical sense, the true freedom of In-

dian self-determination is only now being realized. The formation of Indian Colleges and the stimulus given to teacher training signify advancement toward educational sovereignty for Native Americans. The success and viability of bilingual/bicultural schooling has, in part, accounted for much lower drop-out rates for Indian students. Possibly greater than any other factor, the Indian Education Act has, through grants, fellowships and special prog-

rams, laid the foundation for educational equality and economic autonomy. Just as the extent of natural resources may be immeasurable, so too may the educational potential by which Native Americans strengthen society. □

David C. Dister is a naturalist educator at Jamestown Audubon Society in Jamestown, NY.



MAPLE SUGARING IN NEW YORK CITY

Lou Carroll

Tucked away in a corner of the Bronx, a borough of New York, lies Wave Hill, a twenty-eight acre park, and it is here that Maple Sugaring takes place every year. Actually, only four sugar maples (*Acer saccharum*) exist on this property, but they are sufficient for demonstration purposes.

Originally, this event was conducted as a two-day attraction, and was done only for school children. With Talbert Spence, Wave Hill's new Outdoor Education Director, the number of days that this activity is conducted has been gradually increased to twenty-five. Now 1,500-2,000 children are given the opportunity to participate in this activity. Two times that number must be turned away each year.

An important addition to this festival's schedule is the public-day, conducted either on a Saturday or a Sunday. This special one-day showing draws many hundreds of adults, along with many children.

Considering that the weather is generally cold and blustery (right off the Hudson River), and the fact that so many people are willing to brave the raw elements proves that this is a popular attraction.

When the classes arrive staff members describe the various methods employed in gathering the sap. Here too they explain why this particular tree is used for the tapping, from what part of the tree the sap is obtained, and why the season begins at this particular time of the year (late February into late March). To impart a better understanding of how the trees function, selected children are directed to act out the various parts of the tree.

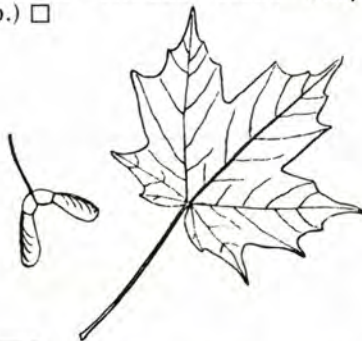
Staff-members explain how the Native Americans obtained this gift from Nature, how the early settlers used dif-

ferent utensils. Children observe present day tapping, and the process of boiling sap down into syrup and sugar.

At the close of this part of the exhibition, all children and their teachers are allowed to collect sap directly from the tree, for tasting.

The second portion of the program is done indoors to give the children a chance to warm up. As they enter the room they are greeted by recorded Native American songs. It is here that the Native American legend of how Waksis and Ninimushen accidentally discovered how to make maple syrup is told in dramatic fashion. Burning logs in the fireplace not only impart warmth, but lend a greater sense of realism, for the legends were generally told in the evening, when all were gathered around a campfire.

From the story-room, the children go to the sugar camp, and see how Native Americans made syrup in hollowed out logs, and how the pioneers did it. A number of other details are noted concerning the making of syrup, such as modern temperature control, and explaining the different qualities of syrups. Finally, as a sweet send-off, each person tastes *ohwada useda* (maple syrup.) □



Louis Carroll is a volunteer at Wave Hill Center for Environmental Studies.

1983

EVA L. GORDON AWARD

Lawrence W. Pringle was the 1983 recipient of the Eva L. Gordon Award. The announcement of the award was made at the ANSS 75th Anniversary breakfast by Louise Ritsema, chairperson of the Eva L. Gordon committee.

Because Mr. Pringle was unable to attend the Vermont meeting, the actual presentation of the certificate was made at the Spring Teacher Workshop and ANSS Board Meeting at the New Jersey School of Conservation.

At that time Mr. Pringle addressed the group and told of his lifetime interest in the interwoven world of nature and his dual background of educator/naturalist.

