Quest #201: Maine Digs

Christine Young, Program Host: Coming up on Quest: How just a few remains, like fluted points, can tell archaeologists so much about people who lived in Maine so long ago as the last Ice Age. Scientists have many more clues to work with about other prehistoric people like the Lost Red Paint People of Maine. These are the ones who buried their dead with copious amounts of red paint, but they may not be as mysterious as we thought, and how archaeology can be used to tell us more about our more recent history too. Quest is next.

(Music)

Christine Young, Program Host: These archaeologists have no idea what they'll find in this dig. Sometimes they aren't even sure what they're looking for. Like many archaeologists these days, they're hired to find whatever they can. In this case, they're working for one of the natural gas pipeline companies vying for a route through the state of Maine. Before permission can be granted for the pipeline it must first be proven that no important archaeological sites will be destroyed during the construction of the pipeline. You might say that this is a golden age for archaeology in Maine. As we hear in this story by Dana Hutchins, it doesn't really matter why the archaeologists are digging. The results they're coming up with are well worth it.

Dana Hutchins, Segment Host: Archaeologists are remarkably more knowledgeable about prehistoric people than they were just 25 years ago. Meticulous scanning of ancient shorelines, like here in the Seboomic Lake area of Northwestern Maine, or the more typical sifting through soil has paid off well for these social scientists. Despite this painstakingly slow work, we know quite a bit about the original inhabitants of what is now Maine.

Thanks to archaeologists, we know people lived here continuously for 11,000 years, ever since the last Ice Age. But how can archaeologists be sure about anything that took place so long ago. It hasn't been easy tracing the first people who called Maine their home.

(Music)

Dana Hutchins, Segment Host: Other than symbols they painted or engraved on rock cliffs, theirs was a spoken language only, so the clues for figuring out how they lived are often in small, seemingly insignificant objects that got left behind.

Rick Will, Archaeologist: It's exciting; it's thrilling; it's not Indiana Jones, but each time you discover a new archaeological site you see something that someone hasn't seen for a couple of thousand years. It raises your level of adrenaline. It's fun; it's intellectually interesting and it keeps me busy most of the year.

Most of the time you think of archaeologists digging square holes. Well, much of the archaeology that we're doing now isn't involved in digging square holes, it's involved in identifying scatters of artifacts and recording what's there. Archaeology on these shorelines requires a very intimate knowledge of artifacts, how they're made, so you'll understand what they look like. The average person walking on the shoreline may not necessarily recognize the flag or spear point or arrow head. It takes quite a bit of training, but once you've looked at these things a little bit, walking along the shore with your eyes focused on the ground for odd pieces of shaped stones allows you to identify where you are and what you're seeing.

Jim Clark, Archaeologist: Out on the lake from time to time we find artifacts that suggest that people as early as 10,000-10,500 years ago were living in Maine. They were traveling these rivers. They were living on these lakes, which is a pretty exciting thought, when you think of it, to think of people on the landscape in Maine 10,500

years ago. Some of the really interesting questions that we're asking about Paleo Indian people, where did they come from, where did they go, what types of things, how did they live, what kind of resources did they take while they lived here that are the identical questions that we ask about all people, that we continue to ask about all the people that lived here right up to the historic period.

Dana Hutchins, Segment Host: While Rick and Jim finish up the dammery licensing project for Great Northern, Kathy Wheeler and her crew survey along a power line easement in southern Maine.

Kathy Wheeler, Archaeologist: Basically, the archaeologists are glorified trash pickers. We find the materials that somebody else has thrown behind, and if you're talking about early Paleo-Indian times, we're going to find the chips from the stone tools they were making and historic tools. In historic areas we literally find the garbage that people have thrown out, whether it's their broken plates or the nails and the window glass of their houses that have been abandoned and razed.

Dana Hutchins, Segment Host: A byproduct of the environmental movement was a new awareness of how construction can destroy valuable evidence of our past.

Kathy Wheeler, Archaeologist: In the 1960's there was an Historic Preservation Act that was passed and that, I think, laid the groundwork for the first generation of CRM (Culture Resource Management) people to go out. A lot of the archaeology prior to that had been done through academicians and research institutions, but when the federal government got into it they decided there are resources out there. That if you're going to put a road through, we don't want it to disappear so we're gonna make them set aside a little bit of money and do archaeology as part of an environmental impact statement. And then I wonder what a 21st century archaeologist is gonna' note when they start pulling apart our sites and looking at what we've done to the environment as well.

Dana Hutchins, Segment Host: Besides construction, Maine's acidic soil destroys bone and other organic materials from archaeological sites, and private collectors damage sites even more by removing artifacts from their context or association with the other materials in the ground. Everything is important to the archaeologist. Even a microscopic seed like those found in the pollen record.

