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INTRO
WHAT HAPPENED AT JAMESTOWN?
BOUGHT AND SOLD IN WILLIAMSBURG
THOS. JEFFERSON, SLAVE-MASTER

ALAN ALDA We're having a typical meal that slaves here in Virginia might have eaten around 1770. And this is the kind of house they occupied. We know this because archeology about the lives of American slaves has, just in the last few decades, been recognized as an important area of study. On this edition of Scientific American Frontiers, we're delving into the secrets of our country's past.

ALAN ALDA (NARRATION) We'll find out how the other half lived at Williamsburg.

GENE MITCHELL That's why they're doing the extra things that they need to do to survive.

ALAN ALDA (NARRATION) We'll see the inner workings of Thomas Jefferson's plantation at Monticello.

FRASER NEIMAN In goes the food, but the slave server stays outside.

ALAN ALDA (NARRATION) And we'll explore the Jamestown fort where so much of this history began.

ALAN ALDA I'm Alan Alda. Join me now on a journey Unearthing Secret America.

INTRO

ALAN ALDA This is Monticello, the beautiful house that Thomas Jefferson designed and built over the course of about 40 years, starting in 1770. Jefferson was a man of seemingly limitless abilities, matched only by his endless interests. He was an architect, a musician, a scientist, a horticulturist, an agronomist, a wine connoisseur, a diplomat, a tremendous book collector -- his library formed the basis for the Library of Congress. Of course it was his hand that drafted the Declaration of Independence, his vision of America that prompted the Louisiana Purchase and the Lewis and Clark expedition to explore the West. President

Kennedy put it pretty well when he told a gathering of Nobel Prize winners that they were the greatest assemblage of talent in the White House since Jefferson had dined there alone. Jefferson loved Monticello. He returned to this Appalachian mountaintop -- Monticello is Italian for "little mountain" -- in search of relief from the burdens of office and the vicissitudes of politics. He said, "I am as happy no where else and in no other society and all my wishes end, where I hope my days will end, at Monticello." His days ended here in 1826, when he was 83. But Monticello, and Jefferson, represent a paradox. This place was not just a fine country house, it was the center of a large estate -- a 5,000 acre plantation, with 4 farms and many support activities. Here on Mulberry Row there was a carpenter's shop, a blacksmith, stables, storehouses -- and most of the workers were slaves. There were slaves in the kitchen, slaves in the house, slaves in the fields, slaves in the nail factory -- slave children in the nail factory. The man who wrote that all men are created equal was a slave owner all his life, with about 120 slaves here at Monticello, half of them children. Jefferson was in fact against slavery in principle -- he called it an "abominable crime" -- but sadly he couldn't live up to that conviction in practice. That uneasy relationship -- between what you know and what you do -- could be applied to American archeology until remarkably recently. Only in the last 20 or 30 years have scientists recognized the lives of slaves as a subject worth investigating, worth basing an archaeological dig around. Now there's a wealth of information coming out -- how slaves lived, where they lived, what they ate, even their social lives. That's what our second story in this program is about, concentrating on the extensive digs that have taken place here at Monticello, and 120 miles east of here at Williamsburg -- projects that have truly been unearthing important American secrets. But first, we're heading to where it all began -- Jamestown, the first permanent English settlement in America, and the colony that brought both representative government and slavery to this continent. Archeologists have found what they thought was lost forever -- the site of the original fort on Jamestown Island.

WHAT HAPPENED AT JAMESTOWN?

ALAN ALDA (NARRATION) I'm travelling with an archeologist and a climate expert, and we're about to cross the James River in Virginia. We're heading for one of the last untouched baldcypress swamps in America, with trees that can be 1,000 yeas old. The swamp may contain the key to understanding the terrible death rate suffered in the English colony set up on Jamestown Island in 1607. From our ferry we could see the island, which for the colonists was apparently very badly situated.

DENNIS BLANTON One of the English writes, "We took most of our drink from the river, which was very brackish and makes us sick."

ALAN ALDA (NARRATION) There could be a simple explanation for the bad river water.

DAVID STAHLE In drought years with very poor flow the brackish and salty waters intrude well upstream of Jamestown.

ALAN ALDA When the Indians visited them that one time and said, "You better start praying to your gods for rain," did they start to put two and two together then? Did they say, "Why, why should we pray for rain? Is something wrong?"

DENNIS BLANTON I think they were flattered by that comment more than anything. Because, in fact, what this Indian chief said -- and he lived just upstream from here -- was, "In the same way that your guns and your ships are better than our bows and arrows and our dugouts, your god may be more powerful than ours. So please pray to him for rain, because our god is not sending any."

ALAN ALDA (NARRATION) Jamestown Island is just 1600 acres, jutting out into the river. It's about 40 miles from the southern end of the Chesapeake Bay. The ancient cypress swamp is here, and we'll get back to that later in the story. But first we'll head to the Island. In 1994 there was a major breakthrough when the colony's original fort was unearthed.

BILL KELSO My interest in this particular piece of land here was that church site. And what you see there is a reconstructed church, but in front of it is a church tower from the seventeenth century.

ALAN ALDA Did you think that the fort would be near the church?

BILL KELSO Yeah. The first description was that the church is in the fort, then it's at the center of the fort. These are from historical documents. VOICE "A low level of ground about half an acre is cast almost into the form of a triangle, and so palisadoed. The south side next the river contains one hundred and forty yards, the west and east sides one hundred only. In the middest is a marketplace, a storehouse, and a corps du guard, as likewise a pretty chapel."

