

## Interview of video artist Stephen (Steve) Beck

Edited interview of video artist Stephen (Steve) Beck (b. 1950), by John G. Hanhardt (and Gregory Zinman) for the Smithsonian American Art Museum, conducted at artist's home, Berkeley, California, Oct. 19, 2014. [Learn more about the Nam June Paik Archive](#) at the Smithsonian American Art Museum.

[SB]: We're picking up from August 1st, 2014, which you mentioned was the birthday of Nam June Paik.

[JH]: That's right.

[SB]: And he would have been eighty years of age, so we honored him that day.

[JH]: We did.

[SB]: He has about sixteen years on me.

[JH]: So this is an interview with Steve Beck. It's taking place at Casa Bella, his beautiful home in [the] Berkeley [Hills], California. The date is October 19th, 2014. And joining me in this interview is Greg Zinman, media arts scholar, who will be part of the conversation.

Steve, I've been thinking a lot about your work, which I remember from the time it was released, and looking back historically, I felt that you were one of the first artists to be really recognized as a video artist, and so were almost emblematic of an era. I like it to call it a "Beckian" time of the moving image, in terms of video, and of your work as an artist developing tools, along with a number of other artists, Bill Etra, Dan Sandin, and [Steve] Rutt and, of course, Nam June Paik.

So it's an era that has been fully remembered and recognized, and by that I mean there's a kind of sense that today historians sort of look in the rearview mirror -- focus on minimalist and conceptual art and don't often take cognizance of the full complexity of the visual art culture and the media art that you were so integral to, and your work, the *Video Weavings*, the Beck Direct Video Synthesizer [BDVS] -- seminal work and seminal tools -- and that performed in the creation of *Illuminated Music*. I think there is the sense of a full response to the nature of how music and the visual was seen.

So I see you as a really key figure, I just can't stress this enough, and it's come from my looking back at it, and remembering that work, and realizing that it embodied a lot of things that we now think about in terms of music and the moving image, interactivity, change, chance, and the issues that shape how we see media. And in late twentieth-century art, it had a large visible and invisible impact on human consciousness in terms of how people saw the idea of expressivity in terms of media, of the new possibilities of visualizing and giving expression to our thoughts and to our beliefs, and the important relationship that an artist has to our real world. Part of the point of our discussion today is to really hone in on your life as an artist, and to be informed by that through this interview, which will become a publication, but also to inform what is going to be an engagement with your work at the Smithsonian.

We have a lot that's on our minds for this afternoon or this hour of conversation. I would like you to begin, Steve, by outlining something of how you emerged, reflecting on yourself and how you came to be the artist that you became, and how you see that perhaps now differently from then, and what those encounters early on and later with Nam June were like, and what they meant to you.

[SB]: Well, thank you, John. Those are very kind remarks, and you were actually the first museum in New York, at the Whitney in 1971, to show one of my pieces, *Cosmic Portal*, and I have a scrapbook I'll show you later of a lot of the clippings of the reports in the *New York Times* and everything, and they generally said nice things about this guy in California. But I'm honored by your comments and your efforts to put me in this context, and elaborate and explain to people so they can get a better understanding of the work.

[JH]: I should just interject at this point that before I joined the Whitney Museum to take on the then-film department, expanded to video, my predecessor, David Bienstock, in 1971, did the very early videotape exhibition, and it was, as you said, a very important recognition. And, again, David's work as a curator was very much engaging the zeitgeist at the time -- you know, how music, very importantly, was a primary form of how the culture expressed itself, and its break with the past, and -- this is a bit of an aside -- to Greg's interest in the light shows and the expanded cinema -- and the forms that your work links to in a total sense, the sort of total cinema, what we call a total media language and environment. And I think we have to really change our vocabulary and way of thinking, and even talking about it. So why don't you go and begin.

[SB]: Well, that's an excellent point because I'm definitely a child of the twentieth century, having been born in 1950, right in the middle of the century, and kind of matriculated in the 1960s, and had a heritage of a mother from an Italian family and a father from a German family. So I kind of had this half-ration/half-passion combination.

[JH]: And where was that, where did you grow up?

[SB]: I grew up on the south side of Chicago as a kid, and I had a natural affinity for electricity and electronics, beginning with a crystal radio that my father helped me build when I was five years old, to an electric train set, where I was fascinated by the sparks and how did this all work. In fact, my father's profession was a structural engineer for a company that designed electric power plants, including the first nuclear power plant. I'm the oldest of six children, and my parents were very much sensei teachers to me, and they enriched our lives with music. We studied music. We played musical instruments as youth, choir, piano, French horn.

They enriched us in Chicago by showing us the Chicago Art Institute, you know, gazing upon the master works of Impressionism, as well as classical masters, and also the Museum of Science and Industry on the south side of Chicago, where I was immensely fascinated by a single-color cathode ray tube display with three dials, one for red, one for green, and one for blue. And it had a little magnifying lens that you could look through and see the little phosphor dots, and you

dialed up these colors, and I just loved that. Emitted light, that was a huge appeal to me in everything that I did, and really drew me into video, because most visual art forms, in fact, ninety-nine percent of what we see every day, is reflections of light. From architecture, from paintings, even films projected onto screens, we're looking at reflections. But here with video we had this emitted light from the cathode ray tube, and that was very, very powerful.

I attended the University of Illinois in Champaign-Urbana in 1967, which was a great place to be at the time. The fascination I had with television led me to read every book of about seven hundred they had in the library on television, including its origins with Philo T. Farnsworth. I actually learned how to repair televisions when I was twelve years old, and so I fixed them for neighbors, and made good money, often encountering cockroaches that lived on the wax of the capacitors inside them, occasionally getting a twenty thousand-volt shock from the cathode ray tube, but the light just fascinated me.