A sampling of the diversity of his many books includes: *City and Suburb*; *Cockroaches*; *Death is Natural*; *Dinosaurs and Their World*; *Feral, Tame Animals Gone Wild*; *The Gentle Desert*; *Listen to the Crows*; *Natural Fire: Its Ecology in Forests*; *Nuclear Power*; *Our Hungry Earth*; *Twist, Wiggle, and Squirm*; *What Shall We Do With the Land?*; and *Wild Foods*. □

Board member Ruth Melvin received an award from the Ohio Alliance for Environmental Education for a lifetime of service to environmental education.

Native American Food Plants

Nuts:

Hickory nuts, Pecans, Black walnuts, Butternuts, Piñon nuts (pine seeds), and Hazel nuts.

Beans:

Groundnuts *Apios tuberosos* (tubers and small bean pods)

Hog peanuts (underground large seeds from cleistogamous flowers and small above-ground pods)

Black locust - pods cooked green and seeds dried (poisonous raw)

Honey locust - pod between seeds used for sweetening

Kentucky Coffee Bean - seeds roasted and eaten like nuts

Mesquite - most important single plant of SW. Extremely nutritious.

(See also *Plants*, Vol. 34, No. 4.)

GOOD READING



Indian New England Before the Mayflower, by Howard S. Russell, 1980, University Press of New England, 283 pp. 50 bl and wh. illus.

This book may be read from cover to cover to obtain a fascinating picture of one group of Native Americans who were neither saints nor devils but rather interesting human beings living in harmony with their environment. It should also be on library shelves not only in New England but beyond as an accurate well-researched reference on all aspects of life in pre-Mayflower New England, including cultivated plants, wild foods, tools, family structure, religion and philosophy, interrelationships.

Indians of Tennessee, An Activity Manual, Lib Roller, Nashville Metro. Schools Outdoor Ed. Dept., 1981, Nashville, TN 37203. 230 pp. illus. with drawings.

The first 57 pages deal with history and background information on the tribes who lived in Tennessee before Europeans arrived. The balance of the book presents activities which could be selectively adapted to many Native American studies. I am troubled by the section on foods, however, where South American and Mexican crops are combined with North American and European ones; along with milk, baking powder and baking soda. (These two leavening agents were first used in any culture circa 1860). Removing corn husks and replacing them with aluminum foil, invented in 1950, violates the concept of respect for the environment (one-time use of aluminum is extremely wasteful) and denies the eater the special natural taste of corn whose slightly browned husk has added a wonderful flavor to kernels.

Sturtevant's Edible Plants of the World, edited by Hedrick, reprinted 1972, Dover 686 pages.

Sturtevant devoted his life to collecting data on edible plants of the world. When he died his files of notes were piled from floor to ceiling

in his office in the N.Y. Experiment Station at Geneva. Hedrick put them in order and edited them – a tremendous undertaking in pre-computer days.

It made no difference to Sturtevant whether plants were wild or cultivated, if people ate them he wanted to know about it. The book contains thousands of entries, most of them brief: common names, scientific names, part of plant eaten, where plant originated, where used; but major crop plants are fully documented. Thus corn occupies eleven pages, and potatoes and squash are similarly detailed. The book is well worth owning just for the information available on major crops. It is also an excellent way to obtain an answer to questions like, "Is this plant edible?" "Did Native Americans eat it?"

Stone Age in the Great Basin, by Amory Strong, second printing 1976, Binford and Mort, 274 pp., 56 pages of black & white photographs.

This documentation of a hunter-gatherer culture provides a sharp contrast to the way of life in pre-Mayflower New England. Both are small samples of the great diversity

Board member Robert S. Russell has donated 50 copies of *Foraging for Dinner* to the American Nature Study Society. This 255 page, hard cover book contains descriptions, drawings and smoke prints of 52 wild food plants that are easy to identify, can be harvested without disturbing the environment, and are good to eat!

Recipes and history accompany each wild food. Almost half of the plants included were used by Native Americans.

To receive an autographed copy, mail \$6 plus \$1 for postage to:

John Gustafson
5881 Cold Brook Rd.
Homer, NY 13077

of life styles that existed in response to dramatically different environments.