Heather Jacobson, Paleo-ecologist: Palenology is the study of types of pollen and it gives us a view of primarily what the forests were like. As everyone knows, trees give off lots of pollen in the spring and that pollen is preserved in lake sediments. The lake sediments give us a continuous record of what trees, what forest types lived in that area. Every little segment of core is a mystery and it yields secrets if you're willing to take the time and the effort to look for 'em. One of the really fun things for me, is when I go out into a peat land in Maine, or I stand up on a high ridge and look out over the landscape. Because of the work I do, I can see that landscape change through thousands of years.

Dana Hutchins, Segment Host: Archaeologists bring in experts in many fields, both before and after the actual dig. A multi-disciplinary approach makes for better science and it saves time and money.

Karen Mack, Archaeologist: These figures we create by taking the information we collected in the field and taking an image from a topo map which we scan into a computer, and we can then lay our data over that scanned image and produce a map with our data on it. So we end up with a map of the study area with our individual find spots where artifacts have eroded out and sites where we've actually found and packed archaeological material, and we can then compare that with Alice's geological interpretation of the different areas of the river.

Alice Kelley, Archaeologist: So when we looked at the air photos we realized that there were sound geological reasons why there were no sites there, so we combined that information to then come up with a way of ranking the various segments of the river that we needed to survey to concentrate on areas with the highest potential.

Karen Mack, Archaeologist: Within the last probably five years we've started to use a laser transit system in order to lay out a grid on the site we excavate. The laser transit is used with a prism, which the laser shoots to a prism ... we hold the prism on a spot that we want to measure, we shoot a specific straight line to, or measure the depth of, that's when a laser comes in, the laser comes from the transit and meets the prism, and that's how we get our readings. And our readings are recorded in a hand-held computer which we bring back to the lab after we've done excavations and download into a computer here, so it allows us to get specific coordinates of where artifacts are within the site while we're out there instead of just mapping freehand.

Dana Hutchins, Segment Host: Probably the single most important scientific method to come along to help archaeologists is radiocarbon dating. The ability to measure the amount of radiation in an object from prehistoric times and determine how old it is has proved to be invaluable. Radiocarbon, or carbon 14, is in the atmosphere and is absorbed by both plants and animals. When they die they stop taking in radiocarbon and it begins to decay at a known rate. Scientists convert the sample to gas and measure how much radiocarbon is left in the object, which tells them how long ago the plant or animal died. C14 dating is only accurate for organic objects up to 45,000 years old. Beyond 45,000 years scientists use other isotopes like potassium argon.

Technology helps speed up the site and lab work, but there's still a lot of interpretive work that needs to be done.

(Drums, then music)

Michael Gramley, Archaeologist: I try to remember that the objects that we find in the earth were made by living, real people. After all, what we're finding in Maine, Northwestern Maine, are the traces of early hunters. Children perhaps learned to hunt with their fathers and their uncles and they experienced their first kills there and they won a living for their family and all these things must have transpired there, and all we have are these mute objects in our hands. They saw places that no human being had ever seen before. They had opportunities that no one would have subsequently. The Vale site, in particular, is the largest, in a sense the most important site that we've found and we found a number of satellite sites associated with it.

Typical tools from the Vale site, of course, are these highly distinctive fluted points, Clovis spear points, which, I have argued, tipped thrusting spears.

I might add, the Vale site, although it was the most gratifying site, and most productive of artifacts, the site that was most informative in that regard was just south of the Vale site. This was the Adkin site and this is the one for which I have this monograph.

We found, in effect, a single tent location with an associated meat cache and perhaps three or four hundred stone artifacts, and we were able to glue them back together again and show actual human behavior. In fact, the locations of these objects when we plotted them allowed us to infer that there was a tent with six to eight people who lived in it. We found that these ancient people had skidded up enormous rocks and made a ring around a shallow pit that they had dug. The pit was only 10 or 12 inches deep--20 centimers deep--and there was a doorway, a gap, and to one side was lying a very large rock which I took to be the door stone; although I couldn't prove it, it seemed logical. They must have roofed this over in some fashion, perhaps with logs and earth and then froze it.

Now, you may ask, why go to such elaborate lengths to construct such an in-ground refrigerator or cache or meat store. I always argue that, well, have you ever seen a wolverine. Wolverine is the notorious cache robber of the north. It is said that no two men can lift a rock heavy enough that a wolverine can't move it. Well, here are these rocks too heavy to lift. You can push them. So I think this was a meat store or cache that was made

to protect the contents from something like a wolverine.

Well, after we found it and mapped it and I showed it to many people and everyone concurred that it was a man-made construction, we made steps to move it.

Dana Hutchins, Segment Host: Before the valley was flooded again, archaeologists carefully labeled each stone and transported them to the Maine State Museum where they welcomed a visitor to the exhibit "12,000 Years in Maine." But where did these Clovis people or Paleo Indians come from and why did they migrate to Maine?