And also, being a musician and playing in the school band, I had friends who started rock bands. You mentioned this whole cultural renaissance that was occurring in the mid to late 1960s, largely centered in San Francisco, though certainly New York and Chicago and major cities, so the light shows -- I used to take the family Christmas tree lights and rig them up to a device that would respond to the Christmas music on the stereo, and make them blink and flash. That was probably when I was ten or eleven years old.

Also at the Museum of Science and Industry, they had the WTTW, the public TV station -- those days they called it educational TV -- and you could look in and see these cameras. We had a family friend, Johnny Steinbrenner, who worked for Bell Telephone in the television coaxial cables, which is how signals were sent from New York to Chicago to Philadelphia. He got us tickets to the little kiddie shows that they had in those days, and you got to go, "wow, the cameras." So we'd go home and make cardboard tube cameras, and pretend with my brothers and sisters. So I just love television. I just love the idea. In those days there were really only four or five channels, the three networks, and local independent, and educational.

[JH]: I just have a little question here. [Thomas] Wilfred and the *Lumia Suite* -- now, I know that in this period, it was on view at MoMA in [1971, *Thomas Wilfred: Lumia* exhibition], and I don't know if there was one at the art institute or on view in Chicago.

[SB]: No.

[JH]: Not in Chicago.

[GZ]: But in the '50s Wilfred showed at the Met, at the Whitney, and at MoMA. MoMA acquired it.

[SB]: Yes, which I saw --

[JH]: What did you see?

[SB]: -- jumping ahead to 1974 to the *Open Circuits* [*Open Circuits: An International Conference on the Future of Television*, held at The Museum of Modern Art on January 23 and 25, 1974] event that we all attended up on the sixth or seventh floor, that's where I first met Howard Wise, and there was that Thomas Wilfred *Lumia*, and by that point I'd began to understand my heritage and the footsteps I was following in, and I just loved that *Lumia*, and you wrote a very interesting piece I saw in the *New Yorker* about the use of the *Lumia* in the Terrence Malick film.

[GZ]: Oh, that's right.

[SB]: And I met Eugene Epstein at the *Visual Music* exhibition [*Visual Music*, a collaboration of the Hirshhorn Museum and Sculpture Garden of Washington, DC, and the Museum of Contemporary Art, 2005 ], and I know that Wilfred did not allow it to be filmed because of the flicker. When you're in the presence of a *Lumia*, it is so calm and serene because it's just continuous light -- no flicker.

[GZ]: It's emitted light.

[SB]: It's emitted, and he's got it passing through that ground-glass screen, and so you get that same kind of light. You're not looking at a reflection directly. But at this point in time, in the early and mid-1960s, I had never heard of or seen that.

[JH]: So at that point in time -- you were talking about your preteen and teenage years -- how did you find your way to university at Champaign-Urbana?

[SB]: Well, I applied to MIT and didn't get accepted, which is probably one of the better things that ever happened to me, and in high school I started building amplifiers for my friends who had rock bands, and I discovered I could mess around with the circuitry and get sounds like fuzz tones and things like that. So when I went to the University of Illinois in Champaign-Urbana I heard they had an electronic music studio, so I found it. They had the second electronic music studio in the United States after Columbia, and this was in 1967. And so I found it, went up to Stiven House. It's an attic in a little bungalow across the street from the music building. It kind of tells you how the music department viewed electronic music. And there was Lejaren Hiller and James Beauchamp, who very kindly gave me a test of soldering, and I passed with flying colors, and they offered me a part-time job there, which included the keys to the attic studio. If you get the keys, then you can go up there at two o'clock in the morning and play, experiment. So I did that, and we had the second Moog music synthesizer that he produced there. I started teaching music students how to use synthesizers. We had an oscilloscope, monochrome green oscilloscope, a cathode ray tube with X-Y, not a video screen per se, but I could configure those oscillators in the electronic music studio to create imagery on the oscilloscope, somewhat known as Lissajous figures. I had not, at that time, seen or heard of Mary Ellen Bute, who I later found out in the 1950s was making oscilloscope films.

Also, there were what were called the underground movie shows on Saturday nights at a little coffee shop on campus, and that's where I first saw Oskar Fischinger. That's where I first saw

John and James Whitney films. That's where I first saw Jordan Belson films. And all along, going way back to as long as I can remember, John and Greg, if I closed my eyes and rubbed them, I would see amazing shapes and forms, colors, patterns, swirls, dots, textures, shapes, and I loved those, and I didn't know what they were. I later found out they were called phosphenes, from the Greek "phos-," meaning light, and "-phenos," to see, and I've been fascinated by this inner imagery that you see without photons entering your eye, impinging on your retina. And, of course, there's a huge class of this type of imagery: hypnogogic, hypnopompic, the things you see when you're falling asleep and waking up, meditational imagery, psychedelic imagery. Some can be induced by mechanical shock to the head, a boxer seeing stars because he gets hit -- so this fascinated me.

In fact, I invented in 1968 what I called the Phosphotron, which was an electronic phosphene stimulator, because I thought, you know, it'd be great to create a visual art form where there was no screen at all, there was nothing to look at, you just would close your eyes, and put this headset on. And, indeed, there was a certain safety issue, but I kept the batteries low, and made a set of twelve headsets, and one of my great mentors at the University of Illinois was Rob Fisher, a sculptor, and great teacher, and wonderful human being, and he and his wife, True -- you know, you go to universities, and there's always some professors who take you in, invite you to their homes. They really are nice to you as a student. You're not just in this one-way relationship. So we would hold phosphene seances out at Rob and True Fisher's farmhouse, and we'd wire up twelve people, and I'd be controlling it, frequency, waveform, and everyone would say, "Oh, yeah, did you see that purple blob on the left?" "Yeah, oh, it just moved to the right." Because there was a vocabulary there of sorts. So the Phosphotron actually was the first instrument that I invented for visual imagery.