Ethnobotany of Western Washington, by Erna Gunther, 1945, third printing of revised edition 1977, University of Washington Press, 71 pp, 53 drawings of plants.

In doing this study Erna Gunther was racing with the clock. Not only were the older members of the Northwestern Native American communities who still remembered how their grandparents used the wild plants dying out, but the very plants themselves were frequently being replaced as land-use changed and weeds came in from outside. As a help to identifying native plants of the area and in turning back time to another period and another culture, this book is a real addition to a hiker's knapsack in Western Washington, or to a library anywhere.

Look for books at Native American sites, in Museum and National Park bookstores.

H.R.R.

Wild Fruits Gathered by Various Native Americans:

Wild strawberries
Black Raspberries
Dewberry
Blackberries
Mulberries (*Morus rubra*)
Shad bush
Wild blueberries
Huckleberries
Crab apples
Paw paws
Persimmons
Elderberries
Wild grapes
Cactus fruits
Manzanita
Salish
Ground cherries
Cranberries

NATURE STUDY TIPS

NATIVE AMERICAN FOODS

Helen Ross Russell

Native American Cultivated Crops

Corn, beans, and squash, called "the three sisters" by many eastern North American cultures, were grown wherever agriculture existed, from New Hampshire to Florida, from the Atlantic to the Rockies, from southern Canada to northern Argentina. Generally several varieties of each of these crops were grown in any area; and the total number of varieties, and, in the case of beans, species, was tremendous, reflecting the many centuries of cultivation.

Archeobotanists believe that corn originated in Mexico about 7,000 years ago. The first known squash occurred in Peru about the same time. Squash were probably grown for their seeds before the flesh was eaten. Beans apparently were developed in many areas from local wild varieties.

known. Undoubtedly it was a slow process, like a relay race, with seeds passing from group to group over many centuries. The many delightful legends describing the arrival of these plants do not throw any light on the agricultural history but they do provide insights into the culture, religion, and philosophy of the various groups.

The eastern North American gardens frequently contained Jerusalem artichokes (*Helianthus tuberosus*).



Jerusalem artichoke *Helianthus tuberosus* grows 5-7 feet tall. Collect seeds and dig tubers in the fall.

Again, these were an indication of travel and trade, for these were a wild crop of the midwest and west as reported by the Lewis and Clark expedition. In the past decade an improved variety of these sunflowers-that-produce-tubers-on-their-roots have appeared in seed catalogs, health stores and vegetable counters under the name of sun-chokes.

Wild stands of Jerusalem artichokes still can be found along roads and edges of fields in eastern U.S. These direct descendants of plants that once grew in Native American gardens are often the only visible marks on the landscape of the original people who lived in the area.

From Mexico southward the variety of cultivated food crops new to the

Europeans included tomatoes, dozens of varieties of hot peppers, sweet peppers, and cacao. The giant sunflowers today misnamed Russian sunflowers, were grown for their seeds in Mexico. Pineapples, guava, avocados and papayas were tropical South American products. Potatoes originated in the highlands of Peru and Bolivia while sweet potatoes came from the coast of Peru and Chile. Peanuts were also a Peruvian plant. Potatoes, tomatoes, and peanuts all arrived in North America by circuitous routes.

Potatoes were taken to Europe by early Spanish explorers. One story says that Sir Francis Drake captured a Spanish ship loaded with Peruvian gold and potatoes and took his booty to England. At all events, Sir Walter Raleigh introduced potatoes from England to Ireland where climate and soil were ideal. Potatoes were first grown as a North American crop in 1719 in Londonderry, NH, by Scotch-Irish immigrants.

Peanuts, too, came the long way around. Brought to Southern U.S. with the slave trade, it was assumed that their origin was African. However, both sweet potatoes and peanuts had been transported to Africa by sixteenth century Spanish explorers and just as potatoes fit the climate and land of Ireland, sweet potatoes, peanuts and cacao took off and became major crop items in Africa.

