



SPOOM

Mid-Atlantic Chapter

Society for the Preservation of Old Mills

*Semiannual
Newsletter*

2018 Volume 2

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UPCOMING EVENTS

- * **Apr. 11-13:** SPOOM-MA Spring Meeting: Staunton VA
- * **Apr. 30:** Spring Newsletter Content Deadline
- * **Jun. 6-8:** National SPOOM Conference 2019: Dalton, GA
- * **Aug. 17-14:** TIMS 15th Intl. Symposium & Excursions—Berlin, Germany. (Pre & Post Tours Aug. 12-17, 25-31)

SPOOM-MA Chapter

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President's Message

By Dan Campbell

With winter upon us, the skies are greyer, the water slows down, and old brick and stone buildings feel that much colder and draftier. We reflect on the past season for our mills and their operators. Many of us can't remember a rainier, wetter, and stormier year than 2018. Many are fearful that this may be a sign of a changing trend in our climate. I know of at least a few of our mill sites that suffered damage and/or had to close on normally beneficial event days.

Mills, due to the very necessity of their locations, are unfortunately on the forefront of assaults by mother nature. This makes us at SPOOM ever-more grateful to Mid-Atlantic mill owners and operators for maintaining their buildings, despite these odds. Imagine the plight of millers when they had to operate certain mills through the winter, to maintain their income and service to their communities, through the period of cold weather, ice and snow!

This newsletter contains an accounting of the recent fall meeting tour which took place in the Baltimore and Westminster, Maryland areas. Nearly 40 SPOOM-MA members attended and visited a unique area of Baltimore with seemingly endless mills along the "Jones Falls" stream. Those buildings that have survived (sturdy of brick and stone they are), have become monuments or museums to the industries which they supported – but many have been re-purposed for offices and residences—in the ultimate process of recycling the old, as new again ...



Fall SPOOM-MA meeting at Union Mills. Photo by Sam Riley.

SPOOMers may be aware that there is an international group like ours, called The International Molinological Society, or TIMS for short. As a member, I receive their excellent newsletters with articles about mills in other countries and their annual conference and tours abroad. I have discovered that TIMS publishes a Dictionary of Molinology (in four languages, no less), and we offer a link to that document in this newsletter.

When our thoughts soon turn to spring, please SAVE THE DATES of April 11 to 13, 2019; your SPOOM-MA Board is planning the Spring 2019 meeting and tours to take place in the southern Shenandoah Valley, around Staunton, Virginia. The host mill will be the Cyrus McCormick Farm / Shenandoah Valley Agricultural Research & Extension Center, operated by Virginia Tech University. Certainly, we will visit a well-known restaurant in an Old Mill in Staunton.

Until then, we wish all of our members and families a safe winter season and a drier new year!

~ Dan Campbell

Bits & Bobs from Across the Pond

By Amy Boyce

Drawing a deep breath from an unnerving drive on the wrong side of the road and stretching the aches induced by a cramped flight, I looked upon the house that would be home - a thatched, cruck framed cottage built in 1335. The dream was becoming a reality.

Pieces of an incomplete puzzle were set out in my early 20's, a job at a mill museum. The job left something to be desired but the mill fostered love. I found myself increasingly drawn towards mills and wanted to work on historic structures. How though? With little experience and fighting the inherent biases of age and gender, who would hire me? Again in a job that left more than something to be desired - project management of museum exhibit design and fabrication - I started volunteering weekends for a

historic preservation mason, carpenter, timber framer.

A few more pieces to the puzzle fell into place and this led to work. Then a huge opportunity landed right in my lap, an invitation to join the millwrighting department for a large UK preservation firm. An acquaintance, Dan, facilitated the connection and offered lodging. Dan, the quintessential English professor-type, indeed a scholar of dendrochronology (tree ring dating) likely saw an opportunity for home cooked meals and company. Work started right away and over the next six months our team worked on ten wind and watermills.

England is notorious for rainy days and with moisture tilting at windmills, there is a constant call for sail repair and replacement. English sails are fairly intricate with many mortise joints and holes for hardware. Naturally water and fungi find these niches. Many days were spent addressing failure in the



Raising sails with crane and boom lift at Drapers Windmill, Margate, UK (built c. 1850).



