PRESIDENT'S MESSAGE

Don't forget our 25th anniversary celebration on Friday, October 17th in the Blackstone River Theatre in Rhode Island, as part of the annual World Canals Conference! To register for the conference call 1-401-724-2200 right away or email BTourism@aol.com. Eat a piece of ACS Anniversary cake, meet our new editor David Ross, and inaugurate our new president Terry Woods. Take a canal walk with us that afternoon, and bring your ideas, complaints and offers of help to our board and membership meeting that evening. If you can't come, write directly to Terry. What should the society be doing and how can you help? This is a critical time for your input, as a new president takes over and as the world enters a new millennium.

In addition to the cares of office I am also pleased to turn over to Terry the pleasure of writing this "President's Message" starting with the next issue. It's been fun picking up odd, possibly useful, or encouraging bits of canal news and speculating (with tongue firmly in cheek) about extraterrestrial canal engineering and other off-line subjects.

Speaking of which, we missed our chance to get the American Canal Society in the supermarket tabloids (and to ruin our respectability) back in 1976 when the Viking Landers landed on Mars and began digging canals. One of us could have gone over to the Jet Propulsion Laboratory as a reporter for AMERICAN CANALS and described to the real reporters just what we canal buffs expected to see in the first Martian pictures. We could have offered to help NASA scientists distinguish between farm bridges and change bridges, and culverts and aqueducts. But we didn't go, so NASA still hasn't found any of the Martian canals.

It's always fun and worthwhile to work with Boy Scouts on canal projects. Prospective Eagle Scouts, required to organize and carry out a project, have (for example) preserved canal locks by clearing trees and brush. Now there's a new way for Scouts to work on canals: the Archaeology Merit Badge. This is the time to remind your local troop that there are plenty of canal sites to work on. The first scouts to study a canal site for the Archaeology merit badge could well be from Troop 164 in Okemos, Michigan, as reported in the Canal Society of Indiana's July newsletter. The scouts excavated an 1835 canal construction camp on the Wabash and Erie Canal, under the guidance of archaeologist Wayne Bischoff who is studying the W&E for his dissertation. When a report is ready, let our editor know!

Over the years a number of our members have had canal scenes on their bank checks. Now there are companies which can print checks for any bank, with a selection of illustrations. If a company offers a good canal scene, let us know we'll give it a plug!

Lastly, a report on the year 2000. ENGINEER UPDATE, the Corps of Engineers' newsletter, reports that by that time, more than half of the nation's navigable locks will have reached or exceeded their design life. Research programs are under way to develop innovative techniques to build new locks at less cost—such as the use of precast float-in modules. We'll have to keep an eye on the old locks as they are replaced, to see that as many as possible are used as foci for canal parks and open space.

Bill Trout

Enclosed with this issue is a copy of a press release on the subject of the A.C.S.'s 25th anniversary. Please pass this on to your local newspaper or other news medium. Feel free to add material of local interest, and to make additional copies if your community is blessed with a multiplicity of news media.
October 17. 25th anniversary of the A.C.S. Membership meeting, presidential inauguration, canal walk, directors meeting. In connection with the World Canals Conference. Contact: Tourism Council, 171 Main St., Pawtucket, R.I. 02860. Phone 401-724-2200. Fax 401-724-1342. email BVTourism@aol.com.


November 8. Towpath hike on the Ohio & Erie. For details, call 330-434-5657.


Back to the United Kingdom in 1998
CANALS, STEAMBOATS, STEAM RAILWAYS, AND TRAMS

Starting mid-to-late September 1998
Tour leader: Captain Bill McKelvey

The seventh European canal tour of the Canal Society of New Jersey will be on the Leeds & Liverpool Canal in northern England, a lovely area of rolling hills and dales. Tentative plans call for 14 days on our own boats and visits to many sites, including steam-train and steamboat rides and several museums. We will see the annual "illuminations" from double-decker trolleys in Blackpool; the National Railway Museum and other sites in York; and the National Tramway Museum. Other sites are under consideration including an optional three-day visit to the beautiful Isle of Man for several unusual rail-related rides.

Off-season rates should help keep the tentative cost down to $2,000 per person. This includes air fare, boat rentals, hotels, admission to attractions, and bus rentals. A deposit of $500 per person should accompany application, with the priorities for the go and standby lists based on the order in which deposits are received. Send your check, payable to the Canal Society of New Jersey, to Bill McKelvey, 103 Dogwood Lane, Berkeley Hts., NJ 07922-2327. The second payment of $1,000 per person due on February 1st, 1998, and the final payment of $500 per person on May 1st, 1998.

Nonmembers must join the society to go on this trip. Send a separate check for $15 to membership chairperson Marilyn Craine, 464 Prospect St., Nutley, NJ 07110.
PENNSYLVANIA CANAL SOCIETY TOURS THE UNION CANAL

By Bruce J. Russell, Contributing Editor

On Saturday, May 17th, the Pennsylvania Canal Society took a one-day field trip over a portion of what remains of the Union Canal, a 79-mile waterway completed in 1827. The canal ran in an east-west direction, connecting Reading and Middletown, Pennsylvania. It was the first canal route surveyed in America. In 1690 William Penn initially proposed that a man-made waterway be built to join the Schuylkill and Susquehanna rivers. Although the concept languished, it was revived in the early 1800s and actual work began in 1821 after a couple of predecessor companies went bankrupt. The name Union Canal is the result of the combining of the assets of the two earlier companies which together only managed to construct five locks. Irish and German immigrants provided much of the labor force, while the state of Pennsylvania came up with the bulk of the funding. The rationale was that New York State had embarked upon an ambitious program of canal construction beginning with the famous Erie between Albany and Buffalo. A threat to the commerce of Philadelphia was perceived by the Keystone State's politicians and they gradually elected to get started on their own series of projects. The traffic base for both the New York and Pennsylvania Canals consisted of coal going from mining areas to major markets, settlers and their possessions headed west towards the Ohio territory and beyond, and farm products. Like all of America's canals, the Union Canal's period of prosperity was short-lived because railroads were also coming to the fore. While the trains and roadbeds of the 1830s were primitive, railroad technology increased at such a rate that by 1850s they began to siphon most of the business from the canals. Boats of relatively low carrying capacity were no match for locomotives hauling trains of cars ten times the speed of the former. By the 1870s the canals of America were mostly redundant although several lingered into the 1890s and even the first part of the present century before they finally quit.