Tomatoes had been a food crop in Peru, Equador and Bolivia for more than 5,000 years and had gotten as far north as Mexico but not to the SW United States, nor the Caribbean Islands at the time of exploration. They were small vegetable. The most common kind was yellow and the size of a modern cherry tomato. The red varieties were a different species and were even smaller.

Tomatoes were spurned and even considered poisonous by most Europeans. Only in Italy was this new vegetable appreciated. Italians not only ate them, they incorporated them in their cuisine, grew them in their gardens and selectively improved them. A number of Europeans brought tomatoes to North America. They were one of many plants which Thomas Jefferson experimented with at Monticello, but they were not widely grown until the mid-nineteenth century.



Squash leaves, flowers and fruits were all cooked. Seeds were roasted.

The settlement patterns and trade routes which distributed seeds from these cultivated plants over much of North and South American are un-

Cooking

There was amazingly little basic difference in the life of Native American women and the European women of the 16th, 17th and 18th centuries. Both made the clothing, did the cooking, gardened, nursed the ill, foraged with children for plants that had a variety of uses including food, medicines, dyes and cordage. Cooking was universally done over a small open fire. True, the fireplace and chimney were less smoky than a fire in the center of a wigwam but the skills and frustrations and types of recipes were shared by all women. Stews and roasted meat were basic foods to both groups.

Many Native Americans cooked in pottery vessels which were set in the center of a small fire. In cultures where pottery did not exist or where pots could not withstand the heat of an open fire, water was heated in many different types of containers including bark baskets, wooden bowls, or even in the desert of California, beautifully woven water-tight baskets. This, of course, was common stone-age technique which had been abandoned in Europe in the Bronze & Iron Ages.



Black walnuts — the hard shells of these sweet-oily nuts have prevented them from being popular but they add a delicious taste in Native American cooking — and also in modern cakes and cookies.

Native American bread was unleavened and was made of ground corn, acorns, nuts, and seeds, singly or in various combinations, combined with animal fat or grease from nuts with water added to make a dough. Little patties of this kind of mixture were either placed directly in the coals when the fire had burned down, wrapped in leaves and placed in the coals, or cooked on a flat rock griddle which had been placed on the coals. Soapstone was a preferred rock for this type of griddle while layered rocks like schist and shale were avoided because of the danger of explosions from the heat.

(Geological knowledge was as essential as botanical knowledge when one lived close to Earth.)

In some cultures, both eastern and western, an oven was made of clay. It looked like an overturned bowl with a small opening for feeding the fire that was built in it and later for scraping out the ashes and embers when the interior was heated and replacing them with the bread. This was exactly the same principle as the bake ovens found in the back of early American fireplaces. The one style of cooking that was distinctly Native American was the earth oven, which was merely a hole lined with rocks. As in the clay oven, a fire was maintained inside the pit for several hours until the rocks were thoroughly heated. Then any unburned wood, embers, and ashes were removed and the food was placed inside. Any uncovered rocks at the upper edges were then pushed over the food, a wet mat or deerskin was placed over the top and the soil from the pit was piled on it to keep the heat in the hole.

Corn in the husks, beans in their pods, unpeeled squash, clams, mussels and other mollusks in their shells needed no containers. Corn husks, corn leaves and leaves of trees like birch and sassafras were sometimes used in wrapping food.

This type of cooking was common in many cultures, from the east coast clam bake which included seaweed, corn in the husk, and a variety of mollusks, to the roasting of wild game in Death Valley, to the combining of meat (guinea pigs and llama) and vegetables in Inca and pre-Inca Peru.

European settlers in New England quickly adopted the clambake, while they adapted the technique when they combined Native American dried beans, wild onions, and molasses in a cast iron-lidded pot and cooked them in an earth oven.