New ladder installed at Chillenden Post Mill, Canterbury, UK (built c.1870).

various sail components - whips, stocks, sail bars, hemalathe, uplongs, back staves, shutters... This translated to scarf joints and patches, new builds, and lots of paint and reflection on durability of paint systems.

Removing and hanging sails is the bee's knees. Health and Safety - the steroid enhanced OSHA of the UK, ensured that lifting is not done traditionally, so a crane and boom lift are used. There's a rush from high up in a lift as a crane eases weighty ~40' stock timbers and ~30' sails towards you. Obviously, a lot could go wrong.

Other work included repair or replacement of tail fans, the actuating systems for shuttered sails, addressing gear alignment, repair to windmill break mechanisms, aligning 8+ ton caps, calibrating cap centering mechanisms, balancing the whole body/buck of a headsick post mill, fabrication of a new ladder/stairs



Establishing shot of Chillenden Post Mill, Canterbury, UK

of a post mill, and the usual foundation, siding, flashing, tar and painting maintenance.

As the English very agreeably adhere to an eight hour work day, time was afforded to travel. Considering that many US states are larger than Britain, there is an unbelievable quantity of notable sites. This includes booming industrial revolution era silk, cotton, linen, and woolen mills, to tidal mills with 12 runs of stones; water powered forges, foundries, furnaces, incredible open air museums, drainage and pumping mills, etc. Other gems like the *Mary Rose* - King Henry VIII's ship raised from the seabed with thousands of artifacts and human remains - are extraordinary and stand alone as worth a trip to England.

Missing tea but home again and ready for preservation of American Mills.



A day spent working at Upminster Windmill (c. 1800) being repaired by a Netherland's Millwrighting Firm, Bouw- en Molenbouw Bertus Dijkstra. Octagonal mill frame was mostly replaced. Photo shows crane lowering one side of the frame to be integrated into the old frame concealed in shrink wrapped scaffolding. Margate, UK (built c. 1850).

Building the Mill Model

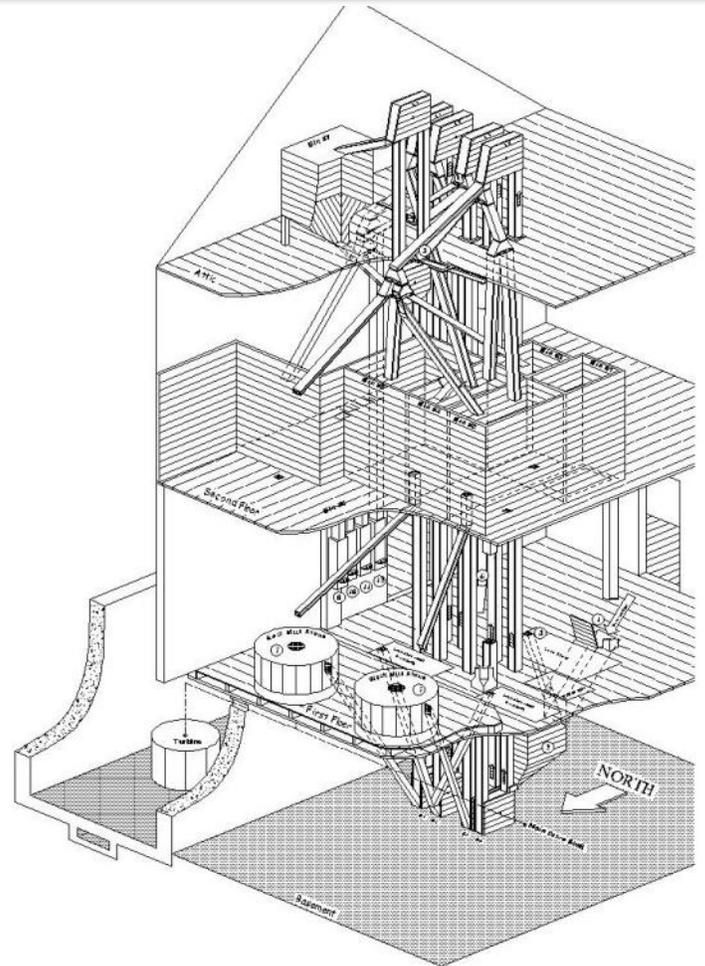
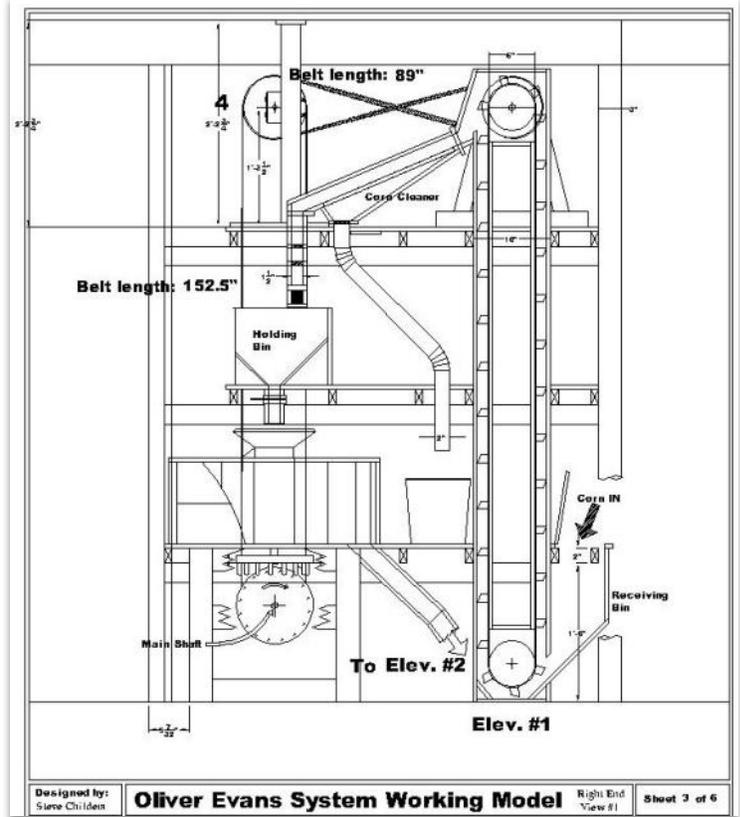
By Steve Childers

