Episode 803, Story 1: Lauste Film Strip

Gwen Wright: Our first story examines a scrap of film that may shed new light on the birth of modern movie making. October 6th, 1927: Broadway overflows with curious moviegoers, waiting for the premier of a new kind of film.

Jolson: Wait a minute, wait a minute, you ain't heard nothing yet!

Gwen: The Jazz Singer – the world's first feature film with actors talking on screen – becomes a huge success. But was it the technical marvel that Warner Brothers claimed? Or did the real breakthrough come decades earlier, and from a man nearly forgotten by history?

Oxford, New Jersey, native Rocky Accetturo thinks he may have discovered a missing link in movie-making history.

Rocky: if this film could talk, I bet it would have a story to tell.

Gwen: I'm Gwendolyn Wright, and I'm on my way to meet Rocky.

Rocky: Hi Gwen!

Gwen: Hi Rocky. Nice to meet you! So Rocky I understand you collect all kinds of antiques.

Rocky: Yes I do.

Gwen: Including it looks like old film. So you put these leaders on?

Rocky: Yep. Try to preserve it.

Gwen: Good move. So what do you think this is?

Rocky: I believe this is a piece of the world's first talking movie.

Gwen: That's a pretty extravagant claim.

Rocky: Well, it's one of the items out of two steamer chests of stuff from a gentleman named Eugene Lauste, a Frenchman, that was involved with some of the first sound film.

Gwen: I've never heard of Lauste. Rocky explains that he purchased the entire collection—including folios, letters, and scrapbooks of newspaper articles—at an estate sale. *"Lauste claims talking movie invention.*" So this doesn't mean that it's necessarily true. But it's interesting. Okay, *"the first talking picture."*

Rocky: And that looks just like the film I just showed you.

Gwen: It certainly does look similar but it's so blurred we can't really be sure about that. So what would you like for me to find out?

Rocky: Well I'd like to find out if that truly is a piece of the first talking film.

Gwen: This is going to be a fascinating investigation whatever we find out. The talkies changed everything in America.

Archival: I thought you were never coming.

Gwen: The way we speak…

Bette Davis: For a gentleman of brains, you don't use them.

Gwen: The way we see right and wrong, and fall in love.

Gary Cooper: I'll always come back.

Gwen: But early movie-making is chock full of big egos and colorful self-promoters, so I'm skeptical of Lauste's claim on history. It's a piece of black and white film. Twenty-four frames, not very long. It's a negative right out of the camera. Top part are some kind of waves with variations,

almost like a cardiogram. So it's an outdoor scene. Plants, but no people. Not very glamorous for what could be the first talkie. A quick search indicates that there were many competing claims to have invented the first talkie. I get a lot of names, Lee de Forest, Leon Gaumont, Thomas Edison, but no consensus and no mention of Eugene Lauste. It's going to take some time to review Rocky's extensive collection. This seems to be an entire scrapbook of correspondence in French between Lauste and various possible donors for some experiments that he's carrying out. Although he seems to be his own worst enemy. He won't answer correspondence. One man is complaining, "it's been 5 months since I wrote you." So here's a book of patents. Ah, 1906 Lauste has applied for a British patent for an invention for recording and reproducing simultaneously the movements or motions of persons or objects and the sounds produced by them. And this article says that, even before he applied for that British patent, Lauste had worked for Thomas Edison. Between the patents and the clippings, it does seem that Lauste had some involvement in the early days of the movies. I'm on my way to Cineric Film Lab in New York City to meet film preservationist Diana Little. I sent Rocky's film ahead for analysis.

Diana: Hi Gwen.

Gwen: Hi Diana, good to see you again.

Diana: Welcome back to Cineric.

Gwen: I ask her whether Rocky's film strip really is a talkie.

Diana: It's certainly a very early example of sound and picture together on the same piece of film. It's very exciting. I've never seen anything like this.

Gwen: Diana tells me the black spikes are a soundtrack that has been recorded on the film strip alongside the images – essentially the same technique used today.

Diana: I've never seen this configuration of the very wide soundtrack and the small picture. I can show you what a modern soundtrack looks like as a comparison. It's the same type of soundtrack in the sense that they're both optical. Which means that you see the frequency modulation as kind of a squiggle.

