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AMERICAN INDIAN CONTRIBUTIONS TO CIVILIZATION¹

If the Western Hemisphere had been unoccupied by an aboriginal people, the story of its conquest by Europeans would have been quite different. Although the American Indian was the cause of the red line of conflict on the frontier, he made many contributions to our present civilization, and it is the purpose of this paper to summarize and briefly assay them.

The exploration and occupation of the New World was almost everywhere made easier by Indian guides who knew the trails, the portages, and the water courses which their race had used for centuries. The Indian trails, particularly those along the ridges and through mountain gaps, marked the routes of the westward-moving pioneers from the earliest days and even to the era of the railroads. The same is true of the portages connecting natural waterways. As Professor Frederick Jackson Turner has so aptly said:

The buffalo trail became the Indian trail, and this became the trader's "trace;" the trails widened into roads, and the roads into turnpikes, and these in turn were transformed into railroads. . . . The trading posts reached by these trails were on the sites of Indian villages which had been placed in positions suggested by nature; and these trading posts, situated so as to command the water systems of the country, have grown into such cities as Albany, Pittsburgh, Detroit, Chicago, St. Louis, Council Bluffs, and Kansas City.²

¹ A paper presented on July 14, 1934, at the Shakopee session of the twelfth state historical convention held under the auspices of the Minnesota Historical Society.

² *The Frontier in American History*, 14 (New York, 1921).

Of these trails and portages, many examples may be given. In general the Old Connecticut Path delineated the route for the Boston and Albany Railroad, and the Iroquois Trail that of the New York Central Railroad from the Hudson River to Lake Erie. The Kittanning Path led from Philadelphia up the Susquehanna and Juniata rivers, and Nemacolin's Path connected the Potomac and Ohio rivers, forming an important route for traders from earliest times and for troops during the French and Indian War. The Virginia Warrior's Path with its branches formed the avenue over which the pioneers passed from Virginia and Carolina to the trans-Appalachian region. West of the Mississippi River, the Oregon and Santa Fé trails are notable examples.³ In Minneapolis, Hennepin Avenue follows the ancient Indian trail from Lake Harriet to the Mississippi River just above the Falls of St. Anthony. Probably many of the present-day roads which do not follow section lines are on trails that were first used by the Indians.

The reports of the fur traders, on their return from the Indian villages and fairs to the white outposts, concerning the lands that they had seen were the stimulus that drove the land-hungry and the restless ever onward into the interior. Indian sign languages, developed because of intertribal trade, proved useful to the whites, and Indian

³ P. P. Cherry, "Great Aboriginal Highways; or Two Thousand Miles by Indian Trail," in *Ohio Magazine*, 2: 32-42 (January, 1907); Archer B. Hulbert, *Indian Thoroughfares* (Cleveland, 1902), and *Paths of the Mound-Building Indians and Great Game Animals* (Cleveland, 1902); William E. Myer, "Indian Trails of the Southeast," in United States Bureau of American Ethnology, *Annual Report*, 1924-25, vol. 42, p. 727-857 (Washington, 1928); Mary E. Peters, "Texas Trails," in Mississippi Valley Historical Association, *Proceedings*, 7: 56-66 (Cedar Rapids, Iowa, 1914); Douglas L. Rights, "The Trading Path to the Indians," in the *North Carolina Historical Review*, 8: 403-426 (October, 1931); Frank G. Roe, "The 'Wild Animal Path' Origin of Ancient Roads," in *Antiquity*, 3: 299-311 (September, 1929); A. Hyatt Verrill, "America's First International Highway," in the *Scientific American*, 143: 50 (July, 1930).

wampum was occasionally adopted as a medium of exchange.⁴

When Indian tribes or nations occupied strategic positions along the avenues of expansion, their relative strength determined the length of time that they were able to retard the white man's advance. In such instances the tribes became an important factor in the struggle of the European nations for domination in the New World; and for this reason attempts were made to treat the Indians as quasi subjects. Because of trade relations and alliances, the Algonquians adhered largely to the French and the Iroquois to the English, and this alignment was a decisive factor in the English triumph in the struggle for supremacy in North America. The strength of the Iroquois greatly retarded the white advance along the natural route of expansion up the Hudson-Mohawk Valley. In contrast, the absence of a strong tribe at or near the western end of the Cumberland Gap accelerated the westward movement in this region. The Indian tribes of the lower South were an important element in the diplomatic efforts of the European nations, during and following the American Revolution, to limit the United States to the region east of the Appalachians. In the various wars in which the United States has been involved the Indians have been a factor.