[JH]: What year is this?

[SB]: That was 1968, but that was also around the time that I was beginning to get the idea of the video synthesizer. Here I am, there's the Moog music synthesizer. Well, if you could synthesize music, you should be able to synthesize visual imagery. And the concepts came together very quickly in my mind walking down the street one evening from the studio back to my little studio apartment, this model of color, form, texture, and motion. Those were my four design concepts. There was no camera involved, as with the Phosphotron. You know, there's nothing to see. So my whole concept of the synthesizer was much like the music synthesizers. You synthesize the entire image from the ground up, with no other external visual input.

[JH]: That distinguishes it from, for example, a Paik-Abe video synthesizer.

[SB]: Yes. Yes.

[JH]: Could you talk a bit about those differences?

[SB]: It's interesting because I think what you're describing, your goal, is very important because -- and you've written about this probably more clearly than any scholar that I've come across, Greg, but to call a Paik-Abe and a Beck and a Rutt-Etra the same is like calling a violin

the same as a clarinet as a trumpet as musical instruments. I mean, okay, the word “synthesize” itself, if you look it up, it means to gather parts together to form a whole, a complete. So in a sense, yes, we’re all synthesized, but image processors are taking camera images, colorizing them, distorting them, altering them in various ways. But my approach I describe as a constructivist approach, where I wanted to construct the image from the ground up with these bits and pieces of color, form, texture, and motion.

[JH]: But you’re not taking film or other footage.

[SB]: No.

[GZ]: There’s no photography.

[SB]: No. There’s no lens. There’s no imaging. It’s all coming -- believe you me, if I could have figured out an easier way to get what I was seeing in my mind’s eye out onto a screen, to build that synthesizer with 250,000 connections. I’m still trying to figure out how to make a camera that could record what we see in the mind’s eye, not photonic imagery, no photons.

[GZ]: It’s not that it’s not representational. It does, in fact, represent an internal vision, right?

[SB]: Yes.

[GZ]: So it’s not just that it’s abstraction as a withdrawal from representation or a desire to get away from representation. You’re interested in representing something else.

[SB]: -- what I was seeing. You know, I’m not a formal art history or art student. I never went to art school or earned a degree in art, but I looked at a lot of art, and I read a lot, and when I came across Wassily Kandinsky and his concept of the nonobjective image, then it resonated, because he had the same issue, that what he was painting was being called abstract, but it really wasn’t to him.

[GZ]: He said it was concrete.

[SB]: It was something that he saw in his mind’s eye that was not a physical object that you would see with a camera, but, nonetheless, it was as real to him as my images were to me.

[JH]: Is that nonobjective?

[SB]: Nonobjectivism.

[JH]: Would that be like Hilla Rebay talking about nonobjective art?

[SB]: Yes.

[GZ]: Although there are some differences within those things. But this is very interesting to me,

that the stakes for you were to move beyond -- to rethink the moving image as a site of abstraction. Your goal of trying to find an interior vision which relates to these film makers -- and people like Stan Brakhage, who was also very interested in phosphenes and hypnogogic visions, I mean -- maybe you're getting to this -- why was it going to be through video? Why was it -- if you have this lineage that you're laying out with recognition of people like Bute and people like Wilfred and people like Belson who you collaborated with -- and the Whitneys, why then video synthesis?

[SB]: The immediacy. I wanted to play video like music. Getting back to your comment about music, because here you have two temporal-based forms: music and video. I didn't want to wait to shoot film and develop it and look at it. I wanted it now. I was impatient, and the video, with the emitted light of that cathode ray tube, that was really powerful light. So it was the immediacy in wanting to play a video like music which led to some of my early works like the *Illuminated Music* series, where I wasn't good enough yet in constructing the visual dynamics and tempos, because I didn't really have access to editing, and it was only able to play at a certain speed of rate on the synthesizer, so in *Illuminated Music*, I would use the music to provide the temporal flow, and then I would lay the video on top of it.

[GZ]: Yeah, you have that great Yusef Lateef piece....

[SB]: We talk, we still talk. I believe, and I will claim until someone can refute otherwise, and I have the recording, that that was the one and only time that anyone actually got live on-the-air broadcasting with a video synthesizer, particularly the Beck Direct Video Synthesizer, at KQED on May 19th, 1972, at 7:45 p.m., on the *SCAN* program, where I was connected to fifty thousand watts of effective radiated power, and the broadcast union, NABET, National Association of Broadcast Engineers and Technicians, they were throwing a hissy fit over this.

By now I had joined the NCET, the National Center for Experiments in Television, where Brice Howard kindly offered me a position as artist in residence, and I came out, though I hustled, I created that opportunity, and to get on the air they had to jump through hoops. They said, "If you're not union, you can't touch anything." And they said, "What do you mean, there's no cameras? What are our cameramen going to do?" Well, if you look at the recording of it, it's misleading, because the camera shows me playing the synthesizer, then it zooms into the screen, but, actually, the signal fades over directly to my synthesizer feed.

And for those seven and a half glorious minutes I really felt the tune, and, of course, I practiced and rehearsed this for weeks. I had the oscilloscope -- because the union guy said, "If you make one over-blue too much, we're going to cut you off." And he really was. He was standing right there with a switch. There's one little glitch in the piece, and they let it go through.

Meanwhile, unbeknownst to me, they tell me later that the telephone switchboard at KQED lit up like a Christmas tree. You know, in those days, telephones, they had little lights and they'd light up, and they said, "People were calling and going 'What is this? What's going on? Is this going to be on again? We got to tell our friends, and we love it'." You know, "How about more of this?" But the call that was my favorite was some guy who called in and said, "What did you do

to my television? You broke it. It doesn't look right anymore." And I thought that was a great aesthetic breakthrough moment.

