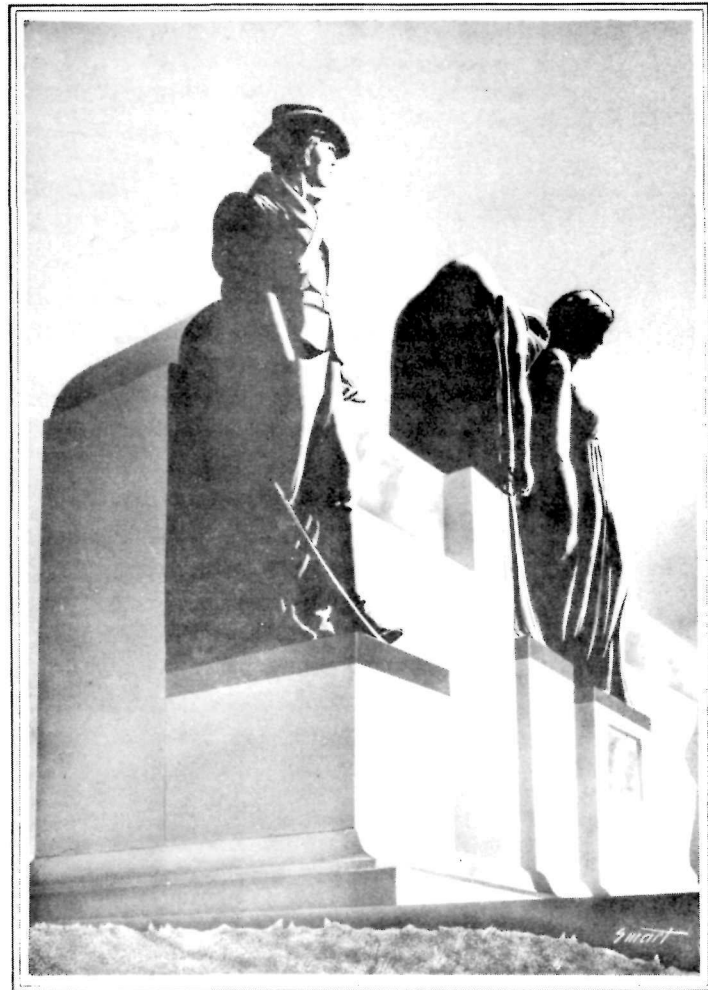


THE REGIONAL REVIEW



Confederate Memorial by Hibbard ~
SHILOH NATIONAL MILITARY PARK TENNESSEE.

NATIONAL PARK SERVICE REGION ONE RICHMOND VIRGINIA

APRIL 1939

VOL.II-NO. 4

THE COVER

Outstanding among the many memorials erected on the national battlefields is the Confederate tribute in Shiloh National Military Park, at Pittsburg Landing, Tennessee, a portion of which is shown in the air brush drawing by Samuel O. Smart, Assistant Landscape Architect of the regional office staff.

THE REGIONAL REVIEW

VOL. II · NO. 4

APRIL 1939

M.R. TILLOTSON
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THE UNITED STATES
DEPARTMENT OF THE INTERIOR
· NATIONAL PARK SERVICE ·
REGION ONE ~ RICHMOND, VIRGINIA



RUINS OF EIGHTEENTH CENTURY FURNACE STACK, HOPEWELL VILLAGE NATIONAL HISTORIC SITE
Restoration of the old structure is now more than half completed

HOPEWELL VILLAGE AND THE COLONIAL IRON INDUSTRY

By Melvin J. Weig,
Assistant Research Technician,
Morristown National Historical Park,
Morristown, New Jersey.

On August 3, 1938, was signed the departmental order designating Hopewell Village National Historic Site, a tract of about 214 acres embracing the remains of an important Colonial iron manufacturing community not far from Reading, Pennsylvania. The area already had been acquired by the federal government as a part of French Creek Recreational Demonstration Area and was recommended for designation by the Advisory Board on National Parks, Historic Sites, Buildings and Monuments. It will be administered by the National Park Service as one of the more than 70 historical areas held by the United States for the benefit, education and enjoyment of the people.

A far cry from our modern steel and iron industry, with its annual production valued at more than \$4,000,000,000 (1), was the Hopewell Village of Colonial times, comfortably enclosed by the wooded hills of old Berks County, in the Schuylkill valley. Two and a half centuries ago this region was an almost virgin wilderness. The first settlers to discover it were a group of Swedes from a colony established on the Delaware about 1638. These people won their livelihood in trade with the Indians, shad fishing, and cultivation of the valley's rough but fertile lands. English, Welsh, Dutch and German settlers found homes along the Schuylkill River after 1681, when William Penn received his charter and grant from King Charles II. Not until 1716, however, when Thomas Rutter built the first bloomery forge in Pennsylvania near Pottstown, was any real attempt made to transform the colony's great natural resources of water power, iron ore, limestone and timber into pig iron. In 1719 or 1720, encouraged by success with this first experiment, Rutter secured aid from his friend Thomas Potts and others to build Colebrookdale, the first charcoal furnace in Pennsylvania. His example soon was followed by others, and by 1771 more than 50 forges and furnaces had been established in the province.(2)

Among those enterprising young men on both sides of the Atlantic whose imaginations were fired by the prospect of building a great American iron industry was William Bird. He was born in England in 1706, emigrated to Pennsylvania at an early age, and went to work at Pine Forge for Thomas Rutter. We find him there in 1733 as a woodchopper receiving wages of two shillings and nine pence a cord. Soon striking out for him-

(1) The World Almanac, 1939, p. 573.

(2) Arthur C. Sylvester and Jackson Kemper, III, The Making of Charcoal as Followed by the Colliers of the Schuylkill Valley, an illustrated report prepared for the Service, January 22, 1937, pp. 1-2. For an excellent general account covering the establishment of the iron industry in Pennsylvania, see Arthur Cecil Bining, Pennsylvania Iron Manufacture in the Eighteenth Century (Publications of the Pennsylvania Historical Commission, Vol. IV, Harrisburg: 1938), pp. 49-66. This monograph embodies the most scholarly treatment of its subject yet to appear in print, and those who wish to pursue that subject further should consult the bibliography covered by its voluminous footnotes.

self, he acquired extensive lands west of the Schuylkill and in the vicinity of Hay Creek, where he built the first Birdsboro Forge in 1740.(3) Three years later he began the construction of Hopewell Forge on French Creek at or near the present Hopewell Furnace site.(4) By 1756, having done a thriving business, he had taken up 12 tracts of land containing about 3,000 acres. His residence, built in 1751, still can be seen in Birdsboro, where it is used as a Y. M. C. A. building. Before long he had become an influential personage in Berks county, working with Conrad Weiser and other noted Pennsylvanians in the conduct of its political and economic life. His son Mark inherited most if not all of his property when he died in 1761.(5)

The name of Mark Bird, patriot, soldier and industrialist, is one to conjure with. In 1762, shortly after his father's death, he went into partnership with George Ross, a prominent Lancaster lawyer who later signed the Declaration of Independence; and together they built Mary Ann Furnace, the first blast furnace west of the Susquehanna River.(6) Eight or nine years later, apparently abandoning or dismantling his father's earlier Hopewell Forge, Mark Bird erected Hopewell Furnace on French Creek, some four or five miles from Birdsboro.(7) The dates 1770 and 1771 are inscribed on separate corners of the old stack, which now is destined for restoration and preservation by the National Park Service, together with the other historic remains in Hopewell Village.

Around this new furnace there soon developed a small, quasi-feudal community of colliers, woodchoppers, moulders, teamsters, blacksmiths, wheelwrights and other workers.(8) These lived with their families in numerous tenant houses built at the iron-master's expense. Mark Bird himself, or the manager to whom he entrusted the care of his business at Hopewell, lived in the so-called Big House, which was more pretentious than the workmen's dwellings. Nearly every economic want of the Hopewell employee was supplied from a common store, from family gardens and pastures, or from agricultural lands farmed under supervision of a general manager. Wagons and other equipment were constructed or repaired as necessary by the wheelwrights, blacksmiths and carpenters, separate shops being set up for such work. Farm animals and mules to haul the ore, cordwood, charcoal and pig iron shipments, were stabled on the premises where

(3) Robert E. Brooke, Salient Events in the History of Birdsboro, a paper read before the Historical Society of Berks County, January 14, 1930, p. 1.

(4) *Ibid.*, pp. 2-3. See also Bining, *op. cit.*, pp. 51 and 188; and Harker A. Long, A Short History of the Hopewell Furnace Estate in Union Township, Berks County (Reading Eagle Press, Reading, published between 1930 and 1935), pp. 17-18. Mr. Long was connected prominently with the Hopewell property from 1867 until recent times. He gave invaluable aid to the Service in its research on this area before he died in 1938.

(5) Brooke, *op. cit.*, pp. 3-4.

(6) *Ibid.*, p. 5. Bird married his partner's sister Mary in 1763.

(7) *Ibid.*, pp. 4-5. See also Bining, *op. cit.*, p. 51.

(8) Roy Edgar Appleman, Historical Report on the French Creek Area, a study prepared for the Service in August, 1935, p. 10. Mr. Appleman pioneered in the movement for restoration of Hopewell Village, the initial research basis for which is embodied in this report.



THE "BIG HOUSE" AT HOPEWELL VILLAGE NATIONAL HISTORIC SITE

they received the best of care. Thus life and industry progressed together in one and the same place.(9)

Nearly all the early Pennsylvania furnaces, Hopewell included, cast stoves and hollow ware, such as pots and kettles. Mahogany generally was used for making patterns, since it cracked and warped less than other woods. The first stove castings were flat plates of iron with tulips, hearts, Biblical figures, and mottoes on their outer surfaces. Finest of such castings are those in the Mercer collection at the Bucks County Historical Society in Doylestown, a collection in which Hopewell Furnace is well represented. An old stove bearing the words "Hopewell Furnace" and the date "1772" is still in existence at Birdsboro, and another of similar design was found in the Big House when that building was taken over by the federal government. Many of the oldest stoves in America, as a matter of fact, came from Berks County; and among them the Hopewell products were famous.(10)

But it was not peacetime manufacturing alone which engaged Mark Bird's attention. In 1775, when the War for American Independence began, he served as Lieutenant-Colonel of the Second Battalion, Berks County Militia, which was formed of companies enlisted in and near Birdsboro. Later, in August 1776, as a Colonel, he fitted out 300 men of that battal-

(9) For an excellent description of social and economic life in the early iron-making villages see Bining, *op. cit.*, pp. 29-48.
(10) Appleman, *op. cit.*, pp. 3-4 and 21.