In the English colonies along the Atlantic coast the danger from hostile tribes was probably a decided influence toward nationalism; certainly the danger promoted community cohesiveness and was a damper on the tendency toward scattered settlements. From the close of the seventeenth century various intercolonial conferences were

⁴William B. Weeden, *Indian Money as a Factor in New England Civilization* (Baltimore, 1884); Frederic A. Ogg, "Indian Money in the New England Colonies," in *New England Magazine*, 27: 749-760 (February, 1903); Charles A. Philhower, "Indian Currency and Its Manufacture," and "Wampum, Its Use and Value," in *New Jersey Historical Society, Proceedings*, 13: 310-318, 15: 216-223 (July, 1928; April, 1930).

called to treat with Indians and promote common measures of defense. The most celebrated of these conferences was the Albany Congress of 1754, called to negotiate with the Iroquois and to consider plans of union. The unifying tendencies of the Revolutionary period were in part due to the Indian menace in the hinterland. Particularism was strongest in colonies without an Indian frontier. Each succeeding frontier in the white advance from the Atlantic to the Pacific had its Indian problem, and each was won by bloodshed.

The Indian in the United States and Canada was ultimately diverted to reservations, but the problem of the social and economic relationship of the red and white races still remains.⁵ The Wheeler-Howard Act of 1934, an expression of the vision of John Collier and others who comprehend this racial clash, will, it is hoped, prove a Magna Charta for the red man and the solution of the problem of the interrelation of the conqueror and the conquered.⁶

In the countries south of the Rio Grande the situation is decidedly different.⁷ The recent election of General Lázaro Cárdenas, a man of pure-Indian lineage, to the presidency of Mexico again reminds us of the overwhelming dominance of Indian and mestizo blood in our neighboring republic. One authority has recently stated that he doubts whether the whites of Mexico exceed half a million in the population of fifteen million. Indian blood predominates in at least ten American republics and it has definitely af-

⁵ For a summary of the policies of the whites toward the Indians in North America, see W. C. McLeod, "Native Policy; North America," in the *Encyclopaedia of the Social Sciences*, 11: 260-269 (New York, 1933). For a discussion of the contributions of the métis, see Louise S. Houghton, *Our Debt to the Red Man: The French-Indians in the Development of the United States* (Boston, 1918).

⁶ John Collier, "Indians at Work," in the *Survey Graphic*, 23: 261-265, 297, 299-302 (June, 1934).

⁷ For a summary of the policy of the conquerors toward the natives of Latin America, see José Ots y Capdequí, "Native Policy: Latin America," in the *Encyclopaedia of the Social Sciences*, 11: 252-260 (New York, 1933).

fected the national type in sections of several others. The present Indian population of the two Americas is in excess of a conservative minimum of twenty-six million.⁸

The English, French, Portuguese, and Spanish languages as used and developed in the Western Hemisphere utilize many words from the various Indian tongues.⁹ Naturally, this contribution is greatest in Mexico and Central and South America, where the population has remained predominantly Indian in blood. In these regions, the European conquerors and their descendants absorbed into their vocabularies numerous words which the Indians used as symbols for native animals, birds, plants, and insects, and the various purposes for which they are used. Canadian-French has taken over at least fifty words.

The English language has incorporated hundreds of Indian words. Although our tongues have frequently garbled and marred them, maps of North and South America are dotted with place names used by the Indian for rivers, lakes, bays, gulfs, capes, islands, valleys, and mountains, and for designating localities where the white man has developed towns, cities, townships, counties, states, provinces, and republics.¹⁰ Walt Whitman sang of this legacy in his "Starting from Paumanok":

The red aborigines,
Leaving natural breaths, sounds of rain and winds, calls as of
birds and animals in the woods, syllabled to us for names,
Okonee, Koosa, Ottawa, Monongahela, Sauk, Natchez, Chatta-
hoochee, Kaqueta, Oronoco,
Wabash, Miami, Saginaw, Chippewa, Oshkosh, Walla-Walla,
Leaving such to the States, they melt, they depart, charging the
water and the land with names.

⁸ Ernest Gruening, *Mexico and Its Heritage*, 69 (New York, 1928); H. J. Spinden, "The Population of Ancient America," in *Geographical Review*, 18: 641-660 (October, 1928).

⁹ An interesting account of how the English colonists adapted certain Indian words is given by Edward Eggleston in his *Transit of Civilization from England to America in the Seventeenth Century*, 99-107 (New York, 1901).