The Pennsylvania Canal Society, like its counterparts in New York, New Jersey, and Ohio, sponsors spring and autumn field trips during which portions of specific waterways are visited. Fortunately enough remains so that an interesting itinerary can be put together for each outing. The normal procedure is for several experts to do preliminary scouting and survey work to determine which sites will be visited and which bypassed. Some of the factors to be considered are location of the remains of locks and other structures, their accessibility, and their current state of preservation. Many portions of canals which are abandoned lie on private property so permission must be obtained before a bus load of people can enter the premises. Likewise if the remains of an aqueduct or lock are almost unreachable except by a lengthy hike from the highway it's considered wise to forgo them in favor of something easier to reach. In other words, canal field trips require careful preliminary activity. Fortunately the Canal Society of Pennsylvania has a dedicated team of historians and other experts who know how to put the best possible excursion together. They have been doing it for years, and the May 17th trip reflected their expertise.

Albrecht "Zip" Zimmerman, the group's president, Robert Keintz, the vice president, Harvey Bomberger, William Dzombok, and Earl Leiby were responsible for doing most of the advance work. Dr. Zimmerman, a recently retired professor of history at Ryder College in Trenton, New Jersey, has published vast amounts of material on canals and inland navigation, and his knowledge proved extremely useful. He put together a very informative information packet for each tour participant which gave much background data on the Union Canal. It explained how in the 1800-1820 period before the railroads a means was needed to move goods cheaply across Pennsylvania. Bob Keintz, Harvey Bomberger, and Earl Leiby, who serves as president of the Lebanon County Historical Society and is familiar with the area through which the Union Canal flows, provided invaluable assistance and pointed out many of the most significant sites along the way, which ceased operations in 1885. Last but not least the May 17th trip had as a tour participant William Shank who until recently published this journal.

Lebanon, Pennsylvania was the highest point or summit level of the Union Canal, and it was in this community that the group spent much of its time. To have covered the entire 79 miles from Reading to Middletown would have been impossible. The headquarters for the group was the Quality Inn, and on Friday night May 16th there was a slide show given by Earl Leiby which covered the history of the Union Canal and provided an overview of canalizing in Pennsylvania. Other aspects of the Lebanon Valley were likewise stressed, with railroads and industry touched upon. It's important to bear in mind that canals were part of a larger picture in the America of the early 19th Century. Industry and agriculture were both expanding and a means was needed to get the products to market. Using slides made from old photographs as well as paintings the presenters sketched a picture of the Union Canal and its times. Since the waterway did manage to survive until 1884, two decades into the era of photography, there is some picture coverage of it.

Coming aboard to cruise the tunnel (Photo by Bill Shank)
One of the difficulties facing the Union Canal was that its locks weren't large enough in comparison to those of the rest of the waterways comprising the Pennsylvania Canal system. As built, the 102 locks of the Union Canal measured 8 1/2 by 75 feet, or approximately the dimensions of those on British inland waterways of the late 1700s. This limited the boats carrying capacity. Although the Union Canal connected at its eastern end with the Schuylkill Navigation waterway and at its western extremity with the Eastern Division of the Pennsylvania Main Line Canal, goods had to be transferred from the small vessels of the former to those of the latter two which were considerably bigger.

In 1858 the locks of the Union Canal, built of local sandstone, were enlarged to 17 by 90 feet so through passage with other waterways could take place. Unfortunately this was too late—the railroads had eclipsed the canals. Each year saw less and less business as shippers switched to rail. With 102 locks in 79 miles, the time it took to get a boat from one end of the Union Canal to the other was measured in days. By train the journey was counted in hours.

A problem unique to the Union Canal was that it was unable to retain water in its bed or prism because of local soil conditions. The summit level situated in Lebanon consisted of porous limestone which perpetually leaked. During the Friday night presentation it was explained how engineers including Canvass White of Erie Canal fame tackled the problem of insuring that sufficient water was available for the entire length of the Union Canal including its summit. The eventual solution was ingenious. A reservoir was created by damming streams. From here water was transported a distance of 22 miles to a point just west of Lebanon. Enormous steam driven engines provided power for both pumps and wheels which sent water through a 3-foot-diameter pipe to the highest point on the canal. Obviously vast quantities of coal were required to fuel these four 120 hp engines, adding to the total cost of running the Union Canal. On a historical note, other canals in America as well as some in England also relied upon steam-driven pumping machinery to bring water up to the summit level. Without these devices the canals including the Union would not have been able to retain the 4 to 5 feet of water needed for the loaded boats to maintain flotation. Perhaps costs such as these contributed to the rapid decline of canals after 1850.

The first boat to traverse the entire length of the Union Canal from Reading to Middletown was the passenger packet Fair Trader, which began its journey in Philadelphia. Five days were consumed before it reached its destination, where a three-day celebration took place. Nevertheless people did not utilize the Union Canal for their transportation needs, since a journey on parallel roads via stage coach was faster. Instead the waterway was always a freight hauler. Anthracite coal moving from the fields of central Pennsylvania to Philadelphia was the primary commodity. The 42 tour participants boarded a chartered school bus and departed from the Quality Inn at 9 a.m. Earl Leiby furnished a running commentary, drawing upon his extensive knowledge of the Lebanon County area. Our first stop was at the former operations headquarters of the Union Canal Company, a house built in the early 1820s. Here the business of the canal was conducted. Records were kept, bills paid, wages disbursed, and future improvements such as lock enlargement discussed. Today the two-story structure is a private residence and permission was needed to enter the grounds. Luckily the current owners are civic minded and historically oriented and were glad to show everyone all of the rooms. While nothing remains of the Union Canal at this location, it was plain to see how this edifice looked onto it. A street is the site of the prism of the canal. Almost as soon as it ceased in 1885 it was filled in at this particular locale, which is within the city limits of Lebanon. Directly across from the former headquarters was a general store which sold provisions to the canallers. The building remains in almost the same form it had during canal days. It's logical to assume that upon receiving their pay the captains, tow boys, and others spent it at this establishment. The wages paid to the work force of the Union Canal averaged just a few dollars per month. Sadly there is nothing on either of these buildings to explain their connection with the Union Canal. Possibly there is a reason for this omission.

