

The Original Boatload of Knowledge Down the Ohio River: William Maclure's and Robert Owen's Transfer of Science and Education to the Midwest, 1825-1826¹

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ABSTRACT. "... more *learning* than ever was before contained in a boat" was Robert Owen's description of the "Boatload of Knowledge" that descended the Ohio River from Pittsburgh to his projected utopia at New Harmony, Indiana, in the winter of 1825-26. Among the scientists and Pestalozzian educators aboard the keel-boat christened "Philanthropist" were key figures from the Academy of Natural Sciences of Philadelphia. William Maclure was its president and the "father of American geology." Thomas Say was the Academy's librarian, a conchologist later called the "father of American descriptive entomology." Charles Alexandre Lesueur was the Academy's curator known as a naturalist, zoologist, ichthyologist, artist and teacher who made 127 sketches during the voyage. The research, publications, schools, libraries and reforms of those on the "Boatload of Knowledge" impacted scientifically, culturally, socially and economically to benefit the Midwest and the nation.

OHIO J. SCI. 89 (5): 128-142, 1989

INTRODUCTION

The Academy of Natural Sciences of Philadelphia never forgave its second president or his utopian associate. Together, the two men led the exodus of some of the Academy's most fertile minds and Philadelphia's most progressive educators, mostly on a single "Boatload of Knowledge" down the Ohio River in the winter of 1825-26. William Maclure (1763-1840) (Fig. 1) and Robert Owen (1771-1858) (Fig. 2) both came to America from Scotland. Both were wealthy—the first from merchandising, the second from textile manufacturing. Both were philanthropists interested in educational reform. Both had turned to science—Maclure to the natural sciences of geology and mineralogy, Owen to the social sciences of character formation and community building. Maclure and Owen lured scientists and educators to an ideal intellectual environment being created at New Harmony on the Indiana frontier. The icy Ohio River from Pittsburgh, PA, on 8 December 1825, to Mount Vernon, IN, on 23 January 1826, became the stage for their adventures and misadventures enroute. Despite the unforgiving attitude of the Academy, their migration and the concentration of their talents farther west than any college in the country produced far-reaching scientific, cultural, social and economic benefits for the Midwest and the entire nation. This paper discusses the significance of the voyage down the Ohio River of Maclure's and Owen's "Boatload of Knowledge" and the contributions its passengers made to the development of science and education in the Midwest.

THE UTOPIAN INTENT

Members of the Academy were colleagues of William Maclure and among the earliest American advocates of his and Robert Owen's educational and social reforms. Maclure forsook his business career just before 1800, came to the United States and devoted his energies to geology and public education (Doskey 1988). He combined a radical social philosophy with the establishment of America's first Pestalozzian schools. Populations,



FIGURE 1. William Maclure, "father of American geology," founder of Pestalozzian and industrial schools and workingmen's libraries, and organizer with Robert Owen of the "Boatload of Knowledge," 1825-26. Portrait by C. W. Peale, 1818. Courtesy of the Library, The Academy of Natural Sciences of Philadelphia.

he thought, divided into nonproductive and productive classes, the governors and the governed. Knowledge held exclusively by the governing class accounted for the concentration of power and property in the hands of a few. Knowledge dispersed to the masses would set them free and equalize power and property (Bestor 1950, Maclure 1831-38). Maclure visited the progressive Swiss institute of Johann Heinrich Pestalozzi (1746-1827) at Yverdon six times after 1805 and brought Joseph Neef from Paris to head such a school in Phila-

¹Manuscript received 9 November 1988 and in revised form 1 June 1989 (#88-25).

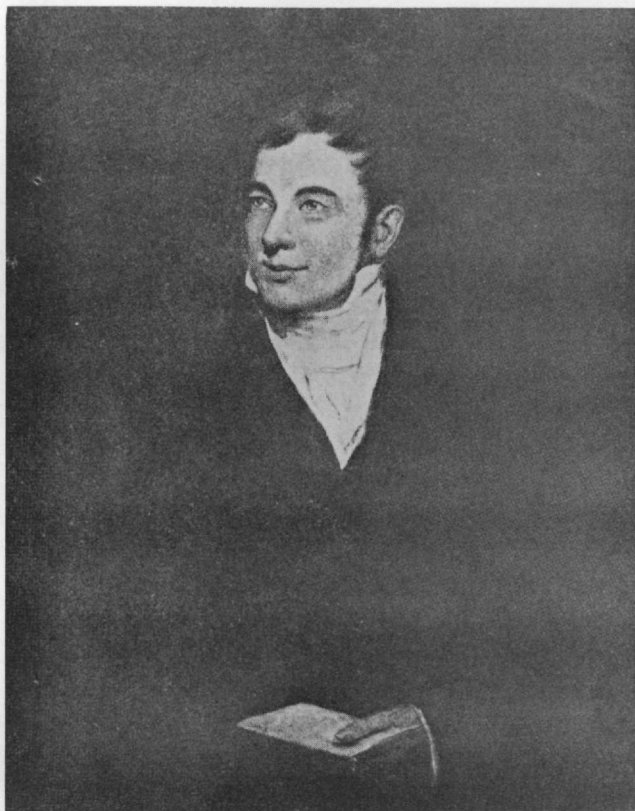


FIGURE 2. Robert Owen, founder of "community of equality" at New Harmony, IN, 1825, and organizer with William Maclure of the "Boatload of Knowledge," 1825-26. Portrait by Henry Pickersgill, 1826, facing page 244 in Frank Podmore 1906 Robert Owen: A Biography. George Allen and Unwin, Ltd., London.

delphia. Pestalozzian instruction in America—learning by concrete experience tailored to individual maturation levels—dates to Neef's teaching and to the publication of his *Sketch of a Plan and Method of Education* in 1808 (Bestor 1950, Gutek 1978). While descending the Ohio River on the "Boatload of Knowledge" in January 1826, Maclure stopped at Neef's home near Louisville and convinced him and his wife, Eloisa Buss Neef, to join the faculties of the infant and higher schools in his and Owen's utopian village at New Harmony, IN (Bestor 1950).

The breakthrough represented by the geological map of the United States Maclure introduced in a lecture at the American Philosophical Society in 1809 and published the same year established him as the "father of American geology" and brought him influence in scientific circles (Maclure 1809). He was elected a member of the Academy of Natural Sciences of Philadelphia soon after its founding in 1812 and was its president from 1817 until his death in 1840. He befriended the Academy's first president, Dutch geologist, mineralogist, zoologist and chemist, Dr. Gerard Troost, who preceded Maclure and the "Boatload of Knowledge" to New Harmony. In 1816, Maclure brought naturalist, artist and teacher Charles Alexandre Lesueur (1778-1846) (Fig. 3) as the Academy's curator. The two met in Paris after Lesueur's discovery of many zoological species on a Napoleonic expedition to Australia and explored geologically together in the West Indies and the United States before Lesueur began the seven years of



FIGURE 3. Charles Alexandre Lesueur, naturalist, artist, teacher, and curator of the Academy of Natural Sciences of Philadelphia after 1816. Portrait by C. W. Peale. Courtesy of the Library, The Academy of Natural Sciences of Philadelphia.

his curatorial duties. In an age of generalists, Lesueur became distinguished in paleontology, archaeology, ichthyology and zoology.

Maclure also formed a life-long friendship with the Academy's librarian, the brilliant if shy and self-effacing entomologist and conchologist, Thomas Say (1789-1834) (Fig. 4) (Weiss and Ziegler 1931). He sponsored Say's collecting expeditions to Georgia and Florida. Evidence from these trips, Say's research in the Rocky Mountains with Stephen H. Long and along the Mississippi and Minnesota Rivers, and his *American Entomology* laid the foundation for his later being called the "father of American descriptive entomology." After 1817, Maclure took Say on his own expeditions, part of the research which yielded the evidence for Maclure's second geological paper before the American Philosophical Society, published in 1818 with a revised map (Maclure 1818). In 1821, Say became the curator of the American Philosophical Society and the next year a professor of natural history at the University of Pennsylvania.

If William Maclure's scientific interests and educational efforts gathered the Academy around his leadership, the more expansive and visionary dreams of Robert Owen inspired their exodus to the Indiana wilderness at New Harmony. Troost, Lesueur and Say were attracted to the educational and communal utopianism of Owen even before Maclure, and enthusiastically trekked to New Harmony—Troost in the fall of 1825, the others with Maclure on the "Boatload of Knowledge." For more than a decade before they descended the Ohio, Robert Owen was formulating his utopian ideas and using his cotton-spinning company town of



FIGURE 4. Thomas Say, conchologist, "father of American entomology," curator of the American Philosophical Society after 1821 and professor of natural history at the University of Pennsylvania, 1822-1825. Portrait by C. W. Peale. Courtesy of the Library, The Academy of Natural Sciences of Philadelphia.

New Lanark, Scotland, as a laboratory for his social experiments (Harrison 1969). His ultimate objective was to create a New Moral World, a world of enlightenment and prosperity leading to human happiness defined as mental, physical and moral health enjoyed in a rational way of life. The New Moral World was to replace the Old Immoral World of ignorance, superstition, selfishness and suffering intensified by the first wave of the Industrial Revolution.

Educators and scientists were crucial to Owen's plan because education, science, technology and communal living were the means he felt could effect the New Moral World. He believed the character of an individual, a community, or the world could be transformed by the superior social, intellectual and physical environment that these means could produce (Owen 1813). He considered it possible to discover the laws governing human nature and to have a practical science of society (Owen 1836-1844, Harrison 1969). After 1816, he gained an international reputation trying to improve the character of children and workers in New Lanark through an Infant school for ages two to five and an Institution for the Formation of Character thereafter. Maclure himself examined these facilities in 1824.

