



MASSACHUSETTS CULTURAL COUNCIL  
FOLK & TRADITIONAL ARTS PROGRAM

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Fieldworker(s): Maggie Holtzberg

Interviewee(s): Maggie Holtzberg

Event: First introduction to Travis Tuck's work (metal sculpting, weathervanes)

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Brief summary of tape contents: apprentice with Dutch sculptor, three ways of making weathervanes, the 19<sup>th</sup> century use of molds, Washburne, Cushing, repousee, uniqueness of pieces, commissioning of pieces, weathervanes as earliest weather instrument, how they work, engineering the Nittany lion, number of clients on the Vineyard, the story of how Travis got started making weathervanes, Steven Spielberg, number of weathervane makers in Massachusetts, construction of Nittany lion, cost, ARBANA. [We go into studio] the use of drawing pattern, the block used for hammering copper, more on the Nittany lion, the armature, the process, brazing, how the piece was commissioned from Penn State, the delivery of the sculpture, the lettering, gold leaf, copper, welding, training Tony, receptiveness to apprenticeship, finishing the lion, weighting and balancing, the manufacturing of the armature.

Counter no./ABS	Contents
	MH: Why don't you start by telling me your name and where we are right now?
	TT: My name is Travis Tuck. We're in the town of Vineyard Haven on Martha's Vineyard Island in Massachusetts.
	MH: And we're currently in a space that is going to change. Tell us about where we are now.
	TT: I'm in, well we're in my studio. This one I've been in about a year and a half. I was in the previous one for about nineteen years so this is sort of a transitional place for me. And I will be moving within a few weeks to a brand new studio, which is in a building I was able to buy in town and

renovate. And there I'll be working, have a studio and gallery on the main floor, and be living upstairs.

MH: That's great. That's a good transition to make, right?

TT: It really is. It's a nice one to finally, for the first time in thirty-five years, to not be paying studio rent.

MH: Tell us what you do for a living.

TT: Well, I'm a sculptor in metal. I trained with a Dutch sculptor in New York City from 1966-1970. And for the last twenty-five years or so I've been specializing in making one-of-a-kind copper weathervanes.

MH: Who was the Dutch sculptor?

TT: His name was Hans Van DeBovenkamp (sp?)

MH: He didn't make weathervanes?

TT: No, he didn't do weathervanes at all. He mostly did fountains and abstract. He is much more a contemporary sculptor. Living in New York that seemed to make sense. You know, moving to a place surrounded with traditional architecture and a real sense of history, the idea of taking a traditional form and really trying to elevate it currently to an art form, often it was in the 19<sup>th</sup> century. It seems like lately it has essentially been a by-product of sheet metal workers and stamper-outers in Taiwan. I wanted to try to get back to really using it as an expressive art form without copying what the 19<sup>th</sup> century people did but to give it my own spin and bring my training as a sculptor to bear.

MH: Can you tell me a little bit about the technique you're using, what it's called, and how it is different from the ones that are just stamped out?

TT: Sure. There are basically three ways to make weathervanes. The most common ones that you see in the garden catalogs and stuff are stamped out like car fenders. They have a mold and dye and they're typically imported and they sell for about \$150 bucks. They make ten million of them and pay somebody fifty cents a week in a third world country to put them together. Again, so that is sort of 99 percent of what's out there. The second level is a technique that was developed during the Industrial Revolution, around 1850. And there what they would do for, oh you know the old ones you see of a running horse or a cow, you know, rooster and so on. They do a wooden carving and then make a cast iron mold from that carving. A left and a right half - sort of like a cake mold. And once they had the mold, any competent craftsman could hammer copper into the mold and make an infinite number of identical weathervanes. They were still hand-made but the craftsman had no say in the expression on the rooster's face, for example. The mold did that.

MH: Who made the molds?

