

Natural News

Volume 25, Issue 1

Spring 2023

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<u>Upcoming events</u> (see details on last page): * Sunday 4/30 Spring Spruce-Up Volunteer Day! * Friday 5/12: Hiroya Tsukamoto concert * Sunday 5/14: Opening Day, Geology & History Walk

On the Discovery of Rosendale Cement

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The Century House Historical Society proudly celebrates and interprets the history of the Rosendale Cement industry. The cement produced locally was hydraulic cement, given that name because it sets even when submerged in water. The area's limestone deposits supplied more than half of North America's cement needs in the second half of the nineteenth century, so this industry was immensely important to the development of the United States. It was

used in the construction of the US Capital, the Croton Aqueduct and Dam, the pedestal of the Statue of Liberty, the Brooklyn Bridge, the Starrucca Viaduct, Roebling's Delaware Aqueduct, the NYS Thruway, and many other structures.¹

There are many erroneous accounts of the discovery of Rosendale Cement widely disseminated in the secondary sources. What follows is a brief account of what is known concerning the discovery of natural cement in Ulster County in the nineteenth century, relying heavily on primary sources. The hope is to clear up the confusion so many later accounts have propagated.

Rosendale cement is a natural cement, made from a very specific rock: clay-rich dolostone, which is

continued on page 8



Werner, Dietrich & Burmeister, Kurtis, An Overview of the History and Economic Geology of the Natural Cement Industry at Rosendale, Ulster County, New York, Journal of ATSM International, Vol. 4, No. 6, 2007.

The Century House Historical Society

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NEW! For event tickets and site rentals:

widowjanemine.com

 $Facebook: \underline{century house historical society}$

Instagram: chhsorg

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President – Henry Lowengard Vice-President – Michael McCabe Secretary – Bill Merchant Treasurer – Althea Werner plus Dave Kime and Laurel Mutti

Site Manager – Althea Werner Webmaster – Henry Lowengard Newsletter Editor – Laurel Mutti

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PRESIDENT'S MESSAGE

Greetings new and renewed CHHS members. We're gearing up for another season, with museum hours, continuation of last year's an/æsthetics outdoor sculpture show, and events as you'd expect. COVID restrictions seem to be lifted, so you can proceed with a little less caution.

The winter was not without events:

- Lara Hope returned for a Holiday Concert.
- CHHS president and historian manqué Henry Lowengard gave a lecture on the post-cement history of the cement industry properties. This was given at the D&H Canal Museum as well as streaming online for our Annual Lecture. Catch it in its edited, Zoomrecorded glory here:

 https://www.centuryhouse.org/am-22/

• The new onsite B&B, Widow Jane's Cottage, opened up and can be rented out! https://centuryhouse.org/wjc

The weird, almost snowless winter nevertheless took a toll on a number of trees. Spring Spruce-up is happening soon (Sunday April 30th, 10 a.m. – 2 p.m.), and I hope you can come and help get the trails clear, weed out the gardens, and make the estate more walkable!

New this year is the website https://widowjanemine.com, which is a centralized place to find out about upcoming shows and get tickets. There's a new ticket system too, and the tickets will be available there too. We bought a whole lot of new Camp Chairs, but that doesn't mean you shouldn't keep bringing your own seating for Mine events!

Opening day is Sunday May 14th, with Geology and History Walks! The first event in the Mine is guitar concert from Hiroya Tsukamoto, on the preceding Friday evening, May 12th, at 7 p.m. There will be a few more evening events this year, which will involve more lighting so you can get in and out safely.

I'll be docenting at the museum again, stop in Sundays 1-4 p.m., take a selfie in a carriage, have a picnic, and check out the sculptures by the trails!

Henry Lowengard



Thank you for supporting CHHS!

Members: Have you renewed for 2023?

If so, you should have received your 2023 member card recently. If not, online renewal is easy <u>via the website</u> – or you can mail us a check (address on page 2).

Calling all volunteers! There is always plenty to do at the Snyder Estate – plus ways to pitch in from a distance. Do you enjoy bookkeeping, creating/curating artwork, designing educational activities/exhibits, gardening, grant writing, helping with parking or ticketing at events, historical research, landscaping, posting to social media, publicity work, scanning photos, writing articles? We'd love to hear from you! Email us at info@centuryhouse.org.

