

THE WIRE

(Episode Two: *The Change of the Sound*)



excerpt for Vienna IFC: last 30 minutes of program

***The Wire* is an 8-hour series exploring the effect of electricity on music.**

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(NOTE: this excerpt begins halfway through the program)

MUSIC: *Les Paul "Getaway"*

LES PAUL: And so what happened is that I said "Mary, pack everything up, we're leaving! Using one tape machine I can make your voice into a glee club and my guitar into an orchestra. I can play all the background parts and the solos and everything and you can sing" and I says "We got our own thing!"

MUSIC: *Les Paul "Getaway"*

LES PAUL: So what I did is I called Ampex, and told them "I blew the head, send me another head." So they sent me a fourth head, which I just took and I had them ship it to Chicago. And when I was in Chicago I called a friend of mine that had a drill, and he come over and we drilled a hole through the top plate. And then I thought "Oh my god, we didn't look underneath!" We looked underneath and we'd missed everything, ha ha! It was the perfect place for that head to go! And I put it on there and said to Mary "Just say one two, three" and she said "One, two three" and I said "Hello, howdy, howdy", and it came back...

SOUND: *(tape echo of "one, two, three" etc.)*

LES PAUL: ...and I says "Oh my god, we got it!" And I threw my crutch across the room, and Mary and I danced!

MUSIC: *Les Paul "Getaway"*

LES PAUL: We had something that nobody else in this world had, okay? It was sound-on-sound.

SOUND: *His words repeat as sound-on-sound effect.*

MUSIC: *Les Paul & Mary Ford 1951 pop hit "How High the Moon".*

GAIL YOUNG: I'm Gail Young, the author of *The Sackbut Blues* which is a biography of Hugh LeCaine, a Canadian inventor of electronic instruments.

MUSIC: *LeCaine: "invocation"*

YOUNG: After the Second World War, he was one of the first people to really connect science and music, in terms of instrument invention. It was an instrument called the "Multitrack" which you could put 6 tape loops on and play them all simultaneously.

MUSIC: *LeCaine: "invocation"*

YOUNG: And then there was a keyboard which would change the speed of the tapes, so the faster the tape got, the higher the sound got. One of the letters he wrote to a friend talked about him having his first tape recorder and being able to record a sound and play it back and hear the same sound twice. It's hard for us these days to recognise how new that was, to have the same sound be heard twice,

MUSIC: *LeCaine: "invocation"*

LECAINE (archival voice): Any pitch within the audible range could be obtained by varying the speed of the tape recorder, like this:

MUSIC: *LeCaine: "Dripsody"*

YOUNG: And he created his most well-known piece, called *Dripsody* which he created out of one drop of water, and changed the speed of the playback. But he did several pieces using that technique.

LECAINE: This piece was meant to serve as a simple example of some of the processes used in the elaboration of material by tape techniques. I transposed the original sound down three octaves, so that instead of being a piece of tape a half-inch long, it was now 4 inches long. Many copies of this print were made.

MUSIC: *LeCaine: "Dripsody"*

YOUNG: I think he has influenced a lot of artists, both in Canada and abroad.

MUSIC: *Whistles*

YOUNG: The early electronic music scene in Europe was divided into two camps. One of them used pre-recorded sound which would emphasise tape recording and microphones, and the other used synthesized sound. Today there's not much of a division between them, but at that time they saw themselves as two separate directions, and in both cases they developed new ways of thinking about sound. The pre-recorded sound group would be the *music concrete* group in France, and they created music using squeaking doors and trains. Their work is, even today, very interesting the way they took sound out of the day-today real life environment, and turned it into a piece of music.

HOST: And that's composers like...

YOUNG: Pierre Schaeffer, Pierre Henri.

MUSIC: *Schaeffer: Trainstudy mixes with Czukay: Boat Woman*

SOUND: Voices repeat:

Holger Czukay "It is the change of the sound"

Gail Young: "Music concrete"

Steve Reich "music concrete"

REICH: My name is Steve Reich. I'm a composer.

HOST: Can you recall a specific moment when the possibilities of working in the electronic realm were apparent to you?

REICH: Well, you know, I bought a tape recorder. Lots of people were doing it, it was no big secret. There was *music concrete*, there were lots of people working with tape recorders. The question was how, and what do you do. And I got interested in tape loops, and I guess it was very early 1965 I had made some recordings of a black Pentecostal preacher preaching about Noah and the flood.