From here our bus visited several of the remaining locks. Lock visits are a part of most canal field trips so it's not necessary to go into much detail. The stones were quarried locally and transported to the construction sites by wagons. Some of the locks were arranged one after the other in "flights" while other were by themselves. With 102 locks in 79 miles the Union Canal was well supplied with these structures, which were built with wood floors. Some of the locks we saw were in almost perfect condition while other were dismantled and their stones sold for other uses—primarily as building foundations. More on this later.

Prior to the lunch stop we visited the site of the aforementioned pumping station known as "Water Works". Sadly, nothing remains of the four massive engines which turned the pumps and gigantic water wheels that raised water 90 feet. Obviously after 1885 when the company went out of business they were removed and either sold for scrap or used for other purposes. Only the stone footings of the boilers and fire boxes remain to suggest what was once here. Adjacent to the site of the power plant was a weighlock building. Its purpose was to obtain the weight of the cargo of the vessels passing through in order to determine how much toll should be imposed. Virtually all American canals had weighlocks. The building we visited had its scales, balances, and other mechanisms removed. Furthermore it no longer sits astride the now filled-in lock. Instead it's been shifted 20 or more feet and is utilized by the present owner of the property as a storage facility.

Near the "Water Works" are remains of the 3-foot pipe which carried water to the highest point on the Union Canal. Running a distance of about 5 miles, it was constructed of a variety of materials. Where it was above ground wood was utilized and of these seg-

Bob Keintz alongside an exposed segment of pipe which supplied the summit level of the Union Canal.  (Photo by Bruce Russell)
ments nothing survives. However in other spots it was buried just below the surface and preservation is much better. At a number of points the arch has collapsed revealing the interior which was lined with an inner layer of brick. Brick also formed the outer surface. When the big steam engines and waterwheels were running, a steady flow was maintained through this conduit. Seeing all of this made me realize that even in the 1820s there were people able to devise technological solutions to problems such as bringing water 90 feet from one level to another and then several miles across open countryside to where it was needed.

As the bus moved from one point of interest to another, the importance of water supply to not only the Union Canal but most others was stressed by Earl Leiby and Bob Keintz, the vice president of the Pennsylvania Canal society. When the Union and similar waterways were first surveyed attention to this issue was paramount. Any natural stream was viewed as a possible source for obtaining a flow of water. In the area traversed by the Union Canal the Swatara Creek provided the answer, at least for the segment through Lebanon. A 45-foot tall dam was erected across this swift flowing stream to back up water forming a man-made lake or reservoir. This water was in turn directed into the canal via feeder channels and other means. Dr. Zimmerman added to the discussion by explaining that a number of canal-building schemes never got off the ground because no practical means could be found to provide water to the summit level to replace that lost through locking and natural leakage.

The Union Canal cost about 6 million dollars to build, the funds being raised by stock subscription. Unfortunately even in its best years when boat after boat filled with anthracite coal passed through, it never made much profit. In its final decades after the railroads had captured its trade it was an absolute loser. The lock enlargement program of the mid-1850s failed to reverse the decline and only added to its debt burden. Following lunch the tour stopped at the St. John Reed Lutheran Church, built in the late 1880s. Its significance is the fact that stones from Lock #21 of the Union Canal are incorporated in its foundation. Some of these blocks have writing with the name Union Canal inscribed plus other data. Bob Keintz explained that once a canal ceased operations its right of way and the structures on it were in disputed ownership. Often local people in need of construction materials simply arrived at a particular lock site and took what they needed. Perhaps this was a form of theft but most justified it by saying that it would cost more for the liquidator to take them away than to leave them in place. In several spots throughout Pennsylvania where canals once existed lock stones have been hauled away for other uses.

The most impressive site on this trip was the 606-foot-long tunnel in Lebanon which took the Union Canal beneath a minor ridge or hill. It was cut through solid rock using hand picks, shovels, and primitive blasting methods. It occupies almost the center of the Union Canal's summit level. Furthermore it's considered the oldest transportation tunnel in America and is still in very good condition. Although boats stopped using it in 1885 it managed to avoid being blown up or otherwise destroyed. Vessels were poled through while the mules used to move them were detached and walked over. Canal tunnels were first built in England in the 1700s and the one at Lebanon was probably influenced by British practices. Today it sits in a park called appropriately Union Canal Park and is marked by a number of plaques which give us details about its construction. In 1858 it was actually shortened from 720 feet to its present 606. Nevertheless it remains impressive. The south portal is in almost "as new" condition thanks to restoration work performed in the 1930s under the WPA. Unfortunately the north portal isn't in such status and will require a significant commitment of money and resources to clear away rubble and restore it. In 1950 a group called the Lebanon County Historical Society took title and has made some repairs. Water flows through the entire length and boat rides are offered during the summer season. At present they must reverse direction at the north portal since rubble and fallen stones are blocking passage. Hopefully when they are removed it will be possible to offer a ride through the entire length plus about a half mile on either side. Our group was able to take the ride as now provided and once inside the tunnel experienced what the boatmen of yesteryear must have. The depth of the water is about 5 feet. Only the Paw Paw Tunnel on the C&O Canal in Maryland surpasses the Union's.

At the same time as our trip, the city of Lebanon was sponsoring a weekend called Union Canal Days featuring activities related to the history and lore of the canal. In the evening Richard Pawling, a well-known actor and historical interpreter, put on a show about life on the waterway. It was most entertaining and certainly brought back the days of the mule teams and towpaths. His hour-long skit was well conceived and has been given throughout Pennsylvania.