Owen's secular, communal experiment begun at New Harmony on the Wabash River in Indiana in 1825 attracted Maclure as an educational and financial partner and his Pestalozzian teachers and scientific colleagues as essential residents. Owen had learned that communalism could work from the thriving settlements of the

Shakers and Harmony Society, American sects awaiting the Kingdom of God on Earth. Without realizing the extent to which unquestioning commitment of members and daily authoritarian administration contributed to Harmonist and Shaker solidarity and economic success, Owen, who had great faith in mental freedom and an insatiable urge to travel and speak on behalf of his own social system, proposed that democratic, socialistic "communities of equality" averaging 1,200 persons each be created worldwide to implement the New Moral World. Spending half his fortune, \$135,000, he purchased 20,000 acres including New Harmony, the second of the three towns built by the German-American Harmony Society of George Rapp (Bestor 1950). In the decade before they moved to Pennsylvania in 1824 to construct Economy (now Ambridge) on the Ohio River downstream from Pittsburgh, Rapp's Harmonists had made New Harmony famous as "that wonder of the west" with 180 buildings, 2,000 acres of cleared farmland, a school, two churches, an orchestra, band, library, mills and products marketed to twenty-two states and ten foreign countries (Arndt 1965, 1975, 1978, 1982, Pitzer and Elliott 1979).

It was this renowned village and Owen's utopian mirage that attracted the Philadelphians. In fact, the very introduction and popularization of Owen's ideas in America were closely linked to Philadelphia, members of the Academy of Natural Sciences, and Maclure's French Pestalozzian protégée, Madame Marie Louise Duclos Fretageot (1783-1833) (Fig. 5) (Elliott 1984).



FIGURE 5. Madame Marie Louise Duclos Fretageot, Pestalozzian teacher in Paris, Philadelphia and New Harmony. Courtesy of the New Harmony Workingmen's Institute.

Owen's social philosophy, as expressed in his *A New View of Society* (Owen 1813), probably made its American debut in the city's Jeffersonian newspaper, *Aurora*, in 1817. Soon there was an Owenite society in Philadelphia. Gerard Troost and John Speakman of the Academy were members by the fall of 1823. Madame Fretageot seems to have introduced the Academy scientists to the educational and communal dimensions of Owenism. She also played a crucial role in convincing her patron, Maclure, to combine his resources and scientific and educational enterprises with Owen's.

When Fretageot came from Paris to organize a Pestalozzian school in Philadelphia in 1821, she brought a recently-published account of Owen's educational theories. She lent the account to a young medical doctor, William Price, whose father was superintendent of the Friend's Boarding School at West-Town (Elliott 1988). Dr. Price was so enamoured of Owen's teaching philosophy that he visited his experimental schools in New Lanark in 1824 and a year later took his wife, Hannah Fisher Price, and their three children to New Harmony aboard the "Boatload of Knowledge." Fretageot's Owenite propaganda affected John Speakman to the point that he headed an unsuccessful project to establish a "community of equality" in 1823-24. After he met Owen at the Academy in November 1824, Speakman printed in Philadelphia an edition of Owen's addresses in the Hall of the United States Congress of 25 February and 7 March 1825. In the fall of 1825, Speakman preceded the "Boatload of Knowledge" to New Harmony (Bestor 1948, 1950). Madame Fretageot became an even more ardent believer in Owenism when Owen visited her Philadelphia school on 21 November 1824. Seizing the prospect of teaching students in an ideal setting in Owen's utopian village, she, Maclure, and William S. Piquetal (1779-1855), who had headed Maclure's boys' schools in Paris and Philadelphia, were among the distinguished passengers when the "Boatload of Knowledge" left the dock at Pittsburgh on that cold Thursday, 8 December 1825.

THE DISTINGUISHED PASSENGER LIST

Robert Owen himself gave the "Boatload of Knowledge" its historic name. On 12 January 1826, the keelboat bearing his entourage was still drifting down the Ohio. Owen, however, had left the boat after its second day, traveled overland to Indiana and was already making his first speech to the citizens of New Harmony. In it he proclaimed that those aboard represented "... more *learning* than ever was before contained in a boat" (Pelham 1916, Pears 1933). Thus, even before the group of noted scientists, teachers, students, artists, musicians and reformers arrived in the utopian village, they were known as the "Boatload of Knowledge" (Bestor 1950). And Owen went on to explain that by *learning* he did not mean "Latin & Greek & other languages but real substantial knowledge" (Pelham 1916).

Most agree that for at least this once Owen did not exaggerate (Bestor 1950). The three lists of their fellow passengers made by Charles Alexandre Lesueur, Owen's Scottish friend and convert Donald Macdonald, and Owen's eldest son, Robert Dale, are truly impressive (Hamy 1904, Macdonald 1942, Elliott 1969; see Table 1). To begin, Maclure (Fig. 1) and Owen (Fig. 2)

Say (Fig. 4), who was elected captain of the keelboat partway downstream, and Charles Alexandre Lesueur (Fig. 3), who drew 127 of his 1200 invaluable sketches of the American scene while making the month-and-a-half journey. His ink images of the "Philanthropist", its passengers, landscapes such as Blennerhasset Island and a score of towns including Pittsburgh, Economy, Steubenville, Wheeling, Parkersburg, Gallipolis, Cincinnati, and Mt. Vernon convey the setting and spirit of the adventure and document the primeval Ohio Valley (Vail 1938, Elliott 1969). Lesueur's 127 drawings, some of which are reprinted here, first appeared in Vail and are preserved at the Muséum d'Histoire Naturelle in Le Havre, France. Lesueur had three young students in his care—Victor DuPalais, his sister Virginia, who became an art teacher and composer of music in New Harmony, and Cecilia Noël.

The Pestalozzian educators aboard were Madame Marie Fretageot (Fig. 5) and William S. Piquetal. Fretageot was accompanied by her three students, the Sistare sisters—Lucy, Frances and Sara. Lucy married Thomas Say in 1827, and helped color the beautiful and precise ink and watercolor sketches of shells in his *American Conchology* published on the New Harmony press in 1830 (Weiss and Ziegler 1931). Piquetal had along ten boys from his Philadelphia school, mostly French children including Amédée Dufour, Charles Falque, Madame Fretageot's nephews Peter L. and Victor Colin Duclos, and her son Achilles. Much later Victor, at age 75, made a list of passengers he thought he remembered on the Boatload with him, but it is quite inaccurate (Lindley 1916, Elliott 1969). Achilles Fretageot made Cecilia Noel his first wife and aided Maclure in creating the Workingmen's Institute in New Harmony in 1838. Dr. William Price, the physician, was aboard with his wife, Hannah Fisher Price, their three children and Mrs. Price's sister-in-law, Mrs. Helen Fisher, from Russia. Mrs. Fisher's husband had died recently, and Robert Owen found in her a traveling companion. A twenty-nine year old carpenter, John Beal, his wife, and daughter Caroline, were Boatloaders. John taught his trade in Maclure's industrial school in New Harmony. The house he built of English vernacular wattle and daub construction in 1829 may still be visited in his adopted town. One artist made the trip in addition to Lesueur, Balthazar Abernasser (Obernesser) from Switzerland who became a painting teacher in the New Harmony schools.

Two other notables were among the forty passengers. Robert Dale Owen (1801-1877) at age twenty-four was already showing signs of the abilities which would make him an important figure in American politics and reform (Leopold 1940). He had received a Pestalozzian-type education at the school of Philipp Emanuel von Fellenberg in Bern, Switzerland, had been superintendent of the New Lanark schools of his father, and had managed the cotton mills in his father's absence. He recorded indispensable details of the "Philanthropist" voyage in his journal (Elliott 1969). Stedman Whitwell was an English architect and social reformer. Robert Owen had just had him construct and bring to America a six-foot-square architectural model of the monastic-looking, self-contained city which Owen proposed but never built three miles south of the existing town of New Harmony. Only days before the "Boatload of

TABLE 1

Passenger list for the Boatload of Knowledge on the keelboat Philanthropist

Departed Pittsburgh, Pennsylvania, 2 p.m., Thursday, December 8, 1825
 Arrived Mount Vernon, Indiana, 9 a.m., Monday, January 23, 1826
 Passengers continued overland to New Harmony, Indiana, January 23 and 24

Organizers:

William Maclure—Scottish merchant, geologist, patron of Pestalozzian schools and workingmen's libraries
 Robert Owen—cotton manufacturer and social reformer of New Lanark, Scotland, and New Harmony, Indiana

Scientists:

Thomas Say—naturalist, entomologist, conchologist, elected captain of the Boatload of Knowledge
 Charles Alexandre Lesueur—French naturalist, zoologist, ichthyologist, artist, teacher

Pestalozzian Educators and Their Students:

Madame Marie Louise Duclos Fretageot—French educator in William Maclure's schools in Paris before 1821 and in Philadelphia (1821-25), then in New Harmony schools after 1826

William S. Phiquepal d'Arusmont—French educator in Maclure's boys' schools in Paris before 1823 and in Philadelphia (1824-1825), then in Maclure's School of Industry in New Harmony after 1826

Phiquepal's ten students including:

Peter L. Duclos	Charles Falque
Victor Colin Duclos	Achille(s) Fretageot
Amedie Dufour	

Artists and Musicians:

Balthazar Abernasser (Obernesser)—Swiss artist, taught painting in New Harmony schools
 Virginia DuPalais—ward and student of Lesueur, taught art and music later in New Harmony schools

Physician:

Dr. William Price, his wife, Hannah Fisher Price, and their three children

Other Notables:

Robert Dale Owen—eldest son of Robert Owen, kept journal of voyage, advocate of educational and social reform as Indiana and U.S. legislator, helped create Smithsonian Institution

Stedman Whitwell—English architect, made six-foot-square model of Robert Owen's projected utopian city

Donald Macdonald—Scottish social reformer, associate of Robert Owen

John Beal, his wife and daughter, Caroline—John taught his carpentry trade in Maclure's School of Industry in New Harmony

Mrs. Helen Fisher—Russian sister-in-law of Hannah Fisher Price

Charles Schmidt—Prussian servant to Robert Owen

Other Passengers:

Cecilia Noël—became first wife of Achille(s) Fretageot

Victor DuPalais—brother of Virginia DuPalais

William Herring

William McArthur

Son of Judge Tappan—boarded at Steubenville, Ohio, Jan. 9

Sarah Turner—a young woman

Several workmen *enroute* to New Harmony

Original Crew of Eleven

Knowledge" embarked, Whitwell and Macdonald opened the model at the United States Patent Office in Washington D.C., displayed it in an anteroom of the White House and explained it personally to President John Quincy Adams (Bestor 1950).