About eighteen years ago my wife, Nora, started work at Abbotts Mill Nature Center (AMNC) as a Teacher/Naturalist. AMNC is one of several sites that are all part of the Delaware Nature Society, but the mill belongs to Delaware's Division of Historical and Cultural Affairs and is managed through a partnership with DNS. When my wife started working there, the mill was in the later stages of an extensive restoration and some of the wooden gear cogs were needed. I was an architectural woodworker, working for a small company that makes high-end custom-made doors and windows, and I made the half dozen hard-maple gear cogs for the mill. That was the first I had ever been in a water powered grist mill and I was very intrigued. Having previously spent 20 years as an USAF aircraft mechanic, including 10 years with C-5s, I love anything mechanical, and I instantly fell in love with Abbotts Mill.

When I retired from woodworking, I started working part-time at the nature center as a Teacher/Naturalist and spent as much time in the mill as I could. We get busloads of kids on field trips and sometimes take them on tours of the mill, explaining what all that stuff was used for. Of course, the kids would always have questions and many, many times I had no answers and often nobody could give me a good answer. I understood that the elevators took material UP and the chutes brought it back DOWN, but why were there so darn many of them? And what were all those bins for? One day I got a pad and pencil and climbed all through the mill trying to figure it all out. I left about two hours later scratching my head, more confused than ever.

We had copies of the excellent drawings of Mascot / Ressler Mill in Lancaster County, PA so I thought the best thing would be to do the same with Abbotts Mill. I measured the mill building and everything in it and how far everything was from the south and east walls. Using my CAD program, I plotted it all out, floor by floor, and eventually came up with something that made some sense out of the chaos.