TT: That would have been done by the manufacturer. Most of them were small companies and I would assume that they'd have an artisan do the carving and the mold. They were famous for copying each other. If you look at the old Fiske ones, and Washburne ones, and Cushing ones, some of the old 19<sup>th</sup> century companies, they even lifted drawings out of each others' catalogs. It was before there was any real patent protection. So I'm sure the people who made the molds -sometimes they would literally copy their competitors- otherwise I'm sure they had artisans that would do the original. And there the actual creative part would be that carving. You know the pattern from which the mold is made. And then the third method, the one I use, is a technique called *repoussé* which literally translates from the French as a work from behind. And, essentially, what I do in building up a 3-dimensional creature out of flat copper sheet without using any molds. What I would do first is a drawing, a full-size drawing, and then dissect it much the way you would if you were making a garment, you know figuring out where the seams are so it will be full here and tapered there. The head will fit on the body, etc. Then what I do is make paper patterns of the various parts, again like making a garment. If I were doing a four-legged creature there would be the two sides of the body, the two sides to his head, and then I'll typically fitting over the body would be the haunches or shoulders or whatever because the leg doesn't necessarily begin at the bottom of the belly of a cow, it actually comes up superimposed over the side of the body. So I would cut paper patterns of the parts and cut them out of sheet copper and then heating and cooling process called annealing which softens the copper. Which I will demonstrate a little later. Then the pieces are all hammered to shape and this is what really makes mine different because instead of having a mold for the side of a horse and another one for the side of a rooster, I have one block that I use that is a series of concave curves - some are steeper, some are more gentle, and so on and by manipulating the copper over this block I can always find a place to hit it. And so every hammer blow is an aesthetic decision. Should the belly of the fish be a little fuller? Should it be a little flatter? And so on. And I get the shape working it over different blocks with rubber, and raw hide, and hammers and mallets.

MH: They really are unique?

TT: Absolutely. Even the ones that I repeat would be like doing another painting of the same scene. Each time you do it's going to be a little bit different as opposed to a photograph where once you have an image on a negative you can make ten thousand absolutely identical ones. So these, actually, just to pick up after the piece is formed then all the detail is drawn on it and then gone over and embossed with chisels which will make an indentation on one side and that makes a raised line on the other. And depending on what I'm doing, sometimes it will be done from the outside, sometimes from the inside, sometimes a combination to get fur or feathers or expressions on a face or whatever. But because of this each one is different. So that it's like, to commission a weathervane like this is like commissioning an original painting where the other ones are like getting a print or a poster. Because here there is only one, again done entirely by hand. With four of us working we only produce about 25 a year and we're

booked for the next two years. Which is also why they're expensive, I mean, you think of four people and overhead and all of that, I'm earning a tradesman's living but not getting rich.

MH: Give us the range of what the weathervanes of today would cost.

TT: I do some in a numbered addition including things like a cod, an osprey, and Canada goose, a rooster, those run between about \$3500 and \$7000. The custom ones, what I use as a benchmark is a four-legged creature, a dog, a horse or whatever, and that's \$12,000. And it depends up or down and the amount of detail and basically the amount of time.

MH: What about the one that is being worked on today?

TT: Well, right now I'm in the middle of doing the largest one of my life. It's for Penn State University and it's their mascot, a creature called the Nittany Lion and it's a crouching mountain lion. He's ten feet long, about six feet high at the shoulders, about four feet across the chest, weighs about 2,000 lbs and it's going atop Beaver stadium, Penn State's football stadium.

MH: That reminds me, I want you to describe the science of how they work.

TT: Basically weathervanes were the first and only weather instrument that people had until the barometer was invented, whenever that was, in the 1600s or so. What they do is tell the direction the wind is coming from. It's one of those things that's incredibly logical when you think about it but most people never do. I never did. But the wind is named for where it comes from which is why the north wind is cold, it's not coming from Miami and heading towards Canada, it's coming from up there where it's cold. So weathervanes point their nose, the arrowhead, or the pointer into the wind because that is when the wind is coming from the north the arrowhead will be pointing toward the 'N' on the cardinal points down below and pointing to the north. It's funny because when people come into my studio very often they stand, they look at it and rotate the letters rather than the object on top. And oh look at that, it works so well, and of course they are only references. 'N' always points to north because it's showing you where north is, it doesn't turn with the wind. I found that over and over and over. There are so many things in life we just don't give a thought about. The way they work is you have to have more surface area behind the pivot point, the vertical shaft, and that makes that part – the tail – go downwind the way a luffing sail, or a flag, or a boat on a mooring would. Therefore the short end points into the wind. And then when you get something of any size like this lion I'm working on, the one-ton critter, you have to then counter balance it because when you have all that mass on one side you also have the weight so it's going to pull down on the tail because two-thirds of him is behind the pivot. Of course with a creature like a lion, his haunches, he is slender in the body and then you have his haunches, his rear end and his tail, and that's essentially ~~leveled~~

