

The Impact of Nature

on

American Culture

RAYMOND DARWIN BURROUGHS



An Address delivered by Mr. Burroughs at a meeting of the Greater Lansing
Historical Society

Biographical Sketch

Raymond Darwin Burroughs is a native of the State of Iowa but spent most of his early life on a central Nebraska farm. He received his college training at Nebraska Wesleyan University where he graduated with the A.B. degree in 1924. He received his master's degree (M.A.) from Princeton University in 1925. His major interest and graduate training during these years was in the field of biology.

After graduation from Princeton University he entered the field of college teaching which he followed until 1937. His teaching experience included two years as assistant professor of biology at Willamette University, Salem, Oregon, two years as assistant professor of biology at Oklahoma City University, and seven years as assistant and associate professor of biology at Macalester College, St. Paul, Minnesota.

In 1937 he joined the staff of the Game Division of the Michigan Department of Conservation and held a number of administrative positions in this Division of the Department until February, 1949. At that time he transferred to the Education Division of the Department of Conservation to assume responsibility for the teacher training and school education phases of the Department's program.

He is the author of a book, *The Natural History of the Lewis and Clark Expedition*, published by the Michigan State University Press in 1961. He has also written articles for publication in such magazines as *American Forests*, *Natural History*, *Nature Magazine*, *Michigan History*, and *The Journal of Wildlife Management*. Probably he is best known in Michigan, however, for his essays which appear as a regular feature of the Department's magazine, *Michigan Conservation*.

This paper was prepared as the annual address of the retiring President of the Historical Society of Greater Lansing, May 1962.

99101. 9H 81 .B899

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Nature as exemplified by the wild beauty of the primeval forest, by mountains and plains, by hills and valleys, by lakes and streams has played an important role in the history and development of American culture. From the early years of our history to the present, there have been men who lived in harmony with Nature, who found peace and tranquility in the wilderness, who extolled the grandeur and beauty of the American landscape and attempted to remold our ethics and our policies with respect to the use and enjoyment of natural resources. It is of them and their works that I wish to speak.

One of the earliest stalwarts among the Puritans to speak out in behalf of Nature was Jonathan Edwards (1707-1758). His works contain references to the beauty of the New England landscape, but he was careful to point out that the colors of flowers, the song of birds, the music of streams, and the mists in the hills were but reflections of the glory and wisdom of God. Obviously, he was torn between the uncompromising tenets of the Puritanism and an inherent emotional response to the perfections of unspoiled Nature. He was on the verge of breaking with tradition, but he was fearful of the consequences.

However, in the 18th century when the colonies were young, men like Edwards were in the minority. Most of the pioneers who sought to push the frontiers of settlement westward were hard pressed to stay alive. For them the primeval forest was an obstacle to be overcome before they could establish homes and cultivate the land. The struggle for survival coupled with the real and imagined dangers with which the early settlers were surrounded was not conducive of a friendly attitude toward Nature. The lack of appreciation for the untamed scenery of the New World is evident in the writings of such men as John Josselyn who in 1672 described a mountain in Connecticut as a "rude heap of mossie stones . . . daunting terrible . . . and cloathed with infinite thick woods;" or Father Hennepin, who in 1679 described Niagara Falls as a "horrible precipice . . . the waters of which fall from this vast height, do foam and boyl after the most hideous manner imaginable, making an outrageous Nosie, more terrible than thunder," or Michael Wigglesworth, who, in 1662, described the country beyond the settlements as a howling wilderness inhabited by hellish fiends and brutish men that Devils worshipped."

The southern colonists, unhampered by Puritan

dogmas, appear to have held Nature in greater esteem than those of New England. The plantation owner was wont to surround himself with gardens and orchards. Col. William Byrd (1674-1744), described the goal of a country gentleman as "a library, a garden, a grove, and a purling stream." There is no suggestion here of anything other than a relaxed and pleasant relationship between man and Nature.

William Penn displayed an exceptional understanding of and regard for Nature in seeking to make Philadelphia a whosesome country town with ample provision for parks and gardens. He stipulated that an acre of trees be left for each five acres cleared. He thought the native wildflowers rivalled those of the best gardens in London. He employed woodsmen to guard and manage the woods on public property. This is the first record in this country of a forester being engaged to manage timber.

After the heroic 17th century, during which the problem of survival curtailed intellectual pursuits, new patterns of thought began to emerge in the colonies. This was due in part, at least, to the influence of European writers.

