Calvert Marine Museum’s first twenty years have brought tremendous changes in facilities, staffing, and exhibitions. These changes have been chronicled over the past fifteen years on the pages of the Bugeye Times and have been summarized in the two preceding issues. Two other major activities — education and research — have also developed notably, but perhaps have been less well known by museum members and supporters.

The first issue of the Bugeye Times in 1975 set out the objectives for education and research:

It is the purpose of this museum to relate [its] themes to the public in an educational manner, maintain a repository of specimens and artifacts pertinent to these themes, and stimulate research . . . to better understand and more accurately document these themes.

An educational focus was clear from the beginning of CMM. Photographs from 1970 show school groups visiting the first museum building on Solomons Island. This outreach to the schools continued and expanded, led in the early period by Dorothy Ordwein and a corps of some fifteen retired teachers. A Bugeye Times article in 1980 summarized the educational programs to that time under the title of “Museum Education,” telling of tours, lectures, films, and trips to other institutions. An issue of the Bugeye Times in that year also reported the hiring of Elizabeth Gilbert:

For several years now the educational programs have taken more time than any volunteer should be asked to give. Dot [Ordwein] has built up the department to where it really required a full-time paid professional. Liz Gilbert admirably fits this need.

Liz Gilbert remained for two years and was succeeded by Scott Rawlins. When Scott left in 1985, Elizabeth Cornell took over the education work with the title of curator of education. She, in turn, was succeeded by Craig DeTample, the current curator of education. All of these full-time professionals, however, have relied on the continued volunteer assistance of a corps of dedicated docents, still mostly retired teachers, who lead some one hundred school tours through the museum during an average school year.

The education program also includes museum lectures, classes, film showings, and training programs for all museum volunteers. Virtually every issue of the Bugeye Times has listed the many activities in these categories. For the past six summers, the museum has been able to present free programs for children sponsored by grants from the Town Creek Foundation. These programs have allowed these children to explore the estuarine environment, learn about local maritime industries, and practice maritime skills. During the past two years the museum programs have been enhanced by a lecture series sponsored by the Solomons Research and Education Consortium (SEARCH), bringing to the museum and the area the talents of nationally known experts in our fields of interest. The museum is a founding member of CHESPAX, a new environmental education consortium in Calvert County. Even further educational efforts are planned in the future: last spring an ad hoc committee of educators reviewed CMM’s educational programs and drafted a report on future directions. Some of the recommended programs may be implemented in the coming months. One specific recommendation was to increase the staff in the education department, which will be accomplished this year through an additional position granted in the Calvert County budget.

Research is the foundation upon which the museum’s exhibits, educational programs, and publications are based. Some of the museum’s early research efforts were associated with restoring the Drum Point Lighthouse and developing exhibits in the schoolhouse building. The first major research effort, however, was begun in 1977 when CMM and Nautical Archaeological Associates undertook a survey of underwater cultural resources in the

(Continued on page 6)
FOSSIL FACTS
By Sandy Roberts

DISCINISCA LUGUBRIS

Brachiopods are a class of marine invertebrates. Bottom dwellers, they rest directly on the sea floor or are attached to it by a fleshy stalk or pedicle. Their shells have two halves, or valves, which can differ greatly in shape and ornamentation. Brachiopods are divided into two subclasses, Inarticulata and Articulata, according to shell composition, embryology, muscle placement, and the presence or absence of a hinge between the two valves. Inarticulate brachiopods lack hinges and are held together by muscles alone. The more sophisticated articulate brachiopods possess hinged shells and complicated muscle attachments.

Only a single species of fossilized brachiopod, Discinisa lugubris, is found at Calvert Cliffs. It is not uncommon in the Calvert Formation, and is abundant at Calvert Cliffs. It is not uncommon in the Choptank Formation and occasionally found in the St. Marys. The shell of this inarticulate brachiopod is made of calcium phosphate. It is one of the few Calvert Cliffs fossils to retain its original coloration. The dorsal (upper) valve is readily recognized by its light to dark brown color and by its resemblance to the "Marianne" cap, a knitted roundish cap with a lopsided peak favored by the proletariat during the French Revolution.

Selected Recent Acquisitions

Thanks to museum members and friends, we have received a number of significant donations to the collections in recent months.