ALAN ALDA (NARRATION) It had always been thought that the fort had eroded into the river, but Bill Kelso reasoned that if the existing church - right behind him here - is on the site of the original chapel, then the fort should still exist.

BILL KELSO Okay, this way a little more. Am I excited? You better believe it.

ALAN ALDA (NARRATION) A private group, the Association for the Preservation of Virginia Antiquities, acquired the site in the nineteenth century to preserve the church. They agreed to let Kelso dig.

BILL KELSO Here's a musket ball, and a piece of pottery.

ALAN ALDA (NARRATION) Kelso's first shovelfuls contained Colonial artifacts, and over the next 3 years the shadowy outlines of post-holes and walls were revealed. The fort, abandoned and forgotten by about 1625, had been found.

BILL KELSO We found holes that were dug in the ground where there were supports, but they were very small supports, and we think it was this crude at first.

ALAN ALDA What would this have been?

BILL KELSO Probably a barracks. Because here you have a military outpost.

ALAN ALDA (NARRATION) Kelso's team tried reconstructing the fort's palisade. The colonists built their fort over just a few weeks - without the modern conveniences - when they were attacked by Indians soon after arriving.

ALAN ALDA You don't have any other supports? You just have this stuff going straight in 18 inches?

BILL KELSO That's it. When you put each one of these posts side by side they support each other. And then we also found that we had dirt left over which would have been a shot platform. This would have acted to support one of those huge….

ALAN ALDA Oh, I see, so you have a little backing here with the dirt.

BILL KELSO You could be standing here. And, also this obviously is a problem, if you're worried about arrows…

ALAN ALDA Yes, so what about that? You could get arrows shot through there.

BILL KELSO We figured that they probably put saplings in there, just pounded them in at this point. But up here they'd leave it open because...

ALAN ALDA They can shoot out.

BILL KELSO ...shoot out.

ALAN ALDA (NARRATION) As I was looking around the site, I thought there was something about Bill Kelso's story that didn't quite fit.

ALAN ALDA This fence, it doesn't seem to encompass the church. It seems to go at an angle that won't include the church.

BILL KELSO Aha. Right. We were wrong. The church wasn't in, this church, at least, was not in the center of the fort. But it's...you know, so what?

ALAN ALDA (NARRATION) It was pure luck that the present church had been close enough to lead Kelso to the fort. Even with just an eighth of the fort area excavated so far, they've been able to build a picture of Jamestown's early days.

BLY STRAUBE We have evidence of what was known as the starving time. That was the winter of 1609, 1610, and most of the men literally starved to death.

ALAN ALDA (NARRATION) These deliberate cut marks in horse bones are just the beginning of an appalling story.

BLY STRAUBE They had six mares and two horses before that starving time.

ALAN ALDA They must have been pretty hungry to eat their horses, I mean you're eating an important part of your life.

BLY STRAUBE Exactly. Their transportation.

ALAN ALDA It's like eating your Oldsmobile or something.

ALAN ALDA (NARRATION) Even though they ate everything in sight, only 50 people out of 500 survived the winter. It's why the Jamestown colonists have often been dismissed as lazy and incompetent. They were clearly desperate:

VOICE "Nothing was spared to maintain life and to do those things which seem incredible as to dig up corpse out of graves and eat them, and some have licked up the blood which hath fallen from their weak fellows."

ALAN ALDA (NARRATION) But far from being lazy or incompetent, it now seems the colonists were well prepared and industrious.

BLY STRAUBE It's really unfair to portray the gentlemen who came here as a bunch of lazy, good-for-nothing guys who didn't want to get their hands dirty or blistered, because we have found a lot of evidence of things that they were busy doing, such as making window glass to send back to London.

ALAN ALDA Really?

BLY STRAUBE They thought they'd make a profit.

ALAN ALDA (NARRATION) The colony was a straightforward commercial venture. The main objective was gold -- this is a metal-refining still. They made their own pipes, and raising tobacco was another objective. Their plan for subsistence was simple and realistic - trade for corn, using jewelry made from sheet copper that they brought with them. They knew the local Powhatan Indians prized copper highly. Initially this strategy worked, but something went wrong. Indians stopped trading. Some attacked the fort. There were constant skirmishes. The fort site is filled with the leftovers of fighting. A couple of items showed up just in the short time we were there.

DAN GAMBLE This is a piece of chipped stone that's been flaked. But it's very distinctive in that these are really straight cuts. If this was natural, this would be more rounded. Probably American Indians did it. Probably to get a piece of stone for a projectile point. This is probably…well, this is. This is a piece of flint that the, or English flint, that the colonists would chip off bits and pieces to use for their weapons. This is not natural to the area, but this is a good find. This is a good find.

ALAN ALDA (NARRATION) The excavations also uncovered a mysterious casualty, whose remains are being analyzed at the Smithsonian's Museum of Natural History by Doug Owsley and Ashley McCowan, forensic anthropologists. From radio-carbon dating it's believed this could be one of the first colonists. They called it JR102C.

ALAN ALDA You have no idea what his name was?

DOUG OWSLEY No, I wish we did. You think he would jump out in terms of the historic record, but the record for this time period is such a black hole.