Bruce Bourque, Archaeologist: The reason Paleo Indian artifacts are so uniform across the continent is, we think, because they spread very rapidly after their initial entry into the New World and that entry, apparently, took place across a land bridge connecting Siberia with Alaska. During the Ice Age so much of the world's water budget was tied up in glaciers that sea levels were hundreds of feet lower than they are today and that part of the world is a shallow sea which was emerged as a land surface until about 12,000 years ago. Why didn't people come earlier? Well, because they had first to learn to live in Siberia which is a very harsh environment. Once they learned to do that, then they got onto this land bridge. They didn't use it as stepping stones. They weren't headed for America; they were headed for making a living on that land bridge and as the sea level rose they eventually found themselves in what's now Alaska, and then into the east and followed the glaciers as the glaciers retreated and as plants moved into the environment and animals moved in to consume the plants, finally there was a food source for humans.

Dana Hutchins, Segment Host: Paleo Indians used certain kinds of fine-grained rock for tools and spear points. Chert and rhyolite were their rocks of choice and they would travel many miles to find them. They would seek out mines like this one in New Hampshire.

Steve Pollock, Geologist: The Native Americans beginning with the Paleo Indian period and running into the archaic period came to this locality repeatedly to mine the stone material they used to manufacture their tools. So everything we're going to look at here is constructed by the humans, much like things today, are interested in economic materials. This mine is approximately 30 feet deep by about 10 to 11 feet high by about 5 to 7 feet wide and the people excavated all of the rhyolite that was in here.

Dana Hutchins, Segment Host: Stone tools and weapons quarried in Maine have been found at Paleo Indian sites throughout Maine and as far away as the Delaware Water Gap.

About a thousand years after these Paleo Indians showed up in Maine they seemed to disappear. We know this because their weapons, the Clovis or fluted-point ones, seemed to have vanished around that time. Ecological changes which coincide with the disappearance of many Ice Age megafauna, such as the woolly mammoth, may have pushed the Paleo Indian into new territory. They could have been absorbed into other groups of hunter/gatherers that had migrated to Maine or they could've simply adopted other stone points that were becoming popular all across North America. Considering how old these remains are, it's a wonder archaeologists have any clues at all to unearth.

Michael Gramley, Archaeologist: In southern Illinois where I do a great deal of field work, we have one of these earliest places where the Paleo Indian, if you will, had abandoned their older lifestyle, the peripatetic lifestyle and had begun to settle along the Mississippi River, and to fish and to hunt and to gather foods.

Dana Hutchins, Segment Host: Until archaeologists find more Paleo Indian sites there will be many unanswered questions about the earliest Mainers. Yet we've seen how even a few artifact discoveries can tell much about these earliest of Maine people.

(Music)

Christine Young, Program Host: Climate and soil conditions here in Maine do not lend themselves to the preservation of our past. We're left with just a small fraction of what can be found in other parts of the country. Yet, despite this, archaeologists continue to find numerous hints about the people who came before us here in Maine. Even the most insignificant-looking remains can say much to archaeologists and occasionally there are finds so important that they shatter long-standing scientific theories. Barbara Noyes Pulling explains.

(At the Maine State Museum with people talking, followed by music!)

Barbara Noyes Pulling, Segment Host: Archaeologists have been finding the remains of the so-called Red Paint people for more than 100 years, but it's been in just the last couple of decades that a mystique has developed around these people who once prospered in Maine.

But it's easy to see why these people enamored us so. They've been called the Red Paint people because of the spectacular way they buried their dead. They smeared or dusted the deceased with lavish amounts of red powder and added many of their possessions to their graves. The red paint was only used for burials. Sometimes the bodies were found in the fetal position with knees brought up to the chest.

Bruce Bourque, Archaeologist: In many hunter/gatherer societies people who lived without agriculture, the individuals are buried pretty much where they died, in the floor of the house, for example, where they died and so we don't have cemeteries, so cemeteries by themselves are a kind of a significant ritual statement of a strong-felt group identity.

Barbara Noyes Pulling, Segment Host: Yet even more mysterious is why these people virtually disappeared. They seem to have been wiped off the face of the earth.

(Music)

Barbara Noyes Pulling, Segment Host: These long-lost Red Paint people, considered to be a people separate from other Indians living in the northeastern part of the country about 4,000 years ago, but there are some archaeologists who are taking another look at these people and the mystery surrounding them.

David Sanger, Archaeologist: Just recently we've learned that the red ocher burials in New England go back 8,500 years, or 6,500 BC. As a result, we have had to rethink the presence of red ocher burials in northeastern North America, and it's quite clear now that, for perhaps 6,000 years, people shared an interest in red ocher with the dead and it was not a short-term phenomenon, but a very deep-seated phenomenon.

Barbara Noyes Pulling, Segment Host: Evidence of the Red Paint people has been found all around Maine, but they seemed to prefer coastal areas.

One of Maine's most important archaeological sites is at the Turner Farm on North Haven Island. Since it was discovered in the early 1970's, the Turner Farm site has been methodically excavated and its artifacts have been exhaustively researched. It shows us that people had been living on this island for at least 5,000 years, living on fish, birds, and small mammals.