Preserving Food

Preserving is even more essential than agriculture in providing a balanced all year diet. With few exceptions Native Americans dried food at harvest time for use in other seasons. In agricultural communities slices of squash, string beans and green corn were all hung up to dry. Other corn and beans were allowed to dry on the plants. In addition, berries,



Chestnut oak — a favorite member of the white oak group.

seeds, herbs, and flowers were dried for future use by both agriculturists and hunter-gatherers. Meat and fish were also dried and Native Americans in the Chesapeake Bay area smoked oysters. Pemmican, a hunting/travel-food, was made by combining powdered dried meat, fat and dried berries.

Activities

1. Make a garden, or a display, or a chart featuring the "three sisters." Add Jerusalem artichokes if you are studying an eastern U.S. culture.
2. Make a map or a chart showing where the different Native American crops were growing at the time of European discovery and exploration.
3. Research the Native Americans of your area - local libraries, colleges and historical societies all may be sources.
4. Collect wild plants that were used for food. Mount leaves between 2 pieces of clean contact paper; include labels of plant name, uses, kind of preparation or arrange on 12 x 18 construction paper. Write labels, cover back and front with clean contact paper making a place mat.
5. Gather wild berries and dry them on a cookie sheet in the sun or in an oven at 180°.
6. Slice winter squash as thinly as possible and dry it. This can be eaten dried and is a delicious and surprising snack whose identity puzzles first-time tasters. Like all

dried things it can be reconstituted by the addition of water and used in any squash recipe.

7. Cut sweet corn from the ear and dry it. This is a delicious nibble or soaked and boiled is a different and delicious vegetable. Both were done by Native Americans.
8. Look for Jerusalem artichokes in your area. Is there any other indication of Native American occupancy? Interview people over 60 who lived on or near the land to see if Indian artifacts were turned up in the places artichokes grow when they were young.
9. Sample sunchokes or Jerusalem artichokes. Eat them raw or thinly sliced and quickly fried with wild onions.
10. Try one, two, or three of the foods that Iroquois Indians shared with John Bartram in 1743: (a) Indian corn soup made by boiling dried eels and other fish and adding a small amount of hominy to make a thin gruel; (b) a stew made from (1 cup) sliced summer squash, (6) squash blossoms cooked until the squash is tender and thickened with (6 tbsp.) corn meal stirred into cold water. The numbers in parenthesis are suggested quantities. Add a pinch of salt; (c) Soft dumplings. Bartram said they were made of sweet corn grated off of cob, combined with cooked beans to make a dough then "lapped" (enclosed) in corn husk and boiled. He doesn't say what kind of beans but the best flavor and consistency is achieved with fresh string beans that have become so large that they must be removed from the pod. Combine 1 part mashed cooked beans with 2 parts raw grated corn. Result: "a hearty provision" also a delicious one!
11. Read Bartram, Audubon's Journals, Lewis and Clark, Peter Kalm *et al.* (reprints are available in libraries) to obtain a picture of Native American cultures uninfluenced by Europeans.
12. Tap a maple tree – sugar - red - silver - ash-leaved – and the smaller woodland species, were all used by Native Americans. With a bit drill and a 2 to 4 inch deep hole, drive a spile (spout) into the hole. A gallon a day can be obtained

from one hole in a big tree. For trees over 8-10 inches in diameter several holes may be driven. Forty gallons of sap will boil down to one gallon of syrup. Tapping time begins when days are warm – nights cool. January to April depending on weather and geography. When you have as much sap as you want, plug the holes.

13. Cook corn meal mush in sap.



14. Acorns were a primary food in the hunter-gatherer culture of the Great Basin and a supplementary food in other areas. Collect white oak acorns and roast them at 200°, taste test them every hour. When they are sweet (not bitter) they can be eaten like any other nuts or ground and used as meal or flour.

The black/red oak group that takes two years to mature acorns has a high tannin content and acorns must be leached. Native Americans used several techniques.

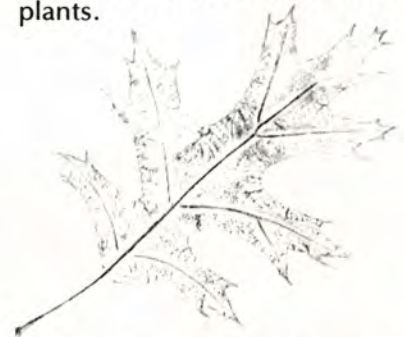
A. Shelled acorns were put in fiber bags and placed in streams for several weeks or months. You can "duplicate" this technique by putting shelled acorns in cheese cloth bags in the flush tank!