Last but not least the tour visited an early 19th Century canal-side home called Elmock, now owned by Ms. M.J. McFall, a noted artist. Inside the stone Georgian-style residence situated alongside Lock #6 of the Union Canal is a wall painting. It accurately depicts a scene on the waterway adjacent to the dwelling. Considerable research was done prior to doing the 6 by 28 foot mural, which depicts a boat navigating its way along the old canal in the 1840s. The painting is superb and imparts a sense of being on the Union Canal in its prime period.

The May 17 tour of the Union Canal run by the Pennsylvania Canal Society was a success thanks to the advance preparation of its organizers and the cooperation of a number of people including those now in possession of former canal buildings and structures.
BOXING ALABAMA
by George B. Johnson, Jr.
The perimeter of Alabama is approximately 1,100 miles, and about 900 of this can be passed on the navigable waterways. The Tennessee River runs along the top with three locks. The Tenn-Tom Waterway and the Tombigbee and Mobile rivers form the western edge with 12 locks, but missing the southwest corner. The Gulf Intracoastal Waterway parallels the bottom, though in Florida most of the way. The Apalachicola River makes the connection to the Chattahoochee River which forms the southern part of eastern side with three locks.

Hitch your wagon to a barge—for the tourist who's done everything else.

Commercial traffic was common in this area and several towns were backed up waiting to lock up at the Wilson Dam, the highest lift in the system at 93 feet. I spent the last night on the river by the Cooper Hollow waterfall near the Tenn-Tom entrance.

The Tenn-Tom section is not well suited for sailing, with shallow water and large stumps in the lakes outside of the channel. Bay Springs and Tom Bevill visitors centers are quite interesting. My 34-foot mast height just cleared the bridge on the old river leg to Columbus, MS. Demopolis Yacht Basin, just below the junction of the Tombigbee and Warrior rivers, is my favorite place to rest and resupply on the trip. Commercial traffic increases as you continue south, primarily in forest products for the paper mills. From the canal section to Mobile, I frequently ran in company with the catamaran Moonbow from Ashland, Kentucky, which helped reduce the loneliness of the 11-day trip. Just below Coffeeville Lock I tied off to the towboat Cahokia to jump-start their generator when their battery died. They gave me lunch for my help and the beef stew lived up to the reputation of good food on the boats. The most interesting tow of the trip was a barge full of RVs on a river tour.

Dog River Marina in Mobile provided excellent hospitality and nearby Nan Seas restaurant great food. After two days rest I crossed a rough Mobile Bay and entered the Gulf Intracoastal Waterway. I found good anchorages en route and beached for lunch on the beautiful sand near Pensacola. Choctawatchee Bay was quite rough in a heavy northeast wind. Three more days took me to Apalachicola for the final side of the box.

The current on the Apalachicola River approached two knots and dropped my speed to three or four knots. Channels were frequently silted up and towboats had many problems in the bends. Most tows were one or two barges and Brent company boats were the most common. Cargoes included fertilizer and asphalt going up river and grain coming down. Most traffic terminated at Bainbridge. I saw only two tows on the Chattahoochee and none above George Andrews lock. I saw the only live alligator of the trip about 15 miles below Andrews lock. I experienced the ultimate frustration when I pulled into a small creek just below the lock and anchored for the night. I awoke in early morning to find the lake had dropped two feet and I was sitting on the bottom. Daily fluctuations of this size are apparently common for power generation, and I was afloat again by late morning, losing about three hours of travel time. It took six grueling days to reach George Bagby State Park above.
the Walter George dam, the last in the navigable system. Lake George (Lake Eufala if you live in Alabama) appeared to be the best sailing lake since Pickwick, and I wish I had continued a day or two more. The weather on October 28 was still great, but fatigue won out and I finished the trip to Columbus, GA by bicycle and thence by bus to retrieve my car.

References for the trip included Quimby’s Cruising Guide, Boating on the Tenn-Tom by the Waterway Development Authority, the Southern edition of the Water Guide, and the Corps of Engineers waterway charts. Corps personnel at the locks and towboats also provided useful guidance.

In the future I hope to cruise the Cumberland from above Nashville to Kentucky Lake.

Rude awakening—Who pulled the plug?

THE WARWICKSHIRE RING

Part 2

by David G. Barber

[NOTE. This is the second and concluding part of a report on the 1996 Canal Society of New Jersey tour of English canals. Part 1 appeared in our Spring 1997 issue.

When we last saw them, Captain Barber and his gallant crew on board the Rainbow had just gotten under way following an unscheduled stop for emergency repairs. They were engaged in a vigorous effort to ascend a flight of locks in record time, in the hope of rejoining their fleet before nightfall.

As was previously acknowledged, portions of this material have appeared in The Prism and Towpath Topics, newsletters of the Blackstone Canal Conservancy and the Middlesex Canal Association, respectively; photos by Audrey Barber.]

Proceeding up the flight, I took a few minutes to visit the canal store and get a couple of souvenirs while a lock was filling. Between Locks 5 and 4, we met up with our tour leader, who had come down the towpath from the boatyard beyond the top lock after his boat had got there and had a sanitary pump out. At that point, he had called Rose Narrowboats who told that we were repaired and on the way. He informed us that Tom Grasso had gotten a ride to the railroad station from the boatyard and that we needed to be at the boatyard before 6 p.m. if we wanted to get pumped out. That left us three locks and one lift bridge to go.

With seven of us doing the work, we got there with ten minutes to spare. After being pumped out, we proceeded on through one more lift bridge to join the rest of our boats at Hockley Heath. Just after tying up, we set off for the canal-side pub where we all had great meals and beer. Then, it was back to the boat.

On Saturday, we all wanted to get an early start as we had many locks to do that afternoon. However, we did elect to eat breakfast first which put us fifth in the parade although early in the morning. About a mile up the canal, we came upon Prestige who reported that they had had an engine fire or at least a lot of smoke. This later turned out to be from a slipping fan belt. Since they were in a remote area, we towed them for a while until we got to a boatyard. It was then about 7:30 a.m. and the boatyard didn’t open until 9:30 a.m. but with access to services and phones there was nothing else we could contribute.