Bruce Bourque, Archaeologist: It wasn't until I began looking in some older collections and began to do excavations at the Turner Farm site that we realized that big fish, particularly cod and swordfish, were very important to their economy and that began to fill in for us a little bit of the cultural flavor to these Red Paint cemeteries which were otherwise pretty uninformative of lifestyles.

Barbara Noyes Pulling, Segment Host: Five thousand years ago the Gulf of Maine was much warmer. That's why swordfish, a species that prefers the more temperate waters of the Gulf stream, were found along Maine's coast.

Bruce Bourque, Archaeologist: Because they're marine-based they have an interest in technology by comparison to folks who spent most of their time on land. These maritime hunters around the world very often developed long slate spear points that are sometimes in excess of a foot long and they're beautifully made. The ones in Maine, I think, are probably the nicest in the world, I'm biased, but they really are exquisitely designed and very, very meticulously shaped and decorated.

Barbara Noyes Pulling, Segment Host: Over time, the Gulf of Maine changed, being transformed into a more productive place for plant and animal life and indigenous people began to take advantage of that by coming to live along the coast.

Bruce Bourque, Archaeologist: It's during that time period when swordfishing was becoming a way of life that these cemeteries began to emerge. The earliest ones we have are just about at the beginning of that time period, just about 5,000 years ago.

Nathan Hamilton, Archaeologist: Perhaps the florescence of arts and crafts as we know them, may be a result of that rich, stable productivity that the Gulf of Maine and the landscape of northern New England affords and it's really getting to the long-term environmental history of the northeast.

Barbara Noyes Pulling, Segment Host: Erosion along the Maine coast has left us with only a few sites that are as rich in archaeology as the Turner Farm. This area is rare because prehistoric peoples lived here for many thousands of years and they left much for us to study and wonder about.

Near Blue Hill there's another place called the Nevin site. An astounding number of Red Paint people artifacts were found here. Also, this is the only spot in Maine where their human remains were actually found. This is because they were preserved by the shells under which they were buried.

Nathan Hamilton, Archaeologist: So we have an older excavation at Nevin, in the '30's, and a more modern excavation by Dr. Bourque at the Turner Farm site. The two provide complementary sets of data, different sets of data, but complementary sets of data about the Red Paint people, the Susquehanna folks, and the ceramic period people, which may be more closely related to modern-day folk.

Barbara Noyes Pulling, Segment Host: The red ocher powder they used in their burials comes from iron ore. It's the same pigment so often used in New England to paint barns red, but why these people used ocher to bury the dead is not clear. The color of red often represents blood, or life. They could have also used it in their burials to help the dead journey to the realm of the spirits.

Nathan Hamilton, Archaeologist: You often look at this and you say "Why would so many objects be placed in a grave?" These may be objects to help the individual in the next life. These may be objects to help the individual. Look at all the materials, how they're divided up. Burial of objects by gender. There are patterning there. Burial of objects with children. Certainly, they may be something to assist in life after death or spiritual world or spiritual domain.

Barbara Noyes Pulling, Segment Host: What's so perplexing about the Red Paint people is they seemed to proliferate so rapidly here, then disappear. This is like some scientists to question whether or not they were a separate people. Instead, they could've been much like others living at the time with the exception of a very impressive tradition of burying their dead.

David Sanger, Archaeologist: Twenty years ago when the evidence was not nearly as good as it is today, we were aware of the fact that people as far west as the Great Lakes participated in red ocher burials. We know now, thanks to work by Brian Robinson, that burials, the red ocher burials, go back to 6,500 BC and that is just as early, if not earlier, than the red ocher burials in the Great Lakes area. Therefore, I see no reason now to assume that the idea of red ocher came from the Great Lakes area.

(Music)

Barbara Noyes Pulling, Segment Host: This would help explain the disappearance of the Red Paint people. Rather than dying off or leaving to find food elsewhere, they could have simply changed how they buried their people. It was not long after the Red Paint people disappeared that cremation became popular among Maine prehistoric people. It's possible that others, migrating into the area, carried new ideas with them, but the enigma surrounding the Red Paint people is one of the more fascinating riddles for archaeologists.

David Sanger, Archaeologist: It's a big mystery. I think of it as the greatest mystery in Maine in archaeology. It's a bit paradoxical, but at the same time that the greatest number of burials occur is the time when it terminates very abruptly.

Barbara Noyes Pulling, Segment Host: Perhaps the biggest difference between Paleo Indians and later prehistoric people was the development of clearly defined cultures from region to region in North America. Paleo Indians were remarkably similar from coast to coast, but the prehistoric people who came after them had distinct regional styles to making stone tools or burying their dead.

Go to your left a little, Bill.

Barbara Noyes Pulling, Segment Host: What's most interesting for most of us are the more general questions of how and where they lived.

David Sanger, Archaeologist: They lived a lifestyle in which the accumulation of a lot of personal possessions was not a goal. So they lived a rather stripped-down material culture and, of course, what we'd love to know more about is what went on in their heads, because I don't believe for a minute that was stripped down or simple.