Other ways to support us:

- attend events at the Snyder Estate
- buy from the **Company Store**
- tell your friends!

A big thank you to our partner Widow Jane Distillery

and to our corporate members!

WIDOW JANE Small Batch Whiskeys

The 1850 House Inn and Tavern
Paws & Tail Pantry
* Fifth Lake Project
The Big Cheese *Artistry in Motion











Drumroll, Please ... Introducing widowjanemine.com!

This new website showcases events at the Snyder Estate and is your source for tickets and information on site rentals.

Buy tickets to CHHS-sponsored shows: We are excited to roll out a new ticketing system via <u>TicketSpice</u>. (Please be patient with us as we adjust, but we expect ticketing should become easier for both guests and volunteers!)

Learn about renting the Snyder Estate:

The site has hosted private events such as weddings, family gatherings and retreats plus professional and artistic projects including photo shoots, film productions, performances, music recordings and scientific research.

Whether you are interested in performing in

the mine or planning a party, you will find useful information about what to expect and what CHHS will need from you to approve and host your event.

Support us with a gift or membership – here or at our main site centuryhouse.org.

CHHS' home at <u>centuryhouse.org</u> is still your source for cement history, CHHS history, the <u>Company Store</u> and much more. The two sites link to each other.

Thanks to super-volunteer John Hogan for his vision for <u>widowjanemine.com</u> and his hard work bringing it to fruition, as well as to our longtime webmaster Henry Lowengard.

Earth Day with the Rosendale Library: **Identifying Invasive Species**

On Earth Day, April 22, Rosendale Library brought naturalist Luke Sarrantonio to the Snyder Estate for an educational program on invasive plant species. About 25 people showed up to identify and uproot invasive plants. The hill on the path by the pig barn is a prime habitat for these invaders. While many, like fast-growing acacias ("trees of heaven") were unceremoniously vanked, it was suggested that the invasive garlic mustards and a few other edibles could be taken home and prepared into





Event photos by H. Lowengard: Luke Sarrantonio with an uprooted "tree of heaven," the group at work near the pig barn.

The Library will be back at the Snyder Estate with a "plein air" painting demo and workshop in July and possibly other programs as well. Visit https://rosendalelibrary.org/ to learn about more their projects and events. CHHS is delighted to continue collaborating with the Library on projects that unite our educational missions and enrich community life in Rosendale.

CHHS Projects 2022: "an/æsthetics" Sculpture Show Continues

Once the Snyder Estate re-opens in May, walk its trails and enjoy – again or for the first time – a multi-dimensional artistic exploration of perception, creativity and a cascade of related ideas. Curated by Michael Asbill, Jeff Benjamin, Lital Dotan, Maria Elena Ferrer-Harrington and Emilie Houssart, "an/æsthetics" features thought-provoking art by local and internationally recognized artists in a variety of media. The curators aimed "to present work that engages with, avoids, supports, repudiates, touches upon, buttresses, undermines ... the notion of anaesthesia in all of its diverse and various manifestations: as repetition and trance, hypnosis, the waking dreamstate, the numbness of routine, reverie, Hypnos and the domain of sleep, the river Lethe and forgetting, amnesia, oblivion, the intentional protection of the senses (nepsis), asceticism, aestheticism ... we wonder 'How can we pull the un-felt back into the realm of feeling?'"

For the "an/æsthetics" site map and more information, see https://www.centuryhouse.org/an-ae22/. While it also lists special performances and one-day installations from Opening Day last August, many works remain at the Snyder Estate. Some works have evolved with the changing seasons, adding a new dimension to the show's exploration of memory and collaboration with the natural and industrial landscape. The show will close October 28, 2023.



Greg Slick's "Space-Time Poem #2," by the pond. Photo by H. Lowengard.

Pollinator Pathway Progress



Local readers are familiar with the Wallkill Valley Land Trust mission to conserve open space for public enjoyment – through parks such as Joppenburgh Mountain and the Wallkill Valley Rail Trail over the iconic trestle in Rosendale – but may not know that WVLT also has projects to help private landowners become better stewards of their own land. One way is improving wildlife habitat. Native bees, butterflies and songbirds have suffered steep declines due to habitat loss and degradation, so efforts to restore pollinator-friendly vegetation, one yard at a time, can add up to provide significant help to these valuable and vulnerable creatures.