¹⁰ The names of states of Indian origin are: Alabama, Alaska, Arkansas, Arizona, Connecticut, Idaho, Illinois, Iowa, Kansas, Kentucky, Mas-

Indian words are also used, sometimes in abbreviated and modified forms, in naming our clubs, lodges, farms, parks, lakeside cottages, and seashore hotels, and also for ships of war and peace. In addition to place names, American English has absorbed over five hundred Indian words. These represent a wide range of thought and experience.¹¹

This linguistic contribution also includes phrases and expressions which are translations and imitations of aboriginal turns and tricks of thought. Thus we have: brave, Father of Waters, fire water, Great White Father, Great Spirit, happy hunting ground, medicine man, paleface, squaw man, to bury the hatchet, to smoke the pipe of peace, war path, and war paint.

The white man named many things "Indian" because they were his or were associated with him. We have, for example, Indian bread, Indian club, Indian corn, Indian file, Indian gift, Indian hemp, Indian ladder, Indian meal, Indian pudding, and Indian summer. The list of things "Indian" numbers more than a hundred in English, ex-

sachusetts, New Mexico, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, Tennessee, Texas, Utah, Wisconsin, and Wyoming. The names of Canadian provinces of Indian origin are: Keewatin, Manitoba, Ontario, Quebec, Saskatchewan, Ungava, and Yukon. The names of American republics of Indian origin are: Canada, Mexico, Nicaragua, Guatemala, Peru, Chile, Guiana, Uruguay, and Paraguay. For a bibliography on geographic names in the United States, see H. L. Mencken, *The American Language*, 443-446 (New York, 1921). The lists of words given in footnotes 10 and 11 are based largely on this work, p. 51-53, 100, and 344; Alexander F. Chamberlain, "Algonkian Words in American English," in the *Journal of American Folk-Lore*, 15: 240-267 (October-December, 1902), and his "The Contributions of the American Indian to Civilization," in the American Antiquarian Society, *Proceedings*, 16: 93-99 (October, 1903); and William R. Gerard, "Virginia's Indian Contributions to English," in the *American Anthropologist*, 9: 87-112 (January-March, 1907).

¹¹ Among the more common are the following: alpaca, axolotl, barbecue, bayou, buccaneer, cacique, cannibal, canoe, caribou, catalpa, caucus, Chautauqua, chilli, chinquapin, chipmunk, chocolate, cocoa, condor, cougar, coyote, curari, guano, hammock, hickory, hominy, hurricane, ipecacuanha, jaguar, jalap, jerked (beef), kinnikinic, Klondike, llama, mackinaw, mahogany, maize, manito, menhaden, moccasin, moose, mugwump, ocelot, opossum, pampas, papaw, papoose, pecan, peccary, pemmican, persimmon, petunia, pone, potato, powwow, puma, quinine, raccoon, sachem, saga-

clusive of the topographic use of the word. The French "sauvage" and the Spanish "Indio" also have their categories.

The literature and art of the world also owe the Indian much in the way of topic and inspiration. Poems, songs, dramas, novels, chronicles, histories, and folklore have the Indian as their subject.¹² Voltaire considered the speech of the wise old cacique, Colocola, in Alonzo de Ercilla's *La Araucana*, begun in 1558, superior to that of Nestor in the first book of the *Iliad*. Not a few critics agree that Longfellow's *Song of Hiawatha* (1855) is American literature's most notable poem.¹³ Eighteenth-century liberals believed that the Indian, because of the simplicity of his life, had retained a purity and strength of character which

more, samp, Saratoga, Sequoia, skunk, squash, squaw, succotash, sup-pawn, tamarack, Tammany, tapioca, tapir, tarpon, tipi, terrapin, tobacco, toboggan, tomahawk, tomato, totem, tuckahoe, tuxedo, vicuña, wahoo, wampum, wigwam, woodchuck, and Wyandotte.