Barbara Noyes Pulling, Segment Host: Even in matters this basic there are some myths that archaeologists are just beginning to shatter. The clues are still hard to find.

Usually scientists will find artifacts along riverbanks or at the inlets or outlets of lakes. Oftentimes, local people find them first, such as farmers plowing their fields, or sport fishermen walking along their eroding riverbanks.

Archaeologists have essentially been going through their garbage. Fish, beaver, and deer bones left in fire pits have been preserved for nearly 10,000 years, yet not all bones survive as well as others. Beaver, muskrat, and moose seem to preserve the best.

Kristin Sobolik, Archaeologist: Animals that are larger, such as the moose, or pig, or goat, or any dense animal–like here in Maine, the beaver, has very dense bones, so those types of animals tend to preserve better than say, birds, which have very hollow bones.

Barbara Noyes Pulling, Segment Host: Berry seeds they leave behind can tell us a great deal as well.

Kristin Sobolik, Archaeologist: Well, if we find raspberry seeds in the site we know that they were eating raspber-

ries, or strawberry seeds, grape seeds, or pine hulls, or pine cones, we know that they were eating that as well, and so we can get an idea of what people were eating. But, also, just by finding raspberry or strawberry or pine cones in the site we know the environment that they were in and even the seasonality.

Barbara Noyes Pulling, Segment Host: There have been significant digs done around the state and they've yielded many important artifacts.

When excavating sites like these, archaeologists take great pains to get as much information as they can from each lump of dirt. They scrutinize all the sediment they shake, through quarter-inch mesh, and when they think they've found something, trowels and brushes are used delicately. Then the findings may be packed in plastic bags for closer examination in the lab. Much is photographed as well. In that way, they have explicit records when they're done and have to cover the site back up.

Yet, despite this painstakingly careful work, an excavation will end up destroying any site. That's an archaeological fact of life.

Dee Lustusky, Amateur Archaeologist: It's important philosophically, but we're disturbing it, I mean, we're digging it up. We are taking the good pieces--what we define as the good pieces--out and everything else is being sifted and then when we're all done we backfill, so it's homogenized. When it goes back in it's all the same. So, we're destroying it.

Barbara Noyes Pulling, Segment Host: Yet there are other sites in Maine that scientists have more access to and these make excellent training areas for amateur archaeologists.

This field school of the Abbe Museum in Bar Harbor is on an expedition in nearby Gouldsboro. Here, 20 students dig to uncover long-abandoned Indian sites. Sometimes native Americans participate in the digs. For Mike Sapiel of the Penobscot nation it's been the experience of a lifetime.

Mike Sapiel, Amateur Archaeologist: I think I've had the bug for six years. I mean, the first arrow I found along the river, it just, wow, this is neat! I've got to look for more of these and I did. I've done it for six years and this is the first dig I've been on. This is the first time I've done it with any archaeologists. I think it's really interesting.

(Music)

Barbara Noyes Pulling, Segment Host: This site was first excavated in the 1930's by the museum. Artifacts found here date back to 5,000 years ago. Some are from Red Paint people. Many of these artifacts are now on exhibit at the Abbe Museum.

This one site has been used by the field school for the past two years. Because the people working on a dig such as this are not professionals, they may not be as careful with evidence as a trained scientist would be. Yet field schools have been used by the museum for six years now with good results.

Rebecca Cole-Will, Curator, Abbe Museum: Doing it this way is very slow. People will say, "Oh, the paperwork, the paperwork," but I think it really brings home to them that when you excavate an archaeology site you are, in a sense, destroying it so that there is a huge responsibility to make sure you do it right.

Barbara Noyes Pulling, Segment Host: Once in a while there are other opportunities for people interested in the archaeology of Maine to help out on a dig. For the past two years a land trust in the Boothbay area has sponsored a project on Indiantown Island.

Deb Wilson, Indiantown Island Project Director: This entire dig is unusual. There isn't another one like it in the state of Maine today. It's unusual because it's a research project. Oftentimes, projects are development projects. They take place in the context of hydroelectric licensing. So as a research project there is a real interest in many people becoming involved in it because these kinds of sites really ... we really get an opportunity to excavate them.

Barbara Noyes Pulling, Segment Host: Out on the southern tip of this island in the middle of Boothbay Harbor is one of the largest shell middens in mid-coast Maine. The people who left this huge pile of discarded shells lived here several thousand years before Europeans arrived.

The crew of professionals and volunteers have used state-of-the-art remote sensing equipment to get a picture of the various layers of shells and other artifacts at the site.

Man: Okay, that's good, I think. It's a little noisy, but it's about 3.5.

Barbara Noyes Pulling, Segment Host: Some of these techniques have never been used before on a shell midden.

Like other sites from several thousand years back, Indiantown shows that people then were making pottery and were beginning to grow some of their own food.

They still hunted, trapped, and gathered foods, but the people that lived here at Indiantown also had settled down in a village-like lifestyle.