SOUND: *"Its Gonna Rain"*

REICH: One of his phrases was "It's gonna rain." Hum dah dah dum. I made a tape loop out of that.

SOUND: *the loop*

REICH: And what I wanted to do was run it against itself so "It's" would fall on "rain". So you'd have "it's gonna, it's gonna, it's gonna, it's gonna, rain, rain, rain, rain."

SOUND: *the loop*

REICH: And I had two very inexpensive tape recorders. And I tried to make these two loops as identical as possible of the same material. And I put them on the two tape recorders and plugged stereo headphones in with the right ear jack into one machine, and the left ear jack into the other, and I pushed both the buttons. And pretty soon I hear a sort of reverberation, then a kind of shaking,

then a very interesting out-of-phase situation. And finally in the middle, probably 5 minutes later, I heard "it's gonna, it's gonna, it's gonna, it's gonna, rain, rain, rain" And I stopped and thought to myself well, you know this one relationship is nice, but starting in unison and going gradually out of phase is a fantastic way of making a piece of music that is seamless, that is one continuous process.

SOUND: *"Its Gone Rain"*

REICH: And I came back to New York, where I'm from, in 1965 in the Fall, and someone approached me to do a tape for a benefit for the retrial of what's called the "Harlem Six", kids who were arrested for a murder, one of whom was guilty and the others of whom were not. One of them who was not was Daniel Hamm, whose voice -- I was given all this tape material and one sentence stuck out.

SOUND: *Daniel Hamm: "I had to like, open the bruise up and let some of the bruise blood come out to show them..."*

REICH: He was describing being arrested, beaten up, and then squeezing a bump on his leg so that the blood would come out so that he would be taken out with the rest of the kids to be cleaned up at the hospital before the media arrived. So he said "I had to open the bruise up and let some of the bruise blood come out to show them..."

SOUND: *I had to like, open the bruise up and let some of the bruise blood come out to show them...*

REICH: Ana that "ha-da, badah-dah" grabbed my ear.

SOUND: *Come out to show them...Come out to show them...Come out to show them...*

REICH: I took the phrase out of phase until it got to "comea comea, showda, showda, comea comea, showda, showda"

SOUND: *Come out to show them...Come out to show them...Come out to show them...* (sound morphs)

REICH: And then I said okay, now I'm going to make that a 4-part loop, and the "shs shs shs" so it begins to turn into maracas.

SOUND: *Come come out out to show show them them...*

REICH: And then at the very end it doubles into eight. The basic material is still this "da-dam, da-da-dum". It's kind of like a C-minor shimmer with the maracas above it. Which kind of transforms what he says into a quasi-universal kind of a statement.

SOUND: *Comea coma showda showda...*

HOST: But what in fact do you think has been the biggest effect of the tape recorder on music?

REICH: Well, ha ha. How deep is the ocean, how wide is the sky? Ha ha. Well it's been enormous, I mean, Sergeant Pepper, Pink Floyd. Recorded music basically has become the dominant form of music in the world. I was the first generation to grow up listening more to recordings than to live performances.

SOUND: *Pink Floyd: Atom Heart Mother*

REICH: I went to concerts, sure. But if you measured the number of hours that I heard music on a record as opposed to the number of hours I heard music in a nightclub or a concert hall, recorded music would win hands down. Recorded music has become the dominant form of listening to music pretty much worldwide for the last 20, 30, 40 years. So that aspect of it is overwhelming. As a side effect, if you like, people began to discover "Hey, you can do things with this tape

recorder besides just record!" You know, you can play it backwards, you can slow it down, you can speed it up...

SOUND: *Steve Reich's words rewind, slow, speed up*

MUSIC: *Beatles: I'm only Sleeping.*

HOST VOICE ON CASSETTE RECORDER: The Wire, episode Two. It's like in science, where there's pure and applied research. You put your hand on a tape reel to slow it down while it's playing, or press the rewind and play buttons at the same time. That's kind of the sound of pure research with magnetic tape. The musicians and composers who first experimented with those sounds were almost like they were in a lab. I mean the door was open, but most people in the public felt kind of intimidated by what was going on in there. Maybe even a little bit afraid. That's what I think is so amazing about the Beatles. I mean, they were playing around with the gear like everyone else, but since they were already messing with everyone's preconceptions about hairstyles and Britain and Rock and Roll, they might as well throw in a revolution or two about sound. I'm thinking about *Strawberry Fields* or *Bluejay Way* or most of *Sergeant Pepper*. Even something as simple as that little backwards guitar solo on *I'm Only Sleeping*.

