

Field Notes

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Meet the Team !

By Lee Strange, Associate Editor

When you come to ARI you're going to feel a special welcome. Whether you come for a tour, or to have a field or lab experience, or to hear a speaker, or to learn more about your artifacts, rocks, or fossils, you're going to meet people who have a passion for archaeology and an eagerness to share their interest with you. By way of introduction, here are some of the people who will welcome you to ARI.



Tessa Wilk

As ARI's Public Archaeologist and Lab Manager since June 2023, Tessa Wilk embodies both curiosity and adaptability. Though she grew up immersed in history conversations and documentaries, archaeology was not her first career path. She began as a veterinary assistant, a role she enjoyed, but when her field school professor Dr. Aaron Comstock recommended she apply to ARI, she recognized an opportunity to follow her true passion.

Tessa now balances fieldwork with her growing expertise in laboratory analysis. She loves the puzzle-like process of examining artifacts, piecing together stories from fragments, and teaching others how to do the same. Her all-time favorite thing is actually to clean and straighten out unit walls because it gives a clear and satisfying view of the changes through the depths. Each summer she helps lead ARI's field school while also organizing training sessions and workshops for students, volunteers, and the public.

Her first field school experience at the Turpin site in Anderson Township, Ohio, left a lasting impression. Excavating a Fort Ancient village house, she recalls the moment the floor emerged from the soil. Standing on a surface untouched for centuries, she felt a profound connection to the people who once lived there—a feeling she hopes to carry throughout her career.

Looking forward, Tessa plans to return to school for a master's degree, continuing to build her knowledge and skills. Beyond archaeology, she has always been an animal lover, caring for cats, dogs, lizards, guinea pigs, fish, and ducks over the years. She also enjoys reading, bowling—with a career-high game of 268—and cherishing her Midwest roots. With her broad interests and passion for learning, Tessa is a true generalist, eager to explore every corner of archaeology.

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For nearly three years, Betsy Dulle has played a key role at ARI, now serving as a Public Field Archaeologist with a focus on the VALOR program (Veteran Archaeological Learning Opportunity and Research). Betsy first joined ARI in summer 2023 as a University of Cincinnati field student, quickly transitioning into staff roles that combined her love of fieldwork, outreach, and public engagement. Today, she thrives in sharing archaeology with diverse audiences, from outreach events to hands-on excavation.

Betsy Dulle



Betsy's fascination with people and their choices goes back to childhood. Growing up in suburban Cincinnati, she spent countless hours outdoors, building forts and collecting treasures. A career aptitude test in high school first pointed her toward paleontology, but anthropology captured her imagination with its human focus. She began studying anthropology at the University of Cincinnati in 2019, laying the foundation for her archaeological career.

Since then, Betsy has embraced a wide range of roles—whether volunteering at the Turpin Site under Dr. Aaron Comstock, conducting osteological research, or demonstrating atlatl throwing for the public. A highlight of her fieldwork came in summer 2024 when she discovered her first complete point, an unforgettable milestone in her growth as an archaeologist.

Her aspirations extend globally; she dreams of participating in Irish excavations and ultimately working with the DPAA (Defense POW/MIA Accounting Agency) to help locate and recover missing U.S. military personnel. Outside of ARI, Betsy is equally dedicated—coaching a local swim team and spending time with her beloved puppy, Doofenschmirtz. Her passion, versatility, and drive make her an invaluable member of ARI's team.

Lillie Daniel



As part of ARI's Outreach and Programming Operations team, Lillie Daniel brings a fresh perspective shaped by her background in ecology, sustainability, and education. Though she has only been with ARI for five months, she has already immersed herself in projects ranging from Adventure Treks and field trips to Artifact ID Days and the Happy Hour History speaker series. For Lillie, archaeology is a natural extension of her lifelong interests—she sees it as a way of connecting stewardship of the natural world with the human stories that shaped it.

Growing up in Hebron, Kentucky, Lillie always felt at home in nature. Her studies at Thomas More University, where she earned a BA in Life Science and Educational Studies, deepened that connection and sparked a passion for integrating science, culture, and education. An open house at ARI in 2023 proved transformative: she recognized how archaeology, with its grounding in diverse cultures and Indigenous teachings about respecting the land, aligned perfectly with her values.