Richard Fischer donated archival materials from the J. J. Bafford Store in Solomons. Joseph Charles gave the museum a Cruis-Along brochure and a Cruis-Along plaque, and lent seventy-five color slides showing the process of building a Cruis-Along. Robert and Patricia Miller donated a ship's clock. Melvin Conant contributed five books on yachting to the museum's library. The yawl boat from the schooner Mattie F. Dean was donated by Ken Kirchner. Arnold Brandenburg donated a Johnson outboard engine, Model LT-10. Mr. and Mrs. Stierhoff donated a beautiful quilt made in Solomons around 1880 by resident Annie Johnson. Robert Burgess donated a broadside from the S.S. Bay Belle, which is on display in the new maritime history exhibition. Mrs. T. Rayner Wilson donated a blue denim visor cap which was owned by her late husband, a blacksmith in Lusby. The cap will be added to the section of the maritime history exhibition devoted to Mr. Wilson's shop, which is constructed entirely of materials from the Lusby site.

Special thanks to Jane Coffin, Matthew Murphy, and Margaret Clark Smith who answered our plea and donated scores of fossil shark's teeth for the Discovery Room sandbox.

AMONG THE MUSEUM STAFF

Calvert County and a search committee of the museum's Board of Governors have worked the past few months to find a new director for the museum. An effort begun last spring was not fully successful, so new advertisements were placed late in August, with a September 14 date for submitting applications. It is too early to predict the responses, but museum members and friends may be assured that every effort is being made to recruit a director as soon as possible. In the meantime, the museum is in the very capable hands of Paula J. Johnson, curator of maritime history, who has agreed to serve as acting director until the new director is appointed.

Two new positions were approved for CMM in the Calvert County budget for 1990-91: an aquarist, to assist with the operation of the estuarium, and an educator, to provide further support for the curator of education. An appointment has been announced for the aquarist: John Dickson, who comes to CMM from the North Carolina Aquarium at Roanoke Island. No appointment has yet been made in the educator position, but Margaret Saville has been providing interim support. Colette Wallace has been appointed as assistant manager of the museum store. Three part-time positions have been filled: Deann Lesemann has returned to CMM as bookkeeper; Rhoda Switzer is working as the photograph cataloger; and Leslie Moore as a collections assistant in estuarine biology. A new interpreter is Sue Hamilton.
LYONS CREEK WRECK
By Robert Neyland

The unexpected discovery of the remains of a wooden boat is always an event of interest, but especially so if there is a likelihood that the boat might have an early date. Such an event occurred during the 1974 dredging of an area of Lyons Creek in Calvert County when fragments of a small boat were found. This creek is a tributary of the Patuxent River approximately forty-five miles above the mouth of the river — an area in which settlement is known from the mid-seventeenth century. Among artifacts found in the dredge pile were cannon balls, ceramic shards, wine-bottle shards, and kaolin pipe fragments dating from 1680 to 1740, indicative of a date in the early colonial period of Maryland. Because the dredge pile includes almost three meters of creek sediment, it is not certain that the boat fragments are directly associated with the other artifacts. The remains of the boat, however, reveal a style of construction that is compatible with the dates of the other artifacts.

The Lyons Creek boat was constructed in the distinctly North Atlantic tradition called "clinker," and may be the earliest evidence of that tradition transplanted to the Chesapeake Bay region. Instead of the hull planking aligned edge to edge, known as "carvel," as in most modern wooden boats, clinker-built hulls consist of overlapping planks held together with rivets. The lower edge of each plank overlaps the upper edge of the plank immediately below it. From the inside the hull planking looks as if it rises from the bottom to the gunwale in a series of steps. The overlap of the two planks is fastened together with an iron nail driven through a previously bored hole; an iron washer, called a "rove," is slipped over the exposed point of the nail which is then flattened against the rove.

A clinker boat is built shell-first; that is, the hull is formed before a skeleton of (Continued on page 7)
CMS PICNICKERS TAKE BOAT BASIN

The museum's boardwalk area hosted nearly 150 members at the annual picnic Sunday, August 19. The warm mellow evening was enjoyed by families sitting at waterside with their basket suppers. Ice cream sundaes, lighthouse visits, and Tennison rides with bluegrass music were all part of the fun.

Amanda Culbertson, age 10, a guest of the Daniel Donahues, will remember the evening. Her crab won the third annual fiddler crab derby. “Homeport” winner, Lisa Mandell, was delighted with her catered gourmet supper. Lisa, an active CMM volunteer, was treated to a meal from soup to dessert with a glass of the “bubbly” after her name was picked at random from the R.S.V.P. list.