ALAN ALDA (NARRATION) Here's what they can tell from JR's bones. The pelvis says he's male. The skull dimensions and the straight tooth edges say he's European. The growth line in the leg bone says he's young, and the healthy teeth say he had good nutrition when growing up, so he was probably a gentleman. Then there's one more thing.

DOUG OWSLEY His right leg, his shinbone, is completely fragmented. And in place was this round ball. This is a lead ball right here.

ALAN ALDA So he got shot, huh?

DOUG OWSLEY He got shot. And it was essentially like a combat shotgun type of load, because when you look at the x-rays of it, not only was there this large round ball, but there were a number of small, buckshot-type pellets, and also lead fragments. It practically blew his lower leg off.

ALAN ALDA (NARRATION) The Indians didn't have guns in the early days at Jamestown. So what happened? The project set up ballistics tests using a reproduction of the type of musket the colonists used.

ALAN ALDA The big ball landed there, right?

FRED SCHOLPP Yeah, there is your main shot. It was aimed at right about here.

ALAN ALDA (NARRATION) They're using a shot-load matched to the X-ray of the young man's leg bone. There's one large ball with about 25 fragments. Here's a shot from 20 yards.

FRED SCHOLPP So we've got really a massive spread here.

ALAN ALDA If this is typical of the kind of spread you get, at that distance, then JR had to have been shot much closer.

BILL KELSO At closer range, absolutely.

ALAN ALDA (NARRATION) Next, a point blank shot.

MAN Fire!

ALAN ALDA That looked an awful lot like you were too close to come up with a pattern that JR had.

FRED SCHOLPP Let's see what we got here. We got unpleasantry.

ALAN ALDA Wasn't his spread out more?

FRED SCHOLPP Yeah.

ALAN ALDA (NARRATION) Next shot, at a range of 5 yards. And that's just about right. So JR couldn't have shot himself by accident, but maybe someone else shot him by accident. Fred Scholpp, the firearms expert, thinks he knows how it could have happened. It was standard fighting procedure for soldiers to fire from the front rank, and then retire to reload. Someone in the rear rank could have made a mistake, while reloading.

FRED SCHOLPP Present your piece, give fire, retire.

MAN Don't point that thing at me.

ALAN ALDA This is sort of from the front.

ALAN ALDA (NARRATION) But JR was shot from the side. The angles just don't work out with Fred's theory.

FRED SCHOLPP ...that plane. I don't know.

ALAN ALDA Well, now what? Where are you with the theory now? What do you think?

BILL KELSO That's his theory.

ALAN ALDA That's not your theory?

BILL KELSO My theory is that it was on purpose and that, you know...one less mouth to feed.

ALAN ALDA Right.

BILL KELSO In times of stress, people are starving to death, you resort to some pretty animalistic behavior.

ALAN ALDA (NARRATION) We made it to the swamp, 20 miles from Jamestown.

ALAN ALDA OK, I'm gonna watch. If you disappear, I'm not taking your path.

ALAN ALDA (NARRATION) These magnificent baldcypress trees contain the simplest explanation for all the colony's problems. It just takes a little work for David Stahle to find it.

ALAN ALDA You know, I'm sure glad that you're here today, otherwise they'd have me doing this.

DAVID STAHLE We're not gonna get much, fellas, not outta this one.

ALAN ALDA (NARRATION) We're looking for an old tree, but one that still has a solid center. David Stahle is part of a network of scientists who study cores drilled from ancient trees, in order to reconstruct the history of climate. The Jamestown colonists said their water was bad. The Indians said there was no corn to trade.

Maybe the colonists were incompetent, or the Indians were playing politics. But no, says David Stahle, there really was a drought. The annual growth rings in these cypresses record what the climate was doing in this region for the last thousand years.

DAVID STAHLE It's in two pieces, but…there you go, you can see you get about ten, twelve inches there of ancient cypress.

ALAN ALDA But it looks like you get about twenty to here.

DAVID STAHLE I would say, that outer inch has probably got more like a hundred.

ALAN ALDA Really?

DAVID STAHLE Yeah. I would be surprised if it didn't.

ALAN ALDA Yeah, I may need a new prescription, too.

ALAN ALDA (NARRATION) Actually you need a microscope. Each pair of dark and light bands represents one year of growth. In 1607, as the colonists arrived, the region began its driest 7-year period in 700 years. And 20 years earlier, the worst drought in 800 years simply wiped out an English colony set up at Roanoke Island in North Carolina.

ALAN ALDA You mean to say that they came over twice, and hit the worst droughts in hundreds of years, two times in a row?

DAVID STAHLE Monumental bad luck. I mean, phenomenal bad luck. Yeah, both, the two first English adventures in the new world, were both beset by drought.

ALAN ALDA (NARRATION) But the second adventure - Jamestown - succeeded. By 1612 the drought was over, and the colony began to thrive. America's first representative assembly met at Jamestown in 1619. Around that time the first Africans were brought in to work in the tobacco plantations, probably as indentured servants. In the rest of the program, we're going to look at the consequences of that fateful development.

BOUGHT AND SOLD IN WILLIAMSBURG

ALAN ALDA (NARRATION) It's about 1770, 150 years after the first Africans came to Jamestown, and we're a few miles away at Williamsburg - capital of the Virginia Colony. This is tobacco, foundation of the colony's wealth. The field

workers were slaves. By this time there were a quarter of a million African slaves in all 13 colonies, but they were concentrated in the Chesapeake region. These fields were part of Carter's Grove, a typical Virginia plantation, with 1400 acres and a fine mansion. A quarter of a mile from the mansion is a cluster of buildings built only 12 years ago - a historically accurate reconstruction of the Carter's Grove slave quarter. The estate had about 40 slaves. Up to 9 lived in this one room.