But still it was hard to explain it to inquisitive pre-teens (teenagers are no problem, they already know everything). Another problem we had; the state fire marshal wouldn't let tours go beyond the ground floor (no fire escapes.) So how to explain what can't be seen? I had seen pictures of the excellent model someone had done of Eden Mill in northern Maryland and I considered something like that, but what I really wanted was a model that actually did something. Over a period of about two years I mulled it over and did



Abbotts Mill sketch of the working model, and mill drawing.

many sketches and finally came up with a workable plan. In Abbotts Mill, there was a storage room on the ground floor that didn't have much in it. It has a seven-and-a-half-foot ceiling and that became my scale. The four floors of the model would have to each be about 22 inches high and everything would have to fit that scale. I built a 6-foot-wide by 5-foot-deep framework to represent the main mill timbers, floor joists, and flooring. To make it easier to see, where there was no equipment, I left the floor open. I first envisioned quite a number of elevators and two pairs of mill stones, but I soon realized that I could show the corn milling operation with only two elevators and one mill stone pair. I went to a local surplus dealer and got some 9/16" steel rod for my power shafts and designed all my equipment around that. The main power shaft runs the length of the basement and I built two sets of wooden gears to transfer the power up to the stones. I thought it would be great if the kids could supply the power, so I added a crank at the left end of the shaft.

Belts, what would I use for belts? I did an internet search and eventually found Albino Industrial Belting in Sinking Spring, PA. Al Bino was very helpful and supplied all my thin, flat belts in whatever length and width I needed. I couldn't have done the model without his help. I turned the pulleys on my lathe, each with a slight crown, and was amazed that the belts ran true and stayed on the pulleys like they were supposed to.

Elevators are much more complicated than they first appear. What would I use for the belts? I wanted webbing that was about 2" wide and that looked similar to the real webbing. After getting webbed belting from Jo-Ann Fabrics that didn't work, I finally found some piano strapping on Amazon that was perfect. It even has thin, colored stripes. Then I searched and searched for the buckets. I found many,

but they were all too big, so I finally decided to make my own out of light weight galvanized steel – about a hundred and fifty of them! I scaled down a bucket from our mill, cut out the tin, bent it into shape and soldered it together. After the first dozen or so, I got pretty good at soldering. To fasten them to the webbing, I bought special bolts designed for that purpose.

For the mill stones I cut up one of the blue plastic barrels that are found everywhere. I wanted the runner stone to be hollow so I could hide two storage bins in it, one to catch the corn as it drops into the stone and

the other to store the corn meal until it was time to make its appearance coming out the back of the stones. I decided to cover it all with the vat and just leave an oval opening in the front where the stones could both be seen. I painted the blue plastic with spray-on textured paint and I think it looks very



Steve Childers gives a personal tour of his mill model of Cooch-Dayatt Mill in Delaware.

“stony.” I didn't want to use real corn so I wouldn't have to deal with rodents, so I bought small, yellow plastic beads for the corn, two sizes of smaller tan beads for the corn meal and even smaller black beads for the dirt and seeds.

The crank didn't work out very well to supply the power. It was either too fast or too slow, or I had adults that didn't want to get down on their hands and knees. I found a surplus, slow rpm motor and installed a couple of v-belt pulleys. They work very well.

The Delaware Nature Society manages two mills for the State of Delaware: Abbotts Mill near the Kent/Sussex County border, and Cooch-Dayatt Mills in New Castle County. After I finished the first model, the DNS asked if I'd build a second one at Cooch-Dayatt. I did, and it went much quicker and works slightly better. Experience is a great teacher.

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...Building the Mill Model continued

If you've never seen one of the models, they show everything that happens to corn in Abbotts Mill, exactly like it happens. On the ground floor, the corn is dumped slowly into the corn hopper where it is picked up by the first 90 inch tall elevator and dumped into the corn cleaner in the attic. The cleaner is simply a chute with a ¼" mesh screen in the bottom. Dirt and seeds fall thru the screen and down a pipe to a small bucket on the ground floor. The clean corn continues thru an operable diverter to one of two corn bins. A sliding gate allows the corn to fall from a bin into the center of the mill stone where it is collected in a hidden bin. At the same time, corn meal is allowed to fall out the back of the stones where it slides down a chute to the bottom of the second elevator. In the attic, the meal falls into a chute and down to a 20" Archimedes screw that moves it horizontally to the sifter. The sifter is a sloped screen that shakes the meal, small particles fall through and larger ones stay on top. They each fall out the end, down short chutes and into two small buckets.

I have no interest in building any more of these models, but I would be happy to supply my detailed drawings to anyone that is interested in building one of their own.

Note from the Editor

What I enjoyed most about this article was Steve's ingenuity in recreating a mini operating mill. His methods demonstrate the talents of historic and modern millers, who have improvised in stitching leather belts, repairing chutes and buckets, refining standard equipment, or making their own gadgets to fit the needs of their respective mills. This is what makes millers so special.