¹² For a general statement, see Clark Wissler, "The Universal Appeal of the American Indian," in *Natural History*, 30: 33-40 (January-February, 1930). Chamberlain, in the American Antiquarian Society, *Proceedings*, 16: 99-102, cites the following poems: Shakespeare's *Tempest*; Davenant's "Cruelty of the Spaniards in Peru"; Dryden's "Indian Queen" and "Indian Emperor"; Sacchini's "Montezuma"; Kotzebue's "Indians of England," "Spaniards in Peru," and "Rolla"; Coleman's "Inkle and Yarico" (dramatized from Steele's tale in the *Spectator*, number 11); Sheridan's "Pizarro" (from Kotzebue); Southey's "Madoc"; Campbell's "Gertrude of Wyoming"; Whittier's "Mogg Megone," and "Fountain"; Rogers' "Pocahontas"; Mair's "Tecumseh"; Duvar's "De Roberval"; Moore's "Lake of the Dismal Swamp"; Mrs. Hemans' "Messenger Bird," "Stranger in Louisiana," and "Isle of Founts"; Longfellow's "Burial of the Minnisink"; Bryant's "Prairies"; Joaquin Miller's "Californian" and "Last Taschastas"; Lowell's "Chippewa Legend"; Hathaway's "League of the Iroquois"; Fréchette's "La dernière Iroquoise"; Schiller's "Nadowesier's Totenlied"; and Proctor's "The Songs of the Ancient People." See also Benjamin H. Bissell, *The American Indian in English Literature of the Eighteenth Century* (New Haven, 1925); Gilbert Chinard, *L'exotisme Américain dans la littérature française au XVI^e siècle* (Paris, 1911); and Walter S. Campbell, "The Plains Indian in Literature and in Life," in *Trans-Mississippi West*, 175-194 (Boulder, Colorado, 1930). For a detailed study of the Indian as a subject in American literature, see Albert Keiser, *The Indian in American Literature* (New York, 1933).

¹³ Keiser, *The Indian in American Literature*, 190.

the white man had lost during the evolution of his complex culture. For Rousseau and Chateaubriand the Indian was the embodiment of their dream of nature's nobleman living the perfect life in the American wilderness. The Indian has also appealed to the artist, both individually and by reason of his historic experience. The number of painters, engravers, and sculptors who have taken their subjects from the realm of aboriginal thought and action is legion. Modern architecture and design has also received contributions from the Indian. It has been asserted that the setback feature of the skyscraper was influenced by the Maya temples.¹⁴ Many of the gums and resins, ornamental timbers, and dyewoods now used in furniture making and other arts are a debt to the previous knowledge or experimentation of the Indian.

We may well make the literature of the aborigines part of our own. As Mary Austin has said:

These early Amerinds had been subjected to the American environment for from five to ten thousand years. This had given them time to develop certain characteristic Americanisms. They had become intensely democratic, deeply religious, idealistic, communistic in their control of public utilities, and with a strong bias toward representative government. The problem of the political ring, and the excessive accumulation of private property had already made its appearance within the territory that is now the United States. And along with these things had developed all the varieties of literary expression natural to that temperament and that state of society — oratory, epigram, lyrics, ritual-drama, folk-tale, and epic.¹⁵

¹⁴ Charles A. Eastman, "The Indians' Contribution to the Art of America," in *Red Man*, 7: 133-140 (December, 1914); Amy R. Colton, "The Red Man's Contribution to Our Household Art," in the *Garden and Home Builder*, 44: 31, 62, 74 (September, 1926); Frederick W. Hodge, "What the Indian Says in Ornament; Decorative Motifs and Their Meaning among the Red Men of Our Southwest," in the *Garden and Home Builder*, 44: 33, 68, 70 (September, 1926); Oscar H. Lipps, "History of the Art of Weaving among the Navajos," in *Red Man*, 7: 58-63 (October, 1914); Alfred C. Bossom, "New Styles of American Architecture and What We Might Learn from the Mayas," in *World's Work*, 56: 189-195 (June, 1928).

¹⁵ Mary Austin, in *Cambridge History of American Literature*, 4: 610 (New York, 1921).

The permanent worth of the songs and epics, the folk tales and dramas of the Indians, aside from their intrinsic literary quality, is their revelation of the power of the American landscape to influence form, and the expressiveness of democratic living in native measures.

The earlier . . . we . . . think of them as the inevitable outgrowth of the American environment, the more readily shall we come into full use of it: such use as has in other lands produced out of just such materials the plays of Shakespeare, the epics of Homer, the operas of Wagner, the fables of Aesop, the hymns of David, the tales of Andersen, and the Arabian Nights.¹⁶

The chief contribution of the Indian is his agricultural plants, methods, and processes.¹⁷ In his climb toward civilization, the Indian had discovered the advantages of bringing wild plants under control and of breeding them by seed selection, and he had realized the value of cultivating and fertilizing the soil. Unfortunately, his progress was impeded by the fact that America lacked animals that could be domesticated for draft purposes.