B. Boiling water was poured through shelled cracked acorns until all bitterness was removed. This was a hurry-up process expensive in terms of energy and time. Boil - soak - drain - boil - soak - drain - etc., etc., etc. is still energy consuming.

C. Howard Russell reports that New England Native Americans boiled the acorns with ashes of rotten red maple wood. This would be a lye. A safer, simpler chemical extraction can be achieved by covering 8-10 cups ground acorns with boiling water and sprinkling 2 tbsp. unflavored gelatin over the surface and stir-

ring. Cool, drain, repeat. This usually takes 4 applications; but, as with all acorn preparation, the taste determines whether the tannin has been removed. Native Americans used the acorn meal in place of flour in bread and stews.

15. Make Native American bread. To 1 cup corn meal add 1 cup of other meal (ground nuts, ground seeds, acorn, chestnut), add ¼ cup sunflower or corn oil. Stir. Add water 1 tsp. at a time until the mixture holds together. Make into flat patties. Cook on a hot griddle (a heavy frying pan will do). Turn to brown lightly on both sides. Variations: add up to ½ cup of wild berries before adding water.
16. Cook Native American food gifts in an earth oven.
17. Make sumac beverage (see *Nature study* Vol. 37, number 3 and 4, page 35).
18. Make a beverage by powdering dried berries and pouring hot water through them or steeping them. This was a favorite technique in the hunter-gatherer Miwak culture in the California desert.
19. Very few of the wild plants of lawns, fields, and roadsides are native American plants. Some, like dandelion, purslane, and chickory, were brought in as food plants. Others, like fleabane, peppermint, and heal-all were introduced because of their medicinal uses; many others came in mixed with seeds of crop plants. Make a survey of the wild plants in your community. Check their place of origin by looking them up in *Gray's Manual of Botany* or *Britton and Brown*. Make a chart showing native and introduced weeds. Do the same with trees and cultivated plants.



Pointed lobes indicate two year bitter acorns.



TALKING TURKEY

Harold Freeman and Brenda Renshaw

The wild Turkeys of the United States and Highland Mexico all belong to a single species with five subspecies, distinguished by small variations in plumage and body proportions. Each is (or was) native to a specific region – eastern woodlands of the United States; swamps of southern Florida; foothills of the Rocky Mountains; valley of the Rio Grande; and the highlands of Mexico – original home of our domesticated Turkey.

In Mexico the early Spanish adventurers found Indians raising Turkeys around their homes. The Aztec emperor Montezuma kept them in his zoo. It is not known for how long Turkeys had been raised in captivity for their palatable flesh, but they bred easily and the Spaniards carried them back to Europe where they quickly became a popular fowl and a choice dish for festive occasions. *Meleagris gallopavo gallopavo* of Mexico is the true ancestor of the only domestic animal with an origin in North America. English colonists then introduced European-bred strains of the Turkey into eastern North America in the 17th century. Within a hundred years, many varieties were developed by selective breeding. One of these we now feast upon at our holiday table.

And what has been the fate of our native northeastern *Meleagris gal-*

lopavo sylvestris? Wild Turkeys are wary and nervous, constantly on the move in family flocks. They range so widely that several thousand acres of woodlands are required to satisfy the needs of a single flock. Settlement of the land resulted in fragmentation of the forests and the theory of the inexhaustible supply led to overhunting until, by the middle of the 19th century, *M. g. sylvestris* had disappeared from our part of the country. The last one was seen in Connecticut in 1813, in Vermont in 1842 and in Massachusetts in 1851. In 1841 a few individuals were seen in the Catskills, but they too went to the gunners. Although rare, *sylvestris* continued to inhabit the extensive woodlands of Pennsylvania. During the 1940's this population began to expand and made a small invasion into New York State. A few years later, poultts bred from a wild Alabama population were released into New York State for hunting. They proved to be all too tame and the practice was halted. By the 1960's there was a regular program of transplanting from established wild populations of the Pennsylvania *sylvestris*. Let us assume that our bird on Bobolink Hill descended from a transplant. Today, the eastern woodland Turkey is a genetic mix; but a *sylvestris* phenotype – a bird with the appearance of a *sylvestris* – will have

tail coverts tipped a deep, rich chestnut.