Participants in WVLT's Pollinator Pathway pledge to

- 1. Start using native pollinator-friendly plants:
- 2. Begin identifying and removing invasive plants; and
- 3. Avoid using pesticides, especially insecticides.

When CHHS signed up, WVLT assisted with professional site assessment of the Snyder Estate, which mapped its varied habitats and identified removal of invasive plants such as Ailanthus (tree of heaven) as the first task. Since then, several areas have received focused attention from professional arborists as well as volunteers. Visitors may especially notice major clearing around the canal slip, which has had the added benefit of making the historic structure more visible.

While removal of invasive plants will be an ongoing task, the next phase is also underway: welcoming pollinators with an enticing array of native flowers! Last fall, Keith Sanville did the hard work of literally breaking ground on the pollinator garden, located between the pond and carriage barn.



Handyman Keith Sanville did the hardest part: rototilling on Fall Clean-Up Day, October 2022. Thank you, Keith!



Volunteer Debra Nelson stands next to the prepared ground for the pollinator garden. Thank you, Debra, for growing beautiful blooms and bountiful vegetables around the Estate!

Site Manager Althea Werner selected a variety of flowering plants appropriate to the site, which should delight pollinators with food and habitat and human visitors with diverse colors and textures throughout the growing season. CHHS was pleased to purchase seeds from Hudson Valley Seed Company, a local business dedicated to preserving and championing heirloom and open-pollinated varieties of garden plants, including some native species.

Our pollinator plants include:

Mad Dog Skullcap • Johnny Jump-Up

Blazing Star • Indian Blanket • Milkweed

Swamp Milkweed

Northeast Native Wildflower Mix

And learn more here about the WVLT Pollinator Pathway:

https://wallkillvalleylt.org/pp/



A Pollinator Pathway sign along with a few of the seed packets, photographed at the Snyder Estate on planting day. <u>Hudson Valley Seed Company</u> also supports artists by commissioning beautiful illustrations for many of their seed packets. All pollinator photos by A. Werner.

Trustee Bill Merchant honored with 2023 Award of Distinction from the Museum Association of New York

The Individual Achievement Award from The Museum Association of New York recognizes Bill Merchant's extensive and creative efforts to advance the mission of the D&H Canal Society. Bill has served D&HCS in many roles and is currently Deputy Director for Collections, Historian and Curator. His vision and outreach were instrumental during the long process of imagining, then securing funding, and finally designing and moving into a new home for the D&HCS museum, in the historic DePuy Tavern in High Falls. He has expanded D&HCS' reach through public programs and a long-running video series on YouTube, as well as partnerships with other organizations. Beyond his stewardship of the D&HCS collections, Bill conducts historical research, focused most recently on the significant contributions of historically marginalized populations to the success of the canal. And there is much more – this snapshot only draws a few highlights from the D&HCS article about the award.

The CHHS Board of Trustees adds our hearty congratulations to Bill, along with our thanks for devoting some of his tireless enthusiasm for local history and considerable expertise to CHHS. Almost as soon as he joined the Board, Bill stepped up to head and reinvigorate our Collections Committee, where his current focus is the long-term project of modernizing the CHHS archives. Another long-term goal is updating the museum to better share the fascinating story of Rosendale natural cement. Bill has revitalized CHHS' relationships with D&HCS and the Delaware & Hudson Transportation Heritage Council and looks forward to collaborative regional history projects. He brings a vision for the big picture and the long term, passion for the details that make up the historical record, and hard work and optimism that set the standard.

We are fortunate indeed to have Bill on the CHHS team and so pleased to see him recognized for his contributions to D&HCS.

Huzzah! Huzzah! Huzzah!

Widow Jane's Cottage

Have you wondered what it would be like to stay at the Snyder Estate? Now you have your chance! The apartment next to the museum has been renovated into a cozy, comfortable space that can support some CHHS events and, on selected dates, is available for short-term rental on AirBnB. (That link takes you directly to the AirBnB listing; you can also navigate there from the CHHS website: https://centuryhouse.org/wjc.) New fixtures with a mid-century style and distinctive architectural details give the sunny rooms charm and personality. After long-time tenant (and CHHS supporter) Clifford Crepeau moved out last summer, the process began to re-imagine the well-worn, historic rooms as a "country cottage." The first guests were welcomed in February. CHHS thanks Bob Spiconardi and his team plus Keith Sanville - well done!