At ARI, Lillie thrives on both outreach and behind-the-scenes operations. She enjoys working with volunteers, hearing their stories, and learning alongside colleagues in a collaborative environment. Field days bring their own excitement, especially when she uncovers debitage alongside the excavation team.

Outside ARI, Lillie continues her commitment to conservation, with plans to volunteer on bat data collection with the Boone County Conservation District. She also embraces creativity and family connections—whether through photography, drawing, playing flute, or fishing and hiking with her parents. At home, she shares her adventures with Carly, her calico cat.

Forrest Schmitt



Forrest Schmitt has been part of ARI for more than two years, serving as a Public Archaeologist and Experimental Project Manager. His role combines scientific inquiry with public engagement, bridging the gap between past lifeways and modern audiences. From flint knapping to ceramic production, cordage making, and even reconstructing medieval siege machines, Forrest immerses himself in experimental archaeology. Each project deepens his understanding of ancient technologies while creating dynamic ways for the public to learn.

A native of Crittenden, Kentucky, Forrest's journey into archaeology came by chance. His father, active in the nonprofit world, crossed paths with ARI's director and shared Forrest's academic background in archaeology and anthropology from the University of Cincinnati. That connection led to an AmeriCorps position at ARI, where Forrest has since flourished. Professionally, he has also worked in historic masonry, restoration, and local parks services, giving him a strong grounding in hands-on, preservation-focused work.

Forrest vividly remembers one defining moment early in his career: enduring a blistering Ohio River Valley summer day in the field. Despite the heat and exhaustion, he felt only amazement—realizing he was truly an archaeologist, and that no hardship could dull his passion.

Today, Forrest balances his love of field archaeology with advancing public science through experimental projects. Looking ahead, he plans to complete his master's degree and possibly a Ph.D. Outside of work, Forrest enjoys sports, especially Cincinnati teams and Bayern Munich, playing soccer and basketball, traveling, and spending time with friends and family.

Amanda Duncan

Amanda Duncan, Public Archaeologist with a focus on youth programming, has been with ARI since fall 2024. From running summer camps to co-hosting the *Midwestern Archaeology Podcast*, Amanda thrives on creating opportunities for younger generations to explore history. She also leads training sessions and tours, bringing her enthusiasm for archaeology directly to the public.

Amanda's passion for human stories began early, rooted in her fascination with history and people. After double-majoring in anthropology and archaeology at the University of Cincinnati, she worked in mental health for a year before returning to her academic roots through field school at ARI in summer 2024. That experience solidified her interest, leading to her current role.

Her primary research interest lies in social complexity—the ways societies organized themselves and how daily lives influenced broader cultural structures.

She enjoys unpacking how people lived, interacted, and built systems that shaped the world around them. While the intellectual side is rewarding, Amanda also values the human element of fieldwork. Even during long, difficult days with little to show in the dirt, camaraderie among colleagues has always made her feel that there was no better place to be.

Outside of work, Amanda embraces creativity and play. She has three cats and a dog, enjoys reading, writing, movies, and board games, and spent more than a decade playing and coaching softball. Known for her bright hair—pink for the past three years—she brings energy and individuality to all she does. Amanda hopes to one day expand her archaeological work abroad, particularly in Ireland.



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As an Education Programming Manager with the Programming Department at ARI, Lee Strange brings a passion for adult education and outreach into every project. Since joining in September 2024, Lee has led the Great Miami Archaeology Tour, produced and edited the Midwestern Archaeology Podcast, and coordinated programming with the University of Cincinnati. Each initiative reflects Lee's belief that archaeology is as much about connection and communication as it is about discovery.

Lee's journey into the field is anything but conventional. Growing up fascinated by Chinese and Mesopotamian civilizations, Lee carried that early curiosity into a degree in Journalism with a focus in Science Communication from the University of Tennessee, Knoxville. After graduating in 2022, Lee explored different paths—from working on true-crime television productions, to serving on a trail crew in Maine, to baking in Chicago—before discovering ARI through an AmeriCorps posting. Dropping everything to take the opportunity, Lee relocated and has been immersed in archaeology since.