cd n fi levered ~~to~~ out six or eight feet from the pivot point so we need to counter

balance that. So I constructed a box inside his head and we'll pour about, I'm guessing now, about 500lbs of lead into that to make him balance. So what we'll do when we get him all done is, there's an eye right on the center – on the balance point – and we're going to take him out and hang him from a fork lift at the balance point and then pour lead in his head until he balances. Until he is even. That way it won't strain the bearing system and the pole and everything else by being tail-heavy which would cause excessive wear. And you know like any mechanical thing that's going round and round if it's out of balance it's just not going to work as well or last as long.

MH: He is built to last?

TT: He is. He should last literally hundreds of years like the 18<sup>th</sup> and 19<sup>th</sup> century ones. I saw one some years ago in Tallinn, Estonia that's been on top of the town hall since the 1500s. Only in the last few years have they made a reproduction of it and put that one in the museum in the town hall. But it's 500 years old. There's another one of the Venetian lion that's now in one of the palaces in Venice but it was outside for, I think it was from the 1600s, but anyway hundreds and hundreds of years. Copper is a wonderful, durable material. It's forgiving and fun to work with, it lasts forever. This is done very much the way the Statue of Liberty was which was just redone for its centennial not too many years ago. The reason it was re-done is it was done over a wrought-iron frame. This one is over a stainless steel frame which is what they replaced that one with recently.

[A woman (a client) enters and speaks with Travis.]

MH: Before we get to the clients, how many would you estimate are on the Vineyard of yours?

TT: Probably a hundred, a hundred and fifty here. I've been doing them since 1974 [lots of background noise from workers] and my later records, the last four or five years, are computerized but before that it's a cardboard box. Someday when there's nothing to do, which I don't really imagine, or somebody who wants to document things a generation from now they can go through the box and count them up. [lots of machinery noise] ...an architect spends time with the family and really figures out how they live. Do you want a kitchen where everyone gathers because you sit around and drink wine while you chop onions and all your friends hang out in the kitchen or do you have servants and you want them away, you know, with a swinging door where the maid brings it out. If you don't know much about the family you're liable to give them the wrong kind of kitchen. Even though it's got a viking stove and it's a monument to you.

MH: Tell me [door creaks open] how did you get started making weathervanes.

TT: Well, I had moved here from New York in 1970. In 1974 there was a little blurb in the paper that they were filming a movie, which turned out to be "Jaws" here. The Vineyard sort of poo-pooed, "Oh well we'll ignore

Hollywood - they're going to come throw their weight around." I went heading right straight down and said, "Boy this is going to be fun." I wound up hooking up with the art director, a fellow named Joe Alves, who designed the sets and the mechanical sharks.

MH: And you were actually looking for work?

TT: I was looking for work, exactly. I figured they'd need a welder. They might need welders, they're building the sets here. I figured I'd be making props to go behind false storefronts or something, I didn't know. Anyway, before long, the art director wound up saying, Gee, one thing I need is a weathervane. Could you make me one? I need one of a great white shark to go on the shark hunter's house in the film. And so I did, I came back a week later with a weathervane. Charged him \$150 bucks. Most of it, actually, was on the set during the whole filming but most of it wound up on the cutting room floor and they finished the cut of the movie. It's in a couple of the documentaries about the making of the film. There's a BBC one that shows it very prominently. Some of the out-takes and so on. Anyway, after that a cameraman and one of the other people said, Gee would you make one for me? I did. Steven Spielberg inquired about doing one as a souvenir. By then I had raised my prices all the way to \$300. He decided that was too expensive and declined. So, but, I wound up doing one for him 10 years later, 15 years later.