There is one other species of wild Turkey – the Ocellated Turkey (*Agriocharis ocellata*) of the Yucatan and Guatemala. It is smaller than our bird and the head and neck are bright blue. It is beautifully illustrated by H. Wayne Trimm in *The Birds of Tikal* by Frank Smithe, a longtime member of Queens County Bird Club. In 1970 we saw several of these Turkeys at the end of a dirt runway at Tikal in the Petén jungle of Guatemala. The Ocellated Turkey has never been domesticated. □

Harold Freeman

1621

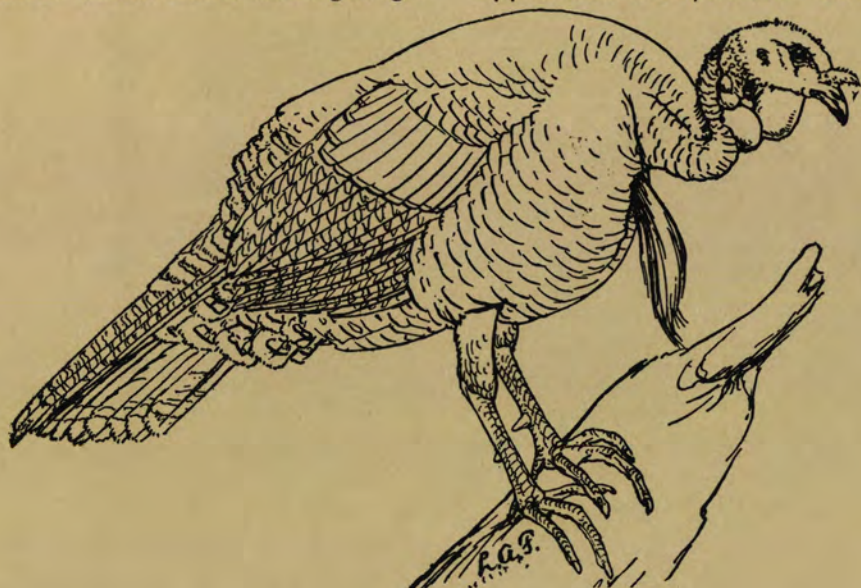
According to a letter written by Edward Winslow on December 11, 1621, and sent home to England, the three day feast of Thanksgiving consisted of:

Venison, Roast Duck, Roast Goose*
Clams & other shell fish, Eels
White Bread, Corn Bread
Leeks, Watercress &
other sallet herbs
Wild Plums & Dried Berries

No feast has been more famous. Chief Massasoit – with a sense of the occasion – brought along ninety Indians as surprise guests and extra victuals were needed. Roger Tory Peterson has written that the Indians did indeed provide turkeys. Fifty years later, the plentiful, ground-dwelling turkeys were depleted around settlements and survivors had learned to become invisible. In 1672, John Josselyn complained that "the English and Indians having destroyed the breed 'tis very rare to meet with a turkie in the woods." □

Brenda Renshaw

*Helen Ross Russell - *Foraging for Dinner*, p. 146



Harold Freeman and Brenda Renshaw are members of the Queens County Bird Club. They wrote this report on Wild Turkeys after the club saw a Wild Turkey in the Catskills on a weekend birding trip in 1981.

John A. Gustafson, Treasurer
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THE SMOKING-DAYS ON CHASKA-WATER



HE Red moon waned over Chaska-water, the Red and the Hunting and Leaf-falling moons.

Signal-fires rose on the hills by the lake.

Signals to all: "Come to council."

Teepees were seen on the hills—painted and beautiful teepees, red and orange and brown, the tents of the tribes now assembling.