Culturally and politically, Lee finds archaeology exhilarating, particularly in its power to uncover how communities interacted and shaped each other's worlds. While fieldwork is rewarding, Lee equally values teaching and leading tours that spark public engagement.

Originally from Taichung, Taiwan, where Lee lived for 12 years, international experiences continue to shape future ambitions. Lee hopes to pursue archaeology abroad, particularly in China and Turkey. Beyond work, creative pursuits like writing and illustration offer another way to explore and share the past, with the dream of one day becoming an archaeological or paleontological illustrator.

Lee Strange



Tune into the Midwestern Archaeology Podcast (MAP)

...to learn about the fascinating research being conducted on and around the vast region of Midwest America! Episodes are released bimonthly and cover everything from Cahokia to Shell Middens, to the Peopling of the Americas. Follow MAP on Instagram or Tiktok for the latest news about the show! Scan the QR code to listen.



Learning about “Chert Types” and what they tell us about ancient cultures

By: Larry Sandman, Editor

Before the days of European trade goods, Native Americans in the Ohio Valley made most of their tools out of bone, wood, antler, shell, chert, and various hard-stones. Native copper was pounded into points and blades in the area of Lake Superior, and sometimes traded into the Ohio Valley. By far, the most important material for arrowheads, knives, scrapers, and drills in the Ohio-Kentucky-Indiana tri-state region was chert.

1. Chert is fairly ubiquitous in this area. It is often found in bedded or nodular forms in limestone outcrops, and in creek or river gravel.
2. Chert fractures “conchoidally.” That word is derived from the word “conch” because a conchoidal fracture is smooth and curved like the inside of a sea-shell. An experienced flintknapper can predict with reasonable accuracy how a piece of chert is likely to break, depending on where and how they strike it.



Chert, or what many of us grew up calling “flint,” is a dense, hard sedimentary rock made up of microscopically small crystals of quartz, the mineral form of silicon dioxide (also called silica). Most chert is at least 95% silica, with other minerals making up the remainder. Chert comes in a wide range of colors: white, black, gray, tan, brown, red, green, and blue; most is off white, gray, or brownish gray. The trace elements give the chert its colors.

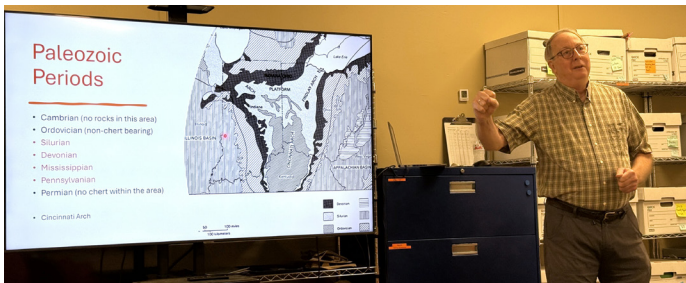
The widespread use of chert by Native Americans results from three main factors:

3. The edge of a chert flake is very sharp, making it useful as a knife, scraper, or sharp-edged projectile point. When the edge dulls from use, it can be resharpened by “pressure flaking” along the dull edge. A typical knife or point can be resharpened several times before it is used up.

Most chert was formed in limestone, which makes up the bedrock in much of Indiana, Ohio and Kentucky. The limestone is in layers with older rock on the bottom and

newer rock on the top. In the tri-state area, the geological event that uplifted the Appalachian Mountains, caused a ripple effect known to geologists as the Cincinnati Arch. The bedrock under Cincinnati, and to its immediate east and west, was pushed upwards into the shape of a dome. As a result, the younger layers on the top eroded more quickly, exposing the older layers beneath. As you travel further to the east and west of Cincinnati, you will encounter bedrock of different ages. All of this matters because certain types of chert are found in different layers.