A HOPEWELL PRODUCT

use of the United States." Orders of \$50,000 and \$125,691 were issued, or recommended to be issued, in Bird's favor by the Continental Congress in 1778 and 1780 respectively. It is believed, however, that the iron-master never collected large amounts owed to him by the United States. On September 15, 1783, he addressed a memorial to the Continental Congress, requesting that the Great Chain which had been stretched across the Hudson River at West Point to obstruct British navigation be delivered to him in part payment on his account. This plea was denied "on the ground that he was a creditor of the United States along with the others, and no particular order should be given in his behalf." (12)

The fortunes of Mark Bird went rapidly downhill after that. There was a disastrous flood on Hay Creek which ruined much of his property. Then came those post-war depression days when two or three Continental dollars would buy hardly a crust of bread. In 1784, trying desperately to get again upon solid ground, he borrowed 200,000 Spanish milled dollars from John Nixon, a wealthy Philadelphia merchant. But the die was cast. Two years later, obliged to satisfy this debt, he assigned all his Hopewell and Birdsboro property to Nixon, who advertised it for sheriff's sale in April, 1788. About the same time Bird moved to North Carolina, where he died in comparative poverty. The end was tragic indeed for this man whose landed estates once had spread into four of the original Thirteen Colonies, and whose services to his adopted country, by any fair reckoning, had been so considerable. (13)

ion with uniforms, tents and provisions, all at his own expense. He entered the field and went to Washington's relief soon after the disastrous Battle of Brandywine in late 1777. (11) Mark Bird's chief services to the American cause, however, were those, not of a soldier, but of a philanthropist and munitions-maker. A report to the executive council of the Continental Congress, dated February 19, 1778, shows that he sent 1,000 barrels of flour to Philadelphia. The minutes of the Continental Congress for June 24, 1777, March 11, 1778, April 8, 1780 and September 10, 1783, refer to large quantities of iron supplies received from him. An interesting order of 1777 discharged 11 men from the militia so that they still might be "employed by Colonel Mark Bird, in the canon foundry and nail works in Berks County in Pennsylvania, carried on by him for the

(11) Brooke, *op. cit.* p. 5.

(12) *Ibid.*, pp. 5-6. See also Bining, *op. cit.* p. 143.

(13) *Ibid.*, pp. 142-43. Brooke, *op. cit.*, p. 7. Long, *op. cit.*, pp. 6-7. Appleman, *op. cit.*, pp. 8-9.

Hopewell Furnace and its surrounding woodland were sold twice at sheriff's sales between 1786 and 1800, and changed hands six or seven times during that period. Daniel Buckley, Thomas Brooks and Matthew Brooke acquired the property in 1800. From that time forth it was owned by the Brooke family, either in whole or in part, until negotiations for its transfer to the federal government were undertaken in 1934.(14)

Except for a few intermittent periods, Hopewell Furnace remained in operation until June, 1883, when it was blown out for the last time. It never changed to hot blast, which, coming into almost universal use after 1850, inaugurated a new era in the iron industry. Castings continued to be made at Hopewell until 1840 when the patterns were sold to a small foundry at Lawrenceville, Pennsylvania. After this nearly all Hopewell pig iron went to various forges in the state where it obtained prices ranging from \$28 to \$45 a ton, f. o. b. the furnace bank. The highest price ever paid was \$99 a ton in 1864 when, as a result of the War Between the States, the cost of all commodities boomed sky high. A. Whitney & Sons, the big railroad carwheel manufacturers of Philadelphia, bought the entire Hopewell output from 1870 to 1883, since for many years none but good cold blast charcoal iron would give a chilled face on the tread. It is therefore probable that Hopewell iron has rolled over several of our transcontinental railroads. After 1883, when the making of such iron was no longer profitable and the furnace ceased to operate, the woodland around it continued to make good returns for several years, big lime plants in Chester Valley taking the annual growth at a fair price. (15)

(14) *Ibid.*, pp. 9-10. Brooke, *op. cit.*, pp. 7-13.

(15) Long, *op. cit.*, pp. 9 and 11-16.



OLD SPRING HOUSE IN HOPEWELL VILLAGE

The active days of Hopewell Furnace were over, however, symbolizing in their passing the end of a long and picturesque period in the iron industry, yielding place to newer and more efficient techniques.

The story of Hopewell hardly would be complete without some description of processes used in manufacturing cold blast charcoal iron. Making charcoal naturally was one of the most important jobs. Good timber, preferably oak, was cut into specific lengths by the woodchoppers, hauled to hearth locations in the forest, and there transformed into charcoal under supervision of the colliers. These latter were perhaps the most trusted employees. They usually worked in pairs, each man taking a 12-hour shift, and lived with their jobs in crude log shelters --- for every charcoal "pit" needed constant watching, lest it take open fire and the wood be consumed. The finished product was hauled to a charcoal house near the furnace stack and stored there until used.(16)

Iron ore and limestone were brought to the stack which was usually not more than 30 or 35 feet high, since more layers of ore and limestone than this permitted would crush the light charcoal and thus prevent combustion. The stack structure consisted of a fire-brick bosh or inner lining, reinforced on the outside with native stone, which at the bottom formed a wall some 10 or 12 feet thick. Near its base was a hearth where the molten iron was tapped out; a hole to facilitate removal of the slag formed by fusion of the ore impurities with the limestone; and a blast-pipe, commonly called a tuyère, through which the blast was fed. Water from hillside streams was conveyed by raceways to the furnace where it operated a large wooden wheel and machinery cleverly designed to produce an almost constant pressure blast.(17)

The actual smelting process has been described graphically by the late Harker A. Long, who went to Hopewell in 1867 and whose attachment for what he always called the "dear old property" was exceptionally strong:

As soon as the new hearth was finished, the stack was filled about half way up with charcoal without any iron ore. Then with each barrow of charcoal they would begin putting in ore, and a little limestone. The first charge of ore would be about 50 pounds, increasing each charge about 25 pounds, so that when the stack was full, there would be about 375 pounds of ore put in to every charge of charcoal (15 bushels), and about three shovels of limestone, per charge. The furnace would then be lighted down in the hearth and left burning two or three days without any blast. As soon as the ore would come down to the tuyère, then the blast would be turned in. The regular ore charge (with 15 bushels of charcoal) was from 400 to 500 pounds, owing to the condition of the charcoal, and the iron ore, also to the condition of the atmosphere, which had a good deal to do with the amount of ore that could be melted per charge of charcoal. . . It may seem incredible

(16) Sylvester and Kemper, *op. cit.*, pp. 8-21, gives a good description of the charcoal-making process.

(17) Long, *op. cit.*, pp. 6 and 15-20. Appleman, *op. cit.*, pp. 11, 15, 17 and 24-26. Bining, *op. cit.*, pp. 63-94, devotes a chapter to describing the technique of early iron manufacturing in Pennsylvania.

but you could melt more ore per charge on a real cold day than any time. There were not many men employed about the furnace --- only one filler and one keeper on each turn of 12 hours, and one gutterman, who would carry out the iron and haul the cinder to the dump for the 24 hours, by working only during the day time.(18)

The capacity of Hopewell Furnace was about 1,200 tons of pig iron a year. This was about the average for early cold blast furnaces.(19)

While long years of inactivity and neglect have left their mark on Hopewell Village, its basic features are still in existence. The bridge house, wheel house and wheelwright shop have vanished, together with the little old schoolhouse which once stood on the road to Joanna Furnace. Against this, however, we must balance many well preserved ruins. Among these are the furnace stack itself, the Big House and several of its out-buildings, the charcoal house, the blacksmith shop, the now dismantled waterwheel and blast machinery last used in 1883 (20), the old furnace races and four or five tenant houses.

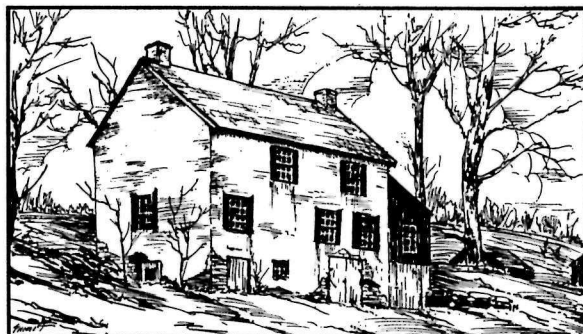
Restoration of Hopewell Village by the National Park Service already is under way. Work on the furnace stack was started in 1936 and is now more than half completed. The same is true of the old east head race, a truly marvelous example of Colonial engineering. Much research of both an archeological and documentary character remains to be accomplished before final restoration plans are drawn. The time will come, however, when water will run again through the races, turn the furnace wheel, and thus operate the blast machinery which is to be reproduced from original patterns. Restoration of the bridge and wheel houses, the Big House and the tenant dwellings is to follow in due course. Old-fashioned flowers and vegetables will be cultivated once more in the village gardens; and the blacksmith shop, where much of the old equipment is still in place, will bustle again with the activities of hearth and anvil.(21) When all is done the American people will have in Hopewell Village National Historic Site a restored late eighteenth and early nineteenth century iron-making community, an exhibit in life size portraying the humble but romantic beginnings of a now great industry.

(18) *Op. cit.*, p. 19.

(19) Appleman, *op. cit.*, p. 10.