ADVENTURES AND MISADVENTURES ON THE OHIO

Embarking

The Ohio River and its primeval shores held surprises and delights for the unsuspecting urbanites aboard the 26 × 4.2 m (85 × 14 ft) keelboat with its six long oars, sternsweep and gouger (Elliott 1969, Wilson 1964, 1975). The keelboat itself was an unwelcome substitute for the steamboat on which Maclure and Owen intended to escort their sophisticated friends to utopia. The river simply had not cooperated. The water level was too low. It took three days to outfit the alternate craft which Maclure purchased. Each of the keelboat's four compartments, front for crew, second for men, third for women (nicknamed "Paradise" by the men) and rear for children (termed "Purgatoire" by Lesueur), were given

tiered bunks, crude chairs and tables and pot-bellied stoves (Macdonald 1942). With "everything in considerable confusion", Maclure and Owen escorted their learned party aboard these humble quarters on that freezing 8 December, and drifted away from Pittsburgh into history at 2 p.m. (all quotations and details regarding the activities of the "Boatload" are from Robert Dale Owen's journal as printed in Elliott 1969, unless otherwise indicated). The optimistic flag atop signalled "Harmony" on one side and "Philanthropist" (spelled in French by Lesueur) on the other to honor the vessel's philanthropist, Maclure.

During the first several days, the women aboard protested the hardships. Robert Dale Owen noted the feminine discontent, but welcomed the primitive conditions and outdoor life himself as fit preparation for everyone bound for backwoods New Harmony. In sections of his journal, written in the relative secrecy of German rather than his usual English, he observed that "Some of the ladies of our party appear already quite impatient and dissatisfied the more so since they almost cannot do anything for themselves." Soon "they complained publicly about their unhappy lot," and one young

lady, Sarah Turner, actually wept at breakfast. Robert Dale once "feared they might turn back and that would be a pity." However, the ladies later actually enjoyed the outdoor environment, especially frolicking on the ice-covered Ohio near Beaver, PA. Some even helped row.

Running Aground and Meeting the Harmonists

Things got worse before they got better. The "Boatload of Knowledge" drifted 11 km (7 mi) the first day and 14 km (9 mi) the second before running aground "either on account of a strong sidewind or of the awkwardness of our pilot." The intervening evening had given Robert Dale his first chance to see the interior of log cabins, which he found "pretty comfortable." Say and Price had accompanied him to an island in search of milk which they found in "good supply." Although title to property on the island was in doubt, in one cabin the men "found a negro family, jovial merry people, with whom we had a great deal of fun." But now being aground on Merriman's riffle, a narrow rapid, not only was not fun, it was impossible to get free. At least the keelboat crew, and possibly some of the male passengers, could not loosen it even by getting into the freezing water several times, one man suffering stomach cramps for his efforts. Fortunately, the ever-neighborly Harmonists were building their new village of Economy (now Ambridge) on the Pennsylvania side just seven miles downstream from the stranded Philanthropist

(Fig. 6). The elder Owen had purchased their Indiana town and visited them at Economy just a year before. Now, with Maclure, Piquetal, and Lesueur, he left the keelboat to seek Father Rapp's assistance. The six strong Harmonist men whom he dispatched freed the boat in an hour of hard labor after sunset.

Robert Dale Owen described the rescuers as knowing "admirably how to act in concert, to be steady, retired, cautious and industrious, but not to possess superior intelligence or liberality of sentiment." Although prejudicial, his assessment did suggest Harmonist qualities that were critical to the strong communal organization of their Harmony Society. As the Boatloaders visited their "very flourishing" new town of Economy the next day, they witnessed the fruits of such commitment. And even though they were not aware of it yet, the Harmonist qualities were significantly reversed among many who would settle as unscreened citizens in Owenite New Harmony. This factor alone would help explain why the Owen-Maclure community would never enjoy the unanimity of purpose or the economic success of those of the Harmonists.

The Owen-Maclure entourage was entertained in grand manner by George Rapp, his adopted son and expert business manager Frederick, and his gracious and musically-talented granddaughter, Gertrude. They drank tasty, aged wine made from New Harmony wild grapes. One can only imagine the excitement which pioneering zoologists like Charles Alexandre Lesueur and Thomas

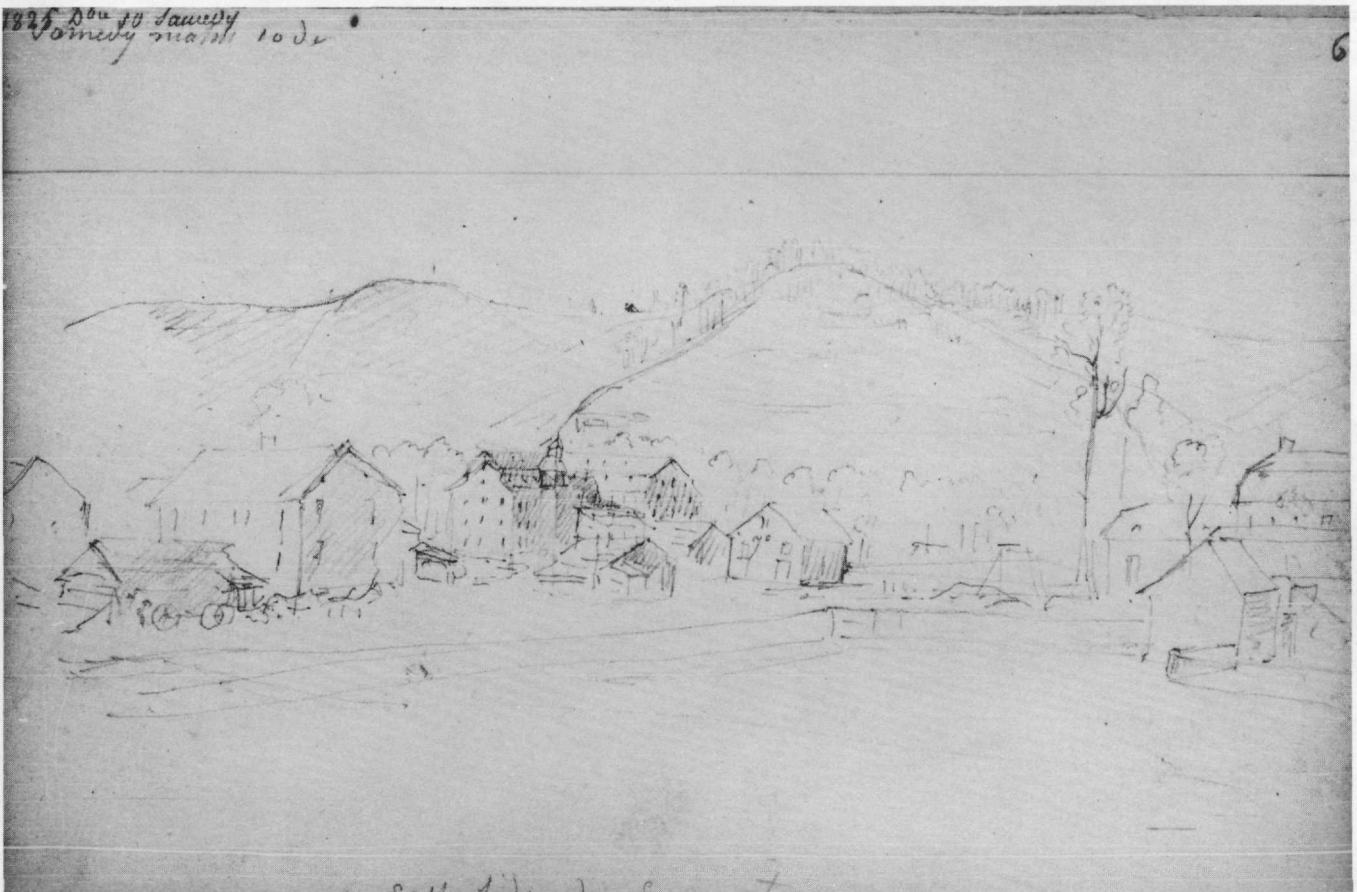


FIGURE 6. The Harmonist town of Economy (now Ambridge), PA, looking from the east with the hills on the western bank of the Ohio River in the background. Sketch by Charles Alexandre Lesueur, 30 December 1825. Photo courtesy of the American Philosophical Society. Original in the Muséum d'Histoire Naturelle, Le Havre, France.