A herald outcries:

"The days grow short and the Mad moon comes. Old Peboan's scouts have spied out our camp. Oh, blacken your faces for Chaska-water."

That night came the hostile spies again. There was fear on the camp in the morning.

The spruce-spires made uneasy sounds. A going there was in the tree-tops; a shivering sound in the aspens. And the hard white clouds above bumped together like ice-chunks in the spring flood of Assiniboinisipi.

The loud trumpeters crossed the sky; the squawkers were squawking; the rumpers were rumbling; a thousand added to the clamor born of the fear that was born of the clamor.

"The White foe comes; we are as the brood of Shesheep when Wah-gush finds them afoot and a mile from the water. We are caught unready."

There was confusion and panic—till Ninna-bo-jou was appraised, and, vexed at their fear, proclaimed: "I alone plan for the future; take ye what I send ye"; and he blew a blast that shook down all the painted teepee covers; only the poles were left, standing in rows, on the banks of the Chaska-water.

"Hear, now, ye trembling Teepee-folk! War there is coming, but Truce for ten days there shall be, while I smoke my peace-pipe; Peace while its smoke is up-curling. Prepare ye, prepare for your trial of hardship."

Down on the bank of the Chaska-water sat he a-smoking; and the Teepee-folk, hastening, made ready.

The Bluejay began another hoard of acorns.

The Beaver added two span to his dam.

The Muskrat piled on one more layer of rushes to his hut-thatch.

The Partridge dusted his plumage, so it might fluff out more fully.

The Spruce-borer went his length more deep into the solid tree.

The Fox shook and licked his tail into shape for a muffler.

The Red Squirrel chewed ten more bundles of bark for his blanketing.

The Chipmunk stuffed another handful of earth into his alleyway.

The Gopher rushed forth for a final load of grass, took one look backward at the sun, and hid below.

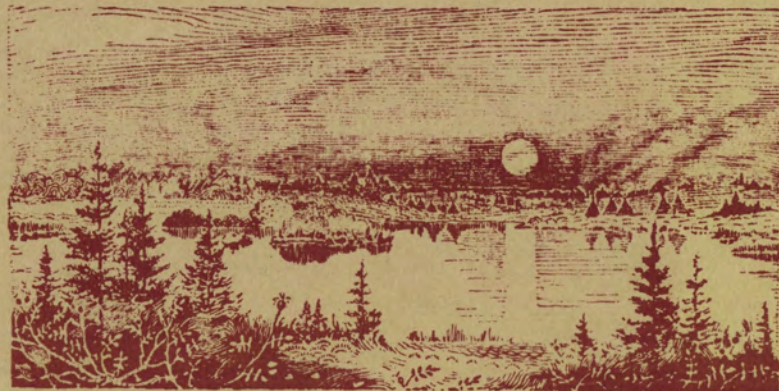
The Trumpeter Cranes, the Swans, and the Geese went sailing away to the

offing.

The last Red Rose dropped her petals five—the last of the race of the prairie.

Still Ninna-bo-jou sat a-smoking. Over the tree-tops circled the smoke,—for calm and bright and warm was the weather,—over the hills and the lake, till the landscape was veiled in a haze. A mystical haze and a splendor, a dreamy calm, was over all, for this was the Peace of the Smoking-days. This was the Indian Summer.

For ten fair days the Peace was smoked. The Fliers had gone and the Dwellers made ready. Then Ninna-bo-jou arose, and departing, he shook the ash from his pipe. A rising wind drifted its whiteness over the hills, blew all the smoke from the landscape. Now another feeling spreads abroad. The moon of the Falling leaves has waned, the Mad moon comes, awesome and chilling and dark. At morn there are spears of white on the ponds, there are tracks and signs—the signs of an on-coming enemy, of a foe irresistible. For this is the death of the Red Rose days; this is the dawn of the Mad moon gloom. This is the end of the joy and the light—the coming of Kabibonokka.



From "Woodmyth & Fable" by Ernest Thompson Seton, 1905