The living room with Murphy bed, the bathroom, the kitchen/dining area looking towards the living room. Photos by A. Werner.

Going with the Flow

One of last year's big improvement projects was the installation of new gutters on the Snyder Estate's historic buildings. **CHHS was pleased to work with Sunrise Half Round**, a Hudson Valley business that produces European-style gutters from an original design with a timeless, historically appropriate look. We opted for copper gutters on the front of the Century House and galvanized steel on the museum barn and carriage barn. Don't they look great?







The carriage barn, a close-up of the Century House, the extensive gutter system on the front of the Century House. Photos by L. Mutti.

Gutters are a big investment, and <u>we are not done</u>: the back of the Century House needs new gutters too, so we are saving up. Your donations and memberships make this critical preservation work possible!

On the Discovery of Rosendale Cement – continued from page 1

essentially a variant of limestone but contains additional elements, mainly magnesium (found in the mineral dolomite) and aluminum and silicon (contributed by the clay). When fired properly, it becomes calcined, which is to say, chemically transformed. It is then ground to a fine powder that, when combined with water, eventually hardens to produce a very durable man-made stone that has many applications. (Concrete is cement combined with aggregate, usually stones but also with reinforcement such as rebar.) Natural cement is made from rock that already contains all the necessary chemical compounds in the right proportion, as found in the ground, whereas Portland cement, the product that has largely supplanted natural cement, is made by bringing together and combining limestone (its chief component) with the other necessary ingredients from multiple separate sources.

The Romans made a version of hydraulic cement that is so enduring that many of the structures that they constructed with it are extant today, over two millennia later. In addition to limestone (calcined to lime), Roman cement incorporated a specific kind of volcanic ash, known as pozzolana. This product was a hydraulic cement but obviously not natural. The knowledge necessary to produce this cement was lost after the fall of Rome but rediscovered and used by the Dutch in the seventeenth and eighteenth centuries, and by English engineers at the end of the eighteenth century.²

Canals were a vital transportation mode in North America in the late eighteenth and early nineteenth centuries, as the railroads that eventually supplanted them developed. The Erie Canal, constructed by the State of New York between 1817 and 1825, taught Americans that they could build canals successfully, and became the training ground for early civil engineers. Indeed, its Chief Engineer, Benjamin Wright, was subsequently dubbed "The Father of American Civil



Engineering". Men who worked for him on the Erie Canal's construction learned civil engineering and then went on to construct many of America's other canals, civil engineers such as Canvass White, John Bloomfield Jervis, and James McEntee. This was the only way to learn engineering at the time, as the first civil engineering college degrees in America were not given until the early 1840s.

Canvass White (pictured) studied the cement being made in England when he was sent there by the state to investigate canal technology in 1817. He was convinced that limestone suitable for making cement could be found in North America. Upon his return to New York to work on the construction of the canal,

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² Bastoni, Gerald, Episodes From The Life of Canvass White Pioneer American Civil Engineer, Proceedings of the Canal History and Technology Symposium, Vol.1, January 30, 1982, The Center for Canal History and Technology, page 76.

he discovered dolostone "...on the land of T. Clark in Chittenango", in 1818.³ He then worked out the process of turning it into hydraulic cement, for which he was awarded a patent in 1820. His "White's Patent Hydraulick Cement" was used in the Erie Canal's construction, albeit mostly by other local producers violating his patent. (White was eventually awarded \$10,000 by the State of New York as compensation that he may or may not have actually received. Nathaniel Sylvester's 1880 history claims it was \$20,000.) The engineers had already dismissed the idea of importing hydraulic cement from England as being too expensive, so had planned to employ regular limestone mortar, which is not watertight and does not set underwater. One can only speculate about how that would have turned out. A now removed NYS historic marker credited Nathaniel Bruce with making the discovery in High Falls, NY in 1818 but only the year is correct. He did make natural cement in High Falls but not until after the discovery was made by someone else.