In September of this year, Eric Edelbrock presented a class at ARI titled "Chert Types of the Midwest Region." Edelbrock, who runs the lab for the CRM (Cultural Resource Management) firm, Gray and Pape, came to ARI to help team members learn how to identify the types of chert used by ancient Native Americans in the production of points and blades found at archaeological sites. Edelbrock showed many types of chert found in Ohio and Indiana, describing such distinguishing factors as color, texture, luster, and fossil inclusions. He also explained that since many cherts are nearly alike in appearance, a chert's geographic location and geological source are important factors in determining type. If many artifacts made of the same type of chert are found in close proximity to an outcrop, there is a good likelihood that the artifacts are made of that material.



Lithics expert Eric Edelbrock teaching a class in chert identification at ARI, September 18, 2025

Edelbrock explained that each type of chert formed in a specific layer of limestone. Laurel chert, is found in 419-443-million-year-old Silurian limestone in southeast Indiana. Colorful Flint Ridge chert is found in 299-323-year-old Pennsylvanian limestone in east-central Ohio.

Edelbrock explained that if an archaeologist knows where a type of limestone outcrops, they can know what types of chert come out of that limestone. And since most chert artifacts were made from rock found near the ancient village or campsite, that knowledge can help in identifying the type of chert used to make a specific artifact.

It's important to note that not all of the chert used by Native Americans is of local origin. A significant amount of chert was carried down from Canada by glaciers and dropped in the Ohio River watershed. Also, different cultural groups throughout history showed a preference for non-local types of chert and a willingness to travel great distances to acquire it.

Many points and blades found on tri-state sites are made of Flint Ridge chert, mined in Licking County, Ohio, some 150 miles away from Cincinnati. Another chert often used on artifacts in the tri-state area was Wyandotte chert (also called Indiana Hornstone) that comes from Harrison County near Leavenworth, Indiana, about 140 miles away. Even further from home are artifacts made from Knife River chert that was mined in Mercer County, North Dakota, over 1200 miles from Cincinnati. These chert types were prized by Native Americans because they were beautiful and relatively easy to knap.



The author in Muskingum County, Ohio in search of Flint Ridge chert for the ARI comparative lithics collection.

The types of chert used in making projectile points can give archaeologists clues about:

- The time period during which the artifact was made. The popularity of certain chert types varied over time.
- The culture that used that type of chert. Each group had its own favorite cherts.
- A population's movement from place to place.
- A population's trade networks.
- A population's emphasis on aesthetics in selection of materials.

Archaeologist can learn a lot about a culture by examining the chert types they used. This knowledge gives us one more peek into the lifestyles of the people who once called this region home.

Bringing the Ancient World Back to Life: The Art of Ren Harvey

By: Lee Strange, Associate Editor

When archaeologists describe past cultures, it can be difficult for members of their audience to picture in their minds not only the artifacts but also the people who created them. Words alone rarely convey the full picture. Fortunately, a few artists today dedicate themselves to bridging that gap — bringing ancient worlds vividly to life through art. One of the most highly regarded is archaeological illustrator **Ren Harvey**.



Ren (right) with ARI executive director Liz Sedler at the 2024 State Line Chapter of The Archaeological Society of Ohio artifact show. Liz is holding Ren's illustration of a Native American using an atlatl spear throwing device.

Harvey has produced countless drawings and reconstructions of pre-European-contact peoples and artifacts. Each illustration is the result of close collaboration with descendant communities and professional and avocational archaeologists, ensuring every detail is historically accurate. The result is artwork that is both precise and deeply evocative.

Although Harvey's work now centers on archaeology, her path to this field was anything but direct. Growing up in Ontario, Canada, she developed an early fascination with history, often discovering artifacts in local rivers. Yet her first career was in athletics; after running for the University of Michigan as a Division I athlete, she spent fifteen years coaching collegiate track and field.

"Then one day," Harvey said, "I was like, 'I should combine my love of artifacts and what I'm learning, and make it with art.'"

Soon after, she left coaching to pursue her lifelong passion for art and archaeology. She began illustrating artifacts and ancient lifeways, guided by a deep respect for Indigenous histories of the Americas.

Today, Harvey works full-time as an archaeological illustrator, collaborating with archaeologists and tribal organizations. Her art reflects her commitment to accuracy and to the voices of the descendant communities whose past she helps visualize.