MH: Of what?

TT: Of a Velociraptor. One of the dinosaurs from "Jurassic Park." And that's on his house now in East Hampton, NY.

MH: What led you, after those first two or three commissions, then what happened to lead you...

TT: Well, someone came along and said, Gee, that shark was great would you do a striped bass for my house? And then someone said, I'd like a cod. Then I finally wound up getting to do a four-legged creature. I did a mouse for someone. On it went from there. Now I've got them on, I've got them in approximately forty states and eleven countries, on every continent but Africa and Antarctica.

MH: Is this sort of by word of mouth?

TT: Mostly word of mouth. I've been lucky and gotten some pretty good press. I've been written up in the *Boston Globe* and the *New York Times* and *Conde Nast Traveler* and *El Décor* and oh I've even made the gossip column in the *Boston Herald*.

MH: About what?

TT: It was something to do with Steven Spielberg's shark. If you pause for a second I'll let you know.

[Tape picks up with the end of a conversation]

TT: ...Sure, I'd love to have them come back.

MH: They just began to grow and grow and then at what point were you able to do this full time?

TT: Well, I've been doing metal work full time since before 1974. '72 or so. I worked as a carpenter's apprentice the first couple of years I got here then ran a care-taking business with someone. That was perfect because I picked up all the spin-off work from taking care of a bunch of houses and that's the kind of thing I could fit in. It wasn't like 9 to 5. One of the huge problems when you have a day job is you're working forty hours a week and then next Friday there ain't no paycheck. It's very hard to say, Okay I'm going to have this other thing up to speed where I'm earning a living between Monday and Friday of next week. I was able to ease off from the care-taking jobs and the smaller things as this began building up. So it's been close to thirty years that I've done metal work exclusively. I guess I've done weathervanes pretty exclusively for the last twenty. I still do wall sculptures and fountains and, you know, again I love brainstorming with clients figuring out what's right and special for them and executing it.

MH: How many weathervane makers would you say, would you guess, there are just in Massachusetts?

TT: Well, until just a couple of years ago there were only a couple of us. Marion and I, this is out in the western part of the state, and I were the only ones. Now I've noticed in the last few years there are a few others that are starting out. There are probably only a half dozen in the country now that still specialize in one-of-a-kind pieces and don't use molds and so on. There are a fair number of knock-em-out guys that have ten of them in the catalog and you pick one. I mean, they do some nice work, I don't mean to be derogatory about that.

MH: It's a different thing.

TT: It's a whole different thing.

MH: I was going to ask you, can you tell us what the cost is of this huge mountain lion? What does that cost and how long is it going to take?

TT: The actual construction has taken about three months. It's \$70,000. It's a sizeable commission but I haven't even done the math yet. I know the armature costs me \$5,000 to have fabricated and then Scott, he knows another \$2-3000 dollars worth of materials and three months labor and overhead and, you know, I'll do okay on it but I'm not going to get rich. If I get a few grand at the end that isn't spent I'll be doing very very well.

MH: Explain to somebody who doesn't know, the armature is made out of what?

TT: In this case it's stainless steel. The armature is the skeleton inside. In this case this is a 2,000lb weathervane so it has to have rather elaborate bearings to rotate on that are all stainless steel so that they'll be impervious to the weather. Because this thing is going to be up there for a good long time. You don't want stuff that is going to rust away in a couple of years and there goes your \$70,000 copper sculpture tumbling down because it had an iron bolt holding it that rusted through.

MH: Are you a member of any kind of blacksmith or sculptor organizations?

TT: The only one I am a member of at the moment is ABANA, the Artist Blacksmith Association of North America. I've been a member of that, oh right since the very beginning. I was one of their first couple hundred members back in the early seventies. I haven't really been active in it because most of the things are, they have an annual conference. It's different places throughout the United States and it always tends to fall in the summertime, which is my busiest time of year being in a resort community. So it's the hardest time to take off a week and just go have fun schmoozing and banging on tin in St. Louis or wherever.