[JH]: Is this the '72 NEA [National Endowment for the Arts] conference?

[SB]: Yes.

[JH]: And that's where you first met Nam June.

[SB]: Yeah. You know, I'd never heard of video art. I never heard of anything. I'm a naive young guy of eighteen, nineteen years old in Champaign-Urbana, Illinois, with ambition, and a vision, and a skill in electronics, and some very nice people like Salvatore Martirano, the musician-composer there, Rob Fisher, James Beauchamp, Herbert Brun, Lejaren Hiller -- John Cage was the composer in residence there from 1968 to 1969.

[JH]: Is that when you did the harpsichord?

[SB]: *HPSCHD*. Yeah, he did *HPSCHD*, and I would sit up there smoking cigarettes with him, playing chess, making oscilloscope patterns that my friend Ted Timreck filmed, and those were part of the *HPSCHD* event, and I'll never forget when that opened, I think it was May 16th, 1969. John Cage was down in the center of this giant flying saucer stadium in a white suit.

[GZ]: This is the football stadium.

[SB]: Well, it's actually basketball. It was indoors. You know, how many times have I flown transcontinent -- in clear days in the right vector you can look down and see this circle. It's, you know, Illinois, and basketball at Indiana [the mid-west] is big in the winter. And there he was in the center of the stage, in a white suit like an ice cream man, and the windows all around -- we'd set up like a hundred projectors, slide projectors, film projectors -- I mean, it was just -- I don't know if anyone filmed it or documented it, but --

[GZ]: There's photographic documentation.

[JH]: So you worked with Nameth on this?

[SB]: Ron Nameth was a film professor at the University of Illinois, and he came up and saw what I was doing on the oscilloscope, and he asked me if he could film it, and I let him film it, and then next thing I know he's running around the world showing it as if it's his film. You know, here's a case of a thirty-something-year-old professor taking advantage of an eighteen, nineteen-year-old, naive kid. I'd love to get that film. He said it was lost in India.

[GZ]: He the one who shot Warhol's EPI. *Exploding Plastic Inevitable*.

[SB]: Yeah, there were great people around there. I don't begrudge him. See, we had no videotape. The other recording I was able to do was on sixteen-millimeter film with my friend

Ted Timreck, and we just shot with a sixteen-millimeter camera, because -- okay, in the summer of 1969, I was back in Chicago for the last time. In the summer of '68 I was in Chicago working as an installer for Western Union by day, and building and operating light shows at the Electric Theater on the Near West Side by night, owned and operated by Aaron Russo, where the Jefferson Airplane, Jimi Hendrix, Big Brother and the Holding Company would all come in. We built strobe lights. We were doing analog light shows. So simultaneous to my concepts of the video synthesizer were these analog light shows.

[GZ]: What were you called?

[SB]: Light show artists. We didn't have like the Joshua --

[GZ]: Joshua Light Show.

[SB]: No. We were just the resident Electric Theater light show artists.

[GZ]: And so was the appeal of that also immediacy? Its real time, improvisatory image making?

[SB]: Yes, exactly. The wet plates, the moiré -- a lot of which I recreated when I was commissioned to create a Jimi Hendrix music video, *Voodoo Child*, because I met Jimi, you know. At three o'clock in the morning you'd go down and everybody would be smoking and drinking and whatnot -- but, yeah, the immediacy and the analog nature of it, because this is what I call the pre-digital era.

It was also the era of the '60s, where there was a great conflict culturally in technology, especially to me. There was this beautiful technology of color television, technology reaching out to the cosmos, and also the destructive side of the war in Vietnam, and I was adamantly opposed to the war in Vietnam, and protested it, and burned my draft card, and almost got thrown in prison, and kind of share with Nam June his antiwar sentiments. I hadn't heard of him then. So, I get a color television from Zenith, where I'm working that summer as an intern on a laser television system. I also team up with the Experiment in Art and Technology chapter in Chicago, the first chapter offshoot from Billy Kluver's New York group, and I team up with a sculptor named Paul Moore, and we create a twenty-four-piece neon, animated sculpture that happens to be a tombstone, and I have a video of that that I've resynthesized.

[GZ]: At this point you're nineteen or twenty?

[SB]: Yeah, I'm nineteen. You know, you don't need much sleep at that age. But once I got that color television down in Champaign, I immediately opened it up and wired into the circuits for the red/green/blue and the sync, and I built the first direct video instrument number zero, I call it, which I have downstairs. And that's when I started getting it filmed by Ted Timreck, was asked to perform with Sal Martirano with his SalMar group, toured to the Art Institute of Chicago, the University of Wisconsin in Madison, the University of Iowa in Ames in the middle of February, lugging this hundred-pound thing. It's a miracle things didn't break.

[JH]: But that's when you moved out to San Francisco, in '72.

[SB]: Right. Well, I came out in 1970, because I was getting nowhere at the University of Illinois as far as getting any support for my video synthesizer, because it was analog, not digital, and all digital could do was paint. So I wrote a lot of letters, and a very nice man at WPBS, David -- oh, his last name is -- Howard Klein knows him -- he wrote me back and said, "Go to San Francisco and go talk to Brice Howard." So I come out on spring break with some sixteen-millimeter film, and I show it to him, and I'm thinking, oh, experimental television, so there'll be all this equipment and people in white lab coats. No, no. It was in a warehouse, around the corner and right behind the *Rolling Stone* magazine office, in fact. We used to go to the bar, and there was Jann Wenner and all those guys.