Say must have felt as the group beheld the Harmonist deer park, a fenced area containing deer and two elk, one of the earliest zoos in the United States. Animals from this pen and many other specimens which the Harmony Society had been collecting and preserving were put on display in their large Feast Hall in 1826. Much of this collection, to which the Harmonists charged admission, can still be viewed and is thought to be the nation's oldest natural history museum housed in its original building (Shepherd 1987).

Icebound at Safe Harbor Station near Beaver, PA

Robert Owen's decision to return to Pittsburgh from Economy to obtain deeds for New Harmony property eliminated him from further travel on the "Boatload of Knowledge" and participation in its most exciting adventures. These occurred mostly from 11 December 1825 to 9 January 1826, twenty-eight days during which the keelboat was stuck in the ice at Safe Harbor station (Fig. 7) only 24 km (15 mi) below Economy and 13 km (8 mi) above Beaver, PA. Safe Harbor must have seemed a misnomer to the marooned party. The first full day there, two of Phiquepal's boys fell through the ice in the middle of the river. Nobody was near enough to help them, but they could swim and got out on their own. Later, Dr. Price "fell into the river through the ice up to his neck, but got out without other inconvenience than a good wetting." Worse was the accident which

befell Phiquepal, who had gone hunting with Lesueur. The teacher fell getting over a fence and hit his head on a log. He lay for days, feverish and sometimes delirious, and once was bled by Dr. Price. Because of a personality which was often disagreeable, some might say Phiquepal never fully recovered, but he was well enough to travel when the thaw finally came. Before that, a few had abandoned ship. Mrs. Fisher left on 16 December with a man who had arrived from Yellow Springs, OH, where a handful of Owen followers were at work forming a short-lived community. She met Robert Owen along the way and traveled to New Harmony with him. Maclure contracted a cold and chose to leave the boat with Madame Fretageot, spending 23 to 31 December in Beaver. After a brief return, these two left the keelboat again on 5 January and headed for Steubenville, OH, and Wheeling, VA (now West Virginia), where they rejoined their companions on 10 January.

Others enjoyed their wintery sanctuary at Safe Harbor. Lesueur found endless opportunities for sketching not only specimens, but also people, including the family in the cabin where he was caring for the injured Phiquepal. Robert Dale Owen was awed by the untouched beauty. "The appearance of the woods is wild and magnificent in the extreme," he wrote, "immense trees lying across one another, and everything, apparently, in a perfect state of nature." He, Lesueur and Price thrilled to the hunting of wild game. Robert Dale spotted, and tried his new rifle upon partridges, woodpeckers, woodcocks,

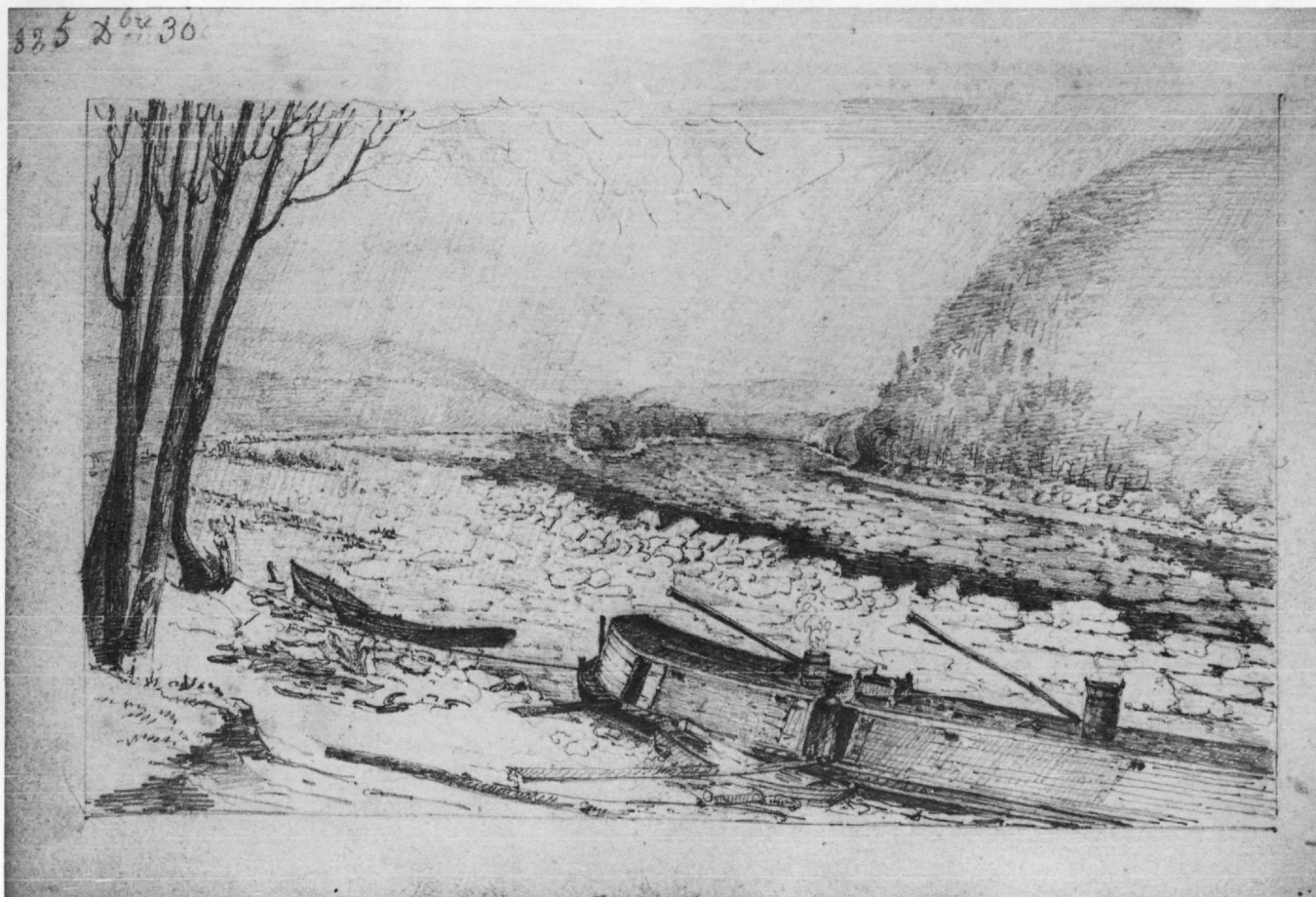


FIGURE 7. The keelboat "Philanthropist" of the "Boatload of Knowledge" icebound on the Ohio River at Safe Harbor Station between Economy (now Ambridge) and Beaver, PA, 30 December 1825. Sketch by Charles Alexandre Lesueur. Photo courtesy of the American Philosophical Society. Original in the Muséum d'Histoire Naturelle, Le Havre, France.

doves, pigeons, pheasants, squirrels, and deer, but not very effectively. He discovered that "The friendliness of the inhabitants here is very remarkable. Whenever you pass by their doors you are asked to walk in and welcomed with unfeigned pleasure." One friendly settler, John Rice, taught him the finer points of firing and caring for his firearm. He also had him shoot at targets, but with little improvement of his aim. When he and John walked through the deep snow to a shooting match six miles from the keelboat, John won a turkey and a pair of braces, Robert Dale only a handkerchief. Maybe that is why he felt that "the persons present seemed to be in low spirits, without any appearance of mirth or fun."

Recreation aboard the icebound "Boatload of Knowledge" took the form of games of cards and Whist, reading and lively conversation. Both the women and men joined discussions ranging from costumes to the utopian social system proposed by their French contemporary, Charles Fourier. The Boatloaders were in the vanguard of reform ideas. Fifteen years before Fourier's works were translated into English by his American disciple, Albert Brisbane, and before thirty groups including the transcendentalists at Brook Farm in Massachusetts experimented in the 1840s and 1850s with the communal phalanxes Fourier recommended, Madame Fretageot was reading Fourier's works aloud in French to the stranded intellectuals at Safe Harbor. Robert Dale Owen also read Fourier privately and agreed with the Frenchman's basic principles but found his methods impractical. Fourierism proposed a worldwide network of communities of association built on capitalistic investment and unequal monetary rewards, whereas the Owenite system which Robert Dale and the Boatloaders were going to the frontier to implement advocated socialistic sharing and equal rewards.

Robert Dale's conversations with Maclure did not bring him closer to his father's partner, whom he thought "at times to act somewhat stubbornly and vehemently" and "looks at everything in a much too suspicious manner and manages thereby at times to make difficulties for himself." But he came to hold the thought and advice of Marie Fretageot, with whom he discussed everything from his personal life to mathematics, in the highest regard. He concluded that "Mme F[retageot] is an excellent woman in every respect."

On Christmas Day, with hopes for a thaw dashed when the promising rain stopped in the early afternoon, Thomas Say and Robert Dale Owen spent most of the uncelebrated holiday talking with Phiquepal. First they discussed the meaning of words. Then they explored the types of articles which they should plan for the *New Harmony Gazette*. The usually quiet Say "related various anecdotes of Indians, showing their perfect composure in cases of danger or of sudden alarm or of extreme pain, the tenacity with which they nourish revenge etc." This induced Robert Dale to philosophize "I believe the evils of the savage and of the civilized state are nearly balanced— They have many excellent qualities, which we most irrationally neglect to cultivate, but they fail to attain much of which we are in possession."

With Donald Macdonald, who first joined the Boatload at Safe Harbor along with Virginia DuPalais and Stedman Whitwell on 7 January, Robert Dale disagreed

in a friendly debate about workers and production. The young philosopher stated his case in his journal.