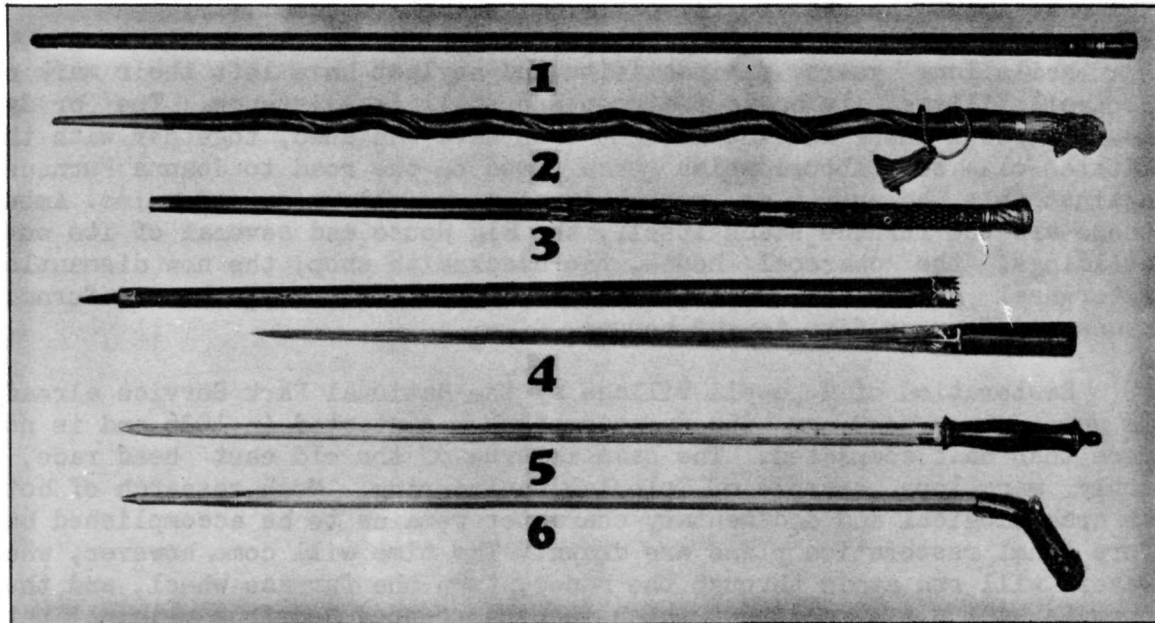
(20) This machinery, now stored on the property, belongs to the Franklin Institute, of Philadelphia. Efforts to effect its transfer to the federal government are being made.

(21) A preliminary report and plan of the proposed restoration was prepared for the Service in 1935-36 under the supervision of Mr. Appleman, whose work has been mentioned elsewhere in these notes. Together with additional historical and archeological research data yet to be collected, this will be basic to the final restoration.



STICKS AND SWORDS

By Alfred F. Hopkins,
Museum Curator,
Morristown National Historical Park,
Morristown, New Jersey.



Morristown National Historical Park has in its museum collection a number of walking-sticks, interesting not only because of associations with the men who possessed them more than a century ago but also, in several instances, because of the weapons of defense contained within them.

Since the faint light of dawning fell across the first page of history, man often has found an advantage in carrying a stick in his hand. In the beginning he discovered, after due deliberation, that by grasping a staff he could increase his reach and lend force to a blow for the better protection of his cave, or for the procurement of food. Thereafter he seldom ventured forth without one. Throughout the ages youth played at manhood with stick in hand; man shook it as a weapon or as a symbol of authority; old age leaned upon it for support. During the seventeenth and eighteenth centuries, in all civilized countries, the walking-stick was not only useful but likewise fashionable, and those persons who were entitled to wear swords, by virtue of rank or position, carried a cane also. Half again as long as the canes now used, they lent dignity and poise in the walk and served as probes to possible pitfalls, such as puddles in the ill-paved streets of the time. Although walking-stick and cane are now synonymous, the latter name applied originally only to staffs of bamboo, or other tropical tree-like grasses, brought back by travelers to far countries.

The fashion of wearing small swords passed, on the part of civilians, at the turning of the nineteenth century; but the walking-stick, although

losing its aristocratic slimness and lightness, due to the French Revolution, remained in vogue. The sword-knot, made usually of gold or silver lace with pendant tassel, remained upon the walking-stick in the form of a leather thong with tassel. Those little tasseled cords found today on most umbrellas are in memorial to the vanished sword-knot.

The walking-sticks at Morristown National Historical Park were originally gifts from individuals to the Washington Association of New Jersey, which in 1933 presented them to the federal government. The long, slender cane at the top in the illustration on the opposite page is of Malacca wood, gold-capped and engraved with the initials of the owner, and has a gold-bushed opening for cord and tassel. It once belonged to Joseph Barrel, who attended a reception given in honor of General Washington in Boston in 1789. It is likely that he carried the cane on that occasion. Number two in the photograph is a walking-stick with silver-mounted buckhorn handle, presented by General Nathanael Greene, in 1784, to his friend and companion-in-arms Captain Jonathan Nicholas. Number three is a carved and silver-mounted stick made of wood taken from the famous Charter Oak in which, upon a memorable occasion, the liberal charter of Connecticut was hidden.

With the passing of the sword from civilian dress, there came into use the sword cane --- a blade, often of fine temper and handsome decoration, concealed within a cane, the handle formed by the upper portion. Men who had served in the army, or who were skilled in the use of the sword, considered such weapons excellent for defense. In the early years of the nineteenth century the lighting of city streets was far from adequate and robbers frequently lurked in shadows to waylay belated pedestrians. Many a miscreant was surprised at finding himself transfixed by a keen blade in the hand of some skilled swordsman. Number four is a cane of this type, the triangular blade engraved with floral designs and a trophy of arms in French technique. When the blade is in the cane, the joint of handle with sheath is concealed by a band of decorative brass. Although it has an American flag incorporated in its engraved decoration, it is probably of French manufacture. It was found concealed in the walls of the old Norton Claggett homestead at Wardenville, West Virginia.

The owner of the cane at the bottom of the photograph did not rely upon cold steel for self-defense. With buckhorn handle and brass-covered ferrule, the shaft is an octagon steel barrel, bored to take one buckshot or more and having at the breech, near the handle, a nipple upon which to place a percussion cap which could be struck by a small cock or hammer concealed in the handle and released when the trigger was pulled. To load the piece, the ferrule was unscrewed from the muzzle and powder and ball rammed into the barrel by means of a steel ramrod. A copper detonating cap was placed on the nipple and the weapon was ready to fire. Such arms were made about the middle of the nineteenth century, and apart from being a possible means of self-protection, were used often in bagging small game.

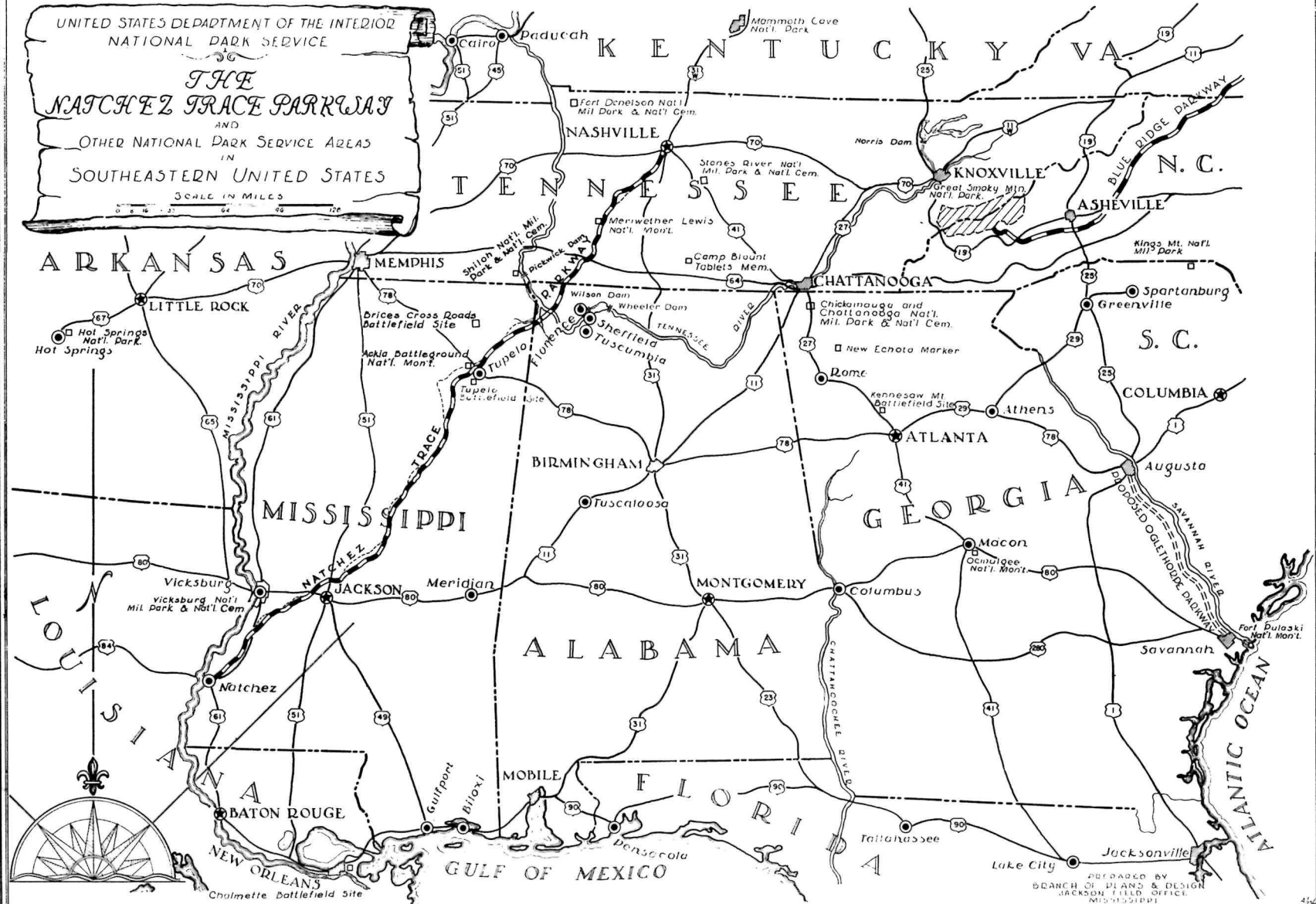
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

THE NATCHEZ TRACE PARKWAY

AND
OTHER NATIONAL PARK SERVICE AREAS
IN
SOUTHEASTERN UNITED STATES

SCALE IN MILES

0 10 20 30 40 50 60 70 80 90 100



PREPARED BY
BRANCH OF PLANS & DESIGN
JACKSON FIELD OFFICE
MISSISSIPPI

THE NATOHEZ TRACE --- AN HISTORICAL PARKWAY

By Malcolm Gardner,
Acting Superintendent,
Natchez Trace Parkway Project,
Jackson, Mississippi.