We've long assumed prehistoric Indians moved with the seasons. In the summer they went to the coast to hunt and fish if they lived close by. In the spring and fall they camped along rivers in search of food, and the winters they spent in the interior of Maine hunting large game. But more recent archaeological work shows there was less migrating with the seasons than we had thought, especially for those who lived along the coast. Evidence is mounting that a large group of prehistoric people began living year-round along the coast several thousand years ago, like in the Casco Bay area.

Nathan Hamilton, Archaeologist: Part of the interest in pursuing Casco Bay is you can walk to Sebago Lake in one day. I'm thinking, there is a large substantial body of fresh water. We can walk there in one day. It's not like a 5-day hike to Moosehead Lake or to Suncook Lake. Now that is an area that we might be able to look at that summer/fall/winter/spring occupation and see how they're using the landscape.

Barbara Noyes Pulling, Segment Host: How does Hamilton know this? It's the result of about 20 years of archaeological research along the coast of Maine by him and other scientists. What they found called into question some older theories. It's kind of more romantic to think that all Indians moved with the seasons and it's intriguing that the Red Paint people could have been a distinct group that flourished here in Maine.

Yet it's the job of scientists to poke holes through theories when they find enough evidence to disprove them. Scientists will continue to disagree over what happened to the Red Paint people, and what makes archaeology so interesting is even when a myth is exposed there may be a whole new set of question to answer with precious few clues.

David Sanger, Archaeologist: People tend to feel that it's all right that because you've found the arrowhead and that gets people into archaeology, but finding things is not important anymore. It's finding out about things which is the important thing. That's the excitement of it, that discovery.

(Music)

Christine Young, Program Host: There may be yet another myth that those interested in archaeology may have to let go of. Traditionally, the older the find the better, the more interesting it is, but there's a whole new area of archaeology opening up which many people dismissed just a few years ago. The archaeology of the more recent past, such as the past 400 years, is coming into its own and scientists are finding that it brings with it a whole new approach to learning what we thought we already knew a lot about. Kate Arno has more.

(Music)

Kate Arno, Segment Host: Archaeologist Alaric Faulkner can use digital technology to make this small shard of broken pottery look whole again. It helps that the jug he is trying to reconstruct is only a few hundred years old, for he has other models of artifacts to compare it with.

But, what kind of archaeology is this? Does a colonial clay pipe really classify as an artifact? Faulkner and many other archaeologists would answer yes. They're part of a fast-growing trend in archaeology to study colonial and more recent times.

Alaric Faulkner, Historic Archaeologist: Once a way of life has become extinct it's just as extinct whether it occurred a decade ago or whether it occurred 20,000 years ago.

Kate Arno, Segment Host: For many archaeologists though, and most of the public, the mentality is often "the older, the better."

Tad Baker, Historic Archaeologist: People think that prehistoric sites are rare, but some of these early historic sites are incredibly rare too, and they're being lost to development all the time.

Kate Arno, Segment Host: Tad Baker teaches at Salem State College in Massachusetts. He summers in Maine and spends most of each summer digging up a colonial farm, sawmill, or whatever else he finds.

Tad Baker, Historic Archaeologist: I started working in southern Maine in the mid-80's, in the boom years, and we were losing sites all the time to the backhoe and construction, and in most cases people didn't even know what was being lost, and when you informed the property owners, you said, gee, there was a very interesting, important archaeology site, they were usually more upset about it than I was.

This is all from the Chadbourne site which was the home of a wealthy family in what is now South Berwick, a house that was probably built in the 1650's and destroyed in the 1690's.

We know about these people from several different ways and one way that this is different than prehistoric archaeology is we have a probate inventory of this house that was made in 1667 when Humphrey Chadbourne, the owner, died and at the time he was one of the very wealthiest men in the state. So we know some of the objects that are there, and have some idea of the wealth and that can be reflected in some of the things that we find. Even something as simple as window glass.

Windows were very expensive in the 1600's and we know from the hundreds of pieces of window glass we found on this site that these people had lots of windows. Back then if you bought and sold a house sometimes you would take the windows with you, just like today we argue over the washer and dryer, back then they'd argue over who got the windows.

Barry Rodrigue, Historic Archaeologist: Was it above the water or was it a raft with a line?

Man: No, no.

Kate Arno, Segment Host: Across the state near the Forks an archaeologist is working to retrace an old road that carried many French and Irish immigrants back and forth between Maine and Canada.

Barry Rodrigue, Historic Archaeologist: Well, it all started back with stories from my family who came down the Canada Road around 1825. So those stories began the whole process and then we found the old surveying notebooks and the old maps of the first road dated 1817 and 1818. It came down right across the Dead River here or, as it was called, the West Branch of the Kennebec.

Kate Arno, Segment Host: The Canada Road was a unique link between the two countries that was built in the early 1800's before railroads came along. Some of the Canada Road is now Route 201. Some is now used as snowmobile trails and other parts are completely overgrown.