It appears to me the greatest mistake to suppose it rational to make men mere producing machines and to treat them as such, and to estimate their happiness by the quantity of their productions. We must be careful, too, not to forget that happiness is the object of our pursuit; and that we succeed, not in proportion to the extent of our surplus productions, but in proportion to the measure of happiness which the members of the society enjoy.

A protracted conversation on religion and politics with a Methodist clergyman in Beaver prompted Robert Dale to comment that

He reasoned with qt [quite] good temper and some talent, but has the most incorrect ideas. It is extremely difficult by abstract reasoning to convince even of the plainest truths one, whose mind has been for years trained by ingenious and self believed sophistry to support irrational ideas. The vagueness of the terms generally used greatly increases this difficulty; for instance "free agent" "liberty of choice" "mere machine" "responsible being" etc.

The courageous captives of Safe Harbor made several compromises with comfort and suffered one more scare before being freed by the thawing Ohio. Resolving to do manual labor as needed and to eat but two meals each day at 10 a.m. and 5 p.m. to reduce food preparation, they relieved eight of their eleven hired crew members. They appointed Thomas Say as captain and found that he "goes about it competently and handles the crew in the most clever manner." But none of the passengers was prepared for "a noise resembling peals of thunder" which awakened them in the stillness of night. They "immediately sprung from their beds and secured most of the baggage on shore." None would forget the lesson that this is a normal sound of ice breaking up. "Putting their trunks all on board again" with "infinite amusement" they began to realize that this disturbance was a very good sign for those anxious to drift with the current once again.

Continuing Down River

Charles Lesueur sketched the momentous event on 8 January, as passengers and crew labored together to cut a 150-yard pathway in the ice for the "Philanthropist" to pass out to the open channel. Pushing off the next day, they began the tranquil remainder of their trip, almost uneventful by comparison. Rowing with the long oars became routine for the men. Sometimes the women took a turn. They were in Steubenville (Fig. 8) by 5 p.m. There Benjamin Tappan, the antislavery leader and former 5th Ohio circuit judge, put his son Benjamin on board to be educated in the New Harmony schools. After drifting with the current all night, the Boatload arrived at Wheeling (Fig. 9) and was reboarded by Maclure and Fretageot. Making as many as 150 km (95 mi) in one 24-hour period, the keelboat bore its human cargo to Marietta, OH, and Maysville, KY. The only emergency had come when one of the boys, probably Victor Duclos, had to be rescued after falling into the river while dipping a mug for water. A few lighthearted passengers sang and danced on the deck of the keelboat until late

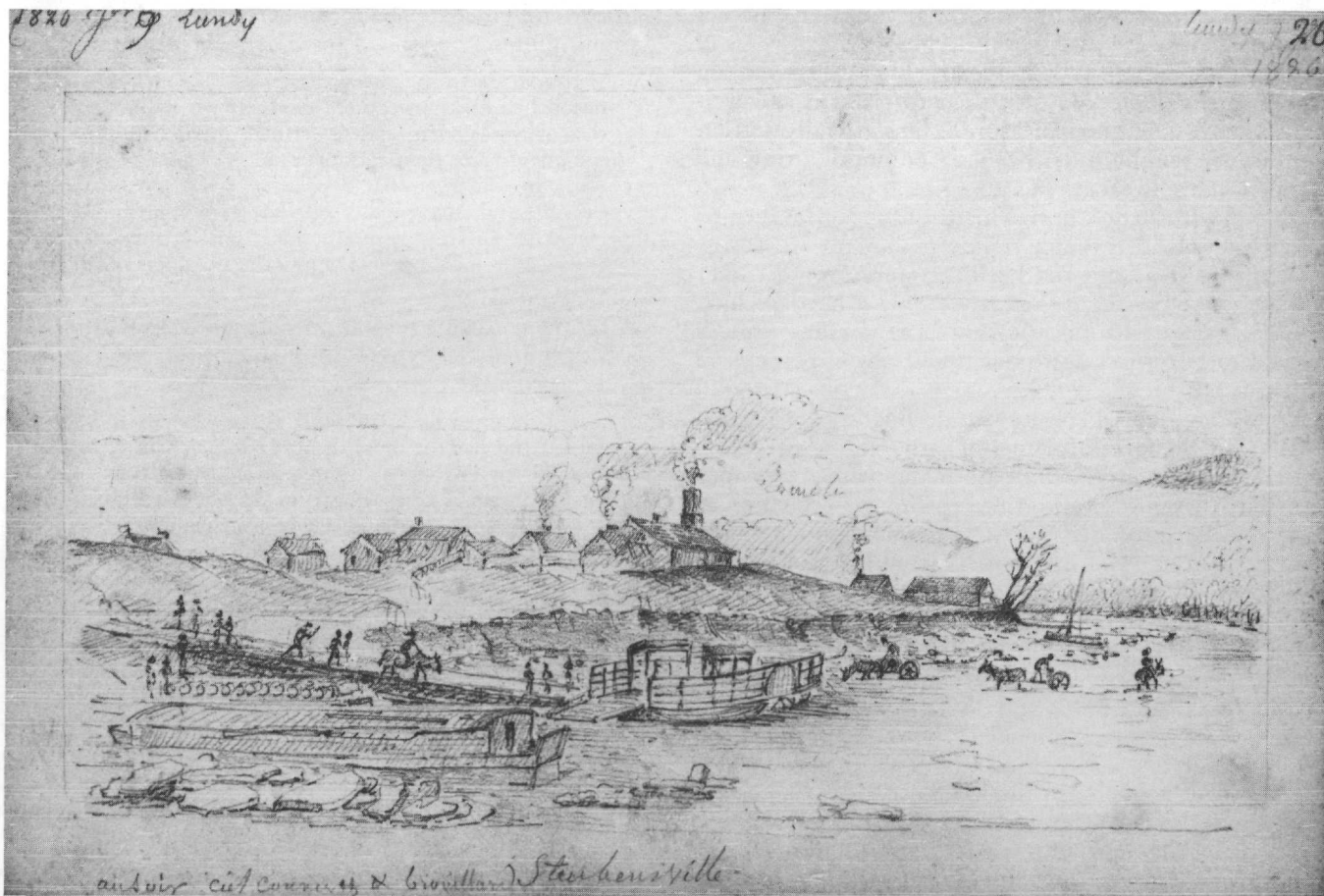


FIGURE 8. Steubenville, OH, with a keelboat tied next to the ferry, 9 January 1826. Sketch by Charles Alexandre Lesueur. Photo courtesy of the American Philosophical Society. Original in the Muséum d'Histoire Naturelle, Le Havre, France.

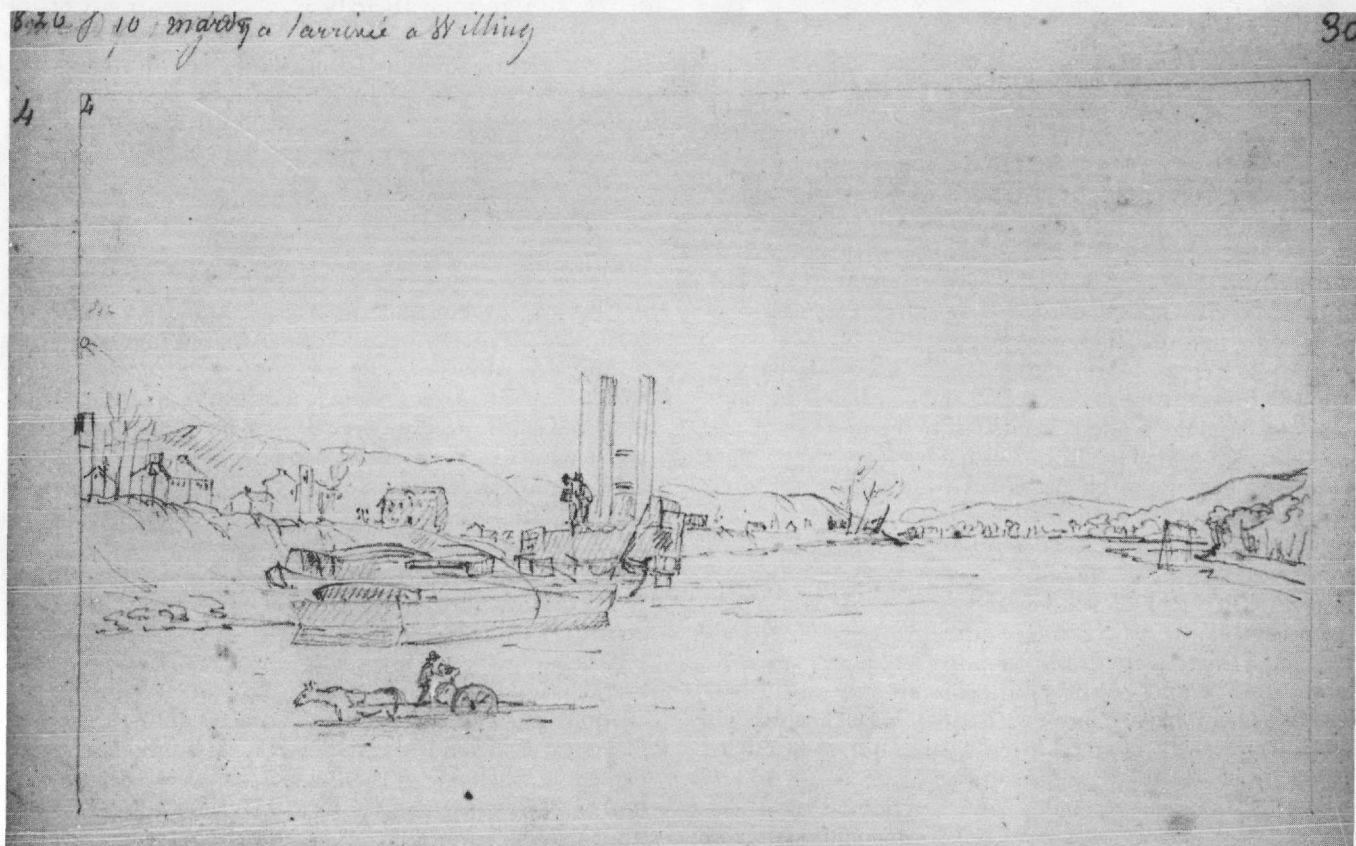


FIGURE 9. Wheeling, VA (now West Virginia) waterfront with steamboat behind two keelboats, 10 January 1826. Sketch by Charles Alexandre Lesueur. Photo courtesy of the American Philosophical Society. Original in the Muséum d'Histoire Naturelle, Le Havre, France.