Paramount among the food plants domesticated and developed by the Indian and given, directly or indirectly, to the white man is corn or maize. The white potato, originally grown by the Indian in the Andes, was destined to become one of the world's greatest food staples, along with wheat, rice, and corn. Tobacco is one of the most important of our present-day cash crops. Other plants originally used by the Indian are agave, alligator pear or avocado, arrowroot, barnyard grass, the many varieties of kidney and lima beans, cacao, capsicum or Chili pepper, cashew nut, cherimoya, coca, cotton (*Gossypium barbadense* Linn.), gourds of all kinds, guava, Jerusalem artichoke, madia,

¹⁶ Austin, in *Cambridge History of American Literature*, 4: 633.

¹⁷ For a summary of the contributions of the American Indian to agriculture, see the introduction in the present writer's *Agriculture of the American Indians: A Classified List of Annotated Historical References*, issued by the United States Department of Agriculture Library as number 23 of its *Bibliographical Contributions* (Washington, 1933).

manioc or cassava, maté or Paraguay tea, oca, papaw, peanut, pineapple, prickly pear or Indian fig, pumpkin, quinoa, squash, star apple, sweet potato, and tomato.¹⁸

It has been estimated that four-sevenths of the total agricultural production of the United States, measured in farm values, consists of economic plants domesticated by the Indian and taken over by the white man.¹⁹ The extent of the debt to the Indian for his work of domestication is emphasized when we recall that the white man has not reduced to cultivation a single important staple during the four hundred years that he has dominated the New World.

The adaptation of European methods to American conditions proved a problem of extreme difficulty. For several years after their foundation the first colonies faced starvation, and they survived only because they received supplies from the mother country and made purchases and thefts of food from the Indians. The permanence of the colonies was assured only when they were established agriculturally, and this came when they had adopted the crops and tillage methods of the natives. Governor Bradford, referring to Squanto, tells how he came to the relief of the Pilgrim Fathers, "showing them both y^e maner how to set it [*corn*], and after how to dress & tend it. Also he tould them excepte they gott fish & set with it (in these old grounds) it would come to nothing."²⁰ Out of the union of the American Indian and European farming came the solution of the food-quest problem of the colonists and the

¹⁸ This list is based on that given by Clark Wissler in *The American Indian*, 15 (New York, 1922). It may be supplemented by those of G. K. Holmes, in the *Cyclopedia of American Agriculture*, 4: 25-29 (New York, 1912), and of Ulysses Prentiss Hedrick, in *A History of Agriculture in the State of New York*, 31-33 (Albany, 1933).

¹⁹ Herbert J. Spinden, "The Population of Ancient America," in *Geographical Review*, 18: 641-660 (October, 1928), and "Thank the American Indian," in *Scientific American*, 138: 330-332 (April, 1928).

²⁰ William Bradford, *History of Plymouth Plantation*, 100 (Boston, 1856). Details of the debt of one colony to the Indian are given in Lincoln N. Kinnicutt, "Plymouth's Debt to the Indians," in the *Harvard Theological Review*, 13: 345-361 (October, 1920).

beginnings of American agriculture. The first lands occupied by the colonists were the clearings used by the Indian for his crude farms. As a source of man power, the native was of little consequence in North America; in New Spain he made an essential contribution through the medium of the *encomienda* system.

The entire "maize-culture complex" — to use a term of the anthropologist and the sociologist — was taken over by the white man.²¹ The farm of the pioneer, whether in the seventeenth century or the twentieth, is a counterpart of the Indian corn field. The ground is exposed to the sunlight by girdling the trees or scotching their roots, and the trunks and stumps are removed by burning. The kernels of corn are planted in hills three or four feet apart; beans are planted with the corn, and pumpkins and squash between the hills. The soil is cultivated to check the weeds and to keep it loose and friable. Scarecrows — and sometimes children on platforms — are used to keep away the birds. In harvesting the corn, the husking peg is still useful. The corn is stored in slatted cribs upon posts to facilitate air circulation. When used for human food, it is prepared in ways devised by the Indians. It must be granted that the white man has added machinery and animal power to the Indian method of planting corn and other plants of New World origin, but the native system of placing the plants in hills and heaping earth about the stalks during cultivation is still a fundamental process in farming, just as broadcast seeding is essential in growing the grains of Old World origin.

Several varieties of cotton were used by the Indian in pre-Columbian times. It is probably the only important culti-

²¹ Clark Wissler, "Aboriginal Maize Culture as a Typical Culture-complex," in *American Journal of Sociology*, 21: 656-661 (March, 1916). This article is reprinted under the title, "Some Permanent Influences of Aboriginal Cultivation," in L. B. Schmidt and E. D. Ross, eds., *Readings in the Economic History of American Agriculture*, 49-52 (New York, 1925).