MUSIC: *I'm Only Sleeping*

SOUND: *A voice backwards*

THE VOICE(forwards): I'm David Pritchard, and on my passport it says "Producer, Writer". Let's talk about the Beatles first. John would come in and say "Okay, I want to do this" and George Martin would say "We can't do that!" John was always looking to, you know, George to do things with his voice, with echo. Studer brought in an 8-track to Abbey Road as a test, saying "Here you guys, here's a new machine." They used that on *Tomorrow Never Knows*. So they had the loops, all the tape loops going on in all the studios coming through the patchbay into the board. And then they'd bring it up. And that's how they did *Tomorrow Never Knows*, which is a brilliant record. But that's sound-on-sound, and Les Paul of course, that was really brilliant what Les Paul was doing. That was sound-on-sound.

SOUND: *Les Paul:" It was sound-on-sound. sound-on-sound. sound-on-sound.sound-on-sound-on-sound-on-sound."*

MUSIC: *Tomorrow Never Knows*

HOST VOICE ON CASSETTE RECORDER: You've got to love the web. I just found a site where you can roll your cursor over all the faces on the cover of *Sergeant Pepper* and get all the names. The guy I thought was a famous gangster behind Marlon Brando was actually Aldous Huxley! There are four Indian gurus in there, but there's a German one too. One of the Beatles' musical gurus. In the back row, right between Lenny Bruce and W.C. Fields is Karlheinz Stockhausen.

MUSIC: *Beatles "Number Nine" begins*

HOST: That was their visual nod to his influence in 1967. Of course, there's nothing on the cover of *The White Album* but there's lots of nods to Stockhausen inside, like on *Revolution Number Nine*.

MUSIC: *Beatles "Number Nine" fades into Stockhausen Kontakte*

STOCKHAUSEN: My name is Karlheinz Stockhausen. Well, for us musicians, electricity has made it possible to record sound. That means to fix sound, making it possible to work on the sound, and to project it through different devices so that other people can then follow the development of the forming and composition of sounds.

MUSIC: *Stockhausen Kontakte underneath voice*

STOCKHAUSEN: This is the most important: that we, for the first time in history had the possibility to make a sound become fixed for awhile, and then work on it.

SOUND: *modulated "fixed for awhile, and work on it."*

STOCKHAUSEN: Traditionally everything was constantly moving, in that once it was produced it was gone. But now you can stop it and work on the sound. So electricity has made it possible.

SOUND: *Holger Czukay (modulated): "It is the change of the sound."*

HOST: You must have had a sense that you'd created a new world of sound. I wonder if you can describe what it was like to have sensed that.

STOCKHAUSEN: Yeah, "created", but I can also say I "found" it. Because naturally I experimented all the time in the studio to find out how certain procedures would sound like,. And then I chose what I liked as the most surprising for myself. So it is always a mixture of experimenting and guessing and looking forward because of certain technical procedures what might come out of it. And that is still the same today.

DENNIS PATRICK: My name is Dennis Patrick.. I work in the faculty of music, University of Toronto. I'm the current director of the electro-acoustic music studio. Some pieces still wear very well. Stockhausen's *kontakte*. Still when you hear that, its a 35-minute piece, it's a truly remarkable piece that someone could conceive and execute that piece at that point in time. It just stood apart from anything.

MUSIC: *Kontakte*

SOUND: *Gail Young's voice processed 'New ways of thinking about sound...'*

STOCKHAUSEN: I worked in 1952 also at the music concret studio in Paris...

VOICES: *Music concrete/music concrete*

STOCKHAUSEN: ...where I heard only recorded sounds which were transformed.

SOUND: *Gail Young's voice processed 'New ways of thinking about sound...'*

PATRICK: It was very labour-intensive. Just the act of standing and cutting and splicing. And he would do thousands of splices, and somehow catalogue all your pieces of tape.