But it was my kind of people, and so I go back to Champaign, and two weeks later they call me up and said, "We're not quite sure we understand what you're doing, but we would like you to come here and do more of it, and we'll move you here, and we'll give you \$10,000" -- this is in 1970 -- "to buy materials and equipment and supplies. We'll pay you \$7,000." I'm going, "When do I start?" And, of course, I'd wanted to get to San Francisco. I mean, who didn't. I was tear-gassed in Chicago in the summer of '68. When I arrive in Berkeley in the fall of 1970, there I'm tear-gassed again by helicopters spraying tear gas on the orders of Ronald Reagan to quell the antiwar hippie protestors. By the way, it was just the fiftieth anniversary of the Free Speech Movement and Mario Savio there. So there's a lot of history there, but, yeah, Brice Howard gave me a great opportunity, and I'm indebted to him for that.

[JH]: By the way, I just wanted to say, I think it's very important, that connection to the social changes, to the political forces that were being opposed, the Vietnam War, but also the liberation movements in terms of Black Liberation, and community groups. I mean, that's a rich place of change, and it affected all of us, and it informed a way of looking at the world as a place that could be changed

[SB]: The Race to Space, the landing on the moon, I mean, these were transformative events, and yet to me, I wanted to make something beautiful with that technology to try to offset the destructive nature of it, and I wanted to make something beautiful out of television. Now, I grew up watching black-and-white monochrome TV. It started in the morning with a test pattern, and ended at midnight, and that was my mandala.

In fact, in Chicago there was a very brilliant conceptual piece on WGN. At six thirty in the morning they started to warm up the transmitter tubes, and these tubes are like giant glass constructions that have to warm up, and they had a camera up on top of that building, and it just slowly panned across the downtown in Chicago. It's way ahead of its time. I remember watching Ernie Kovacs in the 1950s. He was doing oscilloscope. He was doing video feedback. He kind of prefigured almost everything, a lot of what followed. Steve Allen also would videotape. So these were all kind of churning up.

[JH]: I also want to say something about what you talked about, making something aesthetic,

something beautiful, something that was something else, and that's very much identified with your work. Yet at that time, in the late sixties and early seventies, the big effort of this more conceptual, performative, reductive, self-reflective, which was a very powerful, important part, connected to film, structural film, and so forth, was happening, and then there was what you were doing, and that's why I call that this "Beckian" time, this moment where there was an identification of video in terms of what was emerging out of your palate of a way of looking at the medium. I think we need a fully-integrated history to understand those differences in connection. Maybe you'd like to pick up on it.

[GZ]: Well, maybe a couple questions along those lines, because I think John's right to bring this to the fore. So with structural minimalist film, there was this effort to empty out the image, right? Because that representation was a lie, and that media was a lie, and the only way to get past that was to reduce the elements of the apparatus so that you came fully aware of the screen, of the projector, of the light. That doesn't seem quite what you were doing with your abstractions, and I'm wondering if we can clarify that, in light of your points about social movements and your social consciousness, that your abstractions are not a withdrawal from that conflict, or are they an attempt to transcend that? If some of what you're doing is motivated by a search for beauty, a search for aesthetics, how does that square with the violence and upheaval of that time? Did you see yourself as trying to transcend it, as trying to get away from it, or what do you think about?

[SB]: I think it was to try to transform it, counteract the negative, destructive, the ugly, with something constructive and beautiful. I'm not ashamed to use the word beautiful. You can be crucified in the art world for using that word, although I just read an interview with Gerhard Richter, and he talks about liking to create works of beauty. Now, you know, I'm not going to define it. I'm just going to do my work. I mean, when I started I was doing what I was doing because I liked it, and I wanted to transform, if I could, the nature of television in some way. I mean, television offered a huge audience potential to reach. They didn't have to go to a museum or a gallery, it could come into their homes, and that was incredibly attractive from the standpoint of having people see, you know, wanting to share. That spirit of the sixties was a lot about sharing. It wasn't about making money, that's for sure. It wasn't about the entrepreneurial world that emerged ten, fifteen years later. It was about doing it for the love of doing it.

[GZ]: But there's also a civic component that you're getting at here, which is that by broadcasting a form of beauty or joy this is a social good, right?

[SB]: Hopefully it would be, yes.

[GZ]: It is a palliative in the face of the sort of destructive media that you're describing. Was that part of what you're thinking?

[SB]: Indeed, yeah, it was, and when those phone calls came in --into KQED, they told me -- they wrote down, and they said, "This is what people said," and it was like, "Ah." That was the delight. It clicked. It worked. People were enthralled. They wanted to see more. It's interesting to try and show people something they've never seen before.

[JH]: I want to pursue this a little bit more. How did you see what you were doing with the BDVS as different from what was being done by the Paik-Abe?

[SB]: First of all, I'd never even heard of Paik-Abe, I hadn't heard of Dan Sandin. I was out in San Francisco unaware of any of this other work going on.

[JH]: Were you connected to Brice Howard?

[SB]: Hundreds, thousands of people came to visit. The Vasulkas came. Rutt, Steve, Etra came. You know, Robert Rauschenberg, and the other fellow there, the other director was Paul Kaufman, who was more scholarly and academic, and he ensured that there was an academic, kind of scholarly aspect to the work. He invited people like Rudolf Arnheim, visual thinking. So I got to sit side-by-side with these great people, and try to learn what I could.

Now, the other motivation was the National Center for Experiments in Television, NCET, which ran on grants. It was a nonprofit, nonpublic -- public nonprofit. So it relied on grants, initially from the Ford Foundation, then later from the Rockefeller Foundation and Howard Klein, and the National Endowment for the Arts. So in 1972 there was a big conference of all the members of the National Endowment for the Arts held in Washington, D.C., in December of 1972, and so Brice Howard and Paul Kaufman wanted me to go there with the video synthesizer, which is a rather large instrument. So we built a wooden crate, packed it up, loaded it on an American Airlines flight. We fly to Washington, D.C., in the first of December. I'm anxiously at the airport watching them unload this big, wooden crate, making sure they didn't drop it. The venue was the auditorium at the National Academy of Sciences Building, this beautiful ellipsoidal auditorium that was designed by [Wallace] Harrison, a gentleman, it couldn't have been more futuristic, and there weren't many video projectors around in those days. The eidaphor was one. And I requested a front projection screen, because even with a projector I couldn't really get emitted light, but a high-gain reflecting screen. I worked with the technician to get the black levels down, because for me black always was a very important color. I also introduced in all my work the color bars to tune your television, and then you find out in video no one's ever going to see it exactly the way you saw it. It just goes through too many transformations and adjustments on TV sets. I said, you know, "What self-respecting musician would play a piece without tuning their instrument?" So I introduced color bars.