Edmond Burke's Philosophical Enquiry into the Sublime and the Beautiful, published in 1756, was a bold attempt to provide principles and devices for analyzing man's relationship with, and disposition toward, Nature. Alexander Pope's inquiry into what constitutes the pictorial quality of an object, and his attempt to analyze and define the "picturesque" was widely discussed. William Gilpin (1768) carried Pope's ideas a step further when he proposed new methods of making precise definitions of what might be perceived in Nature. Although Gilpin's works were not widely read in this country, his theories were still being considered by American poets, essayists, and novelists as late as the 1840's. There is evidence that they influenced the thinking and writing of Ralph Waldo Emerson, and Henry David Thoreau.

But, before considering the contributions of Emerson and Thoreau, we should discuss the works of the Romanticists who did much to promote travel and nature appreciation late in the 18th and early in the 19th centuries.

Among this group of leaders we find poets, novelists and artists, some of whom stand as giants in shaping the thought and culture of their times. Some of them were profoundly influenced by such European writers as Samuel Coleridge, Williams Words-

worth and Sir Walter Scott —; but they were ingenious enough to erect their own literary masterworks on the foundations layed by others.

For example, William Cullen Bryant's poems *Thanatopsis* and *Fragment*, published in the North American Review in 1817, were milestones in American poetic achievement. Bryant did not relate his conception of Nature to any social philosophy. However, such poems as *Thanatopsis* and *A Forest Hymn* represented an entirely new approach to the contemplation of Nature and Man's relation to his environment.

"The groves were God's first temples. Ere man learned To hew the shaft, and lay the architrave, And spread the roof above them - ere he framed The lofty vault, to gather and roll back The sound of anthems; in the darkling wood, Amid the cool silence, he knelt down, And offered to the Mightiest solemn thanks And supplication, for his simple heart Might not resist the sacred influences Which, from the stilly twilight of the place, And from the gray old trunks, that high in heaven Mingled their mossy boughs, and from the sound Of the invisible breath that swayed at once All their green tops, stole over him, and bowed His spirit with the thought of a boundless power And inexcessible majesty." - Bryant's, A Forest Hymn.

In 1839, Bryant deplored the fact that so many Americans were going to Europe instead of visiting the valley of the Hudson. To reverse this trend he made numerous trips to the Catskills and the Berkshires. He became a vagabond, and published delightful accounts of his experiences in the New York Evening Post.

Emerson paid tribute to Bryant on his 70th birthday by pointing out that there is "no feature of day or night in the country which does not, to the contemplative mind, recall the name of Bryant." And, James Russell Lowell honored him with the following verses:

"The voices of the hills did his obey;
The torrents flashed and tumbled in his song;
He brought our native fields from far away,
Or set us 'mid the innumerable throng
Of dateless woods, or where we heard the calm
Old homestead's evening psalm."

From - On Board the '76.

When Bryant moved to New York in 1825 to become co-editor of the New York Review and, four years later, editor and part owner of the New York Evening Post, James Fenimore Cooper was enjoying the fame resulting from the publication of *The Pioneers*. Whatever we think of Cooper's novels today, *The Pioneers* marked the beginning of a new literary style in this country. If one looks beyond the dramatic incidents

and sentimental passages in Cooper's works, especially *The Pioneers*, he will find that the author was concerned with the balance of Nature. He deplored the wanton slaughter of passenger pigeons, and the waste of timber in the logging and clearing operations on the frontiers of settlement. His philosophy of Nature is expressed in the words of Natty Bumpo, who, when asked what he saw in the Catskills, replied: "Creation, all creation . . . and none know how often the hand of God is seen in the woods, but them that rove it."

Contemporary with Bryant and Cooper was another author, Washington Irving, whose writing did much to dispel the idea that American scenery offered little that was "picturesque" or inspiring to the traveler. His Sketch Book, published in installments in 1819-20, brought him immediate fame in this country and in Europe. Both Sir Walter Scott and Lord Byron praised it. Richard H. Dana, editor of the North American Review proclaimed Irving's description of the Catskills in Rip Van Winkle and The Legend of Sleepy Hollow as so true that "the bright and holy influence of Nature falls on us." As a result, the Catskill Mountains and the valley of the Hudson were never again described as "uncouth and foreboding;" and, the 17th century concept of the "howling wilderness" was forever discarded. Moreover, as a result of Irving's descriptions artists began to flock to the Catskills to paint the long vistas which had fascinated Rip Van Winkle.