So we continued on with Serenade behind. Soon we encountered a key-operated lift bridge at Shirley which we had some trouble to open, but eventually succeeded in doing correctly. After this we passed through Brandwood Tunnel, the longest of our trip. Here we encountered an oncoming boat which entered the tunnel at the far end just after we entered. Seeing it coming, I put the boat against the starboard wall and passed without problem. It was spooky passing as all I could see of the boat in the darkness was its headlight.

Further north, we passed through the infamous Lifford Lane Bridge which was locked open. This bridge is now a swing bridge, but was formerly a lift bridge. During World War II, it became inoperable and the canal company fixed it down blocking the canal. But at that time, a right of navigation existed on the canals and the company said that they wouldn’t repair the bridge, but would open it on demand as required by law. After the Inland Waterways Association was formed in 1946, they set out to prevent further closing of canals. One of the IWA people informed the canal company that he planned to use the canal and would they please raise the bridge. They proceeded to do temporarily with lots of workman and cribbing, and then set it back. Soon thereafter, another member requested the bridge be raised so he could use the canal on a certain day. At that point, the company realized that this would go on forever and repaired the bridge, thereby saving the canal.

At Kings Norton Junction, we reached the north end of the Stratford Canal and joined global positioning system for canal mapping

Hand-held Global Positioning System (GPS) devices for determining your position on the ground are at last available for $200 or less, and the price is falling. These are great for mapping canal and river sites, using the standard USGS topo maps. I use the Universal Transverse Mercator (UTM) grid, which is now the official national one used to map historic sites, and it’s a lot easier to use than latitude and longitude. Topo maps have numbered ticks along the edges every kilometer, and by drawing the grid lines you can pinpoint sites using the map’s kilometer scale—so many km. (and a fraction) north, and so many km. east. A GPS device such as the Garmin GPS 11 looks at up to 8 of 24 satellites circling the globe, to determine your location. Its amazing computing brain can calculate where the satellites are, all the time, all over the world. If you set it to UTM/UPS and the USGS topo grid (NAD27 CONUS), and it can “see” enough satellites through the trees, it will give you the kilometer readings. I found it to be accurate enough for canal mapping purposes, considerably better than estimations using the local topography, and it’s a good way to confirm your estimated position. These gadgets promise to become cheaper, more accurate, and with more standard features (such as local maps) in the near future.

-Bill Trout
the Worcester & Birmingham Canal. To the left, the canal descended through several tunnels and many locks to Worcester on the River Severn. We turned very sharp right and proceeded along level canal towards Birmingham. On reaching the junction, I saw several great views, but my camera needed to be reloaded and I had the tiller. So I made the turn, went through the towpath bridge, and then tied up to change film and run back for the photos.

Leaving Kings Norton, we passed along improved canal with a nice towpath, passing the Cadbury chocolate factory and through the grounds of the University of Birmingham. Soon the canal was paralleled on the left by one of the main rail lines into Birmingham. In this section we also passed through Edgbaston Tunnel. Just before lunch, we reached center Birmingham and took a 90° left turn before electing to tie up for lunch just before the famous Gas Street Basin. Here Serenade passed us as they were planning to pick up Bill Trout, the American Canal Society president, in front of the convention center.

After being fortified with lunch, we were ready for our busy afternoon. Proceeding forward, we entered Gas Street Basin. Here the triangular shaped basin is split from the vertex to the base by the Worcester Bar. This is the division between the Worcester & Birmingham Canal and the Birmingham Canal Navigations. Originally, there was no water junction here and cargoes were transshipped across the bar.

Later, a stoplock to control water was built across the bar at the base of the triangle. Today, there are no gates on the stop lock, but its narrow width must still be passed.

On entering the basin, I was well lined up for the stop lock when I came out of the lee of the building and the strong wind blew the boat sideways against a boat moored on the wall just before the lock. So I backed up into the lee of the buildings, waited for an oncoming boat, and then tried a second time, successfully with more angle on the boat. We then motored under the narrow Broad Street Bridge and past the convention center where the World Canals Conference was held. Turning right at Farmer's Bridge Junction we dodged an oncoming boat, got blown around, passed under a couple of bridges, and reached the top of the 13 Farmers Bridge Locks.

After stopping to check out the situation, we started down with several spectators accompanying us and sometimes helping. Here the wind was a real problem as tall buildings are along the locks and even over them and the ponds between. As a result, the wind bounces off them and blows the boat left at one lock and right at the next. This combined with meeting other boats and lots of locks makes for an interesting trip. But eventually we emerged from the bottom lock into a longer level.

Just before reaching Aston Junction and a left turn onto the Aston Canal, we picked up our tour leader who had talked to the Serenade crew and wondered about Prestige. As we didn't think that Prestige would be along anytime soon, he joined us and we turned left into the Aston Canal and its 11 locks. The first lock had one upper paddle out of service and the other was difficult, but after that, everything went smoothly as we descended the locks. The first locks were closely spaced, but then the distances lengthened. The landscape down this canal was very industrial and helped us appreciate the other canals we traveled.

At the lower end of this canal, we reached Salford Junction which is built under a motorway interchange known as "Spaghetti

---

At the World Canals Conference, A.C.S. dignitaries Dave Barbor, Bill McKelvey, Bill Trout, and Bob Barth, with two unidentified delegates.
Junction”. Here the Aston Canal, the Birmingham & Warwick Junction Canal, and The Tame Valley Canal end as we made a difficult right turn onto the Birmingham & Fazeley Canal. At first, along this canal, we passed through more industrial landscape before emerging into the country. At the approximate dividing line, we stopped to clear our propeller before passing through the two Minworth Locks and reaching Curdworth where our other four boats were already tied up for the night. We later found out that Prestige got repaired, but with the long delay, elected to spend the night in the secure moorings at Gas Street Basin. After nosing up the boats in pairs, most of the crews elected to have supper at a nearby pub. We then determined that the local grocery opened at 8:30 a.m. and returned to the boats.