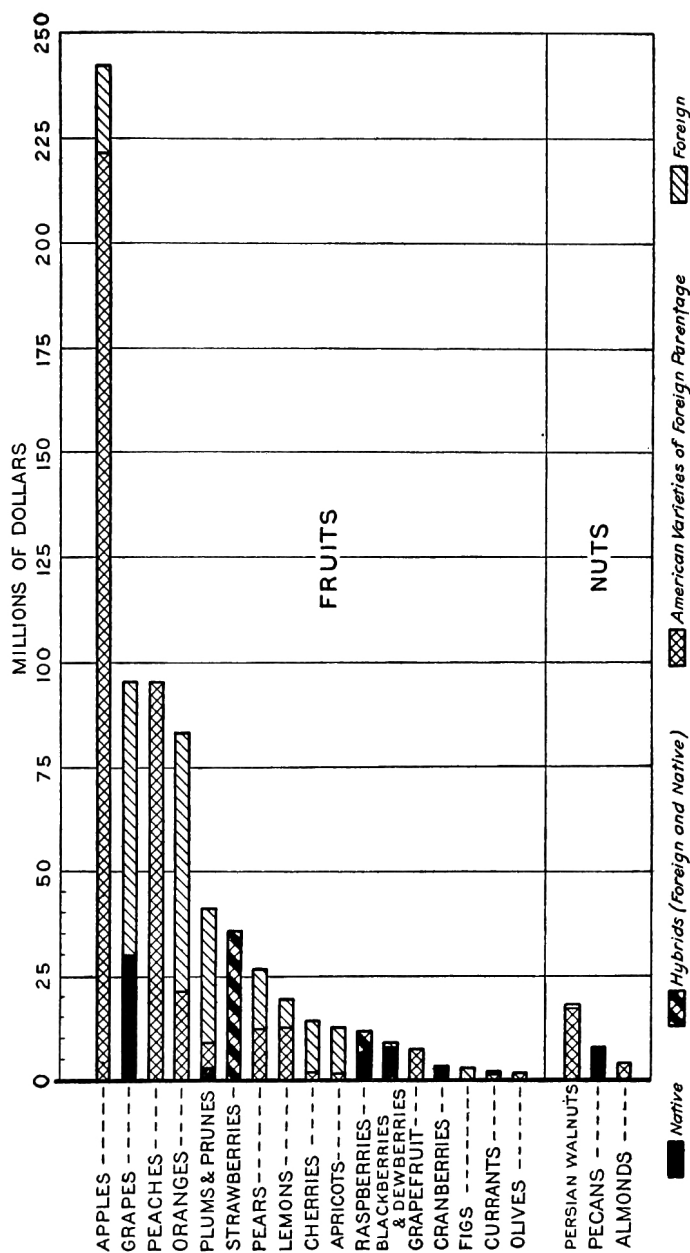
vated plant which was domesticated independently in both hemispheres. Today the mainstay of the world's cotton industry is a native American species, *Gossypium hirsutum*, which was cultivated by the Indians of Mexico. Besides llama wool and alpaca, the Indian used several kinds of the maguey (*Agave americana*) and the *Agave mexicana*, the sisal hemp, the piassava, the leaves of the pineapple, and the ixtle as sources of fiber. In northeastern North America the whites followed the Indian in making ropes and strings from Indian hemp (*Apocynum cannabinum*) and the bark of the leatherwood (*Dirca palustris*). The Indian also realized the properties of rubber. When the Spaniards entered Mexico they watched Indian ball games played in public courts, and obtained balls as souvenirs to send home. A recent writer has referred to this incident as the beginning of the world's rubber trade.²²

Many vegetable products were gathered by the Indians but were not cultivated because of their natural abundance. Berries and roots were important sources of food and medicine. In contrast with our field crops, the American fruit industry is built mainly on fruits not native to this country. Of the different common fruits, the following may be cited as native: blackberry, blueberry, crab apple, cranberry, dewberry, elderberry, June berry, gooseberry (native in distinction from the European type), grape (excepting the European or vinifera type), huckleberry, mulberry (certain relatively unimportant types), persimmon (native in distinction from the Oriental type), plum (native in distinction from the Japanese and European types), raspberry (both red and black), and strawberry. The preponderance of berries in this native list is striking, and the absence of fruit trees is equally so.²³ The accompanying diagrams indicate effectively the relative importance of vegetables and fruits native to the United States and those introduced

²² Emily C. Davis, *Ancient Americans*, 275 (New York, 1931).