Oddly enough, there is remarkably little actual description of the Catskill Mountains in either of these stories

In Rip Van Winkle we find the following:

"In a long ramble of the kind on a fine autumnal day Rip had unconsciously scrambled to one of the highest parts of the Kaatskill Mountains. He was after his favorite sport of squirrel-shooting, and the still solitudes had echoed and re-echoed with the reports of his gun. Panting and fatigued, he threw himself, late in the afternoon, on a green knoll, covered with mountain herbage, that crowned the brow of a precipice. From an opening between the trees he could overlook all the lower country for many miles of a rich woodland. He saw at a distance the lordly Hudson, far, far below him, moving on its silent majestic course, with the reflection of a purple cloud or the sail of a lagging bark here and there sleeping on its glassy bosom, and at last loosing itself in the blue highlands.

"On the other side he looked down into a deep mountain-glen, wild, lonely, and shagged, the bottom filled with fragments from the impending cliffs, and scarcely lighted by the reflected rays of the setting sun." This is followed by a brief description of the ravine up which he helped the stranger in Dutch costume carry a keg of liquor.

That is all.

There is even less description in the Legend of Sleepy Hollow. Nonetheless, Irving succeeded in creating vivid impressions of the Catskills and of Sleepy Hollow in the minds of his readers as he developed the plots of these stories.

I found upon rereading them that they left me with a feeling that I would like to find and explore the places where the legendary Dutchmen bowled and brawled, and where the headless horseman pursued Ichabod Crane over the wooden bridge.

I would be remiss if I did not review the role which the artists of this period played in interpreting nature,

and popularizing American scenery.

Until late in the 18th century, landscape painting was unpopular both in Europe and America. Gainsborough allowed that he had never seen a place in America which was worthy of portrayal on canvas. However, at about the time of the Revolutionary War, a transition was taking place. Gasper Poussin and Claude Lorrain began to paint landscapes in Europe which attracted considerable attention. A few minor English artists came to America in search of fresh scenes to paint; and George Washington commissioned two of them, George Beck and William Winstanley, to paint the falls of the Potomac River and the Natural Bridge in Virginia. However, it remained for Washington Allston, a Harvard graduate who was perfectly at home in artistic and literary circles both in Europe and America, to plant the seed of romantic painting in this country. His Deluge and The Thunderstorm at Sea, painted in 1804, won immediate acclaim; but tragedy cut short his artistic career. However, Allston's mantle fell on the shoulders of Thomas Cole who became the leader of romantic painting in America. He laid the foundation for what became known as the Hudson River school of landscape painters, which included such prominent craftsmen as William J. Stillman, John Trumbull, Asher B. Durand, Thomas Doughty, Alvan Fisher, and Samuel F. B. Morse.

There is no question but that the Romantic movement in literature and art did much to extend nature appreciation and to popularize travel and resort development in the Eastern states.

Now that we have disposed of the Romanticists, we may return to Emerson and his coterie of friends which included John Greenleaf Whittier, Oliver Wendell Holmes, Henry W. Longfellow, Nathaniel Hawthorne, and James Russell Lowell.

Emerson, of course, is noted for his essays, and as the founder of Transcendentalism in America. In his brief volume entitled *Nature*, published in 1835, Emerson developed the idea that Spirit is present in all Nature. Thus Man may become as one with Nature and derive spiritual inspiration from identifying himself with God's creation. Emerson was content to lay the groundwork of this new concept and to leave the details to be worked out by his disciple, David Henry Thoreau, who devoted the rest of his life to the project. Thoreau's *Walden* was, and still is, regarded as a masterpiece of Nature interpretation.

Although Emerson's friends were stimulated by his conversation and his writings, few of them subscribed to his theology. Whether or not it was Emerson's influence which led all of them, at one time or another, to make Nature the principal theme of some of their most familiar poems and essays is probably debatable.

It is interesting that ten of the greatest scholars in New England, including Emerson, Lowell, Louis Agassiz, and Judge Ebenezer Hoar were persuaded by William Stillman, the artist, to participate in a camping trip to the Adirondacks in 1858. Longfellow was invited but refused to go when he heard that Emerson was going to carry a gun. For most of these learned gentlemen camping in the wilderness was a new experience, but the trip was a success. Charles Eliot Norton, who soon achieved prominence as an editor of *The North American Review*, visited Lowell shortly after he returned, and reported that the poet was enthusiastic at having seen deer in the woods and shot a bear, at measuring huge trees and hacking out trails through the forest.