ALAN ALDA Oh, that's not much room at all, is it?

YWONE EDWARDS-INGRAM Not a lot of room. What we do have is the enslaved people would be sleeping on the floor.

ALAN ALDA It's a mattress made of corn husks?

YWONE EDWARDS-INGRAM Corn husks. And the blanket would be part of the plantation supplies, because the planters would be supplying some of the needed goods along with foodstuffs for the slaves.

ALAN ALDA How much time did they have for living? I mean, how many hours a day were they required to work?

YWONE EDWARDS-INGRAM The usual thing is they would be working from sunup to sundown. In the night-time and on the weekends, especially on Sunday, they would be doing their own gardening. So they were part of... trying to improve their lives everyday. They did make some effort.

ALAN ALDA (NARRATION) The reconstruction is based on excavations that Bill Kelso - who later found the Jamestown fort - did here in the 1970s. It was the first ever excavation of American slave dwellings, and the start of a new understanding of slave life. It's probably inevitable that modern reconstructions like this seem picturesque. They're surely cleaner and nicer than reality. We're going to be looking at the lives of slaves as seen through archeology. But lest we forget, the background to those lives was harsh in the extreme. The institution of slavery depended on violence and coercion.

GENE MITCHELL ...here Henrietta.

ALAN ALDA People don't willingly remain slaves. What were the conditions under which they were able to be kept in one place working, available for the work and not escaping, for instance?

YWONE EDWARDS-INGRAM Well, there were the slaves laws that really enforced the sort of brutal punishment to runaways or gave the slave owners absolute authority.

VOICES Whereas the obstinacy of Negroes cannot by other than violent means be suppress, be it enacted that if any slave resist his master and by the extremity of the correction should chance to die, his death shall not be accounted felony, but the master be acquit. Be it enacted that if any Negro or other slave shall presume or lift up his hand in opposition against any Christian, he shall have and receive thirty lashes on his bare back well laid on. Be it enacted that if any slave that hath run away shall be apprehended it shall be lawful for the county court to order such punishment, either by dismembring, or any other way as they shall think fit, for the reclaiming any such incorrigible slave and terrifying others from the like practices.

ALAN ALDA (NARRATION) We're at a recently discovered site near Carter's Grove. The network of laws that kept slaves entrapped took half a century to develop. Marley Brown, Colonial Williamsburg's Director of Archeology, thinks he's found a site which has some of the first evidence of slavery. Around 1680, a century before Carter's Grove, Thomas Atkinson acquired a small 64-acre plantation, and built a modest house. Soon after, he built another house for around 6 plantation workers. And then he built a fence between the houses. At the time, most workers were indentured servants from Britain, but Marley Brown believes the fence represents a deliberate separation of African slaves from the planter's house.

ALAN ALDA Can you tell from documents or from any other source what the thinking was behind that fence?

MARLEY BROWN Well, it's interesting. When you look at the legislation, it's slow to develop. But by 1660, early 1660s, you begin to see the first ordinances that are being passed to regulate the behavior of these imported African workers. And by the turn of the 18th century, 1705, you get the first colony-wide legislation that affects all slaves. So we see here this transition, but we see it in the ground, as it were, from the archaeological perspective.

ALAN ALDA (NARRATION) In the workers' house, they found what's become a classic sign of slave living. It's called a sub-floor pit - a kind of storage area discovered in slave housing excavations all over Virginia. Inside this one there were unmistakable signs of African occupants - beads of a type and color favored by West Africans, and pipes made of local clay, but with West African decorations. The planter's house also had a sub-floor pit. The English custom was to construct root cellars this way, but Africans had no such tradition. A century later, the slaves at Carter's Grove were still building root cellars under

their floors -- perhaps to acquire some at least semi-private space to store food or valuables.

YWONE EDWARDS-INGRAM Now, some of these get very deep. We have root cellars that were actually over three feet deep, some as large as nine feet square.

ALAN ALDA (NARRATION) Sub-floor pits have had a major impact on slave archeology. While in use they accumulated large quantities of household bits and pieces, which paint an objective portrait of slave life.

ALAN ALDA Do we have almost entirely a written record of what happened from the point of view of the white masters?

YWONE EDWARDS-INGRAM Yes, it's very much in favor of the white population doing all the writing. So when you look at the objects that is directly connected with slave life, they give you a different picture because by then you start to get some very unexpected finds.

ALAN ALDA Like what?

YWONE EDWARDS-INGRAM For example, we have gun flint, and we also find gun parts on sites. And guns were pretty much illegal. By law, they were things that were not allowed, but in practice, slaves were given guns. They were actually helping to hunt for the main house as well as for themselves.

ALAN ALDA (NARRATION) Some slaves led a recognizable family life, although the threat of separation through sale was ever-present. Some slaves bought possessions. Field slaves in particular could make money from hunting, fishing and growing vegetables. They took medicines - probably traditional remedies - and they had a powerful life of religion and ritual. Ritual objects are found throughout slave site excavations. Above all the impression is of poor people struggling to make the best of their harsh and oppressive circumstances. Lydia is a house slave. House slaves were regarded as more valuable than field workers, and were punished less. But they had endless hours, and - living on the job - they were usually separated from their families, often from childhood. We're on the main street of Colonial Williamsburg, at the house of the lawyer, George Wythe. After 45 years of exhibiting upper class life, in 1979 Colonial Williamsburg decided it was time to start interpreting the other half. So I'm heading back to 1774.