²³ United States Department of Agriculture, *Yearbook*, 1925, p. 112.

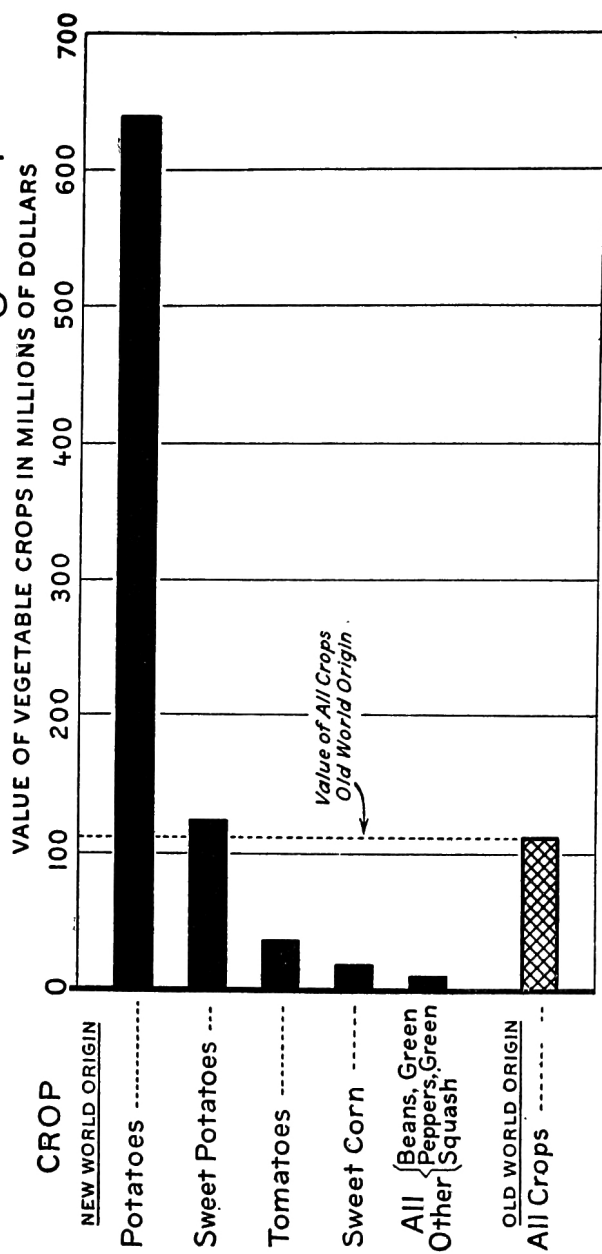
VALUE AND NATIVE ORIGIN OF FRUITS AND NUTS



[From the United States Department of Agriculture, Yearbook, 1925, p. 113 (Washington, 1926).]

PRODUCTION IN UNITED STATES, 1919

Vegetables of New World and of Old World Origin Compared



[From the United States Department of Agriculture, *Yearbook*, 1925, p. 123.]

from other lands. Although the great bulk of the fruit grown represents varieties originated here, they have come largely from foreign species.

As already indicated the Indian had few domesticated animals. The dog alone was practically universal. In the Andes the Incas had llamas and alpacas. The llamas were raised in herds, numbering thousands, and were not only used in transportation, but sheared for their wool and slaughtered for their flesh. Other domestications include the guinea pig by the Incas and the turkey by the tribes of Mexico and the southwestern United States, who kept them for their eggs and feathers as well as for their flesh.

In aboriginal America irrigation was practiced from Arizona to Chile. In the Salt River Valley there were about a hundred and fifty miles of main irrigation ditches, and some of them have been incorporated into the modern systems. In Peru irrigation was carried out on a scale scarcely equalled by modern peoples. The remains of the aqueduct systems of the Inca empires show genius and organization which we of today may well respect.²⁴

Many of our present foods and the methods of cooking them are a heritage from the Indian. Elaborate all-American menus may be prepared; the following may be taken as a sample.²⁵

²⁴ Odd S. Halseth, "Prehistoric Irrigation Systems Revealed by Aerial Survey in Arizona," in *Professional Engineer*, 16: 7, 26 (June-July, 1931); Omar A. Turney, "Prehistoric Irrigation," in *Arizona Historical Review*, vol. 2, no. 1, p. 12-52, no. 2, p. 11-52, no. 3, p. 9-45, no. 4, p. 33-73 (April, 1929-January, 1930).