While open to all periods of American archaeology, Harvey is especially drawn to Mississippian and Hopewell cultures. Their craftsmanship and spiritual depth continue to inspire her, shaping the themes and emotion in her work.

Harvey's art is more than beautiful—it's a bridge. Her meticulous, collaborative process models how archaeologists, artists, and descendant communities can work together to illuminate humanity's shared heritage. Too often, these groups have worked in isolation. Harvey shows what's possible when they create together: a fuller, richer understanding of the past.



Ren Harvey works in many media, creating scenes and portraits that are both striking and historically accurate.

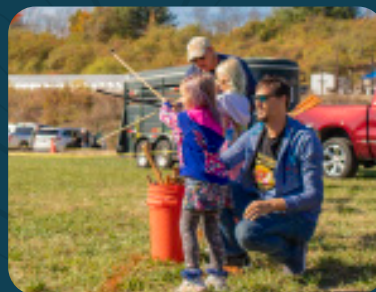
To learn more about Ren Harvey and her art, listen to her interview on the *Midwestern Archaeology Podcast* or follow her on Facebook. (See page 5 for access to the podcast.)

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An Experiment in Hide Processing

By Kasey Disbro, Samm Linton, and Forrest Schmitt



The ARI experimental archaeology team beside the hide they are tanning. (L-R) Samm Linton, Brayden Foster, Kasey Disbro, and Forrest Schmitt

Here in the experimental archaeology department at ARI, we are always looking for new avenues of research and exploration. Many times, our research in one area leads to new exciting places, as we gain the knowledge and skill to build on what we have already learned. For example, as was reported in the Summer 2025 issue of *Field Notes*, our research into how salt was produced by indigenous populations in the Ohio River Valley led to experiments in ceramics and pottery-firing techniques. As we continue to grow and develop these skills, it will allow us to tackle larger projects.

One of the skills that we have identified as an essential building block moving forward, is the creation of leather. Putting a timeline on the use of animal hides as clothing or coverings is extremely difficult. Certainly, our ancient ancestors must have covered themselves with hides to be able to survive in the harsh climates in which they lived. However, because of the perishable nature of this material, it is very difficult to find in the archaeological record. With that being said, humans had almost surely mastered leather working by around 8,000 BCE.

The use of this pliable and relatively durable material gave humans several advantages. Leather clothing made it possible to survive outdoors in inclement weather. Leather footwear allowed for greater mobility. Of course, leather was used for more than just

clothing. In some places, it served as the covering for structures such as the tepee.

Leather was used to make containers to store things, even liquids. Leather was made into lashing for tying materials together, and was braided or twisted to make bowstrings. So, we believe that making leather is an important skill for any experimental archaeologist and/or survivalist to have.

We set off on our leather-working adventure thanks to the donation of a cow hide. At this point, our hide was mostly unprocessed. The cow had been butchered and much of the meat removed, but a lot of the skin and fat remained attached to the fur. We needed to remove this material down to the proper layer of skin before we could proceed with the tanning process. To do so, we strung the hide on a frame and used tools made of chert (as Native Americans did for thousands of years) to scrape the excess fat away, but with time as a factor, we were compelled to finish the process with modern steel blades and processing tools.

At this stage, we utilized our salt-making knowledge to coat the hide in salt, drawing the extra moisture from it and limiting bacteria growth. After allowing it to salt for two days, checking in to reapply more salt from time to time, we washed off the hide and went back to thinning and scraping, then we left it stretched out on a rack to dry.



Removing fatty tissue from the hide is not a job for persons with a weak stomach.

The next step in the process was the tanning. Tanning is the chemical process by which raw animal hide is turned to leather. Different groups throughout history have used all manner of ingredients to tan hides, ranging from urine to oak bark. The main forms of tanning solutions can include (but are not limited to) a mixture of minerals, oil, and acids. In the area around ARI, ethnographic research shows that one of the methods of hide tanning used by indigenous cultures involved using the animal's brain. (Shoutout to Justin Dean and the guys at Carriage House Farms for the assist here!)