ALAN ALDA Hello.

HARRIOTT LOMAX (AS LYDIA BROADNAX) Oh! Good day to you sir! Now did the Mistress Wythe give you permission to come here to this kitchen and disturb me while I was trying to get her dinner ready?

ALAN ALDA I just wandered in. I wondered if I could ask you a few questions.

HARRIOTT LOMAX (AS LYDIA BROADNAX) You have curiosities for me sir?

ALAN ALDA How long have you been working here?

HARRIOTT LOMAX (AS LYDIA BROADNAX) Well, ever since Master George and Mistress Elizabeth was first married, and that was back in '55.

ALAN ALDA '55. That was...

HARRIOTT LOMAX (AS LYDIA BROADNAX) Master George brought me here from his plantation, out there yonder, in Elizabeth City County. Chesterville, 'tis called.

ALAN ALDA Who does all the cleaning up? Cleaning pots and things like that?

HARRIOTT LOMAX (AS LYDIA BROADNAX) Well, there be about ten and five of us Negroes here on this property. I'm the cook. I do the cooking, I go to market with Mistress Wythe. Now the dishes in the house that she uses upon the table? They don't come out here. Mistress Elizabeth has someone in the house to clean them up. But here, well, I see to it that the young-uns learn how to clean up them pots after all. Keep them young-uns busy. Keep them out of trouble. You know, idle minds be the devil's workshop, and the idle hands is, too. I needs to...

ALAN ALDA Oh, I'm sorry, you have to get to your fish.

HARRIOTT LOMAX (AS LYDIA BROADNAX) ...see to my fish, here, sir.

ALAN ALDA (NARRATION) Well the truth is Lydia would probably have got into terrible trouble for talking so freely to a white man.

HARRIOTT LOMAX (AS LYDIA BROADNAX) It's not coming along too good. I needs to put some more coals to this.

ALAN ALDA (NARRATION) And few white men would have had much interest in Lydia's life.

ALAN ALDA How about your family? Do you have a family here?

HARRIOTT LOMAX (AS LYDIA BROADNAX) Master George brought me here and left behind my momma, my sister, my brother, and a fella by the name of Tom, that...I believe he was gonna ask me to jump the broom with him, but Master George brought me here before that did happen so I ain't never jumped the broom.

ALAN ALDA Now do you... Let me ask you… Do you ever break out of character? Can I talk to you out of character for a minute?

HARRIOTT LOMAX (AS LYDIA BROADNAX) I don't understand what you'd be speaking of, sir.

ALAN ALDA Okay…

ALAN ALDA Why don't we sit under the tree for a minute?.

HARRIOTT LOMAX Of course.

ALAN ALDA (NARRATION) Slave life is a worthy subject for interpretation, in the same way that slave archeology is now a legitimate subject.

ALAN ALDA You know, you're terrific. How long have you been working on this character?

HARRIOTT LOMAX Um, the character that you just saw, about six years.

ALAN ALDA And have you done other characters, too?

HARRIOTT LOMAX Presently I am the cook for the Randolph property, her name is Betty. And Lydia and Betty don't get along.

ALAN ALDA So you get to talk about yourself, right?

HARRIOTT LOMAX Of course I do.

ALAN ALDA I think it must be interesting and maybe even troubling to people who are African-American now, to know that somebody spends her day, every day, re-enacting the life of a slave.

HARRIOTT LOMAX I feel like I am the voice of those... our ancestors who could not speak for themselves at the time.

ALAN ALDA (NARRATION) They try to get every detail right. We know from excavation that the master always got the big fish, for example. But getting things right, and not ignoring the record, has not been uncontroversial.

HARRIOTT LOMAX About seven or eight years ago we held an estate auction here. It was supposed to be one of our community events. And the news of that event was leaked to the media and it was broadcast as a slave auction. And we had wall-to-wall people down in front of the Wetherburn's Tavern, where that auction actually took place.

ALAN ALDA Protesting?

HARRIOTT LOMAX Yes.

PROTESTER This is an outrage. This is an outrage.

OFFICIAL We are trying to educate people here.

PROTESTER We think that you cannot portray our history in 21 minutes in front of a carnival atmosphere.

BIDDER 42 pounds sir.

AUCTIONEER 42 pounds?

BIDDER For a laundress?

HARRIOTT LOMAX You saw a free Negro purchasing his wife, who was a slave. Then you saw a skilled Negro who was a carpenter being sold off, along with his tools.

AUCTIONEER I remind you of the great value of this slave -- come , come.
BIDDER Sixty-five.

AUCTIONEER Sixty-five?

LYDIA'S PORTRAYER And then you saw a young man very elegantly dressed being sold off.

AUCTIONEER Delivery will be included.

BIDDER Sixty-two pounds.

AUCTIONEER Sixty-two pounds to Mr. Taylo.

HARRIOTT LOMAX And then the last person that was brought up to be sold off was that elegantly dressed man's pregnant wife. And you saw them being sold to two different masters.

AUCTIONEER Very well gentlemen, Mr. Nelson wins the bid at fifty pounds. Mr. Sergeant, is there any other articles to be auctioned?