Join us for the next members’ event!

(CMM photo by Paula J. Johnson)

Picnickers on Tennison

John Smith (center), public affairs representative for the Baiting a check for $40,000 to CMM development committee man, Paul Berry (left), watches. This check was the final in exhibit, “Estuary Patuxent: A River and Its Life,” scheduled. This generous donation is the largest corporate gift ever.

(CMM photo by Paula J. Johnson)

At his retirement ceremony on June 21, former director Ralph Eshelman (left) received several citations from federal, state, and local organizations. Assistant State Comptroller Robert Swann (right) here presents a citation from the Maryland Comptroller Louis L. Goldstein.
"CHARTING THE CHESAPEAKE" EXHIBIT OPENS

"Charting the Chesapeake, 1590-1990," opened with a gala celebration for members and special guests on August 11. Located in the mezzanine gallery overlooking the Maritime History Hall, the exhibit features a number of rare nautical charts on loan from the Huntingfield collection of the Maryland State Archives.

A 160-page catalogue written by Russell Morrison (of the Huntingfield Corporation) and Robert Hansen (of the National Ocean Service) accompanies the exhibit. Published by the Maryland State Archives the catalogue includes a lengthy review of the development of charting, both in general terms and with specific reference to Chesapeake Bay. Copies are available for $25.00 (plus tax) in the museum store or may be purchased from the Maryland State Archives in Annapolis (Publication no. 432).

Maryland State Archivist, Dr. Edward C. Papenfuse, reveals that the idea for the exhibit originated in 1988 during a fossil hunt conducted by former museum director Ralph Eshelman when Russell Morrison and Owen Henderson visited Calvert County from their home near Rock Hall. Messrs. Morrison and Henderson at that time owned the most extensive private collection of Chesapeake Bay maps and charts. The three men realized that although there were a number of published works on Maryland maps, no published work existed which dealt specifically with the charting of the bay. Working with Dr. Papenfuse, the group developed a plan to mount an exhibit at the Calvert Marine Museum. Messrs. Morrison and Henderson donated their private collection to the Maryland State Archives; the Maryland Humanities Council awarded the museum a generous grant for the exhibit; the Maryland State Archives undertook the preparation and publication of the catalogue; and the museum's curator of maritime history and exhibition staff designed and mounted the exhibit now on view at CMM.

Included in the exhibit are many of the original charts, as well as several innovative displays to explain the techniques and problems of charting and navigation. Excellent captions take the viewer through the history of bay charting and describe the significance of the technical aspects of the charts as they progress through time. Exhibit visitors will find historic navigation instruments — a mariner's astrolabe, backstaff, octant, and telescope — on loan from the Smithsonian Institution. Modern instruments, including a depth finder and Loran instrumentation, complement charts familiar to all boaters. These items are on loan to the exhibit from Zahnisers, Inc. Interactive kiosks invite visitors to test their knowledge of chart terminology and symbols, and a charting table allows visitors to use parallel rules to determine the distance between two points on a chart.

Museum members with any interest in cartography, or those who use charts when they cruise on the bay, will find the exhibit well worth a trip to Solomons. The exhibit will be on view at least through December.
EDUCATION... (Cont. from page 1)

Patuxent River. Researchers surveyed and documented over four hundred sites, including eighteenth and nineteenth century port facilities, prehistoric sites, and shipwrecks of the river. They undertook further research on selected sites, such as the War of 1812 “Turtle Shell” wreck which yielded valuable material for CMM’s exhibit “War on the Patuxent” and the catalogue of artifacts by Dr. Fred Hopkins and Donald G. Shomette. This body of research continues to stimulate interest, evidenced by Robert Neyland’s article elsewhere in this issue.

A second long-term research and documentation effort, the Patuxent River Folklife and Oral History Project, was begun in 1981. Funded by the National Endowment for the Humanities, the project was carried out by a team of folklorists, historians, and documentary photographers. These researchers traveled throughout the Patuxent region, interviewing and photographing watermen, packing house workers, boatbuilders, and lifelong residents of waterfront communities about their work in the region’s fisheries, past and present. The project yielded some one hundred hours of recorded interviews, five thousand black and white negatives, five thousand color transparencies, and over six hundred pages of written notes, all of which are housed in the museum’s archives. These materials were used extensively in developing the permanent exhibit, “Seasons of Abundance, Seasons of Want: Making a Living from the Waters of the Patuxent,” at the J. C. Lore Oyster House. They also provided research materials for the volume, Working the Water, published in 1988. In the nine years since the folklife project was initiated, several of the people who were interviewed and photographed have passed away. We are fortunate to have their voices and memories recorded for the benefit of future generations.