TIMS Terminology

With 500 members in 30+ countries, The International Molinological Society (TIMS) fosters worldwide interest in mills powered historically by wind, water, animals, and human strength. **Check out the TIMS terminology dictionary**, listed in four languages: molinology.org!

Minutes & Reports Online

Visit spoommidatlantic.org for the latest meeting minutes, financial reports, and other news distributed between publications of our semi-annual newsletter. September meeting minutes are now available [here](#).

Fall Mid-Atlantic Conference Re-Cap

By Megan Orient and Daniel Campbell

The fall conference experience in Maryland began with a comfortable stay at the Best Western, Westminster and a meet-up Thursday night at Mattie's Restaurant. Breakfast and a bus ride kicked off the Friday itinerary.

A scenic 1-hour ride from the countryside to downtown Baltimore took tour-goers to the Baltimore Museum of Industry. This world-class museum is housed in the only remaining Baltimore oyster cannery building, which was later used for canning other goods like fruits and vegetables. Dating to 1865, this oyster cannery was a booming business. Oysters were a winter crop, and the waste shells served multiple purposes such as road material, fertilizer, chicken feed, and backfill into the harbor. Discussions also included the source of power for the Platt cannery over time (coal, open flame, steam), and the materials used for canning (steel, tin, lead solder).

The museum docents provided an excellent condensed tour of some of the top permanent exhibits. Beyond an overview of the canning process, we received a demonstration of the machine shop in action—humming quite steadily like the sounds of a mill, gears and shafts turning, pulleys and belts spinning. The talk of lathes and dies progressed into labor related matters, including the historic impact of the AFL-CIO, Workers' Compensation, and OSHA.

Other exhibits included the print shop and its still functional 1936 Linotype machine, a Baltimore invention originally created by German immigrant Ottmar Mergenthaler in 1886. A quick visit to old pharmacy revealed the history of Noxema and its signature cobalt blue glass, made by the Baltimore Glass Company. The tour wrapped up with a harborside boxed lunch and a view of the impressive and historic Domino Sugar Factory where 14% of our nation's sugar is processed.

The history of early milling in the Baltimore area was heard throughout the bus tour, especially as we traveled along the Jones Falls, seeing dozens of mill buildings still in situ, most no longer operating as mills, but now repurposed for public and private needs. Jones Falls, the watershed to the north/northwest of the harbor which passes through the city (in parts underground), was home to countless mills.

An interior tour was available at the historic Whitehall Mill. Like most mill sites, it evolved over time, first established as a flour mill under the

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Above: SPOOM-MA members gather in the main exhibit hall at the Baltimore Museum of Industry.

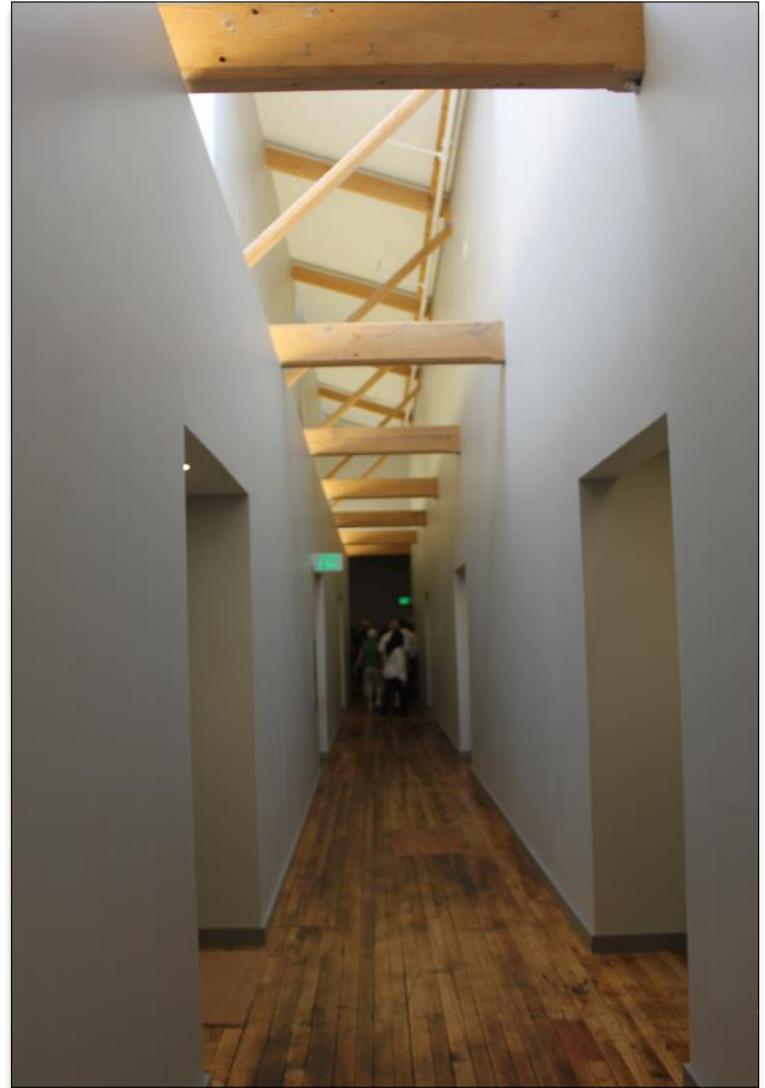
Tours continued into the Machine Shop (at left) and Cannery Exhibit (at right).