MH: Well, maybe what we should do is go into the studio space and have you talk about some of what's going on.

TT: I can walk you through the process of how they are made and show you a little of what's going on.

MH: Okay.

TT: Let's do it. [in Travis's studio] Well, over here we can start with - here's the drawing, for instance, the striped bass that Kathy is working on. You can see we did the original drawing, in this case, smaller then blew it up with a photocopier and then we made paper patterns of the various parts so that they could be cut out of copper and shaped.

MH: So that's the piece right there?

TT: Exactly, the body and then the two halves of the head and then the assorted fins that are on it. Hang on, let's kill the radio, we don't need that in the background. And then, you come over here, see where the block - I was going to show you that block we use for forming. Wait here, I'll find it and bring it over. [lots of hammering in background]. This is the block I do all the forming on and every weathervane I've made for the last thirty years has come off this one piece of wood. And it's just a series of concave angles and depressions and by moving the copper around you can always find a spot to hammer it to get a shape. There are just a couple of different depressions, this is just a chunk of wood that I got, it's actually the cut-off from a keel of a wooden boat that was being built in our local boatyard. But anyway, all the shaping is done just on this one. After the pieces are shaped we use chisels to get all the detail. If you look at Kathy,

she's hammering and you can hear the tapping of a rubber mallet on a chisel embossing copper, in this case, doing the stripes on a striped bass. And Sam is working on a fin...

SH: Tony had me do a star test. Testing chisel. It's basically chiseling on one side and then on the top side, basically, to get this form. It's pretty cool. I like it. And then basically it forms itself which it did. So this is what it first looks like.

TT: And you can see it's a flat sheet and then it's been done over with a chisel. And then partly from one side out where it was done from behind from the center out to the tip of the points and done from the front out to the whatever you call that indentation in the star between the points. There's a good word for you. What is that called?

MH: Maybe there's no such word.

TT: There may not be. We could invent one right here. The anti-star, the anti-matter. But anyway, when it's hammered, as Sam is doing over the edge of that pot, in the two directions you wind up with a pointed star that looks like some of the metal ones you see on old buildings that were popular in the 19<sup>th</sup> century.

MH: And then you do two halves the same then you can solder...

TT: And then you can solder, in this case, braze them together.

MH: Is this *lignum vitum*? What kind of wood is this?

TT: That's actually oak. *Lignum vitum* is a hard, oily wood from South America. And it would be perfect for this I just don't happen to have any. Anyway, that's this side and then we can go around to the other side where our giant lion lives. And you'll hear all the assorted sounds. Tony is working on his foot at the moment. This is that lion for Penn State University. As I mentioned he is ten feet long and weighs about a ton, or he will when he's finished. The armature, the frame, is about 700lbs of stainless steel framework inside. Figuring about 700lbs for the copper and about 500lbs for the lead that will balance him in the front. Here you can see perfectly, this is a plaster model about four feet long. Fortunately, Penn State had a mold and loaned it to us so we were able to cast this up. And there are all these lines over it, dividing him up and what we did then is made, figured out where the seams had to be, and made paper patterns for each part. As you see these are all numbered.

MH: How do you figure out where the seams should be?

TT: Well, it's, again, it's sort of like making a garment where if you want to put a seam, I mean, a sleeve you need a round piece that's bent into a tube to make a sleeve and then you need the kind of joint to set a shoulder in. So, in this case, we have the two sides of his body, which are really his flanks and then his shoulders, the two sides of his neck and the top of his

neck, and his legs are broken down into a number of pieces that make the shoulders and the joints and the forearm, for lack of a better name, on a lion. And then his toes, his ears, and so on. And so we made paper patterns, decided where these were, made paper patterns of the parts, scaled up the fact that this guy is four feet, whatever he is, long to ten feet is 2.35 times. So we blew up the patterns on the photocopier 235 percent and, voila!, patterns for the large lion. They do have to be trimmed and all, they never work out quite exactly. When you start... the hardest part of all is starting....serious hammering going on.

MH: What is he doing?