HARRIOTT LOMAX And it was quite moving because some of those that came here in protest kind of stepped back -- I learned something today.

ALAN ALDA (NARRATION) Some of the most revealing results of the new slave archeology have shown us what slaves ate. The standard weekly ration for each adult was one peck of corn meal - that's 8 quarts - with a pound of salt beef or pork, and maybe a little molasses or salt fish. That's a little over 2,000 calories a day, not enough for hard manual labor. How did slaves survive? Archeologists now routinely run the dirt they dig up through a flotation tank. It's a way of separating out the tiniest pieces of seed and bone. Then there's a tedious and time-consuming process of identification. With fish, for example, they can tell the species, the size, and the frequency they were eaten. Sub-floor pits have turned out to be a terrific source of food remains like this. We always knew that slaves in the Chesapeake went fishing. Records show they sold fish to slave-owners, or at market. But it's turned out fish were a really important part of slave diet. Here's a comparison between the average slave master's diet on the left, and the slave's diet on the right. More than 90 percent of the master's diet was domestic animals, with a few wild animals - but only the best. Much less of the slave diet was domestic animals - with small pieces and bad cuts, too - but it included a large amount of fish and wild animals of all kinds. The conclusion is that slaves were hunting, fishing, gardening - doing everything they could to supplement the ration. This hominy is based on corn meal, but anything could be added.

GENE MITCHELL It's made out of beans -- any type of bean, kidney bean, black-eyed peas, whatever. And, ah, fat back, as well as ground corn.

ALAN ALDA Now, would this have been eaten every day?

YWONE EDWARDS-INGRAM Very much so. This would be part of their daily ration, in terms of-- a meal that you can cook slowly. You could start it in the morning, leave it, be cooking slowly while you were out in the field working.

ALAN ALDA Is what I have on my plate a portion that I would get at a meal?

GENE MITCHELL What I cooked today would feed about six people.

ALAN ALDA So, you wouldn't get much more than this on your plate.

GENE MITCHELL Probably. Probably not. Maybe a little bit more.

ALAN ALDA If you didn't have a fish that you'd caught, you wouldn't get enough to sustain you through a hard day's work.

GENE MITCHELL True. That's why they're doing the extra things that they need to do to survive.

ALAN ALDA Yeah.

ALAN ALDA (NARRATION) We're going to continue our exploration of the archeology of slavery when we visit Thomas Jefferson's Monticello, next.

THOS. JEFFERSON, SLAVE-MASTER

ALAN ALDA Is this plantation now the same size as when Jefferson lived here?

FRASER NEIMAN Er, no currently…

ALAN ALDA (NARRATION) I'm with Fraser Neiman, Director of Archeology for the Thomas Jefferson Foundation.

FRASER NEIMAN ...five-thousand acre plantation.

ALAN ALDA Did he get that all at once or did he get it in bits and pieces?

FRASER NEIMAN No, he got the majority of it at once as an inheritance from his father, Peter Jefferson, who initially set up shop about two miles east of here at a place called Shadwell. And then he subsequently did add to that over time.

ALAN ALDA (NARRATION) Thomas Jefferson's Monticello estate encompassed 5000 acres. To work the estate, he owned about 120 slaves - men, women and children, living around the house and at 4 farms up to 2 miles away.

FRASER NEIMAN This is a typical set up for an 18th century Chesapeake plantation in which, at least, for very wealthy tobacco planters and slave owners who typically would own too many slaves to physically be able to house them all in one spot.

ALAN ALDA (NARRATION) Jefferson was by all accounts a better slave owner than most. He wasn't violent, and he respected families. Slaves were simply his livelihood. He said, "I love industry, and abhor severity." Jefferson designed his house for slavery, but also to hide slavery. Slaves were beneath this walkway here, and further out along Mulberry Row, as it was known.

ALAN ALDA You can walk around the grounds where Jefferson walked and where his guests walked and not see the slave quarters, right?

FRASER NEIMAN Right -- trying to limit the pathways that slaves can take as they traverse the space between the dependencies on the one hand, where they actually work and live, and the house, on the other.

ALAN ALDA (NARRATION) The lengths Jefferson went to to separate whites and blacks is often taken as demonstrating his racism. He built underground passageways for the house servants, for example. Jefferson's racism was paternalistic and typical of the age. Slaves were his family, he said, you couldn't free them because it would be "like abandoning children." We're going to look at what recent archeology says about the lives of Jefferson's slaves. But first, Fraser Neiman took me on a tour of the house, from a slave's point of view. In this block slaves lived and worked - in the dairy, kitchen and smokehouse.

FRASER NEIMAN You can see how it's cleverly arranged so that meat would be... would hang in the room that we're standing, and the room next door here. But it would hang behind this stout locked door. And a slave could keep the fire going to smoke the meat in this little fireplace here without...

ALAN ALDA Without entering the room.

FRASER NEIMAN ...ever having access to the room where the meat was stored.

ALAN ALDA (NARRATION) The cook lived next door in an exceptionally comfortable 10 by 14 room with a brick floor. In later years the cook was a favorite of Jefferson's, Edy Fossett, married to Joe Fossett, the blacksmith.

ALAN ALDA So there was the kitchen, then... Oh was this the passage right here?

FRASER NEIMAN Yes, the passage is right here. And this is the subterranean passage through which all food was brought on its way to the dining room.