one night. On 15 January, Robert Dale Owen recorded a temperature of 22°F. Stedman Whitwell may have given him this information since Whitwell was interested enough in meteorology to record weather conditions in New Harmony systematically during the later 1820s and to print them in the *New Harmony Gazette*. Whitwell also invented a system for naming any place on earth by assigning letters to its longitude and latitude. Since this would have meant renaming New Harmony *Ipba Veinul*, Pittsburgh *Oifu Veitoup* and Paris *Oput Tedou* it is understandable why his efficient, scientific method was not adopted. One group of English farmers at New Harmony, however, did use the Whitwell name *Feiba Peveli* for their subdivision, and a sign with these unusual words still graces the entrance to a descendant's farm.

Visiting Cincinnati and Louisville

Cincinnati (Fig 10), which Robert Dale Owen called "by far the most regular and chearful [*sic*] look[in]g town we have seen in the west," offered the Boatloaders the last intellectual adventure of their voyage. They arrived amid ice flows that prevented them from rowing on 16 January, just a week after Robert Owen had left the city for New Harmony. On 17 January, a few toured the museum of natural history which Robert Dale Owen described as "small; but apparently well arranged." That evening they attended a lecture by John Cleves Symmes, nephew of the founder of the Queen City. A proponent of the theory of concentric spheres, he expounded his ideas that the earth is hollow and possibly habitable inside. He contended that an opening near the North Pole

permits the moon to force air into and out of the interior. The dark complexion of the Eskimoes resulted, he said, from the hot air being expelled from the earth. Symmes, who died in 1829, was trying to secure funds from learned societies to mount an expedition to test his hypotheses (Buley 1950). "His theory appears plausible, and the great collection of facts which he brings to bear upon it evinces his industry and I think considerable talent and penetration," Robert Dale Owen penned in his journal after Symmes' lecture. In a more generous mood with the scientist than with the Methodist clergyman, he added "The matter appears to me worthy of investigation, as the subject of an expedition."

Two uneventful days of floating while Owen's son read the Apochrapha landed the "Boatload of Knowledge" in Louisville on 19 January. There they accidentally found Joseph Neef, the first Pestalozzian teacher Maclure had brought to Philadelphia (Elliott 1969). The aging educator, who had operated several schools in Kentucky and elsewhere in the meantime, promised to join the optimistic band in New Harmony. Later Neef and his wife, Eloisa, became leaders in the progressive schools of the Owenite village.

Completing the Voyage

Three days rowing in daylight and drifting in darkness brought the "Philanthropist" past the thrilling Falls of the Ohio at Louisville and finally to Mount Vernon, IN, only 24 km (15 mi) overland from New Harmony. It was Monday morning, 23 January, forty-seven days since the Boatloaders had departed from Pittsburgh.

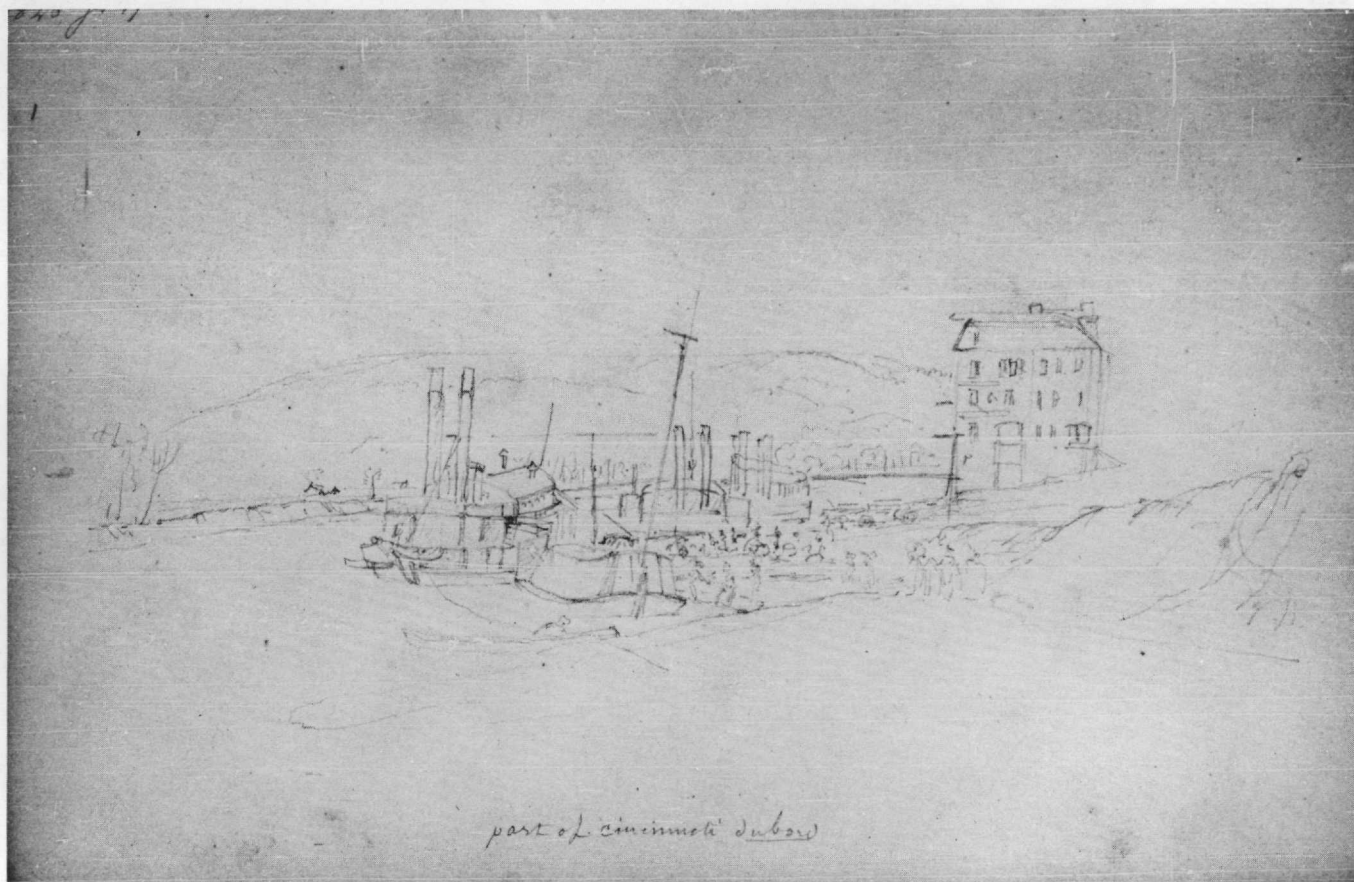


FIGURE 10. Cincinnati, OH, with a keelboat and three steamboats at the Ohio River landing, 17 January 1826. Sketch by Charles Alexandre Lesueur. Photo courtesy of the American Philosophical Society. Original in the Muséum d'Histoire Naturelle, Le Havre, France.

Most must have welcomed the thought of leaving the river for a wagon ride to the utopian village the next day. But the impatient Robert Dale Owen rode there immediately by horseback, arriving in time to hear part of his father's evening lecture to his admiring disciples (Elliott 1969). Some of the women and children stayed aboard Maclure's keelboat with Lesueur and Say to make the complete voyage, going further down the Ohio and up the Wabash to New Harmony (Macdonald 1942, Hamy 1904, Wilson 1964). On 24 January, Lesueur made the last of his 127 sketches of the trip and titled it "Débâcle à Mount Vernon" ("Breaking Up of the Ice at Mount Vernon") (Fig. 11) (Elliott 1969, Wilson 1975).

THE PROMISE FULFILLED

The same New Harmony speech of Robert Owen on 12 January which contained his words that suggested the famous name for the "Boatload of Knowledge" also carried his message that the voyagers included "some of the ablest instructors of youth that c[oul]d be found in the U.S. or perhaps in the world" (Pelham 1916). This statement was taken by those already settled in his fledgling utopia as a promise that "In [New] Harmony there will be the best Library & the best School in the United States" (Pelham 1916). To enumerate the contributions of the Boatloaders in terms of research and publications, libraries and schools is to recognize how fully this promise was kept. The scientific, cultural, social

and economic benefits were realized not only by New Harmony, but by the Midwest and the nation at large.

Robert Owen put William Maclure in charge of the educational program which was to reform human character and lead to the New Moral World. When Maclure was away, Thomas Say was in charge of an Infant School, a Higher School, a School of Industry, and adult learning through lectures, libraries and museums. The Infant School duplicated Owen's New Lanark school for children ages two to five. Thus, New Harmony had one of the earliest schools, if not the first, for infants in the United States. To separate children from unwanted negative parental influence, it operated as a boarding school in the spacious Community House No. 2 built by the Harmonists. It acquainted more than a hundred children with communal sharing, humanitarian principles and intellectual curiosity by the Pestalozzian methods of Madame Fretageot and Eloisa Buss Neef (Carmony and Elliott 1980, Pitzer 1978).