It has been said that this outing, which became famous as the "philosophers camp," had a lasting influence on those who participated. One can only imagine the conversations that must have taken place around the evening campfire. Emerson attempted to express some of the spiritual and intellectual values that he felt were gained from this interlude with Nature in the poem, *The Adirondacs*, which he dedicated to his companions:

In well hung Lie here on h and greet una	nemlocl	bou	ghs, l	ike S	acs an	l, id Sic	oux,
"Above, the the raven cro Loud hamme As water pou To feed this So Nature sh From her rec	ered, and the wealth and all	owls land the rough of land	hoote hero hollo akes a ty lav	d, the on ros ows o and r	e woo se in t f the l ivulet	dpeck the sv hills	cer

"Judge with what sweet surprises Nature spoke To each apart, lifting her lively shows To spiritual lessons pointed home,"

It was 1840 before much notice was taken of the scenic attractions of the Ohio valley and the Great Lakes by Eastern scholars.

I do not mean to infer that little was written about travel and life in the Mid-west during the first half of the 19th century. The published diaries and travelogues dealing with the adventures and misadventures incident to frontier travel and the establishment of pioneer settlements in the Ohio Valley, the Lake States, and west to St. Louis can be numbered in the hundreds. Many of them are valuable as sources of local history, but they contain little or nothing that would enhance an appreciation of Nature.

There were, however, a few exceptions. Timothy Flint who, after several years of travel, settled in Cincinnati and became the editor of the Western Monthly Review, may be considered the first Midwestern man of letters. His Recollections of the Last Ten Years, Passed in Occasional Residences and Journeyings in the Valley of the Mississippi from Pittsburgh to the Missouri to the Gulf of Mexico, and from Florida to the Spanish Frontier, published in 1826, attracted other American and European writers to the Ohio territory.

Another Mid-western writer of recognized ability was James Hall, a novelist, journalist and practicing lawyer, who descended the Ohio River in 1820 and established residence at Shawneetown, Illinois, where he served as district attorney and edited the Illinois Gazette.

His first book, entitled Letters from the West; Containing Sketches of Scenery, Manners, and Customs; and Anecdotes Connected with the First Settlement of the Western Sections of the United States, was published in London in 1828. Shortly thereafter he moved to Vandalia, and, in 1833, to Cincinnati where he achieved prominence as a Judge and publisher. His later works such as The Harpe's Head, The Romance of Western History, and Legends of the West brought him recognition as a writer, and served to popularize the West as a romantic and scenic land, a land of opportunity for those who could see beneath and beyond the rustic crudities that characterized frontier society.

In 1834 Charles Fenno Hoffman, the first editor of Knickerbocker Magazine, became curious enough about the West to visit Judge Hall in Cincinnati and to explore the Ohio country on horseback. He was evidently much impressed with what he saw for, in 1835, he described his experience in a popular book

entitled Winter in the West. Edgar Allen Poe's favorable review of the book probably contributed to its success.

European travelers who visited the mid-west during this period included William Bullock. His Sketch of a Journey Through the Western States of North America, from New Orleans by the Mississippi, Ohio, City of Cincinnati, and Falls of Niagara to New York in 1827 (London, 1827) was widely read and attracted other English travelers to the Ohio valley.

Of course some European visitors were annoyed with the inconveniences which they experienced and write critical accounts of American culture. For example, Mrs. Frances Trollope, mother of Anthony Trollope, who visited Cincinnati and other youthful communities on the Ohio and Mississippi Rivers described Americans as rough, uncouth, vulgar people. However, her bitter, clever, two-volume publication, Domestic Manners of the Americans (London, 1832) sold enough copies to revitalize her family fortune.

Probably the most noted European author who toured the Mid-west about 1840 was Charles Dickens. His American Notes for General Circulation (London, 1842) was also rather critical of American culture and scenery, but it served well in popularizing frontier travel even though it contributed nothing in support of Nature appreciation.

Returning to Americans whose books did contribute to our theme, we cannot overlook the books of two Michigan authors; namely, Caroline Matilda Kirkland and Charles Lanman.

The Kirkland family established the village of Pinckney in 1836. Despite the hardships, Mrs. Kirkland found time to write a remarkably successful book about life on the frontier among the scenic wooded hills of Livingston County. Published in New York in 1839 under the title, A New Home—Who'll Follow?, it was praised by Edgar Allen Poe, and other literary critics. As further testimony of its worth, the book was reprinted by G. P. Putnam's Sons, New York, in 1953.