²⁵ William E. Safford, "Foods Discovered with America," in *Scientific Monthly*, 21: 186 (August, 1925); C. A. Herndon, "A Dinner from the Indians," in *Mentor*, 12: 52 (March, 1924); Marjorie Capron, "An All-American Thanksgiving Dinner," in *World Review*, 3: 151 (November 22, 1926).

Cocktail

Virginia oysters with tomato and red pepper sauce

Chowder

Little-neck clams with tomatoes, green corn, and opossum fat
or

Terrapin stew with turtle eggs

Barbecued shad à la Indienne

White potatoes

Tamales à la Mexicaine

Bell peppers or tomatoes stuffed with wild rice

Turkey stuffed with native chestnuts or oysters

Cranberry sauce Sweet potatoes String beans Stewed tomatoes

Succotash of lima beans and green corn Jerusalem artichoke

Corn pone or hoe cake

Guava jelly

Salted peanuts

Sherbert of passion fruit à la Martinique

or

Soursop à la Havanne, or, Cherimoya à la Peruvienne

Quail, ricebirds, or canvasback ducks

Blackberry or grape jelly

Salad

Avocado with dressing of sunflower or hickory nut oil, maple
vinegar, cayenne pepper, and salt

Pineapple tapioca

Pumpkin pudding

Stewed blueberries

Strawberries

Grapes

Wild plums

Pecans Brazil nuts

Water chinquapins

Hickory nuts

Pine nuts

Hazel nuts

Popcorn

Chocolate

Yerba maté

Cassine tea

Cigars

Cigarettes

In North America, hominy, pone, sagamity, samp, succotash, and suppawn are typical native dishes. Pemmican and jerked beef were first prepared by the Indian, and in the Great Lakes region wild rice was and still is used in such quantity as to make it a staple. The entire technique of preparing maple sugar has been acquired from the Indian, and his ways of cooking clams by baking them and of preparing fish by planking it have been adopted. The

folk foods of Spanish America are largely aboriginal in origin; so also are the drinks—pulque, mescal, chicha, and cachiri. Various methods of making fruits, herbs, roots, and game more palatable were learned from the natives. Chewing gum is still another contribution.

Following the discovery of America, many of the medicines used by the Indians became popular in Europe.²⁶ While some of these are now regarded as having little therapeutic value, others are still of prime importance. At first, Europeans regarded guaiacum wood (*lignum vitæ*) and sarsaparilla as the most important American medicines. Another so-called remedy which became popular in Europe was Mexican jade as a cure for kidney diseases. Tobacco and copal were first introduced into Europe as medicines. In the American colonies the Indian doctor who knew the uses of herbs, barks, leaves, roots, and juices treated the white pioneers or taught them their secret remedies. The natives of Bolivia and Peru chewed the leaves of the coca plant long before the Spanish conquest, and they realized its physiological action in diminishing the feeling of fatigue and in dulling pain. Observing these facts, the white man developed cocaine for use as a local anæsthetic. The bark and leaves of the witch-hazel were also widely used for soothing irritations. Cascara sagrada and quinine have proved their merits as remedies, the latter being an aid of inestimable value in conquering the fever-ridden tropics.

The Indian discovered and developed a number of excellent dyes. Chief among these was that made from the cochineal, an insect from southern Mexico, which was domesticated and grown on the nopal or prickly pear cactus. Another important dye, also the result of domestication, was anil or American indigo. In Central America the In-

²⁶ Chamberlain, in American Antiquarian Society, *Proceedings*, 16: 118-121; Edwards, *Agriculture of the American Indians*, 74-78, and items cited in its index.

dian used the secretion of the murex shell fish as a purple dye.

The white man has also learned from the Indian lore of the out-of-doors. Recreations such as canoeing, tobogganing, snowshoeing, and la crosse, and the less strenuous diversion of reclining in hammocks are part of this heritage. So also are the ideas and devices relating to hunting and fishing, namely catching fish by torchlight and weirs, calling moose, and the technique of trailing and capturing the larger game and wild animals. The tipi gave Major Henry Hopkins Sibley the idea for his invention of the Sibley army tent. Perhaps the sleeping bag is derived from the warm moss bag of the Athapaskan. The moccasin and the Panama hat are articles of clothing which have been adopted.

Such, in summary, are the contributions of the American Indian to civilization. Applying a well-known inscription—*Si monumentum requiris, circumspice*—to the Indian, we may close by saying "If you seek his monument, look around."

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