After Infant School, children attended the Higher School to age twelve, modeled after Owen's New Lanark Institute for the Formation of Character. Joseph Neef was principal, aided by his son, Victor, and daughter, Louisa. They presided over classes in mechanics, mathematics, science, art, music, gymnastics, language and writing (Pitzer 1978). Maclure's advertisement for the New Harmony boarding school in the *American Journal of Science and Arts* early in 1826 indicated that he, Say,

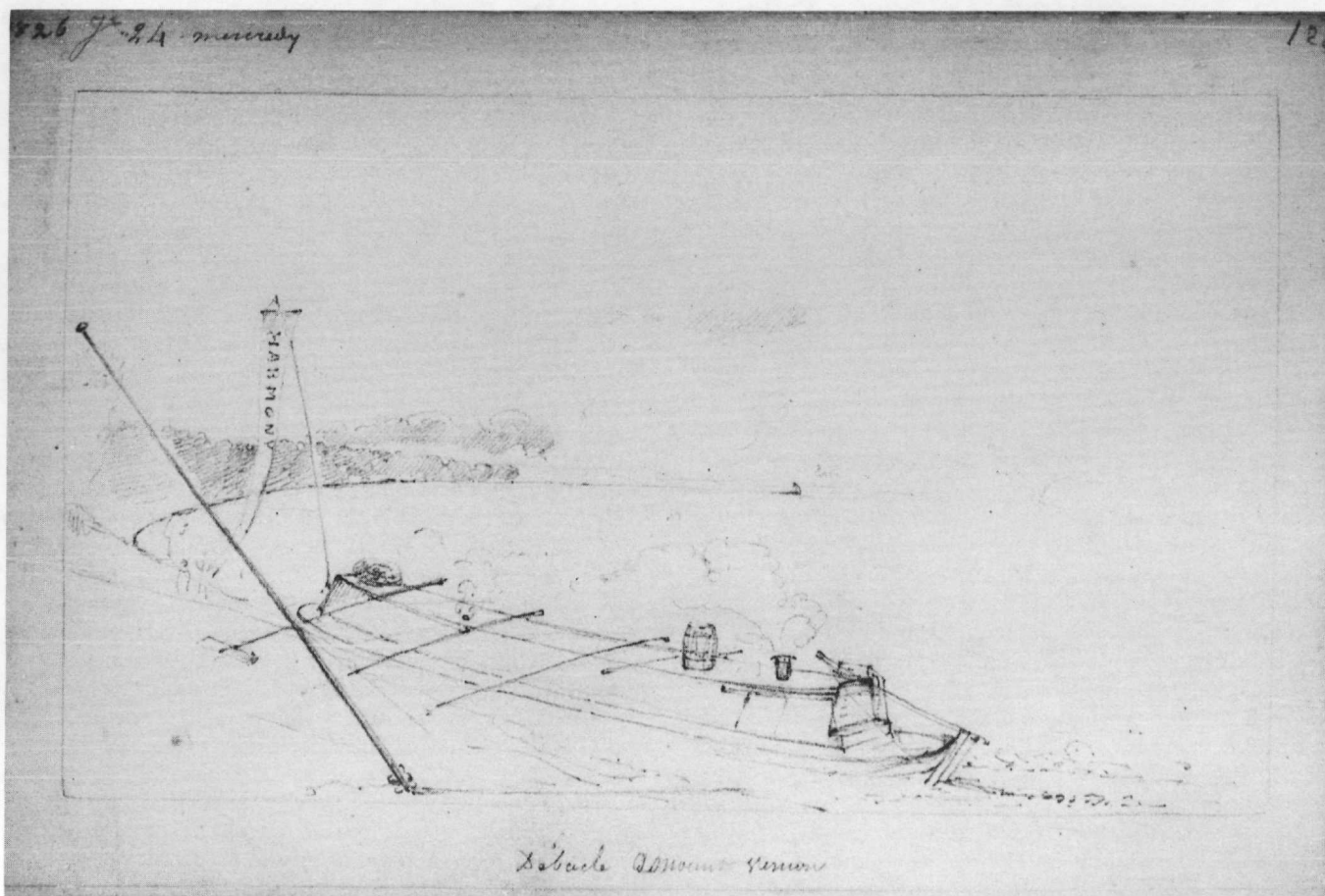


FIGURE 11. Keelboat "Philanthropist" (the "Boatload of Knowledge") at Mount Vernon, IN, with flag reading "Harmony," 24 January 1826. Charles Alexandre Lesueur titled this sketch "Débâcle à Mount Vernon" ("Breaking up of the Ice at Mount Vernon"). Photo courtesy of the American Philosophical Society. Original in the Muséum d'Histoire Naturelle, Le Havre, France.

Fretageot, Piquetal and others would offer instruction in accord with Owenite methods.

The children are to learn mechanism by machines or exact models of them, arithmetic by a machine called the arithmometer, geometry by a machine called the trigonometer, by which the most useful propositions of Euclid are reduced to the comprehension of a child five or six years old

Natural history in all its branches is learned by examining the objects in substance or accurate representations of them in designs or prints; anatomy by skeletons and wax figures; geography by globes and maps—most of the last of their own construction; hygiene, or the preservation of health, by their own experience and observation of the consequences of all natural functions.

Neef and other teachers used machines, skeletons and flowers in their lessons. All of the scientists actually gave instruction in the Higher School and public lectures in their specialties. Oliver Evans, Jr., son of the inventor of high pressure steam engines, taught mechanics. Robert Owen's son, Richard, arrived in 1828 and studied art privately with Charles Lesueur. He wrote that Lesueur "was a magnificent artist, good alike in drawing and coloring. . . . when I was taking lessons from him, he showed me how to outline, for instance, the skeleton of the human figure, then to add the muscular system, then the clothing, drapery, etc." And he added, "We usually took views from nature" (Jordan 1895).

Maclure's School of Industry, begun in 1826, pioneered the trade school concept in this country. Although the Rensselaer [Polytechnic] Institute opened two years before, its curriculum emphasized technology rather than trades. New Harmony's industrial school implemented Maclure's philosophy that every child should learn at least one useful trade. More than eighty students from the Higher School, mostly boys, spent part of each day learning an occupational skill in "co-op" style. Maclure intended the sale of products from this school to relieve the community the expense of educating its own boys and girls and to aid students who came from as far as Philadelphia and New York, like Judge Tappan's son of Steubenville, to earn their \$100 annual fees. William Piquetal taught printing. Boatloader John Beal taught carpentry along with skilled craftsmen in various trades. The boys learned shoemaking, hat-making, joining, taxidermy, wheelwrighting, wood-turning, blacksmithing and agriculture, while the girls trained in cooking, sewing, housekeeping, dressmaking and millinery as taught by the talented ladies of the town. But drawing, engraving and printing became paramount in the curriculum. This followed Maclure's conviction that the ideal educational system should link teaching to research and publication. Perhaps for the first time in America, students at New Harmony studied with active research scholars and learned the printing trades which permitted them to publish the evidence their mentors found at the cutting edge of knowledge (Lockwood 1905, Pitzer 1978).

Before the School of Industry ended its programs in the 1840s, the pupils of Piquetal, printer Cornelius Tiebout and others printed landmark scientific works, sometimes including color illustrations. The first two and a half parts of Charles Alexandre Lesueur's *American Ichthyology* were published in 1827. These brief essays

were the beginning of a projected monumental work he never completed. Thomas Say's *Descriptions of Some New Terrestrial and Fluviatile Shells of North America* was printed at the school as a book in 1840, after having appeared serially in New Harmony's *The Disseminator of Useful Knowledge* in 1829, 1830 and 1831. Between 1830 and 1838, Say's *American Conchology* was published in seven sections, the last one four years after his death. The completed volume was so beautifully illustrated by Thomas and his wife, Lucy Sistare of the Boatload, that it is a collectors' item. In 1832, Maclure used the school press for both his *Essay on the Formation of Rocks and Observations on the Geology of the West India Islands*. Maclure also bought 1300 copper plates representing the works of various authors which were printed at New Harmony both for use in the schools and for sale. Among the books printed from these plates was the last major effort of the school press in 1841, a new edition of Francois Andre Michaux's three-volume *The North American Silva*. During its existence, the press also was used to print the *New-Harmony Gazette* and its successor *The New Harmony and Nashoba Gazette, or The Free Enquirer* until February 1829, and starting in 1828, Maclure's own periodical, *The Disseminator of Useful Knowledge* (Bestor 1950, Carmory 1980).

The educational, social and scientific concerns of Owenite New Harmony were carried effectively to the broader society by Robert Dale Owen. New Harmony pointed the way toward free public education for both sexes half a century before it was generally effected in Indiana and the Midwest. As a political figure, Robert Dale was a driving force for getting tuition-free, tax-supported public education written into the second Indiana constitution of 1851. He helped produce the School Law of 1852 which began this article's deliberate, if slow, implementation. He was also an apostle of the New Harmony antislavery position. With Frances Wright, who lived for a time in New Harmony as the most radical feminist and one of the most energetic antislavery advocates of her era, he worked to free former slaves by the earnings of their own labor at her communal settlement called Nashoba, near Memphis, TN. Some believe that his letter of 17 September 1862 to President Abraham Lincoln helped convince the latter to issue his Preliminary Emancipation Proclamation of 22 September (New York *Daily Tribune*, 23 October 1862). Robert Dale supported numerous liberal causes as co-editor of *The Free Enquirer* with Wright in New York City between 1829 and 1832. In 1830, he authored an early volume on birth control titled *Moral Physiology*. As a member of the United States House of Representatives, this passenger on the "Boatload of Knowledge" actively guided the establishment of our national museum, the Smithsonian Institution, in 1846 (Bestor 1950, Leopold 1940).