So I'm in the auditorium. It's probably December 2nd or 3rd in 1972, and I'm setting up, and, thankfully, everything was working, and I was patching up for the *Illuminated Music* performance. I had no idea how significant this event would be. Then I hear -- because I'm down in the front of this auditorium, I hear footsteps coming down, and I hear this voice going, "Steve Beck, Steve Beck, Nam June Paik, Nam June Paik." And I'd heard about Nam June Paik from Brice Howard, and I'd started to hear about the New York art scene and the Howard Wise Gallery, and, you know, hear names, and I wasn't quite sure who he was, and I think this was before he teamed up with Shuya Abe to develop the Paik-Abe image processor. But he comes down, and he's all smiles, and he shakes hands, and he says, "Oh, very good meet you, good meet you," you know. And I go, "Oh, you're Nam June Paik. What an honor to meet you. I've

heard so much about you, and, here you are, and you've come down to see this event, performance. I'm really delighted." And that was the first time I actually met Nam June Paik in person. It was December 3<sup>rd</sup>, 1972.

[JH]: He was developing his synthesizer in the late sixties.

[SB]: My awareness is he was doing the magnetic distortion pieces and --

[JH]: -- and the *Magnet TV*. Those were earlier. But it's so interesting to see how multiple communities and interests are -- because there wasn't that much communication. You're across the continent.

[GZ]: That's really interesting.

[JH]: It's very interesting, because we tend to homogenize, think that everything is happening at once.

[SB]: I mean, people in New York started to hear about me after that showing at the Whitney in 1971 -- and then this event in Washington, D.C. on December 4th, 1972, and it was reviewed in the *New York Times* the next day.

[GZ]: Yeah, Peter Schjeldahl wrote that review, right?

[SB]: You know -- there's no byline on that particular clip. I'll show you. But he may have. And it misquotes me as saying that someday the computer would replace the artist, and I actually wrote a letter to the editor of the *New York Times* and said, "Excuse me, I never actually said that, but, you know, if you want to print it" -- what do they say, all the news that's fit to print? Well, it may or may not be true or accurate. After that we continued to tour to Harvard, to the Carpenter Center for Visual Studies. Then we went to New York City, to Cooper Union, and Nam June came to that performance, and it was the darkest, coldest winter of 1972 and 1973, and New York City was a pit then, and I didn't care for it, but Nam June invited me to his studio on Mercer Street, and that was the first time I went up to see his apartment there.

There were all the old TVs, and all his experiments and works in progress, and he was just really charming. And then we went out to dinner, I think at a Thai restaurant nearby, and he actually asked me to come to New York and continue my work at WNET, Channel 13 -- David Loxton, and he wanted to collaborate with me on some projects. It eluded me at the time, because, of course, Brice Howard and Paul Kaufman said, "No way, absolutely not," you know. "You're part of us, and if you leave, that's it, you're not coming back, and we're keeping everything." And they made it very plain that that was not going to happen. Though later -- we're going ahead now fifteen years -- visiting Nam June in his studio on Mercer in 1988, I happened to be dating Laurie Anderson at the time, and I brought her up to meet him, because they'd never met, and he said, "Oh, Steve Beck, I owe you. I stole some of your video and used it one of my pieces."

So he made a drawing, I'll show you the drawing, in pastel on black paper, and he gave one to

me, signed to Steve Beck by Nam June Paik, and he gave another one to Laurie. Well, she didn't care for a piece he did where he cut a photograph of her out and glued it onto the front of a cathode ray tube -- it was in the IBM Building gallery on Madison Avenue -- and he cut out her eyes so that the light would shine through. So we get back to her apartment on Canal Street, and she tears her Paik to shreds. I wish I'd kept all the shreds, because I could have put them in a glass jar and said, Laurie Anderson tears up -- Nam June Paik. I can recreate it. I mean, it wouldn't be that difficult. But, you know, Nam June Paik's aesthetic, I found him fascinating because of his origins in Korea, east comes west. I learned about his entire trajectory in Germany in the music world, and his mind-bending exploits. Charlotte Moorman -- *TV Bra* was brilliant. The West Coast aesthetic at NCET did not get Nam June Paik, and I'm not going to say any more than that, but I got him, and I liked him, and I thought I admired him, and I thought this guy's like a genius. And through him I met Charlotte Moorman, who became a good friend, and was always inviting me to come and participate in the festivals in New York, but it was very difficult to get to New York for me.

And I didn't really resonate with New York at that time. And yet later, in 1988, when she was dying slowly of breast cancer, I believe it was, she came over to see me at Laurie Anderson's Canal Street Studios, and she was basically broke, I think. And she was asking if I would like to acquire a piece that she'd made, which was a tissue paper cutout of a cello in kind of multicolor Mylar sheet, and so I said, "Well, sure. How much would you like for it?" And she said, "A thousand dollars." So I just gave her the thousand dollars. I still have it down in my files somewhere in the archives. So, you know, I thought -- I felt that Nam June was like the jester, the prankster, the genius who could make you laugh, who could foresee the future coming ahead. There was the early analog laser vision disc player, which I have, I restored mine, and we both were on a Pioneer Japanese laser vision disc that I still have, and it plays flawlessly. He was much more global than I ever was, and had sixteen years on me of age and experience, and had a vision unparalleled by anyone else, and you, of course, had recognized this when you had the first big exhibition of Nam June's work at the Whitney, in 1982. You kindly invited me, and I regret that I couldn't attend, but I had prepared a large flower television.