Brain matter, we learned, contains a naturally occurring oily substance called lecithin that softens and lubricates the hide, so it won't turn stiff as it dries. The brain is mixed with fats, (we used beef tallow), and emulsified, then spread across the entirety of the area that we wished to tan. Then came the waiting.



The team experimented with both chert scrapers and modern steel blades. They found the steel blades more efficient, but wondered aloud if ancient tanners, accustomed to using chert, might have disagreed.

We allowed our tanning solution to sit on the hide for 24 hours. After inspecting the results, we realized that more time was needed. So, we made another solution, this time using eggs (also high in lecithin) and fat, which we left on the hide for three days. This still did not get us to the tanning point, so we played with the recipe and reapplied, leaving this solution on the hide for a week.

Between each application the hide was washed and scraped to open the fibers, allowing the solution to penetrate the layers of skin. This also helped to soften it some, but more softening and stretching needed to be done. To do this, we cut a tree stump to have a rounded point. Several of us then sat around the tree stump and grabbed the edges of the hide, pulling and dragging it across the point. This helped greatly. When we did not have enough people to handle the hide, we placed it on the stump and beat it repeatedly with a mallet.



Samm and Forrest applying the tanning solution.

As this article goes to press, we are planning the final step in the tanning process – smoking the hide! This involves creating a fire, using partially rotted hardwood that produces a lot of smoke and very little flame, then suspending the hide over the fire and smoking both sides. We will report the results in a future edition of *Field Notes*.

Since organizing our experimental archaeology team, we have covered such topics as cordage, pottery, and flint knapping, and we have many more fun and educational workshops planned for the future! If you enjoy reading about experimental archaeology, please join us for the workshops that we host in conjunction with Artifact, Rock and Fossil ID days, held the second Saturday of every month from 10:00 am to 2:00 pm. at our ARI headquarters, 126 W. High St., Lawrenceburg, IN.

Hunters and Gatherers of the Archaic Period 8,000 - 1,000 BCE

By Kay Jackson-Frankl, ARI Volunteer

This article is the second in a four-part series on the archaeological time periods of human history in North America before the arrival of Europeans. The previous edition addressed the Paleo Hunters who first populated the Americas as the last ice age was coming to a close. They were a nomadic people who traveled with the migrating herds of mammoths and other Pleistocene mammals. This issue focuses on the people of the Archaic Period, whose survival was dependent on their ability to adapt to a rapidly changing environment.

Settling Down: The Archaic Period

For thousands of years human beings had been arriving to the Americas and facing a new and unfamiliar world. These Paleo-Americans survived through their abilities to be resilient, adaptable to change, and in tune with their environment. These traits would enable them to survive through the rapid changes of the Archaic period.



A group of students are seen here launching spears with atlatls as part of the ARI experimental archaeology program. The atlatl was a huge step forward in hunting technology developed in the archaic period.

A Changing Environment

During the nearly 7000 years of the Archaic period, the landscape underwent many transformations. The Last Glacial Maximum and its Arctic landscape gradually gave way to a warming climate with hardwood forests and varied grassland prairies.

Through habitat loss and hunting, Indiana Megafauna, such as Dire Wolves, Mastodons, Giant Sloths and Giant Beavers, went extinct, and they were replaced by smaller prey such as whitetail deer, rabbits, and squirrels along with black bears, elk and many smaller animals that live here today. Additionally, the retreat of the glaciers left excellent freshwater sources teeming with fish, shellfish, and waterfowl. The Archaic period was favorable for the development of rich and varied

grasslands, wetlands, and forests. It was the type of environment conducive to developing the necessary skills for replacing the nomadic hunter-gatherer living style of the Paleo-American period with the semi-settled Archaic lifestyle of hunting, gathering and very early agriculture.

Eastern Agricultural Complex

The development of agriculture was a critical contributor to the broader pattern of adaptation and innovation seen during the Archaic period. Agriculture allowed for an increased and more stable food production and storage. This supports a larger population and more permanent settlements. It was the combination of all these developments that marked the Archaic period as a time of significant transformation.