New Harmony became a center for science in America. Those on the Boatload and their colleagues from the Academy of Natural Sciences of Philadelphia brought with them a scientific library unequalled beyond the Appalachians, if not in the nation. Eighty adults in communal New Harmony enrolled in free lectures on topics to be heard, if at all, only in major cities: Lesueur on zoology, art and drawing; Say on natural history; Gerard Troost on mineralogy, chemistry and mathematics; and Piquetal on experimental farming (Lockwood

1905). In 1819, Constantine Rafinesque, the ichthyologist of the Midwest, had come to Harmonist New Harmony to consult with Harmonist physician, schoolmaster, music composer and biologist Dr. Johann Christoph Mueller. Now leading scientists made pilgrimages to Owenite New Harmony to consult its authorities, see the museum of their collected specimens and, perchance, participate in their work. Among those who sought out this scientific Mecca were Sir Charles Lyell, the eminent Scottish geologist; Leo Lesquereux, a paleobotanist; and Prussian Prince Alexander Philip Maximilian, a prodigious explorer who had in his expedition party Karl Bodmer, the now-famous artist, and a taxidermist named Dreidoppel (Lockwood 1905). Although solid evidence is lacking, it would not be surprising if ornithologist John James Audubon visited New Harmony from his home in nearby Henderson, KY.

The "Boatload of Knowledge" scientists and educators contributed to the opening of the Midwest personally and through their influence upon the next generation of scholars. Beyond their private collecting and documenting, Say and Lesueur worked with visitors such as Prince Maximilian and his associates. In the winter of 1832, they collaborated with them in a study of the natural history of the New Harmony vicinity which identified fifty-eight different trees and many shrubs. In June 1834, Lesueur accompanied the Prince as far as Vincennes, IN, on the latter's larger expedition to Lake Erie, Niagara Falls and Boston (Elliott 1988). The findings from this effort appeared in the Prince's *Reise Durch Nord Amerika [Journey Through North America]* (1838-1843), and in an English translation in 1843. Thomas Say made New Harmony the base for his research, lectures and publications until his death in 1834. An obelisk marks his grave in the yard of the "Rapp-Maclure Mansion", where he lived on the square in New Harmony and where the remainder of his collection that was not sent East was destroyed in a fire in 1844. After Say's death, his friend and colleague Charles Alexandre Lesueur returned to his own native France in 1837. There, in 1845, Lesueur became the first curator of the Muséum d'Histoire Naturelle at Le Havre which has preserved more than 1200 of his historic American sketches. Gerard Troost became a professor of chemistry and mineralogy at Nashville University and the state geologist of Tennessee from 1831 to 1839 (Lockwood 1905).

Of educator Marie Fretageot, historian Arthur Bestor has written that "New Harmony was Madame Fretageot's monument as truly as it was Rapp's or Owen's or Maclure's" (Bestor 1950). She remained in New Harmony as a most stable element in the educational system until 1831, faithfully executing the instructions she received from Maclure, who had retreated to Mexico for his health's sake in 1828 and would remain until his death in 1840. The 480 letters which these two exchanged, and which are now preserved in the archives of the New Harmony Workingmen's Institute, are essential to the historic record. Fretageot died in Mexico in 1833 while visiting the geologist she had grown to love (Elliott 1984). The other Pestalozzian teacher on the Boatload, William Piquepal, served the Industrial School well, then left New Harmony and had a liaison with Frances Wright which resulted in an unhappy union and

the virtual end to both of their productive careers (Eckhardt 1984).

William Maclure's legacy lived on through those he attracted into geology and those to whom his philanthropy brought libraries. Robert Owen's sons, David Dale and Richard, came to New Harmony in 1828 and fell under his spell. David Dale forsook a medical career to study the geology of the Middle West (Hendrickson 1943). He was commissioned to make the first geological survey of Indiana in 1837. While he was doing the field work and writing his report in 1837-38, he was appointed geologist by the federal government. In this way, New Harmony became the headquarters for geological surveys sponsored by the United States government from 1837 to 1856, decades before the United States Geological Survey was officially organized in 1876. On assignment to locate mineral deposits before government sale of public domain in the Northwest, David Dale led a massive operation to survey the present areas of Iowa, Wisconsin, Minnesota and northern Illinois. The five-story Harmonist granary became a museum and laboratory for these specimens and Maclure's from Spain, Portugal, Italy, France, Mexico and the West Indies.

This center for research in the natural sciences not only opened the Midwest to scientific investigation, but, just as importantly, to industrial development (Barnhart and Carmony 1954). Maclure's New Harmony contributed the geologists who stimulated this process. David Dale became the state geologist for Kentucky from 1854 to 1857, Arkansas from 1857 to 1859, and Indiana from 1859 to his death in 1860. His younger brother, Richard, succeeded him in that post and became a professor of natural science at Indiana University from 1864 to 1879, when he was selected the first president of Purdue University (Albjerg 1946). Edward T. Cox, a student in the Owen-Maclure schools of New Harmony, was Indiana state geologist from 1868 to 1880. Major Sidney Lyon was superintendent of a Kentucky geodetic and topographical survey. Dr. J. C. Norwood did early geological surveying in Illinois, and Professor A. H. Worthen became that state's geologist from 1858 to 1888. The seven volumes of reports which the latter published were once regarded as the most complete geological survey of any midwestern state (Lockwood 1905).

The flag which signalled "Philanthropist" to the boats and towns along the Ohio River from the "Boatload of Knowledge" accurately described the enlightened charity of William Maclure even while spending his final years in Mexico. His last philanthropic gesture to New Harmony, the Midwest and the nation was also his last attempt to improve, through education, the standards, and therefore the power, of the laboring people in whom he placed great faith. By gifts of libraries to local working men's societies, he meant to insure that citizens who "earn their living in the sweat of their brows" would have access to knowledge and culture (Lockwood 1905). With the assistance of Achilles E. Fretageot in New Harmony, who was but a lad of twelve when on the Boatload, Maclure effected the revival of the Working Men's Institute on 2 April 1838, with John Beal and Edward Cox as charter members. This organization had

functioned while Maclure was in New Harmony in the 1820s, and now he promised it \$1,000 worth of books of its own choosing, to be housed in a wing of the old Harmonist brick church (De La Hunt 1927). This library is now the oldest existing one in Indiana and located in the New Harmony Workingmen's Institute. The letters, manuscripts, publications, artifacts and specimens in the Institute's archives and museum are vital links to the Owen-Maclure-Fretageot community and its famous educators and scientists.

Maclure's hope of personally returning to the United States to supervise the establishment of such mechanics' libraries was cut short by his death on 27 March 1840. However, he created two educational funds to propel his dream into the future. One of these was in the Academy of Natural Sciences of Philadelphia, of which he was still president, "to be applied to the diffusion of useful knowledge after my death, restricted solely to such as labor with their hands" (De La Hunt 1927). The other fund was part of his will. It promised "the sum of five hundred dollars to any club or society of laborers who may establish in any part of the United States a reading- and lecture-room with a library of at least one hundred volumes" (Lockwood 1905). Ultimately, \$80,000 was distributed to establish 160 such libraries, 144 in Indiana and sixteen in Illinois. Only three of Indiana's ninety-two counties did not receive one. Thus, William Maclure, the geologist, became America's first benefactor of libraries when public education was minimal and the public library concept was in its infancy. The nation would wait for the twentieth century to see his brand of cultural philanthropy continued in the libraries of Andrew Carnegie.

CONCLUSIONS

The "Boatload of Knowledge" which William Maclure and Robert Owen led down the Ohio River from Pittsburgh, PA, to New Harmony, IN, in the winter of 1825-26 "was in truth one of the significant intellectual migrations of history" (Bestor 1950). The keelboat "Philanthropist" took principal scientists and educators from the Academy of Natural Sciences of Philadelphia, American Philosophical Society and Pestalozzian schools of Philadelphia to a communal town in which their knowledge and instruction were to help produce a utopia of mental independence, religious toleration and human happiness. The research, lectures and publications of Maclure, Thomas Say, Charles Alexandre Lesueur and their colleagues and students, especially David Dale Owen, revealed the geological and other natural resources that effected the economic and industrial development of the Midwest. Owen, Marie Fretageot, William Piquetal and other educators introduced infant and industrial education and progressive Pestalozzian teaching methods, and Robert Dale Owen sponsored Indiana legislation for tuition-free public education for both girls and boys. Boatloaders were leaders in social concerns pointing toward equality of the sexes, birth control, freedom of the slaves and establishment of public museums and libraries (most notably the Smithsonian Institution and Maclure's 116 workingmen's libraries). No one would assert that the "Boatload of Knowledge" achieved Owen's intended reformation of human character or his utopian

New Moral World even in New Harmony, where communal living was abandoned in 1827. But no one can deny that the perilous voyage down the icy Ohio River in 1825-26 realized Maclure's dream of empowering common people by imparting knowledge or that it profoundly affected the intellectual, social and economic history of the United States by carrying science and education into the Midwest.

ACKNOWLEDGMENTS. I am grateful to Dr. Howard E. Dunn for introducing me to the "Boatload of Knowledge" project of the Ohio River Basin Consortium for Research and Education and to Dr. Josephine M. Elliott for sharing her extensive knowledge about the people on the original "Boatload of Knowledge" and the location of the graphics used in this article.

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