...Fall Recap of Jones Mills Falls continued...



Above: Arrival to the Whitehall Mill site, and home to a prominent 8-pointed star-shaped chimney.

Below: The behind-the-scenes tour showed how much of the original structure and main architectural elements are being incorporated into the design and new use.



Above: Exposed steel posts and newly-poured concrete floors currently serve the public meeting space as build-out designs are completed.

Below: An inside tour into the loft apartments showed the unique meeting of historic and modern design elements.

...Fall Recap of Jones Mills Falls continued...



Whitehall name, then a textile mill, part of the greater movement to the cotton manufacturing process of the region. The Jones Falls Valley was transformed into the world's center for the manufacturing of cotton duck—a plain woven cotton fabric with many applications. Other 20th century purposes for the mill included production of food-safe paper vessels, and toothbrush manufacturing, as well as storage and distribution for Penguin books and an unnamed adult content publication.

Today, the mill is being re-purposed for a combination of loft apartments, office space, a market, and a full-service restaurant. Exposed brick walls, wood trusses, and oversized historic windows accentuate the unique space. One of the signature remaining features of the complex is the 8-pointed, star-shaped brick chimney.

We rode by a few mills, including the historic Mount Washington Cotton Mill (above). Built in 1810, this is the oldest surviving cotton manufacturing building in Maryland, and third oldest in the nation. It served the

textile industry for over 100 years until it was purchased by a nut and bolt company in the 1920s. It is now home to a Whole Foods grocery, Starbucks, and other specialty stores—a successful re-use story.

The final stop was Rockland Grist Mill (pictured above and below) located alongside the Falls Turnpike in a village built circa 1806, where a few stone structures remain. It now serves as small business office space. Special thanks to Meagan Baco and Preservation MD and Baltimore historian Nathan Dennies who guided us through the history of the Jones Falls Mills District.

Headed back out of the city before rush hour, our Friday tour closed with a visit to the Historic Almshouse in Cockeysville. Once an 1800s home built to serve the poor, sick, elderly, and mentally ill who had no family to support them, this structure now houses the historical society and several municipal departments. Local historian Sally Riley shared a presentation on the mills above Baltimore, including the Warren Mill and village

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...Fall Recap of Jones Mills Falls continued...



on the Gunpowder River (deliberately flooded by a dam built to divert water to Baltimore city).

Saturday morning September 8, Mid-Atlantic Spoomers departed the Westminster hotel for the ½-hour drive to our host mill for the conference, Union Mills and Shriver Homestead. There, we were greeted by Marlene and Ivan Lufriu, who operate the mill, and other board members and docents for the site. The Homestead is now a museum of American culture, operated by the non-profit Union Mills Homestead Foundation, with all proceeds dedicated to the preservation and restoration of the Union Mills Homestead Complex.

Begun in 1797, two Shriver brothers built a grist mill and a sawmill, and the “union” of their skills thus became the name for their business venture. The site included the 4-story brick and timber grist mill, the sawmill (now gone), a tannery, blacksmith shop, cooperage (making barrels) and a wheelwright shop.