[JH]: I remember that.

[SB]: Big color television with color bars made out of flowers that I commissioned a florist in New York. I actually have the picture. And sent it there, and, you know, hopefully it was a sign and a token of appreciation. Yeah, I should have gone, but, you know, at that time I had a company, and I had forty people in my team, and I was responsible for their livelihoods, and so it was just an unfortunate time where I couldn't get back. But later in 2000 when you honored Nam June with the massive show at the Guggenheim, which was just brilliant, I was able to be there, and by then he was in the wheelchair. He'd already suffered several strokes. He also had a very substantial security team around him, and Shigeo [Kubota] was there, and I had a gift for him. I read in one of your essays, I believe it was, Greg, or maybe it was one of yours -- no, no, it's the Smithsonian, Nam June Paik Archives, about how artists would give Nam June gifts -- so I had at the time been experimenting with electroluminescent, another form of emitted light, "flashies" I called them, and I gave him one in the shape of the yin-yang, which is, of course, on the flag of the country of Korea. He said to the security guards, "No, he's Steve Beck, let him through.

He's important. He's my friend." He also told me once early on, he said, "You know, you'll probably do just fine as an artist without ever having to live or move to New York City." So I don't know, hopefully he was correct.

[JH]: Now, your tapes are distributed by Electronic Arts Intermix [EAI].

[SB]: Some of them are. Actually, very few of them are, yes.

[JH]: And did you have many dealings with Howard Wise?

[SB]: Howard Wise I met at the *Open Circuits* event at the Museum of Modern Art in 1974. I'd heard his name. I didn't really know who he was, but we had a nice conversation in proximity to that Thomas Wilfred *Lumia*. So while he had the gallery, and I wasn't really making objects that were suitable for sale in a gallery, he did start Electronic Arts Intermix. He said he would really like to carry some of my works, and I said, "Sure, that's wonderful. I'm really honored." And then later he came out -- you know, for about ten, twelve years I had a studio at the Claremont Hotel up here in the South Berkeley Hills. People say in the basement, but it was actually on the studio level. We had as good a view as we have here of the San Francisco Bay. And he came out one year with his wife, Barbara, and two of his children, and I did a video portrait of them. I think he paid me five hundred dollars for that tape.

[JH]: And does that still exist?

[SB]: That might be in my archives, a copy of it.

[JH]: Oh, that'd be really nice.

[SB]: Yeah. I found Howard Wise to be -- I didn't realize he was a very successful businessman with an oil company in Ohio or something. Cleveland. I visited his home, I think it was on 13th Street, several times. He had a collection of the most incredible contemporary art. Barbara was a friend, and so, you know, I appreciate that Electronic Arts Intermix is still around, and, I've helped them out a little bit where I could.

[JH]: I'd still like to find out more about your whole project. You develop this tool, and how did you see it generating work? What was the work? And how was it seen, and who saw it? Was it in distribution, was it in exhibition?

[SB]: We broadcast a number of programs on PBS. That was one advantage of being there, as was the Boston lab and the New York lab, and PBS was willing to broadcast finished works, programs, on the network nationally, and we did the *Illuminated Music*, we did the *Electronic Videospace Notebooks*. *Videospace* was a neologism that Brice Howard coined.

[GZ]: Were you working with Jepson on some of these?

[SB]: Yes. Warner Jepson, composer and musician, was the primary musician on the

*Illuminated Music* pieces. But I was interested in a broader spectrum of music and sound than Warner's own space, and I am a musician myself, as I see you are, guitar. In fact, that piano is me playing a lot of my original music. And, in fact, a lot of my work I later composed and created the sounds for. So to answer your question, there was the opportunity, which was my dream, to have work shown and broadcast on national television, Public Broadcasting System. For example, in 1976 David Loxton produced the *Video Visionary* series, and that was widely received, and that's where one edition of *Video Weavings* made its national debut, though when I started the concept of *Video Weaver* it was in 1973, and by then we'd already been showing in national television. We'd given a large multimedia show in Dallas, Texas, at Southern Methodist University called "The Electric Concert," and I think I recently located a copy of a documentary video about that. It's funny, you know, people think of museums as showing work that's of antiquity. Museums jumped right on video as a new form, and it was an art form that was being shown in its infancy in art museums, rather than long after the fact.

Home video didn't really exist in the form that it assumed in the 1980s with the idea that you had a home video machine that you could play tapes on. Cable TV was fairly new, and HBO. I mean, you had five channels, you had six channels, or we gave concert performances at the San Francisco Museum of Modern Art. We gave the very first video art performance event with the *Videola* [by Don Hallock] sculpture, which was a giant reflection sculpture.

[GZ]: Thomas Tadlock, is that who --

[SB]: No, Tom Tadlock was *The Archetron*. And I think his symmetry was done magnetically and not with mirrors. The *Videola* was, as they say, all done with mirrors. You have to see it to understand how it produces a giant spherical illusion.

[JH]: Who do you identify yourself with? Are there particular other artists that you see your work as in conversation with, or as related to?

[SB]: Well, probably the most prominent name that comes to mind would be Jordan Belson, who came down to the Experimental TV Center to look me up, because he'd seen my work on PBS, and we resonated in a way that was beyond "how is it done." That was the most frustrating thing, to go out and make an appearance at a museum or lecture, and people would go, "How did you do that? How did you do that?" Not why did you do that, or what does that mean, what the archetypal representation of these images are, where it's coming from. I just hated trying to explain it, and I couldn't, really. I wasn't articulate enough. But with Jordan Belson, we were like grokking, as Heinlein said, each other, both at the level of imagery, and also the transcendence of how it's done, and it's more important in its meaning and symbolism than how was it done.