ALAN ALDA (NARRATION) Along here is Jefferson's wine cellar, where his attitude to slaves is still apparent.

FRASER NEIMAN One of its key features is a set of essentially wine elevators in which somebody down here could place bottles of wine in the carrier in the elevator.

ALAN ALDA So somebody could get the wine right from this cellar right up to the dining room.

FRASER NEIMAN Exactly. Again, a way of getting the beverage in without...

ALAN ALDA Without the person.

FRASER NEIMAN Without the person. Exactly.

ALAN ALDA There's something very eerie about that.

FRASER NEIMAN Yes, it's true.

ALAN ALDA It really seems to me to be a psychological response to the tension of benefiting from something he knew was deeply evil.

ALAN ALDA (NARRATION) Jefferson did benefit from his slaves. They generated the wealth that built his mansion, with its classical features that he carefully included in the architecture. Nevertheless he died heavily in debt and the house was sold, along with almost all the slaves.

ALAN ALDA So this is the main entrance? This is where visitors would come... The first thing they'd see?

FRASER NEIMAN Exactly. Yeah, it's this classical pediment with its columns, which are actually made of brick and then parged to look like stone. And we've just entered Monticello's main entrance hall.

ALAN ALDA (NARRATION) One visitor was struck by what he called the "unpleasant contrast" between the slave housing on Mulberry Row and Jefferson's "palace," as he termed it.

FRASER NEIMAN This is the parlor. If we'd come to visit Jefferson in the early 19th century we would have been admitted to the hall out here in the front which is a kind of receiving area. And, if one, I suppose, in some sense, passed muster, you might be admitted to this much more private living space. And you can see, if you look around, there's the highly decorated cornice. This, in a sense, is one of the most expensively decorated rooms in the house.

ALAN ALDA Are these paintings that he accumulated in the room?

FRASER NEIMAN He did, yes. His painting collection was really designed to raise the caliber of aesthetic taste in North America. And then, as we take a right, we enter the dining room -- a key room at Monticello. This is an area that's important to Jefferson, because it's a place where he entertained and fed his guests. But it's also important because it's where the world of slavery that supports the lifestyle in the house here intersects with the entertainment functions of the dwelling.

ALAN ALDA (NARRATION) Here's the top end of the wine elevator coming up from the cellar, that we saw along the underground passage.

ALAN ALDA Who would stand here, would Jefferson stand here?

FRASER NEIMAN Presumably, yeah, one of Jefferson's... Jefferson, or one of his family members, or perhaps a fellow named Burwell Colbert who was Jefferson's trusted enslaved butler. So it's a way of minimizing, I suppose, the contact, the social interaction between diners here and the world of slavery below. The other key feature of this room is this turning door. If we slide by it here you can see how it works. Again, it's a way in which food can be introduced into the dining room without people. Food would be brought through the covered passageway, from the kitchen, through the covered passageway, up the stairs here, placed on this, and then -- we can swing this -- and the food goes into the dining room, but the slave server stays outside. And then if we head down here, we can sort of trace in reverse the steps that the food would have taken, down these steps into the basement of the house. Walking into this little room, we suspect that this fireplace may have served as a place to help keep food warm on its trip. And as we head out this door, we'll hang a right and here we encounter the basement. Down the covered passage this way lies the kitchen...

ALAN ALDA Oh, that's where we came--.

FRASER NEIMAN Where we came through earlier today. And then as we continue on here, we end up at the wine cellar which is right below the dining room.

ALAN ALDA (NARRATION) "The dinner was always choice," a visitor from Boston said, "And served in the French style." But now let's head back out the underground passage, to the slave quarters on Mulberry Row. The first surprise is that there's almost nothing there. Jefferson's slaves lived in small log cabins -- like the ones reconstructed at Carter's Grove -- that have long since disappeared. Mulberry Row was the focus of Jefferson's constant search for productivity in his slaves.

FRASER NEIMAN The vegetable garden is really an interesting feature at Monticello. The version that we're looking at now was constructed between 1807 and 1809. You can see that it's been excavated from a, in a cut, a massive cut and fill operation, into the side of the mountain. This took a gang of twenty slaves over two years of labor to do. It was surrounded by this nine foot high paling fence. A fence that's designed not only to keep deer and rabbits out, but also, obviously, to keep people out. If we continue on down Mulberry Row, we'll come down to another of the domestic structures associated with the house. This one actually we call building "o". The name comes from a insurance plat, a map that Jefferson drew up as part of an insurance policy that he took out on the house in 1796.

ALAN ALDA (NARRATION) The famous plan that Jefferson drew for the Mutual Assurance Company of Richmond has been the starting point for all Mulberry Row archeology. There was some excavation in the 1950s, then 7 years of intensive digging in the 80s. Jefferson's buildings "d" and "j" were a blacksmith shop and nail factory. They yielded foundations for anvils, and lots of iron waste. The nailery, where a dozen slave boys age 10 to 16 worked, was one of Jefferson's many business ventures. But then there were surprises. Building "l", which Jefferson called a storehouse, yielded china, bottle glass and animal bones. So it was a house at some point. In fact slaves all over the region lived where they worked. And they found many sub-floor pits, which Jefferson had no cause to mention. Fraser believes he's identified an intriguing pattern with the pits. Between about 1770 and 1800, slave houses got smaller, while fewer pits were dug. Eventually there were no pits.