Above: Union Mill stone floor, simple machines, and lunch.

Union Mill / Shriver Mill history.

Ivan started-up the steel and wooden water wheel and ground corn meal for us, from which we were offered samples to take home. Luckily, we had some of the best weather that [Union Mills](#) had seen on recent weekends – if you look at their events calendar, 3 of their events had to be canceled this summer / fall – before and after our event! We were also treated to tours of the historic country estate, which has been in the Shriver family for 6 generations.

An innovative aspect of the grist mill’s historical interpretation is a recently installed “augmented reality (AR) technology” available to those with smart phones. By downloading an application (app) to our phones, a pre-recorded computer animation and narration of certain parts of the mill played when you approached that area of the building. The augmented reality showed the operations of Oliver Evans’ invented equipment, for instance, whether it was physically present or not. This new AR technology is being embraced by historical sites to supplement and further explain the operations of their sites, produced here through a collaboration of Carroll County MD Public Library, Union Mills Homestead, and Balti Virtual—a mixed reality software studio in Baltimore.

Prior to Lunch, we conducted our semi-annual SPOOM - MA business meeting — meeting minutes and reports can be found [online](#). The Baltimore / Westminster MD area, fall meeting 2018, was an excellent experience for the attendees, both in the city and the countryside — our great thanks to hosts Marlene and Ivan Lufriu, the Shriver Homestead board and staff, planning member Beth DeFrancis-Sun, and other previously mentioned partners.

Renew your Membership!

It’s that time of year! Renew your membership in SPOOM-MA for 2019. Also, consider gifting a membership to someone you’d like to see join our society. Renew or join SPOOM-MA online today: <https://spoommidatlantic.org/membership>.

Historic Flooding & Other News

Mills are often affected by flooding, and the record rainfall of 2018 was no exception. Help us document history. Submit your photographs or stories by April 30th for consideration in the next newsletter.

Other mill news, story ideas, articles, and content ideas are always welcome. Please contact Megan Orient (meganorient@gmail.com).

SAVE THE DATES:

April 11-13, 2019

[Spring Meeting—SPOOM-Mid-Atlantic](#)

Host: [Cyrus McCormick Farm / Shenandoah Valley Agricultural Research & Extension](#)

Staunton, VA

Proposed Sites (to be finalized):

Bare House & Mill, Baylor’s Mill / Spitler’s Mill, Brownsburg Museum, Osceola Mill, Wades Mill, Cyrus McCormick Farm, Frontier Culture Museum of VA



JUNE 6-8, 2019

[Annual National SPOOM Conference](#)

Host: [Prater’s Mill Historic Site](#)

Dalton, GA

Theme & Proposed Sites:

“Milling Around Old Cherokee Georgia”

Sites: Prater’s Mill, Dennis Mill, Old Lindale Brick Grist Mill (tentative), Yarbrough Mill, Lee and Gordon’s Mill, Berry College Mill.

Includes:

Miller training, Banquet, Bus tours of interesting mills in the place the Cherokee called The Enchanted Land.

For more information, contact Prater’s Mill at 706-694-MILL (6455), melanie@pratersmill.org, or P.O. Drawer H, Varnell, GA 30756



MEMBERSHIP FORM—SPOOM Mid-Atlantic

Please enroll me as a member of the Mid-Atlantic Chapter of the Society for the Preservation Of Old Mills

Name _____ Organization _____

Address: _____

City: _____ State _____ Zip Code _____

Telephone _____ E-mail Address _____
(newsletters are emailed or posted on web site when possible to save postage)

Milling Connection / Interest _____

Membership Type

- Individual, Not a Member of SPOOM (natl.) \$15.00
- Individual, Current Member of SPOOM (natl.) \$10.00
- Sustaining Membership \$25.00
- Organization Membership \$50.00

Please Check One:

- New Membership
- Renewal

Mail this form with your check or money order to: SPOOM MA Membership Manager, 613 Green Valley Road, York, PA 17403. Please make your checks out to "SPOOM Mid-Atlantic Chapter". Online membership application is available through the membership page of our website www.spoommidatlantic.org as well. The Mid-Atlantic Chapter is a member in good standing of the Society for the Preservation of Old Mills and serves MD, DE, PA, VA, and DC.



SPOOM Mid-Atlantic Chapter

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