When the white man began his exploration of what is now the southern United States, he found ready-made for his travels a network of Indian paths linking village with village and tribe with tribe. These trails showed a marked tendency to follow watershed divides in an effort to avoid stream crossings and swamps, in spite of the circuitous windings of such routes. Several of these trails, though individually not of outstanding importance, when joined together led in a northeasterly direction from the present city of Natchez, in southwestern Mississippi, to the Middle Tennessee country. Thus the component parts linked the important tribes of the Natchez, Choctaws, and Chickasaws. Toward the north, the trail touched the western claims of the Cherokees. This route gradually increasing in importance became known to later history as the Natchez Trace. That a few of these Southern trails became much more important than other paths through the forest was due to the military, political and commercial activities of white men pushing north from the Gulf of Mexico and west from the Atlantic.

By about 1716 the French had a trading post and a fort, Rosalie aux Natchez, high on the bluffs of the Mississippi and dominating the Natchez Indians. Plantations and a settlement followed closely. The massacre of the garrison and settlers at Fort Rosalie by the Natchez in 1729 led to the dispersion and virtual destruction of this tribe, whose complicated social structure and religious ceremonies have been described in considerable detail by amazed French observers and still constitute a fascinating story for historian, anthropologist, and Sunday supplement reader alike.

Of greater importance than the Natchez in the story of French colonial expansion in the Mississippi Valley were the pro-French Choctaws and the pro-British Chickasaws. Here the world-wide struggle of France and England for imperial dominion was fought out on a small scale as colonial officials and Indian traders guided the war-like predilections of their red allies. When a remnant of the hunted Natchez fled through hostile Choctaw territory to take refuge with the Chickasaws, Lemoyne de Bienville, Governor of Louisiana, set his energies toward completing French revenge on the Natchez and crushing the Chickasaws, and doing both with one blow at the center of the Chickasaw power. Their villages were concentrated in a prairie section still called the Chickasaw Old Fields in present-day northeastern Mississippi. While Bienville gathered his French militia and Choctaw tribesmen, Pierre d'Artaguet, commandant at the Illinois posts, marched south with four hundred men, two-thirds of them Indians, to effect a junction with Bienville. The two forces were never joined, but defeated in detail within a week of each other in May 1736. Bienville reported that English traders aided in repulsing him

before the fortified village of Ackia. The defeat was a blow to French prestige, and France never attained to complete domination over the territory between the Mississippi and the Appalachians.

In the latter half of the eighteenth century the Spanish came into possession of much of France's territory in the Mississippi valley. England held the Natchez district from 1763 until ousted by the Spanish in 1779, while the young United States succeeded to English claims along the Mississippi at the close of the American Revolution. Two outposts of these conflicting forces were Natchez, a northern center of Spanish power in the lower valley, and Nashville, the western spearhead of settlement of the new American Republic. Five hundred miles of wilderness separated these two settlements, but the common economic interests of the Mississippi valley attracted them toward each other. The link by land between the two points was the Natchez Trace which traversed parts of the present States of Mississippi, Alabama and Tennessee. It was used extensively by frontiersmen returning home after having floated their produce down to New Orleans. With American occupation in 1798 of the Natchez district, long in dispute between Spain and the United States, Natchez assumed a new importance in American eyes as a step toward the domination of the Mississippi valley, and added importance was attached to the Natchez Trace as a military and political line of communication with this southwestern outpost of the republic.

A post road was established early in 1800, and---as the Postmaster General complained---"at a great expense to the public on account of the badness of the road which is said to be no other than an Indian footpath very devious and narrow." He suggested to the Secretary of War that United States troops stationed in the southwest might advantageously be used "in clearing out a waggon-road and in bridging the creeks and cause-waying the swamps between Nashville and Natchez." Late in 1801 treaties were negotiated with the Chickasaws and Choctaws by which they agreed to the improvement of the route.

General James Wilkinson, commanding the United States army in the West and one of the commissioners for treating with the Indians, immediately prepared a map of the Natchez Trace and closed his description of the survey with the statement: "This road being completed I shall consider our Southern extremity secured the Indians in that quarter at our feet and the adjacent Province laid open to us." He made one important change in the old trail by moving the crossing of the Tennessee River from Bear Creek to Colbert's Creek, several miles up the river.

Early in 1802 the troops were at work on the road through the Indian country, the boundaries of which were the Duck River Ridge, 30 miles south of Nashville, and Grindstone Ford on the Bayou Pierre to the north of Natchez. The acquisition of Louisiana and the establishment of New Orleans as the territorial seat of government increased the need for better postal communication with that city. In 1806 a Congressional appropriation of \$6,000 was made for the improvement of this route under the direction of the Postmaster General.

François André Michaux, scientist and western traveler, wrote that the work of the army had shortened the route from Nashville to Natchez



SECTION OF PARKWAY NEAR NATCHEZ

by 100 miles. The Postmaster General estimated that the survey to be followed in the new improvements would reduce the distance by 50 miles more. Thus the less directional of the ridges were abandoned, and the distance was shortened by bridges and causeways to expedite communication and the passage of the mails. Like a stream with an increased current, this road cut new channels for the volume of its traffic, but still it remained the Natchez to Nashville road, the Natchez Trace.

Along this road passed pack horses and Kentucky boatmen; outlaws lay in wait for the unwary traveler; and a few early tourists such as Francis Baily and Dr. Rush Nutt vividly described the hardships of the journey. A few inns, or stands as they were usually termed, were opened to care for travelers along the Trace. At Grinder's Stand Meriwether Lewis met his death in 1809. Early in 1813 after his Tennessee militia was ordered disbanded at Fort Dearborn, near Natchez, Andrew Jackson moved these troops north over the Trace and earned the devotion of his men and the sobriquet of Old Hickory by his untiring attention to their needs during the hardships of this winter march. In 1814 reenforcements for Jackson at New Orleans came south over the Trace, and a considerable part of the victorious army returned to Tennessee over the same route. In 1816 both the Choctaws and Chickasaws relinquished lands in the Mississippi Territory. Settlers from the older settled areas on the north and east poured into the newly opened lands, and the pressure of these newcomers wrung additional territorial concessions from the Indians. In 1820 by the Treaty of Doak's Stand, at the old Choctaw Agency on the Natchez Trace, the Choctaws surrendered more territory, and finally in 1830 at Dancing Rabbit Creek they surrendered the remainder of their lands east of the

Mississippi. Two years later at Pontotoc Creek the Chickasaws agreed to cede their lands and move west of the river.

As the population had grown and new settlements had sprung up, additional roads were required and traffic was diverted into new channels. Jackson's Military Road, Gaines' Trace, the Boliver Trail, a southern route through Georgia, and a number of others were cut through the forests and causewayed over swamps. The development and improvement of the steamboat, however, gave the main blow to most land travel for long distances. The Natchez Trace lost its importance as a through route; sections of it were abandoned while other parts became neighborhood roads and links between small settlements, as was the case before the white man's coming. The cycle had swung a full turn.

The significance of the Natchez Trace lay in the political, military and economic importance of the two towns of Natchez and Nashville at the close of the eighteenth century and in the opening years of the nineteenth. Perhaps the importance of these two places was the accidental result of a temporary stalemate of conflicting forces in the Mississippi Valley -- French and British, Spanish and American, Indian and White -- but the Trace came nearest to a practicable all-weather route without requiring the construction of large numbers of expensive bridges and causeways. It served, therefore, as an avenue of American expansion in the old Southwest. To date no evidence has been revealed to show that it was not the first national road, the first of internal improvements resulting from support with the material resources of the central government and with direct appropriations by Congress.

The above outline of the history of the Natchez Trace and of some of the events occurring in its vicinity is a very brief summary of the results of an extensive research project conducted on this subject. The procedure in securing documentary materials followed the conventional practices advocated in the academic seminar. Official documents of the United States and of Tennessee, Alabama, and Mississippi, manuscripts as well as publications, were examined, and some of the most interesting material came from the unpublished records of the War Department, the Office of Indian Affairs, and the Post Office Department. In the Library of Congress the Manuscript Division, the Map Division, the Rare Book Room and the Local History Section all offered considerable material. Among several maps secured from the files of the War Department was General Wilkinson's survey of the Natchez Trace. From the General Land Office came the township plats of the early rectangular surveys, scaled two inches to the mile and showing the Natchez to Nashville road and adjacent sites through most of its three hundred mile length in Mississippi. In many cases the field notes of the surveys accompanied the plats. Two unpublished maps showing in detail the location of certain Chickasaw villages were secured from the French national archives. Such was the type of material from which was written the story of the Trace and its associations.