Gwen: Wow, that's something. Is it possible to date this? Could Rocky's film be as early as 1906, the date I saw on the patent? Diana says she doesn't know.

Diane: I can tell you that the standard of having picture and track together really didn't come around until 1930. This is clearly much earlier than that.

Gwen: Well tell me, was it possible to hear what's recorded on this film?

Diana: With your permission, I sent it off to the University of South Carolina Moving Image Research Collections where they have an archival scanner, and they were able to scan the film.

Gwen: Diana says that they were able to actually play back the recorded soundtrack.

Diana: Now I have to warn you, it was a very short piece of film, so we've only got about a second here.

Gwen: Okay.

Diana: So this is the original with no modifications.

Film plays.

Gwen: Well, it's not exactly a talkie. And it certainly doesn't sound like a human voice.

Diana: People at the University of South Carolina thought that that sounded very mechanical, and that that was perhaps actually just the noise that the camera made.

Gwen: But sound was being recorded – and Diana says that makes it very special.

Diana: Yeah. It's absolutely sound recorded on film.

Gwen: I'm heading out to the Edison National Historic Site in West Orange, New Jersey, where Thomas Edison established a laboratory for early film and sound experiments. Lauste worked for Edison during that period. Film historian Paul Spehr is meeting me here to see if we can shed some light on our film clip.

Paul: Nice to meet you Gwen. We are here at the Edison Motion Picture Studio better known as the Black Maria. It is the first purpose built motion picture production facility. It was first used in the spring of 1893.

Gwen: Can we go inside?

Paul: Oh certainly.

Gwen: Paul explains that the entire Black Maria studio building was designed to rotate on an axis, and the roof would open so the filmmakers could take advantage of natural light. Did they use sound in these early films?

Paul: Oh yes, of course.

Gwen: Do any of the early sound films still exist?

Paul: There's only one that survives. It's a test film made early in 1895 or perhaps at the end of 1894 showing two of the Edison employees dancing together very self-consciously.

Gwen: Paul and I head into Edison's workshop, where Lauste had worked as a machinist.

Paul: This machine shop which still exists very much as it was in 1888 when Lauste began working for Thomas Edison. This would have been Lauste's home base.

Gwen: So he worked here as a machinist?

Paul: Yes.

Gwen: Well I have a scan of a piece of film that was with a collection of Lauste's materials. Like Diana, he immediately recognizes the technology.

Paul: Well this is certainly an early example of sound on film.

Gwen: Well, I know that Lauste took out a patent in 1906 for sound on film, but from what you were saying the Black Maria was being used almost a decade before that.

Paul: Oh, yes.

Gwen: But, Paul explains, Edison's technology for recording sound was much more primitive than Lauste's. Edison never placed the sound directly onto the film.

Paul: The only sound process that they really had was a phonograph.

Gwen: Paul says that an Edison phonograph recorded the sound on a record while a silent camera recorded the image on a film strip. The two were then played simultaneously.

Paul: But synchronizing was a problem. And while several people played with phonograph systems, Lauste's idea was if you had them on one piece of film then they would stay in synch.

Gwen: So, the innovation here is to have the sound and picture on the same piece of film?

Paul: Yes. This would have been a major breakthrough.

Gwen: Why is he so little known?

Paul: He was perhaps one of the poorest communicators in English I've run into.

Gwen: The Frenchman struggled to raise money in England, even after filing his 1906 patent.

Paul: He finally wound up with a couple of young college graduates who were quite enthusiastic about his project, and were ready to give him major money when the first World War broke out.

They enlisted and were sent to the front lines, and were among the early casualties of the war. And Mr. Lauste's project was a casualty too.

Gwen: He moved back to the States, but he struck out again.

Paul: He approached several Hollywood companies and got no response from them at all. So in affect his work came to an end in 1916. And he was for a decade or so living in poverty.

Gwen: It sounds like he was a tragic figure.

Paul: He's an almost model tragic figure.

Gwen: Exactly how had this revolutionary camera worked? And is Rocky's fragment the earliest surviving example of sound on film? I'm heading to a Smithsonian storage facility near Washington D.C., where Ryan Lintelman is a curatorial research assistant. This is quite a place. The Smithsonian holds a collection of early Lauste materials. Oh, what beautiful equipment.

Ryan: This was built around 1912. And this was sort of his final model of sound and scene camera.