During the Archaic period in the Ohio-Kentucky-Indiana area, agriculture emerged with the development of the Eastern Agricultural Complex (EAC) characterized by the cultivation of local plants like sunflower, squash, native chenopod, amaranth, maygrass, sumpweed, little barley, and possibly erect knotweed. Descendants of the original EAC plants are still found at the Guard Archaeological Preserve in Lawrenceburg, Indiana.



Stone mortars and pestles were used in archaic times to grind seeds to make a meal for baking and for thickening soups, as well as to create medicines, beverages, paints, and dyes.

New Tools for New Tasks

Archaic-period people developed a variety of tools that reflected defined roles and their ongoing adaptation to changing environments and diversified subsistence strategies. Among those tools were:

- Grinding tools: Mortars and pestles for processing plant foods
- Woodworking tools: Grooved stone axes and gouges
- Hunting tools: Spear-throwers, or atlatls (used to enhance the accuracy and force of projectile throwing). Atlatls significantly improved hunting during the Archaic period by providing greater velocity and force. An atlatl is usually constructed from wood, bamboo, bone, or antler and functions as an extension of the arm.
- Smaller side-notched points: More suitable for dart-based hunting, replacing the larger fluted points
- Farming tools: Such as hoes, hand rakes, digging sticks. Mussel shell attached to antlers and then attached to longer branches were used as hoes and rakes.



The full-groove axe, the earliest form of stone axe in North America, was developed during the Archaic period between 7,000 and 9,000 years ago. It was primarily a wood-chopping and splitting tool, but might also have been used in other tasks such as chert quarrying and splitting animal bones to get to the nutritious marrow.

The more stable lifestyle provided sedentary "time-off". With no external "screen" distractions, the people found time to celebrate and express their creation stories, tales of travel and hunts, and stories with spiritual significance.

Crafts such as beading, basketry, sewing, woodworking, pottery, and experimentation with cooking, tools, and herbs now had the time to be explored.

Lifestyle

- Housing and Technology: The typical house was a small, circular structure framed with wood and likely covered with bark.
- Subsistence: Many methods for cooking, including heating rocks in containers of food, baking in pits, and roasting were developed. Their diet included a wide range of mammals, fish, birds, and many roots, berries, fruits, and tubers. Game-gathering devices like nets, traps, and pitfalls were utilized, along with spears, darts, and spear throwers. Fishhooks, gorges, and net sinkers were also important, and in some areas, fish weirs (traps) were constructed.

By the end of the Archaic period, the people had developed far beyond the nomadic Paleoamerican Hunter-Gatherer. Tools had been invented that had not been seen before in the Americas. The use of new food sources and creation of new tool types made life easier by the standards of the time. Basketry facilitated the collection and storage of new plant foods, while grinding stones made hard seeds edible. The development of the atlatl and notched projectile points to go on the ends of atlatl "darts," and the creation of birding and small-game nets, and fishhooks all contributed to a more reliable subsistence base. All of these advances led to the congregation of larger groups, a more sedentary lifestyle, and an increase in social complexity.

It was time for the next advance in technology.

References:

Adams, Jonathan, NORTH AMERICA DURING THE LAST 150,000 YEARS

<https://www.esd.ornl.gov/projects/qen/nerc-NORTHAMERICA.html>

<https://www.britannica.com/topic/Eastern-Archaic-culture>

Cochran, Donald R (2004) Culture History of Indiana

<https://www.bsu.edu/-/media/www/depart-mentalcontent/aal/arms20culture20history.pdf?la=en&hash=17D59CA395273825405480168C-DE8E4B8FFA4F1A>

Reed, Paul, Archaic Period, Africa, Americas, and Oceania, chapter in 2024, Encyclopedia of Archaeology (Second Edition)

<https://www.sciencedirect.com/topics/social-sciences/archaic-period>

ARI ROCKS

On Artifact, Rock and Fossil ID Day!



Fred Porter brought in several nice artifacts including this outstanding $\frac{3}{4}$ -groove axe.