TT: He is shaping the under part of his left foreleg right up under here. Claudia has found the piece, the anatomy of the lion. But anyway, we wound up making the paper patterns of these parts. Cutting them out of copper. This is fairly heavy, it's, well it's a forty-eight ounce, it's about an eighth of an inch thick. It weighs three pounds per square foot. This is where we come into the 21<sup>st</sup> century because we use some compressed air tools to both cut it and also we have a compressed air-driven hammer, wonderful for shaping. It's over next to Tony.

MH: Now he [Tony] is heating, there's a flame...

TT: He's brazing a section into place that was first cut out of the flat sheet copper, like this, and then was annealed which is where it's heated and cooled which also gives it these wonderful colors. And softens it so that it can then be hammered and shaped from a flat piece into the curved piece that's going onto the lion. We use sandbags, leather bags filled with sand, and wooden blocks as a backing and hammer the copper free hand over these things to get it into the shape. Then the piece is tacked in place... And as you can hear, Tony is hammering the edges to bring the seams together to get ready to weld them. That's how we build the lion. Take flat sheets and make a whole 3-dimensional creature and the trick is to really bring it alive and capture the feeling.

MH: The real feeling. The real natural curves.

TT: Exactly. Here are the pictures of the original that we are working from. It's a stone carving that was done, I believe, in 1947 and was a gift of one of the graduating classes to Penn State. This is on their campus and it's the Nittany Lion. Mount Nittany is nearby and this was a mountain lion or one of the breed that used to roam the area before they were exterminated in the early 19<sup>th</sup> century. So this is what we've been commissioned to do for ---- [could not decipher the final word of this sentence.]

MH: Now how did they find you?

TT: It's interesting because I was written up in a magazine – niche magazine for meteorologists called Weather Wise. I thought, okay, who is going to read this? Well it turns out a gentleman named Joel Meyer,

founder of a company called Acuweather, the one that packages up weather forecasts from newspapers and radio stations, you know your Acuweather forecasts? Well, he read about me. He is a trustee of the University. Acuweather is based in State College, Pennsylvania and what is the perfect gift for a weather guy to his school? A giant weathervane. So here we are and that's how this particular one came about. And as I mentioned this is heading up in two weeks to the top of Penn State's football stadium.

MH: And you'll be there.

TT: And we will be there. We're going to deliver it, in fact, there was talk this morning. We called Penn State about delivery and it looks as though, I was going to bring it down in a U-Haul truck, and it looks as though we have an open trailer to deliver it on. So among other things we will be able to get some neat shots of loading him onto the ferry, the ten foot lion, and then we'll cover him with a tarp, of course, for the trip. We had mentioned to them the idea that somewhere outside of State College we ought to unveil this thing and drive slowly down Main Street. Word is today they're gonna meet us with the College marching band and do a parade down Main Street with their new lion.

MH: Oh that sounds like fun.

TT: So it could be fun.

MH: The letters.

TT: The North, South, East, West?

MH: Yeah, are you just doing those freehand or are they classic letter forms?

TT: We do them freehand. Even the better weathervanes that you see, they use these twelve dollar castings underneath and what we do is cut the letters, the N,S,E,W, out of sheet metal – out of brass – and then put a bronze, hand build up a bronze edging around the edge, bend the curves ourselves and put them together. We wind up with about twenty man hours in a set of letters. Again this is one of these more expensive than the ones that, you know, where somebody just grabs a casting and throws it underneath and he's done.

MH: And then if there's gold-leaf they're even more expensive.

TT: Yeah, exactly. Although, gold-leaf is not as expensive as you would think because an ounce of gold will cover an area something on the order of twenty by two hundred feet because it's only about a 300,000<sup>th</sup> of an inch thick. And so it's 99 percent labor putting the gold-leaf on much more than it is the actual material. Everyone thinks, Oh, it's gold, and that's why it could be expensive. [didn't understand this sentence perfectly]

MH: Can you show us some?

TT: I sure can. This is gold leaf. It comes in books and there are twenty-five leaves to a book and they're packed between paper and it's so fine and delicate. It's, well, twenty-three karat, 96 percent pure. Just to get an idea...[background noise]. Look how it conforms to your fingerprints, in and out. It's amazing stuff. It's so malleable.