CMM staff, especially former director Ralph Eshelman, and the museum’s research associates have carried on other projects pertinent to CMM themes and interests. For example, Dr. Eshelman authored a number of papers on the geology and paleontology of the Chesapeake Bay and Calvert Cliffs based on original research. CMM research associate Donald G. Shomette researched and authored Flotilla, the first major publication of the Calvert Marine Museum Press in 1981. Research associate Merle C. Cole poured over documents in U.S. Navy archives and in libraries to produce several publications on the history of local Navy bases during World War II. We are looking ahead to two books now in progress by research associates David C. Holly and Geoffrey M. Footner. David Holly has written an exhaustive history of the Weems Steamship Line. Geoffrey M. Footner has had a long-standing interest in the M. M. Davis shipyard and has written a book on the yard and the contributions of the Davis family to boatbuilding on the bay. These are but a few examples of the types of research engaged in and encouraged by the museum.

The first twenty years of the Calvert Marine Museum have produced stunning results, which have been possible through the support of many people — both staff and volunteers — and with financial support from Calvert County, state and federal funding agencies, and private donations. From this solid base of accomplishment even greater results should follow in the coming years.

The winner of the summer “Bugeye Reader” contest was Mitzi Poole of Prince Frederick. Mitzi received a $50 gift certificate for the museum store.
frames is added. Before the frames are inserted, the shipwright shapes the hull by eye. Small adjustments can be made by temporarily shoring, clamping, and spreading the assembled planks. The frames are then added, and each one trimmed and notched to fit over the step-like overlap of the planks. Planks are fastened to frames with iron nails or with wooden nails called “treenails.” In the case of the Lyons Creek boat, both iron nails and treenails were used. Variations of this form of construction exist, and there are boats that combine both clinker and carvel hull construction.

The boat found in Lyons Creek was built completely of overlapping planks in the clinker tradition. The boat was small, probably under thirty feet (nine meters) in length. Planks have a surviving maximum thickness of three-quarters of an inch (2.0 centimeters) and a maximum width of eight and one-quarter inches (21 centimeters). Planks were fastened together with rivets before the insertion of frames. That the frames were a later addition is revealed by the offsets cut into each frame where the planks overlapped, and by round hollows gouged out where the frames covered planking rivets.

Frames consist of floor timbers, futtocks, and top timbers. Each plank was fastened to a frame with a single treenail, or with iron nails, or both. Although the frames were securely fastened to each plank, they were not fastened to one another. The three surviving top timbers were fastened to the planks and gunwale with iron nails only.

Neither a stem nor sternpost exist in this assemblage, but fragments of a keel plank, gunwale, clamp, and stringer provide some evidence of the longitudinal construction. The stringer has a notch, four and three-quarters inches (12 centimeters) in length, for a beam or thwart. The presence of ceiling planking inside the lower part of the boat is suggested by nails on the inner faces of some frames.

Remarkably, the Lyons Creek vessel still shows marks left by the shipwright's tools. A gouge was used to hollow out the frames so that they fit closely over the rivet ends and roves. At least some of the offsets in the frames appear to have been made with the curved blade of a hatchet, although adz marks are also present.

Planks have the uneven strokes left by a pit saw, and the direction of the wood grain reveals that the planks were quarter sawn from the log. A drill, for boring treenail holes and predrilling holes for rivets, was the other principal tool used in constructing the boat. Before the frames were fastened, some devices to hold the shape of the hull would have been necessary. A caulking of tar and animal hair sealed the planking overlaps. One spot of caulking survives on a plank, and other dark stains on the frames and planks might represent areas coated with tar or turpentine.

The quality of available timber might be indicated by the type of wood used in the construction. The shipwright chose a very knotty white oak from which he cut the frames, planks, and gunwale. The numerous knots indicate that trees were used which grew slowly, suggesting an unmanaged or previously unharvested forest.