Gwen: Ryan explains that, when Lauste left the Edison lab, he moved to London, where he built his revolutionary sound and film cameras, also known as sound on scene cameras. Now explain this to me.

Ryan: Well, this is Eugene Lauste's development. He invented this machine that would take the electrical signal from the microphones in front of the actors, and that electrical signal would power this electro magnet. In between that magnet is a thin wire, which would vibrate according to the signal coming from the microphone.

Gwen: The sensitive wire inside the camera vibrated when noise was made, or someone spoke. The camera then recorded the shadow of the vibrating wire on one half of the film strip – the soundtrack – and the visual scene on the other half. Then how would it be played back?

Ryan: Well actually we've got the projector here as well. And it's a modified Pathé Frères projector, which was built around 1912. And so, as you can see, this top section here is where the images are being projected just like any other motion picture projector onto the screen. And down here is where the sound track was being projected. And it's being projected onto this: a selenium cell. This is an element that is extremely light sensitive and the amount of electricity that passes through it changes depending on how much light is hitting it. So you can see that that light sound track was again converted back into electricity, which could be listened to through these headphones.

Gwen: But if you could only hear it on headphones how could that work for an audience?

Ryan: This is what always hampered Lauste's attempts to make this a successful technology.

Gwen: Ryan says that Lauste actually did understand how to fix the amplification problem, but he could never secure funding to develop it. Now do you have any of the early film he made with this equipment?

Ryan: We do. You want to take a look?

Gwen: Yes.

Ryan: Well, Gwen, before I show you the film, I'd really like to show you this photograph. This is another one from the Lauste collection and it's dated 1913. It was taken in the backyard of his home in the Brixton section of London. So you see Lauste here and his son Henry operating the sound and scene camera. And they're recording a singer in the backyard. They made thousands of these short films in the backyard between 1910 and 1914. So one of the few that survived is the one that I'm about to show you.

Gwen: This looks surprisingly familiar. Well, Rocky, it's been fascinating to study the drama of early filmmaking. Now, would you right off the bat like to hear and see this piece of film?

Rocky: Absolutely.

Gwen: Okay, here we go.

Film playing

Gwen: That's what you have.

Rocky: I can't tell what it is.

Gwen: Now you'd asked if your piece of film was the earliest talking movie. And I have to tell you, it's not.

Rocky: It's not.

Gwen: I explain that the earlier system used by Edison and others recorded sound and film separately, but had been too difficult to synchronize. So the real future of movies, even today the system we use, is what Lauste was experimenting with of having both the sound and image on the same piece of film.

Rocky: Amazing.

Gwen: Now the place where we think he did this experimentation was in Brixton, England. I tell Rocky about my trip to the Smithsonian, and a clip they've had for 75 years.

Ryan: So far as we know this is the earliest piece of sound and moving images together on film. Wow.

Gwen: I show Rocky the scan of the Smithsonian clip that had been made in Eugene Lauste's garden in Brixton around 1912. The two film strips are nearly identical.

Rocky: Really looks like the sound bars and the picture, it almost seems like the same stuff.

Gwen: Right this big plant there, whatever that is.

Rocky: Yeah, it looks like someone's backyard.

Gwen: We can't tell which of them was made first. But these are the earliest known examples of capturing sound and image together on the same piece of film.

Rocky: Now that, that's amazing.

Gwen: The Smithsonian's fragment of Lauste's film is only 15 frames long. Rocky's clocks in at 24 frames. It's the most substantial artifact known to have survived from Lauste's revolutionary experiment that is known to have survived.

Rocky: Think they both need to be together. Both pieces, maybe, huh?

Gwen: Well I was hoping you would say that. I tell Rocky that his entire collection of Lauste materials can be an invaluable resource for historians of early film. Tell me, what will you be thinking about the next time you go to the movies, Rocky?

Rocky: I'm going to think about him. Maybe it's his day. His day's coming I guess.

Gwen: In the final years of Eugene Lauste's life, his luck started to change. In 1929, Bell Laboratories – then deeply involved in the million dollar business of talking pictures – purchased all of Lauste's expired patents, his research notes, and his camera apparatuses. Lauste, who at the age of 71 was practically destitute, could now live out his final days in relative comfort. He died in 1935.