ALAN ALDA When you have a room that does not have a sub-floor pit, why isn't it there?

FRASER NEIMAN Well, because it's... the rooms tend to be small. And that suggests that what we're seeing in these small-room structures without sub-floor pits, is family-based living arrangements.

ALAN ALDA (NARRATION) If everyone in the house is family, you don't need a private storage area. The artifacts tell a parallel story. From excavations here and around the region, it's emerging that at the same time houses were getting smaller, slaves were becoming consumers. They followed their own fashions in china, for example. They bought their own decorative buttons. We know they made money hunting and gardening, and we know slave owners gave out gratuities. Perhaps the family living represented by smaller houses was part of the same system of rewards. To follow up this idea Fraser Neiman has been extending Monticello archeology out into what was, 200 years ago, Jefferson's plantation. Now the forest's growing back, but out here somewhere are the remnants of four farms with their slave quarters.

ALAN ALDA Where are we? We seem like we're really far from the main house.

FRASER NEIMAN We are. We are. We're at a part of Monticello that visitors, at the moment, never get to. We're about a half a mile from Monticello mansion. And we're at the center of what we've discovered over the last couple of years, the center of the settlement, slave settlement for Monticello's home farm quarter. If you kind of look around you here, you can see a scatter of test pits...

ALAN ALDA A test pit meaning you're looking to see if there's any former building there....

FRASER NEIMAN Exactly. Right. And we're looking for artifacts, remains of buildings, remains of places where people have gone in and dug a hole to get clay, for example, to plaster a chimney.

ALAN ALDA (NARRATION) So far they've dug 11,000 test pits, one every 40 feet, across 300 acres of Monticello's home farm. Eventually they'll dig 10 times that number, but already they've located 16 promising occupation sites. At this site, so far they've found two houses for field slaves, which they're just starting to excavate. But when I began to think about how you actually do archeology, I got more and more puzzled.

ALAN ALDA You dig around in the dirt. And when I dig around in the dirt, I just get more dirt, the further down I go. What do you get that's a sign? I mean, how can you say there's a hole there?

FRASER NEIMAN Great question.

ALAN ALDA (NARRATION) Here's the answer. First you strip off the trees - these have all grown since the farms were abandoned. Then you strip off the top layer that's been mixed up by plowing. Now you're down to subsoil.

FRASER NEIMAN We very carefully clean off the surface of the subsoil. And we can see, then, areas of the undisturbed subsoil, but we also see other stuff. For example, if you look right here, you can see a sort of rectangular, darker splotch. And that is a place where somebody two hundred years ago excavated a rectangular hole in the ground and then, when this site was abandoned, probably in the 1790s, that hole was an obstruction and it was therefore filled in with dirt. But the dirt that was used to fill it in was not the undisturbed subsoil. It was just gathered off the surface. So, as a result, it looks, the fill in the hole, looks radically different from the undisturbed subsoil surrounding it.

ALAN ALDA Have you found out what these holes were?

FRASER NEIMAN Well, these holes are really interesting to us, and in fact we only discovered them last week, or figured out what they were last week definitively. And they are sub-floor pits. And it's particularly exciting to us that there are three of them here.

ALAN ALDA (NARRATION) Three sub-floor pits is just what Fraser would expect, because the building is large and was built before small, single-family houses - with no pits - appeared on Mulberry Row. Fraser thinks the key to all these changes is tobacco. Since Jamestown it had created wealth, and demanded slave labor. Tobacco cultivation is labor-intensive. Slaves were organized in gangs all doing the same task, under the eye of an overseer. But in the 1790s the market collapsed. Jefferson, along with many other slave owners, switched to wheat. But wheat is much more complicated.

FRASER NEIMAN You've got to have crop rotations. You've got to have manure to fertilize the fields, so that... you've got to have plows, you've got to have draft animals to pull the plows, which means now you've got to have fodder crops as well. You've got to have skilled slaves who can fix the plows and take care of the draft animals. And all of a sudden the number of different work tasks that have to be accomplished goes up. And it's no longer possible to get them accomplished if all your slaves are in the same place.

ALAN ALDA Doing the same thing.

FRASER NEIMAN Doing the same thing. They can't. They can't all do the same thing at the same time.

ALAN ALDA They have to specialize a little bit.

FRASER NEIMAN Exactly. They have to be specialized and they have to be scattered across the landscape.

ALAN ALDA (NARRATION) The result, says Fraser, was a profound change - less coercion, more trust, more rewards, in the form both of single-family houses, and money too. Slaves, he believes, quickly grasped the opportunity to pry a better life from their masters, and the masters were stuck with it.

FRASER NEIMAN It increases the cost of running a management system that's based pretty much entirely on surveillance and the use, or threats of, actual use or threats of violence, to get people to work. And the, what I think happens with these more diversified agricultural systems, is that, slave owners begin to, or slaves force them to include a few more positive rewards in the labor management mix.

ALAN ALDA And one of those rewards would be to be able to live with your own family.

FRASER NEIMAN That's our current. at least my current, favorite explanation for the changes in architecture and the changes in settlement that we see at Monticello.

ALAN ALDA (NARRATION) It's likely that across the region, slaves were figuring out many other ways to improve their lot. I see that as a message of hope. Africans were brought violently to America, thrown together in random groups of strangers. Against all odds they developed family and culture, began to win the dignity of private life, and started on the long road to freedom.

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