At 8:30 a.m. our crew was first in line at the grocery, getting first pick of the limited selection, and was first back to the boat, giving us first start of the day. We then cruised on through Curdworth Tunnel and the ten Curdworth Locks, reaching Fazeley Junction just after lunch. We then turned right onto the Coventry Canal. Here we continued on for some miles more, climbing the two Glasscote Locks until we reached The Gate, the last pub before the vaguely listed planned stopping place. Since we were in the lead, we elected to stop and wait to confer with another boat. This turned out to be Albertine, but they didn’t stop and we didn’t get any clear answers. So we decided to go on to Polesworth where there were a pub and other facilities. Eventually everyone came to the same conclusion, and all boats spent the night there, including Prestige which caught up to us late. Here we had to wait for the pub to open at 7 p.m. as it was Sunday, but the wait was worth it.

As we had stopped at a variety of moorings in Polesworth, the next morning’s departure was somewhat haphazard. The day began with a long level section to the base of the eleven Atherstone Locks. On reaching these, we had to wait for boats ahead, some of our group and some others, and boats descending. Even helping each other, the whole ascent was ragged and sloppy. On two lockages of various boats, we didn’t get paddles all the way down, delaying filling or emptying until noticed. Serenade got a fisherman’s keep net wrapped around the propeller jamming its gearbox. Prestige had more problems. It also rained while we were working locks. However, by lunch time, Rainbow was above the locks and at the moorings of the village itself. So we went into the village to shop and have lunch at a tea and coffee house.

After lunch, we learned that Serenade had been repaired, Prestige was being worked on at the local boatyard, and all except Prestige and us had left town. So we proceeded off towards Marston Junction knowing we had no more locks ahead for several days. At that point, the skies got dark and rain began in earnest, but rain suits kept us dry and moving.

In late afternoon, we reached Marston Junction and turned left through the open stop lock into the Ashby Canal. By now the rain had moderated somewhat, but our crew was in revolt about going all the way to the planned stop at Stoke Golding. So on reaching the five mile point near Bridge 15, with the Lime Kiln Pub next to the canal and with good moorings and a water point at hand, we tied up for the night. As we were returning from the pub, Prestige came along and tied up glad to be back with some of the group. We all agreed to a 7 a.m. departure.

On Tuesday, we took on water and then left as agreed with Prestige. At Stoke Golding, the last of the other four boats was just about to leave so we were back with the group. As Bosworth Battlefield, where Henry Tudor defeated King Richard III in 1485 to end the War of the Roses, we met a couple of our boats and toured the battlefield together. We then continued to Shackerstone, arriving at 2 p.m. versus the 3 p.m. target to visit the Battlefield Railroad and ride a train.

We then continued on to and through Snarestone Tunnel and the current end of the canal just beyond. We were supposed to stay at the terminal basin, but there wasn’t enough space. So in the small space available, we turned six boats, one after the other, and proceeded back through the tunnel to the public moorings. At the terminal basin, a couple of boats were already tied up. They elected to stay and amuse themselves watching us turn and grading the effort. One boat got a 6.5, another a 7.0. We didn’t use any poles or ropes or touch anything and got an 8.0, the highest.
We then went back through the tunnel and tied up. Because of shallow banks stopping the boats away from the canal edge, one of the crew on Rambler lost his balance here and fell into the canal—fortunately only such a casual injury on the trip. He was uninjured and soon got cleaned up in the shower. The rest of us climbed the hill to the pub, where supper was good, but a little confused. Some of the group went on a tour of the unrestored remainder of the canal with the local society, but supper confused the situation for many of us.

Wednesday, the plan was to return the length of the Ashby Canal and then proceed further along the Coventry Canal to Hawkesbury Junction. We woke up to wind and rain, but after breakfast, set out despite the weather. Driving wasn’t much fun during the morning, but we traded off and the weather gradually improved. We weren’t the first boat to leave the moorings, but during the morning others stopped for various reasons and we didn’t, so by lunch, we were in the lead. Reaching Marston Junction again, we eased out through the junction lock which is blind due to a towpath bridge over it, stopped, and then carefully turned through another bridge.

As we continued on, the Coventry Canal was wide and deep allowing for speed without leaving a wake. We soon reached Hawkesbury Junction where we all spent the night in a line of boats along the canal just south of the junction. Here also we patronized the local store at the junction, a grocer further away, and the junction pub. During the night, July 3rd, someone stole the American flag off the tiller, but I had a spare for the 4th.

The next morning the plan had been to boat into Coventry Basin, see the town, and return to the junction. However, three boats elected to stay at the junction, while three of us elected to boat into the basin and spend the night there, not leaving until noon the next day. So after backing up to the waterpoint, we proceeded south on the Coventry Canal. Here we found the water clearer than other canals, but shallow and with more floating debris. The route was all industrial with narrow bridges. Along the way we noticed much work being done to improve the towpath and create a park-like atmosphere.

About half way in, we snagged a large woven nylon tarp with the rudder, but we cleared it with the boat hook. We then had to stop and clear weed from the propeller. Before resuming our trip, we again used the boat hook to pull another tarp out of the canal. After that we had no additional problems.

At Bridge 1, the towpath ended and we entered Coventry Basin. Here the canal ended in a Y-shaped basin that has been recently restored, with historic warehouses along one side and recent brick buildings on the other. At the point of the Y there was adequate space to turn around. After selecting our intended berth, we backed into the turning area and reversed direction with the help of some rope work. The problem was complicated by a stiff wind blowing into the basin from the top of the Y. Once turned around, we backed into the berth.

When Serenade entered the basin after us, we realized we could use the wind rather than fighting it. Once we had them turned halfway, we found that all we needed to do was hold the stern with a rope and the wind would blow the bow the rest of the way around.

Once everyone was tied up, we went into the city to see the Transportation Museum, the old cathedral that was burned in a World War II bombing raid, the modern cathedral, the art museum, the medieval neighbor, the Lady Godiva statue, and other sites and shops. On our return, we patronized some of the basin-side shops for trinkets and ice cream. In the evening, we went out for supper, but found the first pub closed, the second was too smoky, and the third didn’t serve food in the evening. We finally found an American theme pub for supper.