MH: That's what's on the State Capitol?

TT: That's what's on the State Capitol. It'll last twenty to fifty years. Gold's ----, it doesn't tarnish. And essentially, until it's abraded away by dust particles, it will stay. And indoors, for hundreds of years, on picture frames and furniture and icons and cathedrals.

MH: We know an icon maker, a Russian woman, and she uses this.

TT: She uses gold leaf a lot, I'm sure. But the way it's applied is you first have to clean and prepare the surface. Then use a coat of primer. I use a coat of crimson enamel underneath so that when it starts to wear you've got this fiery red coming through from behind.

MH: So you only have two weeks left. No, not even, a week.

TT: That's right, a week and a half. Believe me, you're lucky to get this time. The gold leaf is wonderful stuff to work with. It's, like copper, it's a genuine material and it's one that'll last for a long time.

MH: Where do you get your copper?

TT: I buy it from, there are a couple of places in Boston and New Bedford that sell it. They are regular metal dealers. It really depends who has the best price at the time, as it's a commodity – it varies.

MH: Where is it mined?

TT: I don't know. Most of it originally came from the United States but now a lot of comes, I think, from Peru. From South America. It doesn't have anything stamped on it so you really don't know where it's from. But it's an element so it's pure. Those are the cuttings, I'll show you the air cutter and the hammer. This is the cutter [demonstrates it] that cuts copper. It has a little punch right here that comes through. [More demonstration]

MH: Sort of like a router.

TT: But anyway that's what these are. That's how much cutting we've done.

MH: That can't be recycled, can it?

TT: Oh well, we get the scrap value – it's about twenty-five cents a pound when it's all done. What we use, the small pieces, when we trace something out of a big piece and have small chunks like this whenever you need a piece for a toenail – a lion toenail – or whatever, it comes out of a small piece. Tony is about to use the hammer.

MH: The loud hammer. Oh that's the air compressed...

TT: That's the compressed air-driven hammer.

MH: Is he welding?

TT: He was welding. What happens is, when you take two pieces that fit, approximately, together, if you tack them together with a weld every couple of inches then you can shape the two and they'll shape together as a single unit. Then you can get them finely shaped and then go over and fill the seam and complete the weld. So Tony is now about to use the hammer on the inside and Sam is holding a backing tool on the outside that'll be hammered against so you have sort of a hammer and anvil effect. You will hear it. [hammering] It's a nice quiet place where we work.

MH: In the middle of all this you're going to move your shop?

TT: I'm not going to move the shop until this is finished and gone. I mean, considering this here, if I've managed to beat cancer, renovate a building, and do a house and a studio, and do the biggest commission of my life, it's been a pretty full year. Not a lot of time. Oh and I did manage to get to Europe three weeks which really kind of marked a bridge between recovering and convalescing and getting back to normal life.

MH: You're ready for a vacation.

TT: I am. So I'll take a little bit of time off towards the latter part of the summer and get in some sailing and regain my sanity.

MH: Plus you have more commissions along...

TT: Oh, I've got two years' worth of commissions to execute so got plenty to do. In fact, this is the time of year where everyone's calling [end of Side One] saying, Gee, is my piece ready? Fortunately, people have been wonderful about the fact that I had this six month hiatus with surgery. So people are being very very understanding which is really nice.

MH: Have you trained Tony? What kind of skills did he come here with?

TT: Well, want to ask Tony?

MH: [to Tony] I just wondered how long you've worked here and what kind of skills you came with when you came here and what has he taught you?

TH: I came here, I've been here for three years, and I came here with pretty much drawing, painting, and I learned sculpture and then metal sculpture. I did a lot of bronze casting in college. So I kind of had a knack for metal and how it doesn't work to your favor all the time. Yeah, I learned a lot of skills here like *repose* and skills in that matter.

MH: Would you like to continue working with this, in weathervanes, with Travis?

TH: Weathervanes? Definitely, it's a lot of fun. The functionality of things. Art and functionality work together.