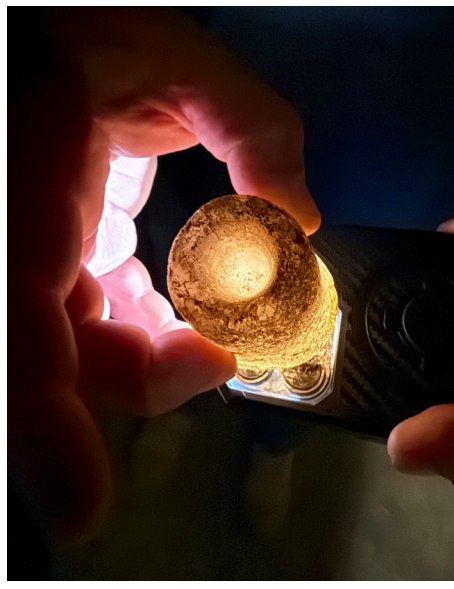


Steve Loving and Carter are showing their artifacts to ARI Volunteer Geologist, Craig Williams.

Do you have a collection of artifacts, rocks, or fossils that you've found, or that have been passed down through the family? Would you like to know more about them, or would you just like to show them off to some people who would love to see them? If so, come and join us at the Archaeological Research Institute for "Artifact, Rock and Fossil I.D. Day," held on the second Saturday of every month between 10:00 a.m. and 2:00 p.m. It doesn't matter how big or small your collection might be. It could be a single fossil, or big assemblage of ancient Native American artifacts. We appreciate them all. Everyone is welcome, young and old alike. ID Day is fun, educational, and best of all...it's free!



Amy, Dave and Luke Vest investigate a chert point with volunteer Don Davidson



This translucent quartz pipe brought in by the Vests was a big hit!



Tom and Janice Bogner brought in this rare sandstone pipe pre-form.

Latest Happenings at ARI!

By Samy Norris & Molly Miniard

While things are starting to wind down here at ARI, field season and the last part of summer has been nothing but busy for the team here. From Speaker Series and seeing familiar faces to outreach and conferences, only one thing has been on the experimental archaeology teams mind: trebuchets! Pumpkin STEM is back and bigger than last year with all of the new trebuchet updates.



ARI Alum Sara Polk came “home” to ARI in September to tell us about her work as Curator of Archaeology at the Ohio History Connection.



(L-R) Forrest Schmitt, Louis Herzner, and Larry Sandman represented ARI at the September 20th Switzerland County Archaeology Day event in Vevay, Indiana.



ARI staffers, NCCC team members, and volunteers combined forces to prepare the trebuchet for the upcoming Pumpkin STEM event.



(L-R) Rachel Sharkey: Director of Public Archaeology, Louis Herzner: Director of VALOR, and Samy Norris: Director of Programming in Washington, D.C. for the Conference on Public Archaeology.



Members of the trebuchet team applying metal bands to reinforce the trebuchet's massive throwing arm.



November

1st.....2nd Annual Pumpkin STEM Festival 11:00 AM - 6:00 PM
 8th.....Artifact, Rock, and Fossil Identification Day 10:00 am - 2:00 pm
 8th.....Hands-On History Mini Workshops: Ceramics 10:00 am - 2:00 pm
 18th.....Happy Hour History Speaker Series: Gwynn Henderson & David Pollack 5:30 PM - 7:30 PM
 20th.....Winter Solstice Activity
 25th-28th.....ARI CLOSED for the holiday
 29th.....Small Business Saturday 10 am - 5 pm

December

13th.....Artifact, Rock, and Fossil Identification Day 10:00 am - 2:00 pm
 13th.....Hands-On History Mini Workshops: Fire Making 10:00 am - 2:00 pm
 24th- Jan 2nd....ARI CLOSED for the Holidays

2026! HAPPY NEW YEAR!

January

10th.....Artifact, Rock, and Fossil Identification Day 10:00 am - 2:00 pm
 10th.....Hands-On History Mini Workshops: TBD 10:00 am - 2:00 pm
 14th.....Happy Hour History Speaker Series: Speaker TBD 5:30 PM - 7:30 PM

ARI is open to the public for experiences on Wednesdays and Saturdays at 10 AM & 2 PM!

Become a member today!

**Help keep programming
free and accessible for all!**