The story of a place or an event is one thing; its exact geographical location is still another matter. The problem of locating on the ground the route of the old Natchez Trace and the sites of adjacent

points of historical interest involved to a considerable extent certain technical skills. Map scales had to be translated from leagues and toises to miles and rods and then applied to a conjectural location on the actual ground. Map indications of streams, trails, prairies, and hill contours required hypothetical identification with the originals and the verification of other maps and then correlation with any available written descriptions. The map makers of the eighteenth century were not marked by that passion for accuracy which characterizes the technical work of our present mechanical age. Even on the large scale survey plats of the 1830's and 1840's the field investigator would be forced occasionally to disregard the evidence of the map as interpreted by its compass points. If the map indicated a road running southeasterly while a study of the ground showed a usable ridge running south by southeast with very rough and broken country stretching out on either side, then the judgment of common sense dictated the decision that the old road followed such a ridge. The evidence of the map had perforce to be abandoned.

While the general route of the Natchez Trace was well known, considerable uncertainty existed as to its exact location in a number of places. In the work of field location consideration was given therefore to all available evidence — documentary materials, maps, survey plats and notes, local tradition, and physical remains or road scars in the ground. Certain places which could be easily located along the old road as stream crossings, important sites, and intersections with township lines, were used as control points and the work of location carried on in detail between them. The township plats of the Congressional or rectangular survey were basic data in most of Mississippi and Alabama. In the Old Natchez District in southwestern Mississippi and in Tennessee the random land grant system prevailed, and a considerable amount of location was based on such local records as old deeds and land surveys, which might mention the Natchez Trace or the Road to Nashville or the Post Road as a property line for adjacent lands. The minutes of a county court concerning repairs or relocations sometimes gave information about the early location of the road. One apparent contradiction in its location as shown on the maps was solved, after field study, as being a route along a roundabout ridge for wet weather, but with a short cut through the bottoms for dry weather. And of course certain of these differences represented changes in its route as time passed. As finally flagged on the ground, the location of the Trace includes for the most part the revisions of 1806 and after, since these improvements constitute the route appearing on later maps and particularly on the survey plats.

Congress has authorized the construction of a parkway along the general route of the old Natchez Trace, designed for tourist and passenger car traffic. Presumably the Natchez Trace Parkway eventually will be one section of a national parkway system of arterial routes for passenger cars. A parkway is an elongated park containing a road, and a parkway as a part of a comprehensive recreation and conservation program would make available to the traveler certain areas along its route of a scenic, scientific, and historical importance. On the Natchez Trace Parkway historical features will be emphasized although final plans for preservation and development are far from complete.

In the first place this parkway itself is a memorialization of the old Natchez Trace and bears its name although technical standards required for modern traffic do not allow it to follow closely all the crooks and turns and some of the narrow ridges of the old road. Plans are now being made, however, for the pre-

servation of a 10-mile stretch of the old Trace. In the loess soil in southeastern Mississippi the effect of considerable traffic combined with gradual erosion had cut the old roadbed deep into the ridges on which it runs. So slow has this process been that the steep banks on either side have been stabilized to depths of 10 and 15 feet by the roots of small vegetation. Overhead the tree branches form a high arch. So narrow are some of these sections that vehicles could not pass each other. It may be asked whether this is history or landscaping, and the question may be answered by saying that the preservation of such a section of the Trace is a charming re-creation of the old road and of its historical atmosphere.

Toward the Natchez end of the Parkway is the Selsertown Mound of unique formation and probably constructed by prehistoric occupants of that area, but showing evidence of later Natchez occupation. Within three miles of Natchez are the Natchez Indians. These areas seem worthy of inclusion within the parkway lands and of preservation for archeological study at some future time — perhaps 10 years, perhaps 100 — when their artifacts may be displayed and the history of their builders related with suitable museum facilities, since much of the social and economic history of a people is explained by the objects used in their daily lives. Two hundred and fifty miles north of the Natchez lay the center of Chickasaw power. Congress already has authorized the Ackia Battleground National Monument. This is the proper place to present the history of that nation, and there is much more to Chickasaw history than a recital of tribal wars and white aggressions. The anthropologist and the archeologist are also historians, and the present-day techniques of museum display will allow a presentation of historical material with a high degree of scientific as well as popular interest.

The white settlement of the old Southwest offers some interesting possibilities in the presentation of historical material. Fifteen miles east of Natchez stands an unpretentious farm house, known as Mound Plantation. The earliest part of the building was constructed about 1790 by a Scotsman unknown to fame, who had obtained a Spanish land grant of some 600 acres. The house served as an inn along the Trace; gradually slave quarters, an overseer's house, and a guest house were added to the plantation message. The house has no architectural merit. It is as undistinguished as its builder. Yet it and its first owner well represent the common people who came into this newly opened country seeking to exploit the land, to acquire slaves and lands and houses and still more slaves and more lands. This was the southwestern agricultural frontier where cotton became king and gentry was created in one generation. Also in and around Natchez is another and later style of architecture, graceful and delightful, highly ornamental, and expensive to maintain in the social station to which it was accustomed. This was mainly Greek Revival form, with occasional French and Spanish influences, and in its parlors and drawing rooms presided a ruling class. All this, too, is American history. The interpretations of the architect may well rank him also as an historian.

The history of the Natchez Trace, of the sites along its route, of the cultural and economic tides flowing through the country it served, would seem a proper concern of the national government and of its citizens. Such a story transcends the narrow bounds of politics and warfare, and deals with a variety of man's activities. With the disciplines of the anthropologist, archeologist, and architect as an aid and with the skill of the museum technician for the preparation of visual interpretations, history has an interest and a message for all classes of people.

BE WARY OF THE "FACTS" OF WILDLIFE

By Daniel B. Beard,
Assistant Wildlife Technician,
Washington.

At times it is embarrassing to be a naturalist, yet compelled to listen to stories that would make Ananias crawl down in a hole with the supposedly prophetic groundhog. Other professions may be annoyed by their sidewalk superintendents, but nowhere are they as vociferous as the "I-saw-it-with-my-own-eyes-I-tell-you" brand of amateur biologists. It is difficult to decide what alternative to take when someone, who really is intelligent enough not to be so gullible, starts a tall story about wildlife with liberal interjections of the first person singular. Should one gently say, "My friend, you are a liar," or would it be better to just listen and venture a non-committal grunt now and then? Danger lurks in either course. Most burly chaps who saw such and such are quick to resent being told that it is pure fabrication. On the other hand, if one merely listens without comment it might be construed as agreement. So, as a protective measure, it is sincerely requested that none of the tales told here be repeated to members of the wildlife profession as actual, bona fide, personal observations.

A true understanding of natural phenomena based upon recorded fact and intelligent observation is to be preferred to superstition and warped interpretation. New England colonists killed the northern ravens because they were supposed to harbor evil spirits that brought sickness and death to their families and domestic stock. Today, some of our most graceful and beneficial birds are on the borderline of extinction because of the notion that "the only good hawk is a dead hawk". Yet, each mouse-killing hawk is money out of the pocket of the farmer who shoots it. The myriad fables about snakes have so befogged the perceptions of many people that they cannot possibly understand or appreciate the really authentic and interesting facts about the reptiles.

Here are a few of the numerous stories:

Eagles carry off children: One can only speculate on how many golden and bald eagles have been shot in this country because they are supposed to be child-snatchers. Despite every effort of ornithologists to track down a case of an eagle taking a child, none has ever been verified. An average-sized golden eagle (the species is larger than the bald eagle) was weighed at 4,664 grams, or about 10.3 pounds, and had a wing area of 6,520 square centimeters. The largest specimens may weigh 14 pounds. The lifting power of their wings is proportionately greater to body size than, for example, in the case of a swan. In any event, these great birds cannot lift more than six or eight pounds--with ten pounds as an absolute maximum. In other words, if a newborn child was left out in the open where a golden eagle could see it, and if that particular eagle was unafraid of human habitations, then it might conceivably carry the baby away.

Milk snakes milk cows: The average length of a fully grown milk snake is less than one yard. If it was fed to capacity with milk, the reptile could hold the astounding amount of about two teaspoonsfuls. Dr. Raymond Ditmars tried to induce captive milk snakes to drink milk, but they preferred water and would touch milk only when "suffering from great thirst." So, even if it was physically possible for the snake to milk a cow, which is most doubtful, it would take a whole battery of them to make any noticeable reduction in the milk supply. It is true that milk snakes are often found around barns. They are there for the commendable purpose of catching mice that eat the farmer's grain and not to tap the cows.

Beavers transport mud on their tails, which they use for trowels: Please do not run to some old nature books or magazines to prove that I am wrong on this one. You will find printed "evidence" that beavers carry mud on their tails and use those conspicuous organs to pat it into place. In fact, if you go through the files of a leading outdoor magazine in the early part of the present century, there will be actual photographs. My only request is to look the pictures over carefully to see how they were faked and, if still in doubt, spend your annual leave at a beaver pond.

It would be logical to suppose that a beaver's broad tail was for other purposes than locomotion. It is flat, attached to the body with some flexibility, and if the beaver house and dam are examined it will be seen that mud is used for chinking. Legend tells us that the beaver is one of the most intelligent animals. Really, its I.Q. must be very low compared to the mammals that live by their wits. The tail is used for steering in water and, like the planes on a submarine, for lifting or depressing the body. It sometimes furnishes a prop for the beaver while it is chewing down a tree and when whacked on the surface of the pond the sound is a danger signal. Mud is transported under the beaver's chin and chinked by rapid, alternate motion of the forepaws, not with the tail.

Beavers can fell trees in predetermined direction: It sometimes happens that when a beaver fells a tree and scuttles out of the way, the tree falls on top of it - that's why it "scuttles". The beaver is not very accurate when it comes to dropping a tree. Fortunately, trees around a beaver pond tend to lean toward the opening, otherwise more would be "hung up" or felled away from the pond than is the case.

Snakes can sting with their tongues: The only creature than can sting with its tongue is a gossip female. The forked tongue of the snake is a sensory organ used to acquaint the creature with its surroundings possibly even to the extent of receiving sound vibrations. The tongue is not a "stinger" and is perfectly harmless.