In 1840, Charles Lanman began his career as a traveler and writer with a trip to the headwaters of the Mississippi, and during the next 30 years he explored the country from Lake Itasca to the Penobscot, from the Saguenay to the Chattahoochie, from the Great Smokies to St. Louis. Accounts of his experiences, published in magazines and books, were remarkably popular. His style of writing was lively; his descriptions of the natural scenery were interspersed with accounts of the people he met on his journeys. He became a close friend of Henry Rowe Schoolcraft; he was well acquainted with William Cullen Bryant; he visited Thomas Cole, the artist, and Daniel Webster; he corresponded with Washington

Irving and Edward Everett. But, in spite of his personal success and the popularity of his travelogues, he has been forgotten. His books did not possess the qualities of enduring literature.

On the contrary, the works of Henry Rowe Schoolcraft who spent much of his life in Michigan are still consulted. His diary relating to his exploratory trip with Lewis Cass in 1820 was reedited by Mentor Williams in 1953; and that dealing with his discovery of the source of the Mississippi was edited by Philip Mason, whom we all know, in 1958. Both were published by the Michigan State University Press. Both contain excellent descriptions of our northern wilderness. Schoolcraft's contribution to ethnology entitled Historical and Statistical Information Respecting the History, Condition and Prospects of the Indian Tribes of United States (6 volumes; Philadelphia, 1852-57) turned out to be of great cultural significance. Despite its being repetitious and disorganized, it provided the background material for Longfellow's Song of Hiawatha. Regardless of the picky arguments of literary critics over the similarity of Hiawatha's metric pattern to that of the Finnish epic, Kalevala, Longfellow captured the spirit of the Great Lakes country in verses that have been memorized and quoted by generation after generation since they were first published in 1855.

Whereas most of the prominent writers whom I have mentioned traveled extensively in the eastern states and in Europe, they did not venture beyond the Mississippi. Washington Irving, however, was an exception. In 1832 he joined a government commission bound for the great plains to examine lands set aside for the Indians. His experiences and impressions may be found in his book, A Tour of the Prairies, published in 1835.

While on this excursion Irving met Wm. Sublette and Robt. Campbell, two of the most colorful and successful of the Rocky Mountain fur trappers and traders. As a consequence he became interested in the history of the western fur trade and produced two celebrated books dealing with the subject: the first, Astoria (1836); and, the second, The Adventures of Captain Bonneville (1837). It was often assumed that Irving must have accompanied one of the fur brigades to Oregon because of the accuracy of his descriptions of places and events, but he did not. Actually, Irving's friend, John Jacob Astor, the founder of the American Fur Company, made all of the corporation's records, diaries and correspondence available to him. While writing, at Astor's estate, he met Capt. Bonneville and other furt traders who supplied firsthand information.

Irving, of course, was not the first writer to describe the great West. Lewis and Clark's diaries had been published in 1814; John Bradbury's account of his journey to Fort Union at the mouth of the Yellowstone River (1809-1811) had been published; H. M. Brackenridge's published account of his experiences on the great plains in 1811 was popular; and John K. Townsend's account of his trip to the Rocky Mountains in 1834 was widely read. These men were naturalists, primarily interested in the flora and fauna of the west. Their diaries contained graphic descriptions of the landscape as well as of the wildlife that they found in variety and abundance.

Of much greater significance, however, than the publications mentioned was the work of George Catlin, a Pennsylvania-born artist and writer who devoted most of his adult life to painting and studying the Indians of the Plains. In 1832 he made a trip to Fort Union and thereafter accompanied other expeditions to the Southwest and the Rocky Mountains. In 1836 he exhibited 494 western paintings in New York City; in 1839 he took them to London and displayed them for three years in Egyptian Hall, Picadilly. In 1845 he took them to Paris and exhibited them in the Louvre by command of King Louis Philippe. However, in London in 1848 financial troubles overtook him. His entire collection was seized by creditors. Thereafter, an American, Joseph Harrison, paid-off his debts and shipped the canvasses back to Philadelphia where they remained in storage for 25 years. Fortunately the heirs of Harrison in 1879, after Catlin's death, gave the collection to the U. S. government; and it was promptly transferred to the National Museum in Washington. Thus, 450 of these paintings were preserved where they could be seen by the public.

Catlin not only painted Indians, but he studied their customs and traditions. While in London he published a two-volume work entitled *Notes on Eight Years' Travel Amongst the North American Indians* which contained 400 lithographic plates of his paintings.