Barry Rodrigue has already retraced the old Canada Road using old surveyors' notes and computer-assisted mapping.

Barry Rodrigue, Historic Archaeologist: This is a global or geo-positional system, GPS, and it hones in on four orbiting satellites and will give you your longitude and latitude to within, oh, 50 to 100 feet anywhere on the face of the earth and here we are at 45 21' 156", 69 59' 16".

We took the coordinates from the map and the survey book, reconfigured it on the computer. The computer drew out a line for us of what the road would have looked like, which we then laid down on top of the topographical map and, therefore, you can trace where the road would have been.

Man: I know that's where ... my mother was born in that place and my great-grandmother/father lived right across the road here.

Barry Rodrigue, Historic Archaeologist: and so there's another cellar hole ...

Man: Yah, a really small one, place, yah.

Kate Arno, Segment Host: With the road mapped out Rodrigue is now trying to fill in more of the history of the once traveled route.

Barry Rodrigue, Historic Archaeologist: Cellar holes don't lie and if you're relying on documentary evidence, if you're relying just on oral tradition, if you're relying on diaries or newspaper accounts, those are all impressions that one or two people had, or a newspaper editor had, but if you go out and you find a cellar hole, you can't argue that it's there. It is there. Then you attach a story to it, a diary entry, a business ledger entry, and you accumulate information and you can test the sources by balancing them off against each other. That's a closer approximation of truth than you can ever get, this inter-disciplinary approach.

Kate Arno, Segment Host: Like this abandoned house in Moose River, Maine, one of the oldest standing buildings on the old Canada Road.

Ruth Reed, Jackman Resident: The Holden house was established in 1842. This is on the Canada Road and was about 15 miles from the Canada line and it was a stopping place for, well, travelers, woodsmen and anybody that came along.

Kate Arno, Segment Host: Rodrigue combines computer know-how with the most basic kind of research, oral history, talking with locals.

Ruth Reed, Jackman Resident: I've gone over this stuff so much I know everybody that lived here back in 1834. My sister and I used to say when we'd go and look in the graveyard, we knew more people there than we did in the town itself.

Barry Rodrigue, Historic Archaeologist: You find the stories, the letters, the photographs, behind who came here and why they came here. We horse-trade information and think through projects, it's a joint experience. It's teamwork, everybody pools their ideas and we can come up with an approximation of what might have happened there.

Even driving down the road or sometimes catch a certain contour of land off in the woods and jam on the brakes and run into the forest and, sure enough, behind this little rise of soil and leaves there's a cellar hole.

Kate Arno, Segment Host: The Canada Road had been part of a trail system used by prehistoric and European settlers. After farmers settled Maine, the road was used to get cattle to market in Quebec City which many found closer than Boston. Traffic going south on the Canada Road included many immigrants, Irish and French-Canadians, who at the time assimilated easily in the new frontier of Maine.

Barry Rodrigue, Historic Archaeologist: See, there's an attitude in Maine that the interior of Maine was a very provincial, narrow, isolated experience. Quite the contrary, 1820's 1830's it was probably one of the more cosmopolitan, exciting areas to be in.

Kate Arno, Segment Host: For links to our colonial past archaeologists have found a number of historical treasures along the Maine coast. At the time, many countries were vying for Maine and the Maritimes. In the 1600's alone the French, English, Scottish, and Dutch all had footholds in this new world.

Music

Kate Arno, Segment Host: In the process of fighting to keep what they had found here they left some interesting remains behind, especially their forts. Archaeologists have saved two major fortifications that were close to being destroyed by development and the elements. Pemaquid was a series of forts in what was supposed to be a permanent English village. Fort Charles, Fort William Henry, Fort Frederick were all names for fortifications built in this one area. All of them were either captured by other countries or abandoned by the British. The forts of Pemaquid are among the earliest-built structures in Maine and some of the best preserved.

Robert Bradley, Historic Archaeologist: They've got just about everything but the kitchen sink here in terms of artifacts. ... covering the entire Colonial period. There are civilian artifacts, domestic artifacts, and military ones, of course, because of the series of forts.

It's very difficult for us in the late 20th century to put ourselves in the shoes of the settlers who came here in the 1620's, trying to understand living in a place like this year-round. Getting up in the morning in a thatched-roof, half-timbered hovel on a January morning with the wind coming in off the outer harbor is a very sobering thought.

What it tells you is that the economic incentives for coming to a place like this must be powerful indeed. The land was cheap, you could become a landowner in Maine, something that very few people could become in a place like England because of the laws and traditions and the class system. You could become very wealthy from fishing, from fur trading. Overnight.

Kate Arno, Segment Host: It actually was a self-taught archaeologist who discovered Pemaquid. The late Helen Kamp saw artifacts literally sticking out of the ground as a bulldozer was moving dirt around in the 1960's. Tens of thousands of artifacts were found here and now many of the structures have been stabilized and are open to the public.