Porcupines shoot their quills at intruders: Some say that the porcupine has offensive and defensive spines or quills. The dermal muscles of the animal are so arranged that when its back is humped the quills stand on end like the hairs on the scruff of any angry dog's back. In



BABY PORCUPINE - YELLOWSTONE NATIONAL PARK

this way, a "defensive" pin-cushion protects the body. The quills are well anchored on the creature's head, back, and legs. The tail forms the offensive weapon and the quills are not fastened so tightly, especially toward the end. A swish of the tail will leave quills sticking into whatever it hits - a dog's nose or a person's hand. It is possible that sometimes a few of the quills will come loose of their own volition when the tail is swung very rapidly and actually fly through the air. So, although we cannot state dogmatically that a porcupine never throws its quills, it can be said at least that if it ever does happen the flying quills are purely an accident. The common conception of a "porky" hurling a barrage of quills from all parts of its body is not true.

Owls are blind in the daytime: If you believe this one, go catch yourself an owl some sunny afternoon.

Glass snakes can be broken into pieces that reassemble themselves, or each piece grows into a new individual: It is easy to trace down the origin of this absurd superstition. The glass snake is really a lizard -- family Anguidae, if you happen to be interested. It has lost its crawling appendages, but otherwise resembles others of its kind. Lizard-like, the glass snake's tail can be quickly detached from its body. The function of the removable stern-piece is an excellent protective measure because when the tip comes off it wriggles violently, thus occupying the captor until the "abbreviated" owner can escape. Later another tail will grow, but the lost piece will not develop into a new glass snake.

Snakes have been known to swallow their young to protect them from harm: If this be so, the little snakes are jumping from the frying pan into the fire for once they enter the esophagus of the adult and peristaltic action conveys them to the stomach, it is a sad state of affairs indeed. Of all the snake stories, this one has the greatest number of adherents who say it is an irrefutable fact. It is my guess that the "observations" are made in this manner. A snake is seen and killed with a stick amid a great deal of excitement. After the parent has been dispatched, little baby snakes are seen crawling about. Now, we know from our high school psychology course that human powers of reconstructing incidents that took place during a period of excitement are notoriously poor. A snake was killed that had young inside it: it is said that snakes swallow their young to protect them: therefore this snake swallowed its young. Unconsciously, such reasoning may take place and the observer thinks he saw the young actually enter the parent's mouth. Absurd?--not at all. Such mistakes are often made by the untrained observer. Chances are that the demised parent was a vivaporous female about ready to give birth to its young and the thrashing it received with the stick caused them to be born.

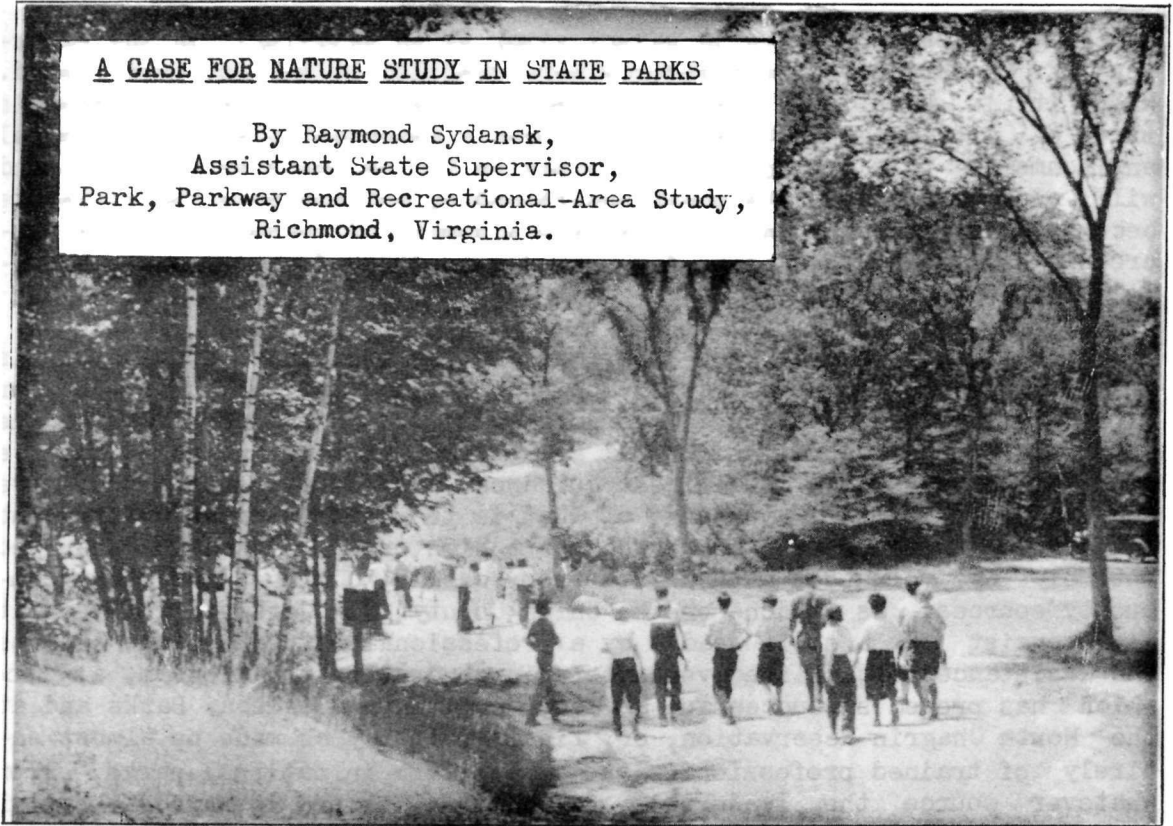
It is possible that an observer may report watching a snake swallow its young and have the snake escape without being killed. The question might be asked: "Are you sure it was its own young that the snake was hiding and that it was not swallowing someone else's brood?" The odds are very much against this story and no herpetologist has ever been able to record it either in the field or among caged specimens.

Barbers are infallible authorities on wildlife: Politics, yes----- wildlife, no.

There are many other well-known "facts" that are not true. Some are absurd while others are misinterpretations of biological facts. The hoop snake is a pure myth, and so is the one about gophers digging their burrows above ground in a dust storm. Take most nature yarns with a grain of salt, especially if they have to do with snakes. If in doubt, consult a well-known book or go and see for yourself. If you go to see, it is probably that you can find out many correct things that are more interesting than fiction.

A CASE FOR NATURE STUDY IN STATE PARKS

By Raymond Sydansk,
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OFF FOR A NATURE HIKE

From the early reaches of history until comparatively recent times man's knowledge of the workings of nature has been a necessity of life itself. While with the advent of our present civilization, the sum of knowledge of natural science has been augmented greatly, it has not been made generally available to the average individual. This is due in large part to the fact that for the last hundred years ever increasing numbers of people have spent virtually their entire lives in the artificial environment of cities and towns.

That the short time man has been away from direct contact with nature has not been sufficient to break down his inherent desire and need for an understanding and appreciative association with nature is evidenced by the eagerness with which he participates in well directed programs of nature study such as are offered at the North Chagrin Reservation of the Cleveland Metropolitan Park System; Oglebay Park, West Virginia; the Bear Mountain section of Palisades Interstate Park, New York, and the various national parks which offer guide service. It is important to note also that in recent studies of the recreational preferences of park visitors, which have been made by the National Park Service in cooperation with the several states, nature study ranked as a popular interest with 22 per cent of the 25,000 reporting, being outstripped only by such favorites as swimming, touring, fishing, camping, picnicking, hunting, boating and hiking.

Records of actual park use during 1937-38, on the other hand, reveal

a negligible participation in nature study as an activity. In the majority of the areas on which records were compiled it was not even listed. When it is considered that the primary purpose of the park movement is that of providing people with an enjoyable association with the natural environment, this negligible participation in the activity which can and will contribute most to their understanding and appreciation of nature becomes doubly significant. There are a number of reasons for this discrepancy between the desire for an understanding of nature and its fulfillment.

First, and probably most important, is the fact that nature study is an activity involving the acquisition of knowledge and skills as the principal media of satisfaction. In order for it to become popular with the masses of people who visit natural areas, their latent interests must be stimulated and given intelligent guidance, particularly until they have acquired a rudimentary knowledge of what is to them a strange environment. This means interpretive leadership of a high order. It may be provided entirely by volunteer naturalists from schools, colleges and other community sources, as is done on the Union County, New Jersey, parks; or it may consist of a staff headed by a professional naturalist who enlists the assistance of qualified volunteers in conducting the program, a method which has proved so successful at Bear Mountain and Oglebay Parks and at the North Chagrin Reservation, or, finally, it may be made up almost entirely of trained professionals, as is the case in national parks. From whatever source the leadership is obtained, it should have a thorough grounding in natural science and should be capable of translating knowledge into simple and vivid realities rather than setting it forth as dry technical facts.

There are many methods through which leadership can function in carrying out a successful nature study program. Probably the most effective media are those offered through nature tours under qualified naturalists supplemented by lectures and popularly written literature setting forth interesting stories concerning the natural phenomena of an area, and by the judicious use of museum displays. This method has been the basis of the highly successful National Park Service nature education program. Self-guiding nature trails offer still another medium which has proved eminently successful at Bear Mountain and similar areas.

The stimulation of interest in nature education often can be begun most effectively in the communities served by a natural area. Here the illustrated lecture becomes of vital importance. The organization of nature clubs of one sort or another provides a means of crystallizing and focusing the interest of the people and of directing that interest toward the opportunities offered by the park. The ultimate aim of the leader should be to inculcate in the participant such an interest in nature and such a desire for knowledge concerning it that every aspect of nature acts as a stimulus to his perceptions and his thought. His back yard with its lone tree, its grass, weeds and insects, his neighborhood playground and park and the open country outside the limits of his city can become, for the enthusiastic student, sources of inspiration and study.