The War of 1812 created a fuel shortage in America. The heavily settled East Coast had insufficient timber resources by that time, two centuries after settlement, and coal could only be affordable supplied, from Virginia and England, by shipping it on the Atlantic Ocean. The British blockaded the east coast during that war, cutting off those supplies. In consequence, the anthracite coal fields in north east Pennsylvania, where three quarters of all the world's anthracite are found, were developed. In 1825, a new company was incorporated as "The President, Managers and Company of the Delaware and Hudson Canal Company"

WHITE'S PATENT Hydraulick Cement.

and is found from sufficient experiment (having been work of the Eric Canal) to be well adapted to all the purposes for which the Roman Cement is employed. It possesses besides the quality of not setting immediately after it is laid, an advantage which will be duly appreciated by Mechanics.

It is put up in barrels of 5 bushels each and offered for sale at a very reasonable rate, by

Ralston & Lyman,

No. 11 South Front-street.

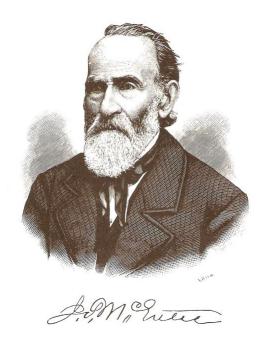
N. B. Purchasers are furnished with printed directions for its use.

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(D&H). It constructed a 108 mile long canal to transport anthracite coal from its mines in Carbondale, Pennsylvania to the Hudson River. That required hydraulic cement, primarily for its 110 locks and 19 aqueducts. The nascent D&H Company hired Benjamin Wright as its first Chief Engineer, who brought both Jervis and McEntee from the Erie to work on the construction of the canal. He planned to get cement from Chittenango but, aware of White's discovery there, the D&H thought they might find similar limestone along its route from Honesdale, Pennsylvania to Rondout, New York. In this, they were proven correct. The earliest primary source we have for the discovery of Rosendale cement is the D&H Canal Company's very first annual report, for 1825, published in March of 1826. It says that "The stone of which water cement is made has been found in great abundance by a Geologist, who was specially employed for that purpose and the quality is ascertained to be equal at least to that used in constructing the Locks on the Erie Canal." Note that it was discovered by a geologist who was hired expressly to look for potential mineral resources.

The first detail concerning the discovery that is in dispute is the location where the dolostone was originally found. Many sources say it was on Snyder's property, part of which is now the

³ Howe, Dennis, *The Industrial Archaeology of a Rosendale Cement Works at Whiteport*, Whiteport Press, Kingston, NY, 2009, page 7.



Century House Historical Society site. Nathaniel Sylvester's 1880 History of Ulster County New York is the next primary source for information and the one that Dietrich Werner and Gayle Grunwald relied on extensively when they wrote the historic narrative of the Rosendale Cement historic district for its designation as a National Historic Landmark in 1992. Sylvester wrote that the discovery was made during construction of the D&H Canal in High Falls, New York. He continues, "The first specimens of rock were burned in a blacksmith's forge at High Falls... It was found to be of excellent quality, and it was at once decided that no further purchases from Chittenango would be necessary." Subsequently, Mr. John Littlejohn was contracted to furnish cement for the canal's construction. He built a kiln in High Falls a short distance from Simeon DePuy's flour mill. The fired material was transported there, where it was ground into cement. Sylvester continues the story of

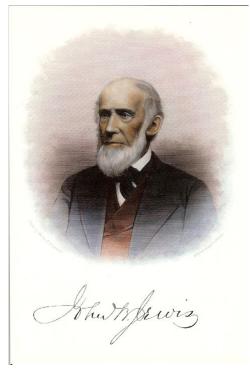
this important discovery by detailing how James McEntee, "...was thus familiar with all the details of the discovery and the manufacture. He was then boarding at Simon De Puy's, and knew about the contract to grind." McEntee was the resident engineer for the initial construction of the first 20 miles of the D&H Canal from Rondout south. This brings us to the second fact that is in dispute, who made the discovery. Somehow, the fact that McEntee was (possibly) present when dolostone was discovered in High Falls led to his being credited for that discovery, despite the fact that he was not a geologist. Sylvester included a full page biography of McEntee in another section of his book that does not even mention this discovery. Interestingly Sylvester mentioned that his account relied on articles concerning the discovery written by McEntee's son and published in the Rondout *Freeman* "...a few years since". Unfortunately, I am yet to find copies of those articles. Sylvester says that once Littlejohn finished supplying to the D&H, he shut down his operation.⁴