The next morning, we again visited various museums before returning to the boats for lunch. After lunch, we cast off, stopped for water just after Bridge 1, and returned up the canal to Hawkesbury Junction. Along the way some of our group from Serenade elected to walk the towpath. Upon reaching the junction, we had to make a sharp right turn under the towpath bridge followed immediately by a sharp left to line up for the stop lock at the start of the Oxford Canal.

We then had to wait for another boat to pass in the opposite direction before passing through the lock with its slight drop. As we left the junction, it started to rain with increasing severity. This caused a little commotion getting rain gear on, but all was routine after that. After a couple of more hours of cruising we arrived back at Rose Narrowboats without incident. Here we planned to spend the night on the boats before turning them in in the morning. While we made this section without problem, Serenade wasn’t as lucky. As they were passing through the next to last bridge, a boat going the other way didn’t stop and hit them amidships, hard. No one was injured and the boat had no damage, but a casserole they had just cooked was smashed on the floor.

Once all boats reached the marina, the rain stopped. We then all patronized the canal store for last-minute souvenirs. This was followed by the traditional last night, use-up-the-leftovers potluck supper.

The following morning, we vacated the boats early and proceeded off to visit several tourist railroads. The day ended in Ipswich. On Sunday, we traveled to the Channel Tunnel and viewed some of the outside exhibits of the now-closed visitors center including a tunnel boring machine. After this we went to Hythe and rode end to end on the common carrier, 15" gauge, Romney, Hythe, and Dymchurch Railway. This line, the narrowest gauge common carrier in the world, was built in 1909 and has appropriately small sized steam and diesel locomotives and cars. Following that we went to Brighton to ride the oldest electric railway in Britain, the Volk’s Railway, along the beach. Here the sights included the water, the old hotels along the beach, and the naturist beach area where one guy was very visibly sunbathing at the end of the screening berm. With that, we bused back to Heathrow for the night and flew home the next day.
BOOK REVIEW


Reviewed by Ronald E. Shaw

This book is a major addition to the study of North American canals, describing who dug them, how they were dug, and under what conditions of labor. We have known many of these things, such as the presence of the Irish, techniques of digging and blasting, and the dangers present. But there is much more here than we have known, perhaps because the author has overcome the difficulties of discovering the character of the lives of mostly anonymous laborers. These men numbered roughly 35,000 in the late 1820s and early 1830s (p. 54).

Peter Way, who teaches at the University of Sussex in England, has explored the experiences of workers on canals in the United States and Canada with a thoroughness of detail and a framework of interpretation revealing dimensions of canal work that were previously not fully appreciated. His focus is on the Irish immigrant canal laborers, including the fabric of their lives, the terrain where they labored, the conditions they endured, and the labor protests that instigated. He covers the entire labor system on the canals, from worker to contractor to engineer to company or state board. Way has found fresh detail in familiar sources of canal reports and secondary canal studies, and he has also used newspapers, journals, letters, and canal materials in dozens of libraries.

Way's account is frequently harsh but in his summaries he is often eloquent. "At work," he writes, "the canalier was a digging, clawing, tunneling, lock-building machine—a pumping and pulling piston, fueled by bread and meat, lubricated by shots of raw liquor, but driven by pride of endurance or prowess and the need to survive" (p. 143). However, this grim recognition of realities of canal labor is perhaps repeated too often. Chapter 5, "The Greatest Quantity of Labor," might serve as the most engaging example of this description of canal labor.

Way's analysis is embedded in a forcefully argued labor thesis. In it canal labor was a crucial step in the formation of a working class in North American capitalism, in which the laborer was "proletarianized" and caught in a system over which he had little control. The worker found the irregularity of work especially grievous, made worse by weather, sickness, and uncertain wages. Such conditions created the "tramping Irish canalier" going from contractor to contractor and canal to canal. Workers often resisted the pressures of these conditions, culminating in protests in the 1830s which the author describes as "Guerrilla War" (ch. 7).

Way delineates a deteriorating condition of labor on North American canals decade by decade from the 1820s to the 1840s. The rioting, alcoholism, and violence among canal laborers described in this account are most often expressions of powerlessness and frustration in response to almost unbearable conditions. But Way writes that in spite of these conditions, canaliers "made sense of their world." He notes: "Here is the true wonder...they still periodically rose up with Sisyphian resolve in an attempt to ease their load..." (p. 199)

There is original material here on the early canal laborer, during the period 1780-1812, as well as much information on the labor of slaves on canals. Canaliers in this account were part of a "rough culture" in which ethnicity was related to bonding, feuding, and violence, while also contributing to labor organization. Though shanty camps were male dominated, limited family life persisted. By the 1840s and 1850s the decline in canal building brought unemployment and lower wages, and an increase in labor conflicts. Numerous riots and some 57 strikes are identified in an appendix. Way concludes that ultimately canaliers became a "casual workforce subject to frequent unemployment, high transiency and a subsistence existence," much like other unskilled and unorganized workers of the time (p. 269).

Much of the analysis in this volume seems directed chiefly to the labor historian, but the general reader will gain a new perception of the human costs in the labor expended in the construction of North American canals.

From Mules To Moby Dick

To ordinary mortals like you and me, it would not seem that following a mule along a placid canal had much to do with the monsoons, monsters, and mal-de-mer encountered in sailing the high seas. In the eyes of a creative artist, however, a common pattern may be discerned. Water is water, it seems, and boats are boats. Two illustrations of this principle were brought to our attention by William Dzombak.

In the first, taken from Chapter 54 of Herman Melville's Moby Dick, it is revealed in the novel that working on the crew of a canal boat was in many cases only a stepping stone to the more adventurous career of manning a whaling vessel. In the second, the Scottish genre painter Sir David Wilkie, reflecting on a journey made in 1834, discovers unexpected similarities between the Enoch Canals and the Atlantic. The selection is from his Sketches of Summer Trip to New York and the Canadas.