While leadership can function without facilities, it becomes more efficient if certain aids are provided. Even a casual review of the facilities offered in most state, metropolitan and county parks reveals a

surprising lack of those which are fundamental to a nature study program. There are picnic tables, stoves and shelters, bathhouses, beaches and diving towers, boat docks, boat houses and boats, stables and horse trails, cabins, lodges and even hotels, but satisfactory museums, places for lectures, labeled self-guiding nature trails, and other such facilities are to be found in only a relatively few instances on state and local parks.

Two basic facilities are needed to implement adequately the nature study program. They are, first, a system of hiking trails, one or more of which may be labeled for self-guidance, and, second, a building which forms a lecture center and general headquarters for the nature program, and which also may house those museum facilities which can supplement so valuably the other activities. The trail system should be keyed in, if possible, with those sections of an area where people congregate, such as beaches, picnic grounds and lodges. If this is done, a few appropriate and stimulating signs will enable the naturalist to arouse the interest of many recreationists who come to picnic, swim, or participate in other popular activities. There are relatively few park visitors, particularly from urban centers, who are woodsmen enough to find the beginning of a trail "near the dam," a "half-mile down the road," or "back of the lodge," even if they are sufficiently interested to want to find it. A plainly marked and easily traveled hiking trail from the main day use area to the museum will contribute materially therefore to expanding interest in nature study by making it convenient for the novice to take the first step.

The museum acts as a stimulus of interest and as an introduction to the natural resources of the area and should portray a balanced cross-section of the plants, small animals and geology which may be observed on hiking trips in the vicinity. Live exhibits are excellent media for instruction, have a great popular appeal, and may be used to advantage as methods of identification and as a means of demonstrating interrelationships of plants, animals and geology. It should be emphasized, however, that the nature museum in a nature area is not a nature study objective, but rather a complement to the lecture, the guided trip, the labeled trail, and unguided study out-of-doors.

A self-guiding nature trail continues the function of the museum by presenting natural features in place and by providing, in an attractive and stimulating way, enough information concerning these features to arouse further the student's interest. The sign also should tell a story; it should show the relationship that exists between a particular object and the environment. A simple testing trail likewise has proved to be a popular medium of furthering the purposes of nature study as an activity. Here the student is enabled to test the results of his visits to the museum and his trips over the labeled trail.

There are other facilities such as aquaria, arboreta, campfire lecture circles, and even display pits or cages for larger animals, snakes and turtles which have been found helpful, when held within proper limits, both in arousing curiosity concerning nature and in the satisfaction of this curiosity. Whatever the facilities furnished, they should be planned in advance as a unit in order to establish the proper relationship. In this connection, the services of a competent naturalist, either voluntary

or professional, are indispensable since he alone will be able to work out intelligently the natural stories an area should attempt to set forth.

The state park program is still within its infancy, relatively speaking, but a number of states already have initiated nature study programs. Iowa is one of the most recent systems to inaugurate a leadership program. The methods used in that state and the results so far obtained are set forth clearly in an article, Iowa State Park Recreational Use Program, by M. L. Hutton, Director of the Iowa State Conservation Commission. He reports, in part:

"The Sioux City advisory committee continued its interest in Stone Park with renewed vigor. Under the committee's direction, a different organization sponsored a nature walk each week with local specialists serving as lecturers. Mr. Crabbe, Stone Park naturalist, organized nature walks, edited an information bulletin published by the Sioux City Recreation Department, and, for the information of the general public, provided data and identifications along the trails and throughout the park.

"The Botany and Extension Service of Iowa State College served in an advisory capacity to Mr. Jones, naturalist at the Ledges State Park. A leaflet entitled Nature Notes, edited and distributed by Mr. Jones, was published by the State College Extension Service. Its popularity was evidenced by the fact that out of approximately 300 Nature Notes distributed weekly within the park only 10 were reported by the custodian to have been discarded within the park boundaries during the season. Many nature walks, self-guiding nature trails and weekly exhibits, provided by the naturalists, proved exceedingly popular. As a result of the interest engendered, the Ledges Nature Club, composed of local citizens, was organized to assist Mr. Jones and continue the naturalist program. A 1939 program has been outlined.

"A committee representing five communities within a 20-mile radius of Backbone State Park assisted Mr. Folderboor, park naturalist, in securing splendid publicity and in planning a special Park Appreciation Day. This naturalist secured the cooperation of conservation club members and college science departments for special events. He found his services as nature guide in constant demand.

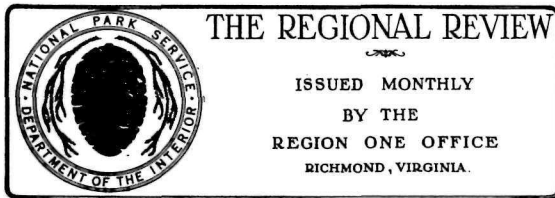
"Nature study activities at Lake Ahquabi State Park in 1938 increased greatly over the preceding season. Mr. Wilcox stated that last season's need for the encouragement of participation in a nature recreation program was reflected in this season's attempt to supply the demand through his leadership.

"Each of the naturalists has regarded himself as a community naturalist. Lectures have been given to civic and youth groups outside the parks. Publicity has included radio interviews and broadcasts. Close contact has been kept with the advisory committees. Some of the advisory committees have continued their activities during the school year. Programs of the naturalists have included camp fire councils and educational movies..."

From experiences such as are outlined above, it may be assumed safely that nature study as an activity has a valuable contribution to make to the enjoyment of natural areas and to an understanding of the principles of conservation and, for this reason, should be given a greater emphasis in future park planning.

BEFORE AND AFTER IN A PARK---An Example of the Conservation of Historic Sites

The upper photograph was made about 1900 on a slope looking northward to South Fort, a defensive work situated south of Vicksburg and overlooking the Mississippi River. The lower picture, made last month at the same site in Vicksburg National Military Park, illustrates strikingly the results of restorative and preservative treatment which has been carried out there to safeguard the historic area and to adapt it for safe and convenient use by the public.



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OUR CONTRIBUTORS

More than usual interest has been accorded two articles which appeared in The Review last issue: Wilton P. Ledet's "Acadians Find Peace in Louisiana" and H. S. Ladd's "Nature Trails Under the Sea." The study of the Acadian exiles has brought a number of letters of commendation from widely separated states in Region One and at least one Louisiana newspaper has reproduced the article in full. Meanwhile, Dr. Ladd's excellent description of his submarine hike in the Florida keys has been used as the basis for a special press release distributed by the Everglades National Park Association, Inc.

FEET NOTES

Evidence now piling up each day, the recreational specialists report, tends to substantiate the belief that Americans are on their feet again. Park visitors are interested more than ever before in leaving automobiles behind and faring forth afoot to inhale the atmosphere and explore even the more distant sites to which the expanding systems of nature trails may lead. In short, the revival of walking is growing apace.

The Review, loath to be caught behindhand in the onward march of pedestrianism, took straightway to its books to inquire into the basic truths of that method of self-propulsion which proceeds, as our grandmothers so vaguely phrased it, from movements of the nether extremities. To walk, the 15-pound office

dictionary (edition of 1937) disclosed, means "To advance by steps, to go at a moderate pace; specif., of two-legged creatures, to proceed without running, or lifting one foot entirely before the other touches the ground..." That description appeared altogether encouraging. The concession that one is entitled to move forward at a moderate velocity was, within itself, a welcome development, but the lexicographical authority permitting the walker to keep one foot always on the ground is the stalwart rock upon which we shall rear the edifice of our personal athleticism.

Yet, still to be weighed against the sane opinions just cited, there is the disquieting revelation set forth in Websterian definition No. 9 under the heading: "To walk Spanish." That peculiar exercise, it is explained, consists in walking "on tiptoe involuntarily through another's lifting one by the seat of the trousers..." However salutary may be the practice of such a form of recreation, we feel impelled nevertheless to warn against it as an un-American activity whose insidious seeds are being sown among us by wily foreign propagandists.

Genuinely alarmed, we then probed superficially into the philological aspects of the every-day variety of walking. Webster's of 1920 was consulted with a view of determining what glossological ground had been gained, during the intervening 17 years, in its technique. It is with some relief therefore that we report the happy evidence that autoc locomotion, undismayed by the ferment of progress, has held doggedly to its older definitions. In every essential it remains lexigraphically unchanged. The Review accordingly assumes, with many agreeable sensations, that reasonable walking is here to stay. We shall continue to endorse it as top-bracket exercise for man and beast.---H.R.A.

STATE PARKS

ALABAMA TO DEDICATE MOUND MUSEUM

Formal dedication of the new museum building at Mound State Monument, Moundville, Alabama, which has been constructed by Civilian Conservation Corps enrollees under joint supervision of the Service and the Alabama Museum of Natural History, will take place on the afternoon of May 12 following a luncheon arranged for entertainment of visitors. Designed to house a novel archeological installation for the "average man," the building is of monolithic concrete fireproof construction having a large central unit and two wings. The wings shelter numerous burial pits in situ which may be viewed from special walkways.

"We are tremendously proud of the building and we believe it is going to be gratefully received by the students of prehistory everywhere," The Review was informed this month by Dr. Walter B. Jones, Director of the Alabama Department of Conservation. Future development of Alabama's state park system, it was announced meanwhile, is assured through a recent state government allocation of \$40,000. Five parks will be ready for the approaching seasonal openings.

FLORIDA PARK OPENED TO PUBLIC

Approximately 2,500 persons attended the formal dedication on April 15 of Gold Head Branch State Park, 1,240-acre area near Keystone Heights, Florida, developed by CCC workers under direction of the National Park Service and the Florida Forest and Park Service. Organizations and citizens of the region cooperated in the all-day dedicatory program. Excellent facilities for swimming, picnicking and hiking are among the developments provided in the new park.

Florida now is considering the development of the latest addition to the state system, a 270-acre jungle area on New River near Fort Lauderdale, the gift of R. H. Gore, former Governor of Puerto Rico. "Mr. Gore is interested in the development of the park as a display of subtropical plant and animal life," according to H. J. Malsberger, Director of the State Forest and Park Service. "This would make it appropriate to designate the area as the Pan-American State Park."