Some of the iron nails seem to have been driven at awkward angles without first predrilling the holes, and were sometimes placed side-by-side with treenails. Fastening to the frames with both treenails and iron nails seems unnecessary unless the treenails had become loose and these iron nails were repairs.

On the whole, the planks, frames, and other pieces which comprise the Lyons Creek vessel suggest a Northern European construction similar to that found in the Scandinavian countries and the British Isles. This style of construction does not necessarily identify the nationality of the builder, but it does indicate from which direction the technology came. Although there is the possibility that the boat was Europe-built and brought over to this continent on a ship, the Lyons Creek boat may represent some of the earliest physical evidence of North American boat-building.

Editor's Note: Mr. Neyland was an intern at the Calvert Marine Museum during his work on the Lyons Creek boat. He is presently completing his doctoral studies at the University of Texas. A longer version of this paper was presented at the Conference on Underwater Archaeology in Tucson, Arizona, and will be published by the Society for Historical Archaeology.
VOLUNTEER SPOTLIGHT—

The Spotlight this issue is not on a single volunteer but on all of CMM's volunteers and the plans for their future organization. As announced in the summer Bugeye Times, the museum's volunteer corps is formalizing its operation. This new organization—the Volunteer Council—will establish a new relationship among volunteers, staff, and public as the museum begins its third decade.

CMM has relied on volunteers from its very beginning. In fact, during the first few years the museum's activities were conducted entirely by volunteers. As interest in the museum grew and its programs began to expand, it was necessary to hire staff to take on various duties full-time in a paid capacity. Volunteers continued to assist the paid staff, and these volunteers are just as vital today as they were twenty years ago. As the museum grows, so does the need for help—both salaried and volunteer.

Over 130 individuals contribute their time and talents in activities behind-the-scenes and in the public eye. Much of this effort is directed by Volunteer Coordinator Layne Bergin. Yet the corps of volunteers has now matured to the point where it can begin to manage itself in a more formal fashion, both in recruiting volunteers and in managing the work they do for CMM. An ad hoc committee was formed in early July to consider how best to organize the volunteer program. The committee presented some of its plans at a meeting of interested volunteers on August 22. With whole-hearted support from the 35 volunteers in attendance, the ad hoc committee will now work on defining the Volunteer Council, a group to which all CMM volunteers will belong.

The leadership of the council includes the following volunteers and staff: Lee Phillips, Paul Berry, Linda McGilvery, Paul Adams, Don Brown, Lucy Tonacci, Joan Pore, Craig DeTample, Patricia Tower, and Layne Bergin. Plans are under way to work on five areas of the volunteer program: (1) defining volunteer opportunities through discussions with staff; (2) formulating an organizational chart; (3) developing the Volunteer Council structure; (4) creating bylaws; and (5) improving communication with volunteer staff through a monthly newsletter.

Museum volunteers and members will be informed of the plans for the Council as they develop. If all goes as expected, volunteers will have a better idea of the activities for which volunteers can help, as well as a more precise understanding of their relationship with the museum. The ad hoc committee sees an active Volunteer Council enhancing the status of museum volunteers and making their service more meaningful. Anyone wishing more information about the volunteer programs, or who knows of persons of any age looking for interesting opportunities to perform volunteer service, may call Layne Bergin at the museum for more details.

MUSEUM VOLUNTEERS MAKE A DIFFERENCE!

YEAR-END APPEAL — Unrestricted Support for CMM

The final quarter of the calendar year is the traditional time for the appeal for unrestricted giving to the museum. Members of the museum will receive during October a letter outlining the need for unrestricted funds and will be urged to use this opportunity to provide their support.

Last year's Year-End Appeal was the most successful yet: 285 members contributed just shy of $20,000—a twenty-five percent increase over the previous year. There is always a need for undesignated funds to meet those unexpected expenses that have not been foreseen during the annual budgeting process. Funds this past year have helped increase the museum's collections when significant items became available; unanticipated expenses during the preparation of exhibits have been funded; and much-needed, but unbudgeted capital expenses have been supported.

Our goal this year is to maintain the excellent record of the past year, and to increase giving, if possible. Please consider carefully the request in the Year-End Appeal letter when you receive it this fall. All of your tax-deductible gift to the Calvert Marine Society will benefit the museum. Names of givers will appear in next spring's issue of the Bugeye Times.

Please be as generous as you can. Thank you.