Catlin should be remembered not only for preserving much of the primitive Indian's culture in print and in oil, but also for his vision in seeing the necessity of preserving some of the public domain in its natural state.

In 1833 he pointed out that the federal government should take action to save in its "pristine beauty and wildness, . . . a magnificent park, where the world could see for ages to come, the native Indian in his classic attire, galloping his wild horse . . . among the fleeting herds of elk and buffaloes. What a beautiful and thrilling specimen for America to preserve and hold up to the view of her refined citizen's and the world, in future ages? . . . A nation's Park contain-

ing man and beast, in all the wild freshness of their nature's beauty."

These, indeed, were prophetic words written forty years before Yellowstone, our first National Park, was dedicated.

If time permitted the works of other artists who followed the lure of the West might be discussed. It is enough to point out that the paintings of Alfred Jacob Miller, Albert Bierstadt, Charles Wimar and others attracted considerable attention when exhibited in New York and other eastern cities during the 1840's and 1850's. Many of their better canvasses still hang in the finest art galleries of the country.

While the artists were traveling with the fur brigades and government expeditions in order to capture the spirit of the plains and the majesty of the Rocky Mountains, certain historical events were taking place which opened the West to tides of immigration. Chief among these were the settlement of the Oregon boundary dispute with Great Britain in 1846, and Mexico's surrender of California in 1848. Besides, the opening of the Oregon Trail for wagon traffic in 1842 by Tom Fitzpatrick, one of Jim Bridger's partners in the Rocky Mountain Fur Company, had set the stage for the rush to Oregon and, after the discovery of gold at Sutter's Mill, to California.

In 1847 Francis Parkman's book, *The Oregon Trail*, was published in installments in the Knickerbocker Magazine. It was the story of his own adventures and hardships on the long, slow journey to the promised land of "honey in the horn." The story made an extraordinary impression on the public and won, for its author, lasting fame. Parkman was an impressive and convincing writer. Readers of his book found themselves wanting to partake of his experiences and to see the fabulous country that he described.

In California the discovery of gold in 1849, naturally enough, received far more attention in the press than the agricultural potential, the climate, or the scenic attractions of the Territory. A report of the discovery of the Yosemite Valley, in 1852, was scarcely noticed by the public. However, in 1856, the Country Gentleman reprinted an article from the California Christian Advocate which described the Yosemite as "the most striking natural wonder on the Pacific." Within two years the valley had received nation-wide publicity. Horace Greeley, who visited the Yosemite in 1859, reported that it was among the most impressive of nature's marvels. It remained, however, for Thomas Starr King, in 1860, to publish the first detailed descriptions of the Yosemite Valley in a series of articles in the Boston Evening Transcript.

With this kind of publicity California, already alert to its tourist possibilities, pressed for a bill in Congress which would transfer title of a tract of land which included both the Yosemite and the Mariposa Grove of Big Trees from the public domain to the State of California, with the proviso that it forever be held in public trust for recreation. The bill passed and was signed by President Lincoln in 1864. Thus, Yosemite became the first state park in the United States, and was administered as such until 1890 when it was transferred back to the federal government as the second National Park to be authorized by Congress.

Thus far I have neglected the scientists. This is because so few of them wrote for popular consumption during the earlier decades of our history. Actually it has been the amateur naturalists rather than the professionals who have influenced the public to become interested in geology, plants, or wildlife.

However, we might begin with John Bartram, the self-taught Quaker farmer, who bought a botany book written in Latin, - and a Latin grammar, after he was old enough to know better. Thereafter he neglected his fields and his family to make collecting trips which extended from New York to Florida. He became known throughout Europe as the first and foremost American botanist. He was well acquainted with Washington, Jefferson and Ben Franklin. He corresponded regularly with Carolus Linnaeus of Sweden, and with Peter Collinson and Sir Hans Sloane in England. He was chiefly known for this correspondence, and for establishing the first botanical garden in America, in 1730, on the grounds of his home on the Schuylkill River near Philadelphia. He collected seeds and specimens of American plants for King George III, and for the London Horticultural Society. He was the first to call attention to the diverse flora of this country, and opened the door for subsequent botanical exploration. However, he wrote little of interest to laymen. It remained for his son, William Bartram, who followed in his father's footsteps, to write a popular account of his travels and discoveries. His book, entitled the Travels of William Bartram, was more than a catalog of the plants to be collected and described. It was packed with descriptions of the places and people that he saw in his travels, and with amusing and dramatic incidents. However, Bartram's Travels was more widely acclaimed in Europe than in America. Carlyle wrote Emerson that its "wonderful eloquence should impel all American Libraries to provide themselves with that kind of book."