NORTH CAROLINA OBTAINS FUNDS FOR PARKS

Its budget requests successively reduced by the Commission on Conservation and Development, the budget committee and the Legislature, the North Carolina State Parks Division received an appropriation, in the main appropriation bill, of only \$2,100 for 1940 and \$2,600 for 1941. In the closing days of the legislative session, however, a special appropriation of \$35,000 a year was authorized. These items, with expendible income from operations, are expected to provide reasonably adequate funds for the next two years. The state also appropriated this month a \$20,000 fund to finance the work of assembling acreage required for creation of the

Cape Hatteras National Seashore on the Outer Banks. Proponents of the successful bill authorizing acquisition proceedings predict 20,000 acres will be available within six months.

A five-page mimeographed memorandum issued by the news office of the Department of Conservation and Development affords thumbnail descriptions of the state's chain of major parks and lists the recreational facilities which visitors will find in them this season. The system embraces Mount Mitchell, Morrow Mountain, Hanging Rock, Rendezvous Mountain, Pettigrew, Fort Macon and Cape Hatteras State Parks, aggregating some 13,000 acres.

PEOPLE

SERVICE HISTORIANS CONFER IN RICHMOND

Problems of research and interpretation were studied by Washington and regional members of the Branch of Historic Sites at a three-day conference held this month in Richmond. During a lull in historical affairs, the group shown at the right was photographed in the over-bright sunshine on Virginia's Capitol steps. Present are: Lower row l to r., Joseph Mills Hanson; Alvin Stauffer; Francis F. Wilshin; Edward Steere; Mrs. Virginia Harrington and Ronald F. Lee; Second row, Charles W. Porter, Albert Manucy, Jesse D. Jennings, Malcolm Gardner, Rogers W. Young, Frederick Tilberg, Thor Borresen and Bolling C. Yates; Third row, Melvin J. Weig, J. C. Harrington, Roy Edgar Appleman, Ralston B. Lattimore, A. R. Kelly and Edwin W. Small.



E. D. FREELAND, formerly Superintendent of Wind Cave National Park, entered on duty this month as Superintendent of Fort Marion National Monument. His transfer followed that of Superintendent ELBERT COX, from Morristown National Historical Park to Colonial National Historical Park, and HERBERT KAHLER, from Fort Marion to Morristown.

EMIL C. HEINRICH, formerly Inspector in Indiana, entered on duty in a like status in Pennsylvania and JOHN C. DIGGS was transferred from Pennsylvania to a territory embracing western Texas, with Austin headquarters.

V. W. SAARI, formerly Associate Forester assigned to the Richmond office, entered on duty as Regional Forester of Region III, Santa Fe.

PUBLICATIONS AND REPORTS

TWO FINE PAPERS BY ROBERTS MANN

State Park Administration and State Park Maintenance are the titles of two papers delivered at the Institute on Landscape Management, at Syracuse University, by Roberts Mann, Superintendent of Maintenance for the Forest Preserve District of Cook County, Illinois. Fortunately, the influence of these papers does not have to be limited to those who attended the Institute, for they have been mimeographed and may be had for the asking.

"Bobs" Mann, charged with maintenance of one of the most intensively used park areas in America and associated with Captain Charles H. Sauers, an outstanding park administrator, writes from a wealth of personal experience that has provided him, if not with "all the answers," at least with a lot of them; and what he has to say is said with characteristic clarity and pungency. His two contributions are recommended to all who are or hope to be concerned with state park administration. Copies may be obtained by addressing Roberts Mann, Cook County Forest Preserve District, Cummings Square, River Forest, Illinois. —Herbert Evison.

A PRIMER FOR AMATEUR MINERALOGISTS

"Mineralogy, An Ideal Hobby," by Eunice Robinson in New England Naturalist (March, 1939, pp. 11-15), pictures a fascinating hobby that satisfies man's desire to collect beautiful objects and stimulates his interest in natural science. The article has particular significance for all Service employees who are concerned with educational work in parks and recreational areas.

Attractive minerals of some kind can be found in almost any area and the variety to be found in many places is truly remarkable. Stone quarries, caves and newly opened railroad or highway cuts are particularly promising sites, but interesting specimens appear in cliffs, gorges and types of rock outcrops. The author, writing especially for residents of New England, maps the favorite haunts of the amateur mineralogist in that area but similar maps could be drawn for the remainder of Region One. The reader is told how to collect minerals and various items of useful equipment are pictured and described. Suggestions regarding labeling and exhibition also are included and brief reference is made to methods of identifying minerals. Appended to the article is a list of books designed to acquaint the beginner with the science of mineralogy. —H. S. Ladd.

LANDSCAPE ARCHITECTURAL QUARTERLY FEATURES NATIONAL PARKS

Two full-length articles and 35 photographs are devoted to national parks and monuments in the current number of Landscape Architecture, organ of the American Society of Landscape Architects. Editor Henry V. Hubbard's "Landscape Development Based on Conservation as practiced by the National Park Service" describes in considerable detail the methods of planning by which the Service has sought to meet its responsibilities

in the development of the areas under its jurisdiction. "The range of national park landscape problems," he notes, "is highly interesting and diversified. It runs the gamut from dog kennels in Alaska to colonial plantations in Virginia, from adobe houses with cactus gardens in the Southwest to subarctic roadside plantings in Maine, and from lakeside hotels in Montana to hot spring developments in Arkansas. And new problems continually arise."

A second, briefer article, "The Proposed John Muir-Kings Canyon National Park," illustrated with photographs and a map, urges public support of efforts to preserve the area for the public. Fourteen of the pictures which appear in the quarterly were made in national areas of Region One. Among them are interesting "before and after" views showing the results achieved in soil erosion control methods carried out by CCC enrollees at Vicksburg National Military Park.

FECHNER COMMENDS NON-ENROLLED CCC WORKERS

An article by Robert Fechner, Director of the Civilian Conservation Corps, published in the current issue of the Federal Employee, official organ of the National Federation of Federal Employees, cites with generous praise the administrative and supervisory personnel whose labors have contributed to the nationwide success of the Corps's program.

"The work of the CCC boys is well known," wrote Mr. Fechner. "...But the work of another group of men . . . is less well known, although their share in making a success of the Corps is a greatest importance and their influence on the boys themselves of inestimable value. I refer to the non-enrolled personnel of the Civilian Conservation Corps. These are the men who have supervision of the boys while they are in camp and while they are at work on the conservation projects. These are the men who by their interest, their guidance, their example and their inspiration have done much to make a success of the individual enrollee's stay in the Corps, and to help him find his place in private life after he leaves camp, a healthier, better educated boy and a better citizen.

". . .The Civilian Conservation Corps has given employment to an aggregate of some 220,000 persons, exclusive of enrollees, in the field and 190,000 persons have been employed to assist in carrying out the CCC program. Most of this number were field supervisory and technical personnel, sub-professional, scientific, custodial and regularly employed skilled and unskilled labor.

WEBER'S PAINTINGS IN NATIONAL MAGAZINE

Five full-page paintings by Walter A. Weber, Chief Museum Preparator, Branch of Research and Information, Washington, were reproduced in the March issue of The National Geographic Magazine to illustrate an article (pp. 353-376), "Sparrows, Towhees and Longspurs," by T. Gilbert Pearson, President Emeritus of the National Association of Audubon Societies.

There is a total of 31 individual birds in Mr. Weber's five groups. They include Desert, Northern Sage, Sharp-tailed, Eastern Savannah, Eastern Henslow's, Eastern Grasshopper, Ipswich, Eastern Song, Desert Song, White-crowned, White-throated, Golden-crowned and Eastern Fox Sparrows; Green-tailed, California and Canyon Towhees; Slate-colored and Oregon Juncos, and the Lapland Longspur.

CLEANSING THE HIGHWAYS

Progress in Roadside Control and the Next Step, an address by Mrs. Walter L. Lawton, chairman of the National Roadside Council, is being given nationwide distribution in pamphlet form. Mrs. Lawton cites the rapid development, in recent years, of a public sentiment opposed to the billboarding of American highways and notes, with satisfaction, that salutary results are being achieved in those states where organized groups bring pressure against the expropriation by advertisers of scenic public property.

"Call it what you will, state zoning or state regulation," says Mrs. Lawton, "We must find a way to give the state control over the full transportation corridor, including the right-of-way and a wide marginal strip on either side. In no other way can we protect the efficiency and safety of our costly highway system. The National Roadside Council believes that the state should require a license from each outdoor advertising company, and a permit with an annual fee for each sign. This is the machinery for control. In addition, for protection of safety, the state should require (1) adequate setbacks of billboards and roadside business from the right-of-way, with special setbacks for billboards at curves and intersections; (2) regulation and restriction of signs on the place of business, outside of corporate limits; (3) prohibition of advertising signs outside of true commercial districts. The commercial district should be so defined that it will indicate a district where business is sufficiently congested to require a reduction of speed to 25 miles per hour. This creates the safety basis of your law. The menace of the billboard through distraction of attention is comparatively negligible where speed is thus reduced. . . . Minimum restrictions as outlined above must be provided by each state if we are to protect our tremendous highway investment."

EMERGENCY CONSERVATION COMMITTEE ISSUES NEW BOOKLET

Conservation — Come and Get It! is the title of Publication No. 75 issued by the New York Emergency Conservation Committee through the authorship of Mrs. Rosalie Edge, chairman. The 24-page booklet contains 13 brief articles of interest to conservationists, three of them of direct concern to the Service. One expresses satisfaction at the establishment of Olympic National Park; a second urges public support for the proposed John Muir-Kings Canyon National Park and points out that the Committee's pamphlet on that area still is available for free distribution. The inside front cover carries a photograph of the gigantic Hart Tree on Redwood Mountain, accompanied by a warning by the Secretary of the Interior that 7,000 Big Trees face destruction.

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