TT: I was just going to interject that I had already mentioned to you that Tony and I have had conversations about passing the business along and that he is heir apparent at this point in time - the next generation in the works.

MH: That's great to have it passed on to you by a master.

TONY: Exactly. It would work out well.

TT: It's been a wonderful working relationship so far and looking forward to it being that way for many many more years to come.

MH: Well maybe we'll get you interested in an apprenticeship – applying for one.

TT: Yes, I definitely want to do that.

MH: Now what's that noise I hear?

TT: Oh you're hearing the flame.

MH: And what's your last name?

TONY: Holand.

MH: Thanks. It's a beautiful piece. I'll bet you'll miss him when he's gone. I love the eyes.

TT: Again, it's capturing the same look that the original one has of that sort of staring off into space, dreamy-eyed look. It's funny because here we don't have miles and miles of latitude about how he is going to look outside of getting a commission from Disney to do [hammering] Mickey Mouse. You don't determine what his ears look like. But still it's been a real challenge to create this in copper and especially full-sized like this.

MH: I wonder if that's the largest of anything that's been done with this method.

TT: Well, I mean the stone Nittany Lion is about this size.

MH: But I mean in this material.

TT: I honestly don't know. It's certainly got to be among the largest weathervanes in the country at this point in existence. But you know, statistically where it stands I don't know. I don't know where you'd look to find a list of the biggest weathervanes in the country.

MH: When are you going to do that weighting thing?

TT: Well, what we have to do is really finish him. We've got to get all the pieces on, his haunches and his rear end, and as you can see he's got a hole in his forehead. We did sort of a frontal lobotomy on him. And inside is a box that'll hold, oh probably, a cubic foot and a half of lead. Lead weighs about 700lbs a cubic foot. That took days because what we did is made his face, then took his face off and made the box to fill it as fully as possible because I wanted to have his face, it was too big, rather than get it, filling up the box and saying, Oh God, we need 200lbs more, now what do I do?

MH: Is this the part that will point into the wind?

TT: His face will, exactly, and his tail will go downwind because there's much more weight in the tail, that's why we have to add lead to his head. We have a special eye to suspend him from right in the center of his shoulder – right over the pivot point – and so we'll actually take him out of the studio with a forklift, suspend him from the forklift, and then pour lead in his head until his head balances with his tail and he comes up to level. Then we'll know it's balanced. There are three little trap doors in his back, two for lifting eyes because it's getting hauled up with a 175 foot crane into position. Then the third one is right over the tube that it's supported on and there's a bearing that's on top of a 11 inch diameter shaft that this will slip over. The bearing has four bolts. We fabricated that and now we know that those four bolts will fit through these four holes so that when we lower this down there aren't any surprises of, oh the holes are a quarter of an inch off. So we know that that fits and so we'll lower it down until the bolts come through the top. We'll put the bolts in, insert a grease fitting so it can be lubricated without removing the lion and then close the little trap door and go have a beer.

MH: The bearings have to be...

TT: Lubricated, yeah. [talks with Kathy. Looking for photographs] Here is the armature.

MH: Who manufactures armature?

TT: Well, in this case, a local welder.

MH: Oh, this is it.

TT: We designed it. This stainless steel tube which is twelve inches in diameter and then there are these stainless steel pipes that act as an internal skeleton. These were bent to the curvature of his back and then there are little tabs on it to which the copper skin is bolted.

MH: You had to design this?

TT: Oh yes. This guy is a welder, I worked with him. We bent and formed everything and he welded it up. That was a week's work.

MH: That's major.

TT: Yeah. Here are some of the bearings, here. Here it is on a test stand. When you push on this side with one finger it would make a 360 degree turn so we were thrilled. So this is all concealed inside. There's a top bearing up here that it rests on and these are the four bolts and the grease fitting I was telling you about. This bearing is now in Pennsylvania on top of this column and so the next time we'll see it is when we lower the lion in place.

MH: And then that whole thing has to go up on the...

TT: Yeah, up on top of the stadium. So that's all the engineering and stuff that went inside that you don't even see. If you come around and look at the back of the lion you can see this inside and it sort of makes sense. [Tour of lion continues away from mic]