Alexander Wilson, a Scottish poet, artist, and ornithologist who emigrated to America in 1794, deserves special attention. He arrived in Philadelphia a poverty-stricken refugee; but, by 1804 his circumstances had improved sufficiently to permit him to undertake a journey to Niagara Falls. Back in Philadelphia after

a 1,300 mile walk he described his experiences in an epic poem entitled, "The Foresters, Description of a Pedestrian Tour to the Falls of Niagara in the Autumn of 1804."

The poem, which described the beauties of forests, mountains, lakes and streams, as well as the hardships of the journey, was an immediate success.

William Bartram encouraged him to perfect his artistic abilities and to pursue his study of ornithology. As a result he achieved lasting fame as the author of a monumental illustrated treatise on *American Ornithology*. Published in seven portfolio volumes between 1808-1813, it is still regarded as the first authentic account of the birds of America. Wilson, the poet has been forgotten; but Wilson, the ornithologist is still remembered.

Wilson's career was cut short by death in 1813, but during his short life he was much better known and more highly regarded than was John James Audubon. Audubon's bird portraits were superior artistically to those of Wilson, and his accounts of his travels and experiences in collecting birds for painting made much more interesting reading than Wilson's technical descriptions. Audubon was colorful; his enthusiasm was contagious; his writing reflected these characteristics. Otherwise the current of his influence, from 1840 when the first volume of his *Birds of America* was published to this day, would not have continued to flow undiminished.

Many other 19th century scientists might be mentioned. There was Lucien Bonaparte, brother of Napoleon, who resided at Philadelphia from 1807-1814 and assisted Alexander Wilson with his American Ornithology; the Reverend John Bachman of South Carolina, who collaborated with Audubon as coauthor of the Quadrupeds of North America; Thomas Say, who accompanied Major Stephen Long's Expedition from St. Louis to Colorado; Maximilian, Prince of Wied, a distinguished zoologist, who tramped through the mountains of Pennsylvania and later ascended the Missouri River to study the western fauna and the Indians of North Dakota; and there were Lewis and Clark, not scientists by training, but who collected a wealth of information about the flora and fauna of the Missouri and Columbia River basins as a result of their expedition. But, of more far reaching influence than any of these was Louis Agassiz, the Swiss zoologist and geologist of Harvard University.

Agassiz was a dynamic teacher and public lecturer as well as a distinguished scientist. He knew how to inspire his students as well as train them. He shocked Harvard by discouraging the use of books in his classes except as references for research. He insisted that those who study Nature in books can't find her

when they go outdoors. His students were taught to master the research techniques involved in gathering, organizing and evaluating facts based on their own observations. As a result many of the notable professors of natural history in America during the later decades of the 19th century had at one time or another been students of Agassiz.

Many other scientists and essayists who interpreted Nature in their books and magazine articles, should be mentioned, but time will not permit doing so. Among them only John Burroughs, whose work is too important to pass over, can be mentioned. His essays published regularly in the Atlantic Monthly established him as the dean of American nature writers and as the sage of Slabsides, the name by which his rustic retreat in the Catskills was known. Burroughs had a deep understanding of Nature and Man's relationship to the land and its products, and he was eminently successful in interpreting Nature for the average reader. He was chiefly concerned with the commonplace plants and animals that he watched from day to day, year after year. He did not care much for wilderness, but he accompanied President Theodore Roosevelt on a trip to the Yellowstone and visited the High Sierras and Yosemite with John Muir and Asa Gray. He supported Frederick Law Olmstead, John Muir and Theodore Roosevelt in their attempts to establish and maintain our system of National Parks. From 1865 when his first essay, With the Birds, was published in the Atlantic Monthly until death claimed him in 1919, he was more successful than any other nature essayist in capturing the minds and hearts of the public.

John Burroughs was a prodigious writer. One cannot read any of his 24 volumes of essays without discovering that he was gifted beyond ordinary men in his ability to see and interpret Nature.

His philosophy, as expressed in the following quotations, is as sound today as when he was writing:

"If I were to name the three most precious resources of life, I should say books, friends, and Nature; and the greatest of these, at least the most constant and always at hand, is Nature. Nature we have always with us, an inexhaustible storehouse of that which moves the heart, appeals to the mind, and fires the imagination—health to the body, a stimulus to the intellect, and a joy to the soul. To the scientist, Nature is a storehouse of facts, laws and processes; to the artist she is a storehouse of pictures; to the poet she is a storehouse of images, fancies, a source of inspiration; to the moralist she is a storehouse of precepts and parables; to all, she may be a source of knowledge and joy."