STOCKHAUSEN: I had to measure all the time, the timings, by measuring the tape. And at that time we had 76.2 centimeters per second. So I had a ruler ion the table, and every duration I had to measure with the ruler and a pencil, and then cut it with a scissors with a certain angle of cutting. And then splice it with Scotch tape in order to make my rhythms.

CZUKAY: So my name is Holger Czukay. I mean, Stockhausen, when he started it was the step leaving the earth into a kind of new universe which was sort of an endless room. And that was when they found out about creating new sounds which were unheard before, using electronics. The possibilities were endless to do that.

STOCKHAUSEN: Up to then, we all -- and myself too -- accepted sounds as they are. Vocal sounds, instrumental sounds, percussive sounds, etc. But then it came to my mind that a sound is already composed in itself, either by nature or by the construction of the instrument, or by the voice, etcetera, by the body. But I found it more interesting to create very characteristic sounds for each piece. And that was the start.

SOUND: *Gail Young's voice processed 'New ways of thinking about sound...'*

MUSIC: *Kontakte*

CZUKAY: When he started, it was the step leaving the earth into a kind of new universe, which was a sort of endless room (echo repeats)

SOUND: *Glenn Gould: "Recording is essentially a dishonest activity"*
Czukay: "It is the change of the sound"

CZUKAY: I was listening to the radio, all this late-night radio, and sometimes would come on Stockhausen and all the other contemporary composers, they were featured. One day Karlheinz Stockhausen came in to the Conservatory in Duisburg where I was grown up to.

SOUND: *Gail Young: "New ways of thinking about sound"*

CZUKAY: He was talking, he was presenting his first electronic music, and I was thinking "Hmm. Toilets in outer space!" something like this. It was very very fascinating for me.

MUSIC: *Stockhausen: Kontakte* begins to mix with *Czukay: Boat Woman*

CZUKAY: And beside me was sitting someone who rose up his head and said: "Mister Stockhausen! All what you do here is to give us a shock with these sounds, and out of this shock you want to make a lot of money!" I don't know what he was thinking or imagining. Maybe he thought about Picasso, showing a little bit colour on the canvas and sell it for a million.

SOUND: *Gail Young: "New ways of thinking about sound"*
Glenn Gould: "Recording is essentially a dishonest activity"
Czukay: "It is the change of the sound"

STOCKHAUSEN: Electricity has made it possible to work on the sound.

SOUND: *Gail Young: "New ways of thinking about sound"*
Glenn Gould: "Recording is essentially a dishonest activity"
Czukay: "It is the change of the sound"

CZUKAY: And Stockhausen said "I can promise you and assure you that the only reason why I do this are musical reasons."

SOUND: *Gail Young: "New ways of thinking about sound"*
Glenn Gould: "Recording is essentially a dishonest activity"
Czukay: "It is the change of the sound"

MUSIC: *Czukay: Boat Woman overlapping sung vocals*

HOST: What do you think has been the biggest effect of electricity on music?

KID KOALA: The whole concept of studios being built, with all their capabilities, you know. I think that would be the main thing for me. The fact that people were able to start recording what they were doing and altering what they were recording. The advent of the recording studio, multitrack studio. Layering of sounds that don't exist together in the real world and seeing what they can sound like if arranged a certain way.

MUSIC: *Czukay: Boat Woman sung vocals fade*

SOUND: *Recording tape flapping on a reel*

HOST: I'm Jowi Taylor and you're plugged in to The Wire. To plug in deeper, visit cbc.ca/thewire. In episode two, we heard the voices of Glenn Gould, Hugh LeCaine...

VOICES: Holger Czukay
Kid Koala
Bruce Duncan
Gail Young
Les Paul
David Pritchard
Brian Dewalt
Dennis Patrick
Steve Reich
Karlheinz Stockhausen

HOST: And the music of Delia Derbyshire and the BBC Radiophonic Workshop, Queen, Rudy Valee, Johannes Brahms, Bing Crosby, Les Paul and Mary Ford, Hugh LeCaine, Pierre Schaffer, Steve Reich, Pink Floyd, the Beatles, Karlheinz Stockhausen and Holger Czukay. Each week on The Wire we take all those voices and all that music, and hand them to an electronic music producer to see what they make of it all. Here's this week's *Wire* remixed.

DAN SNAITH: Hi, this is Dan Snaith from Caribou, and this is my mix of Episode Two of The Wire.

SOUND: *Caribou Remix*

END.