Robert Bradley, Historic Archaeologist: One of the important things that archaeology can do for us is to disprove some of the things that come down to us in the historical documents.

Now these folks from Massachusetts claimed that the eastern settlements were lawless, immoral, horrible places. Of course, ungodly. And yet when we excavate Pemaquid we find a variety of range of artifacts, from all over Europe, with high quality things, high quality glassware, high quality ceramics and pottery, high quality hardware and so on, indicating this place wasn't poverty stricken and lawless, Deadwood Gulch in the 1650's. It was prospering; it was doing very well.

(Music)

Kate Arno, Segment Host: Tens of thousands of artifacts have also been dug up in the ruins of the French fort Pentagoet in the Castine area. In its heyday Pentagoet was the capital of French Acadia when the French controlled the fur trade, cod fishing, and lumbering from the Penobscot River eastward into Canada. The fort lay forgotten, buried along the coast underneath the back lawn of a small Catholic church in Castine.

(Bells)

Kate Arno, Segment Host: Late in the 1600's the fort was destroyed by the Dutch. Its buildings were burned and many of its walls leveled. What was left laid buried under several feet of stone rubble; that was, until 1980 when archaeologists noticed that the ocean was eroding the ruins and exposing some impressive remains.

Alaric Faulkner, Historic Archaeologist: We had expected to find, oh, maybe 20% of the site there. We found out that when we got down to the very bottom that we had about 98% of the site was completely well preserved. That is, the original floor plan.

Kate Arno, Segment Host: The permanent stone construction of Pentagoet shows the French were committed to the area. It's an architecture reminiscent of rural France. Yet the people based in French Acadia considered themselves aristocrats and they brought with them many amenities.

Alaric Faulkner, Historic Archaeologist: The folks here tried to maintain the highest fashions of dress imaginable. They would wear spurs on their heels and swords at their sides, even though swords were pretty well obsolete weapons at this time, and spurs–they had no horses to ride. This was simply a matter of dressing the part of cavalier.

Kate Arno, Segment Host: The good life can be seen in the remains of the food they ate, clothes they wore, their ceramic utensils, even the pipes they smoked from.

Alaric Faulkner, Historic Archaeologist: This item that you see here is a rechaufe, or rather a rechaufoir, which is an item for keeping food hot at the table, so these folks were dining at the table with little barrel costrels filled with a brandy, made of the same ware and keeping their serving, their platters warm over this, essentially a plate warmer and what would be in the platter? Well, if we look over here we have the skull of a bear. We found several of these and notice it has been sliced in half for service on a platter.

We find that the French here at Pentagoet had a great penchant for fowl and would eat–you've heard of four and twenty blackbirds baked in a pie. Bird meat pies were very fashionable and they stuffed in them every kind of plover, small birdie, tweety birds, snipe, whatever, that they could shoot.

Kate Arno, Segment Host: Yet only half of the Pentagoet Fort has been revealed. There is most likely a considerable amount of clues about the early French settlers left buried in the lawn of this Catholic church. The forts at Pemaquid haven't been fully excavated either. Probably hundreds of thousands of artifacts could be unearthed and most probably a wealth of knowledge here about the science of preservation. Yet to some archaeologists this poses a good question as well. Should we try to save some of the remains for excavation by future scientists?

Robert Bradley, Historic Archaeologist: It's important to recognize that archaeology as a science is still pretty young and that a hundred years from now, or two hundred years from now, my successors are going to have far better field techniques and far better laboratory techniques, and far better artifact conservation techniques, and analysis techniques than we have today. They're going to make us look pretty primitive in terms of how they do archaeology, and we need to bear in mind that when you dig something up you're destroying the site. You're destroying the site as surely as if you were using a bulldozer. You can't go back and re-excavate a site that's been done.

Kate Arno, Segment Host: It seems archaeologists are deciding not to fully excavate sites like these. Part of it is they don't have the money to preserve or even safely store many of the artifacts, but they're also becoming more conservation-minded.

Robert Bradley, Historic Archaeologist: It's, oh, so tempting to go in there; it is so tempting and it's in some ways very frustrating to realize that so much will not be uncovered in my lifetime. But it would be being selfish to take any other point of view. Nobody would forgive me a hundred or two hundred years from now if I were to advocate it and gone ahead and excavated the whole of Pemaquid. I would not be a hero, I would be a villain.

Our scarce resources need to be devoted to investigating sites that are not going to be around tomorrow, but equally it is important to preserve as much of the important sites that can be preserved for future generations to investigate.

Christine Young, Program Host: The science of archaeology is getting better and what these archaeologists are digging up now will only become more valuable in the future. As we get better at interpreting relics we may have to change our assumptions about the past. For now, the digging will continue in Maine and if the past 20 years are any gauge, the more the better, because in that short time Maine archaeologists have uncovered a wealth of artifacts from those who were here before us.

I'm Christine Young. I hope you'll join us next time on Quest when we go underwater in search of shipwrecks. Until then, thanks for joining us.