He points out that interpreting Nature is not easy for everyone:

"One secret of success in observing nature is capacity to take a hint; a hair may show where a lion is hidden. One must put this and that together and value bits and shreds. Much alloy exists with truth. The gold of nature does not look like gold at first glance. It must be smelted and refined in the mind of the observer. And one must crush mountains of quartz and wash hills of sand to get it. To know the indications is the main matter. People who do not know the secret are eager to take a walk with the observer to find where the mine is that contains the nuggets, little knowing that his ore is but a gravel heap to them.

"If I say to my neighbor 'Come with me, I have great wonders to show you,' he pricks up his ears and comes forthwith; but when I take him on the hills under the full blaze of the sun, or along the country road, our footsteps lighted by the moon and stars, and say to him, 'Behold these are the wonders, these are the circuits of the gods, this we now tread is a morning star,' he feels defrauded and as if I had played him a trick.

"We are unwilling walkers. We are not innocent and simple hearted enough to enjoy a walk.

"A man must invest himself near at hand and in common things, and be content with a steady and moderate return, if he would know the blessedness of a cheerful heart and the sweetness of a walk over the round earth. This is a lesson the American has yet to learn—capability of amusement on a low key. He expects rapid and extraodinary returns. He would make the very elemental laws pay usury. He has nothing to invest in a walk; it is too slow, too cheap. We crave the astonishing, the exciting, the far away, and do not know the highways of the gods when we see them—always a sign of the decay of the faith and simplicity of man."

By the 20th century the last nook and cranny of the United States had been explored by naturalists, the frontier had been pushed westward to the Pacific, the wilderness had been conquered; and in the conquering vast changes had been wrought in the primitive landscape, much damage had been done, and much waste had occurred in the name of Progress. Despite the efforts of the philosophers and scientists who attempted to instill in our people an understanding and an appreciation of Nature, those who have raised their voices in behalf of conservation have always been in the minority.

The American dream of inexhaustible resources was born and nurtured during the 19th century. The speed with which the forests were cut and the land cleared for farms and cities was one of the marvels of our pioneer history. The public, at large, did not forsee that the time would come when rich mineral

deposits, clean waters, forest products, and even living space might become scarce commodities; or that thousands of people would be hard pressed to find camp sites in unspoiled wilderness areas.

Nor until John Muir, Theodore Roosevelt and Gifford Pinchot took up the cause of conservation did the public begin to take note of the need for setting aside large areas of federal lands at National Parks and National Forests. The difficulties which they overcame, as well as the political furor that their actions created, have been forgotten; but the parks and forests which they dedicated stand as monuments to their foresight.

Despite the fact that millions of people visit these areas every year to enjoy the scenic and recreational attractions which they afford, the fight to preserve them still continues. Powerful business and agricultural interests have in recent years employed every known political maneuver to obtain logging, mining and hydroelectric power rights within the boundaries of our National Parks.

Fortunately, these proposals have been defeated, but the battles to preserve some remains of primitive America are never won. The forces which support the philosophy that this Nation cannot afford to tie-up natural resources at the expense of local, state, and regional economy are still active.

Can it be that the efforts of the philosophers and scientists who attempted to instill in our people an understanding and appreciation of Nature during two hundred years of cultural history have gone for naught?

We are an educated people, but somehow, somewhere many of us in our haste have lost contact with Nature and neglected the spiritual values inherent therein.

It is true that more people participate in a wide variety of outdoor recreational activities than ever before, that more and more people visit our state and national parks and forests each year; but there is much evidence that the majority of them do not understand or appreciate the beauty and majesty of a landscape that is uncluttered by developments and conveniences.

Fortunately we still have some areas of undeveloped, unspoiled wilderness to enjoy provided we have the wisdom to preserve them.

In the words of Richard E. McArdle, Chief of the U. S. Forest Service:

"Wilderness is an integral part of our American Heritage. Our nation was born in wilderness, and from it we took land and materials to build our country. The freedom of wild lands, their great open spaces, and their grandeur are interwoven in our history, art, and literature, and have strongly influenced the shaping of our national character.

"Wilderness is irreplaceable, and must not all be

lost. Inherent in its primeval character are recreational, scientific, educational, and historic values of great benefit to the Nation and its people."

Scanned by Timothy Bowman January 5, 2016

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