Herman Melville:

"Canailleurs." cried Don Pedro. "We have seen many whalerships in our harbors, but never heard of your Canaliers. Pardon: who and what are they?"

"Canailleurs, Don, are the boatmen belonging to our grand Erie Canal. You must have heard of it."

"Nay, Senor; hereabouts in this dull, warm, most lazy, and hereditary land, we know but little of your vigorous North."

"Aye? Well than, Don refill my cup...I will tell ye what our Canaliers are..."

"For three hundred and sixty miles, gentlemen, through the entire breadth of the state of New York; through numerous populous cities and most thriving villages; through long, dismal uninhabited swamps, and affluent, cultivated fields, unrivalled for fertility; by billiard-room and bar-room; through the holy-of-holies of great forests; on Roman arches over Indian rivers; through sun and shade; by happy hearts or broken; through all the wide contrasting scenery of those noble Mohawk counties; and especially, by rows of snowy-white chapels, whose spires stand almost like milestones, flows one continual stream of Venetianly corrupt and often lawless life.

"There's your true Ashantee, gentlemen, there bow your pagans; where you ever find them, next door to you; under the long-flung shadow, and the snug patronizing lee of churches. For by some curious fatality, as it is often noted of your metropolitan free-booters, they never encamp around the halls of justice, so sinners, gentlemen, most abound in holiest vicinities...the Canalier would make a fine dra-
matic hero, so abundantly and picture-
esquely wicked is he. Like Mark Antony,
for days and days along his green-turfed,
flowery Nile, he indolently floats, openly
toing with his red-cheeked Cleopatra, rip-
ening his apricot thigh upon the sunny
dock. But ashore, all this effeminacy is
dashed. The brigandish guise which the
Canaller so proudly sports; his slouched
and gaily-ribboned hat betoken his grand
features. A terror to the smiling innocence
of the villages through which he boats; his
swart visage and bold swagger are not
unshunned in cities. Once a vagabond
on his own canal, I have received good turns
from one of these Canallers; I thank him
heartily; would fain be not ungrateful; but it
is often one of the prime redeeming qual-
ties of your man of violence, that at times
he has as stiff an arm to back a poor
stranger in a strait, as to plunder a wealthy
one. In sum, gentlemen, what the wild-
ness of this canal life is, is emphatically evinced
by this; that our wild whale-fishery contains
so many of its most finished graduates, and
that scarce any race of mankind, except
Sydney men, are so much distrusted by
our whaling captains. Nor does it at all
diminish the curiousness of this matter, that
to many thousands of our rural boys and
young men born along its line, the proba-
tionary life of the Grand Canal furnished
the sole transition between quietly reaping
in a Christian corn-field, and recklessly
ploughing the waters of the most barbaric
seas."

Sir David Wilkie:

Canalboat Asea

There is a strong analogy between the
vicissitudes of a sea voyage and the mimic
one performed on the canal. In the first,
we have all the pleasing and awful vari-
eties of aspects assumed by sea, air, and
sky; in the last, these are presented to us
by the ever-changing beauties of the land-
scape. We are at first drawn along in all
the monotony of the sea voyage, when
there is hardly wind to fill the canvas—no
excitement—no enjoyment—and no real
pose. Then, as a parallel to the smart
breeze of the sea, we get amongst scen-
ery of an ordinary but pleasing description,
and pass the time in equality of spirits.
Then, for the gloomy and threatening lull
before the midnight sea storm, we have the
dark frowning monarchs of the wood bend-
ing their gigantic arms over our heads, and
shading us from the light of day, and anon
we hear the harsh dash of the angry wa-
terfall, which echoes and re-echoes from
hill and dale; lastly, as a substitute for the
dawning of a smiling morn, ere our ears
are well accustomed to the swirling din,
we are again shooting along into the light
of a glorious and inspiring assemblage of
Nature's most pleasing attributes. The
same mystic influence which makes our
hearts beat quicker and quicker while
bounding over the swellings of the ocean,
comes over us, and we find our enjoyment
is often as active, though we are only be-
holding the passive and reposing beauties
of nature.

SCENES FROM A SCRAPBOOK

by William E. Trout III

No. 717. Miami and Erie Canal; Lockland, Cincinnati.

The Miami and Erie Canal at Lockland

We like to encourage people to show us their
canal things. These two canal scenes were in
an old scrapbook donated to the Virginia Can-
als and Navigations Society archives by Dr.
Ewart Warren, O.D., who now lives in
Chesterstown, Maryland. The first one is a tinted
post card, labeled "Miami and Erie Canal,
Lockland, Cincinnati," and under it is written
"Canal where we boys fished for carp with dip
nets; also had great sport with home-made
boats. (about 1903)." Can anyone tell us more
about this picture?

The other is a view of "Buck Bridge" in Dela-
aware, some 500 miles away on the Chesapeake
and Delaware Canal. It is page 14 of a
flyer issued by the Ericsson Line of steamboats,
which passed through the canal on the way
between Philadelphia and Baltimore. The flyer
has a map of the canal showing locks, so it
goes back to before 1927 when the canal was
dug out to sea level. Buck Bridge is gone now
but a stone tablet, erected there in 1829 to com-
memorate the completion of the canal, is now
on display at the C&D Canal Museum in
Chesapeake City. (See Part 5 of the ACS
American Canal Guide and Bill McKelvey's
From Champlain to Chesapeake.)

[NOTE: Terry Woods, of our Ohio affiliate, re-
ports that the Miami and Erie Canal was an
important recreational resource for
Cincinnatians even while the canal was still in
commercial use. He also indicated that on its
way north out of Cincinnati, it followed Mill
Creek for some miles as it passed through
Lockland and other communities.

Lockland still exists, although now a part of
metropolitan Cincinnati, well inside the I-77
beltway. I-77, also known locally as the Mill
Creek Expressway, passes through Lockland,
where it crosses both Mill Creek and Lock
Street. If you turn off the air conditioner
and open the window as you drive past, you may
still hear echoes of the boatmen's horns sign-
alling for lockage at the site in the photograph.

-D.F.R.]