In 1910, the historical journal *Olde Ulster* published an account from 1878 that was in the possession of the contributor, Chaplin Roswell Randall Hoes U.S.N., who attested that it was in the handwriting of James McEntee's son, the artist Jervis McEntee (named for James' friend and fellow engineer John Jervis). This document is his father's recollection, over fifty years after the fact, of the construction of the D&H Canal. In it, he related the names of many of the property owners the canal was built through, along with anecdotes. As to the discovery of Rosendale cement, he simply states that "Cement was first found in the county by engineers of the canal." Not what you would expect had he been the actual discoverer!

⁴ Sylvester, Nathaniel Bartlett, *History of Ulster County New York*, Everts & Peck, Philadelphia, 1880, Part 2, page 240.

⁵ Olde Ulster, James McEntee's Story of the Canal, October 1910, No. 10, Benjamin Myer Brink, Kingston, NY, 1910.

Where did the claim that it was discovered on A.J. Snyder's property in Rosendale come from? Sylvester's detailed history makes it clear that that occurred subsequent to the discovery in High Falls. "No one was manufacturing for the general market. The first man to revive the business and manufacture for shipment was Judge Lucas Elmendorf, the man from whom the Lucas Turnpike takes its name. He commenced quarrying and burning cement where the village of Lawrenceville is now located, and the grinding was done in the old Snyder mill." He continues with a discussion of how there was confusion as to the discovery even at that time and includes an 1878 letter to an unknown recipient from John B. Jervis, who was Assistant Chief Engineer for the D&H then, that states "By your letter and the documents with it I find an inquiry as to who first discovered cement in Ulster County, James McEntee claiming that it was by the agents of the Delaware and Hudson Company... The canal was commenced in the spring of 1825, and the cement was discovered during



that summer. As to the claim that Ulster County hydraulic cement was manufactured and used before the want of it was felt by the Delaware and Hudson Canal, in my opinion has no just basis in fact." This further invalidates the spurious claim that Nathaniel Bruce made the discovery in High Falls in 1818. Jervis' letter gives details of the discovery of a magnesium lime that had also been discovered in the same time period, a product that made a strong mortar with a "...lightly cement quality, but it is quite different from what is known as hydraulic cement." He credits this fact with the confusion that already existed at that time.

In conclusion, Rosendale Cement was discovered in High Falls, N.Y. in the summer of 1825 by an unnamed geologist hired by the D&H Canal Company specifically to look for it, not by James McEntee, not by Nathaniel Bruce, and not by A.J. Snyder, despite what has been subsequently written. It was discovered along the line of the canal in High Falls, not on the Snyder property in Rosendale. It is probably too much to hope that this will put to rest the many incorrect versions of the story of this important discovery that exist in many secondary sources.

The author thanks Laurel Mutti for her help with the geology.

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⁶ Sylvester, Part 2, pages 240-1.



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NATURAL NEWS

Mark your calendars!

- 4/30: Spring Spruce-Up Day! (10 a.m. 2 p.m.)

 Calling all volunteers! Help us prepare for Opening Day by giving the grounds of the Snyder Estate a little TLC: mulching, gardening, clearing leaves/branches and otherwise welcoming spring. Wear clothes that you don't mind getting dirty; bring work gloves if you have them. We'll have snacks, water and tools. ☺
- 5/12: **Hiroya Tsukamoto** concert (7 p.m.) <u>Buy tickets via widowjanemine.com!</u> Original fingerstyle guitar compositions: "eclectic, immersive and mesmerizing."
- 5/14: Opening Day at the Snyder Estate! (1 4 p.m.)
 Join us at 1 p.m. for a Geology and History Walk around the Snyder Estate led by
 (geologist) Laurel Mutti and (historian) Bill Merchant. The Museum and Carriage Barn will
 also welcome visitors, beginning their regular summer hours: 1 4 p.m. Sunday afternoons
 through Labor Day weekend.

Bookmark <u>egnturyhouse.org</u> and <u>widowjangming.com</u> to check for more upcoming events!