[JH]: It's a very important thing that you're identifying, and that is, it's always a struggle with a moving image, and that's a language of description, a language of understanding, and a language of expression, critical languages. Are there other artists that you remember from that period?

[SB]: The Oskar Fischingers [Films]--

[JH]: the Whitneys.

[GZ]: Well, I'm taken by a couple things you've said, Steve. You keep coming back to this idea of yourself as a West Coast artist, and I'm wondering if you could talk a little bit about the sense of place, and if that's important to you. You're working with all these interior images, right? But those interior images are taking place while you are physically in California --

[SB]: -- in the Berkeley Hills, looking at the sunset and the Golden Gate, yeah.

[GZ]: So do you feel that that's part-and-parcel of your work?

[SB]: I think by now, since I've been here for forty-five years. But, you know, I never think of myself in terms of being in a place as much as just being in a space, in a frame of mind, and, you know, I mean, there were a lot of other artists in San Francisco at the time, like Skip Sweeney and Video Free America, Bill Hearn and his own image manipulation -- not quite a synthesizer -- I forget what he called it [the *Vidium*]. And so you kind of casually meet up, and, you know, talk shop, and go "nice work," you know, "nice piece, I like that piece."

[JH]: But I remember, as I was responding to video, thinking about you, as I said in my introduction, you are synonymous with video as an artist. I mean, that electronic palette that seemed to be so medium specific, it was coming from a particular process, and I saw it in a very prominent position. That's why I said, a "Beckian" time. But at the same time you're describing it as very insular.

[SB]: Yeah, I was very inwardly focused. And when people like the Vasulkas came to the Experimental TV Center, they were very upset and disappointed that I didn't let them touch my instrument, as well as some others, I was very possessive of it, for reasons ranging from the fact that if somebody broke something on it, I was going to have to fix it, and also, it was incredibly delicate and precarious. I did, however, like the Vasulkas, and I liked their aesthetics. I never designed the video synthesizer with the idea of manufacturing them and selling them to other people. I did, though, on two occasions, sell small subparts of it, like the video outliner, to the Vasulkas, and also to the University of California, San Diego, Roger Reynolds' electronic music studio, but it was never my intention to like replicate this or publish it. It wasn't my motivation.

[JH]: What do you think of that new two-volume book that's just come out.

[SB]: Yeah, I have it. I see where they're very critical of me, and she calls me protective or stubborn. If I had a Stradivarius I probably wouldn't let anybody else play it, because I don't want their vibrations on it, I don't want them to break it, I don't want them to damage it. "Here, I'll show you what I'm doing, and if you want to go do it yourself, be my guest, you know."

[GZ]: How important for you and your sense of space, how important were things like meditation or drugs?

[SB]: I did all the above, yeah. They were all part of that experience of expanding one's consciousness. I just read an interview with this Sean Parker, you know, the Napster and the first president of Facebook, and he just settled with the California Coastal Commission to pay two and a half million dollars because he built a fantasy wedding in Big Sur, and he said, "Oh, yeah, I meditated, I'd take pharmaceuticals, whatever it takes to get to the image." But that's not to say that, as I mentioned earlier, this whole class of internal imagery, psychedelics is just one component of it. Meditation, and the yantra, and the mandala are just a part of it. And at various times in my life I've been very intensely involved in all of the above, and it definitely had an influence on my work. For example, in *Union* I attempted to portray the internal energies I felt while engaged in Hatha yoga, and now I look at it and go, oh, it's just crude and primitive, but that's the best I could do at that time.

[GZ]: I adore that piece.

[SB]: I happened to just see a trailer, there's a new documentary about Yogananda, *Autobiography of a Yoga -- Yogi*, which I read, and it just moved me and affected me for many years. I followed it, and there's a brief glimpse of a visualization now of the Kundalini reaching the brain, and I'm like, that's what I wanted to do then, but I didn't have the means or the precision to do it.

Okay, so Pixar, Alvy Ray Smith and Ed Catmull -- I was giving lectures at the University of California, Berkeley, College of Engineering, Electrical Engineering, Computer Science, on my video synthesizer, and they were attending. I had developed what I call the electronic airbrush effect, where I could take a hard edge and smooth it, so you've got this kind of airbrush, and, you know, I had some painter friends and they said, "How'd you get that airbrush effect?" I said, "Oh, I just did a little integration of the curve, and I can vary it, and you got shadings."

And so Alvy Ray and Ed Catmull, who were the founders of Pixar, were at one of those symposia, and Alvy Ray told me later, he said, "You know, we were struggling with how to solve" what they call the anti-aliasing problem in a digital synthesized image. And he said, "Your shading effect gave us some ideas on how to do that." Why I didn't go digital at that time?

[GZ]: This is something I wanted to get back to a little bit, filling in some of these gaps in John's questions about the tools and the development, the medium specificity of these tools. You're interested in immediacy, and in performance in particular, which I'm very much interested in, and the fact that you would perform, you toured. You were a video artist who toured. I can't really think of other video artists who did that, so I think that's something that should be recognized, but you also then do make single-channel works, so the immediacy is perhaps the broadcast or something like that, but I'm wondering if you could talk a little bit about that shift.

[SB]: Now, that's an important point. When I started out I was like a kid on a tricycle or a bicycle with training wheels. Coming from music, I understudied composition, and I wanted to compose, and yet the tool was too primitive to compose the complexities in real time. Editing is where you can compose, and editing in video is almost a nightmare if you're doing anything

more than an A-B cut. You'd need two or three A B C players and a D recorder, and you're spending a thousand dollars an hour to rent this. No. So I became very interested in transferring my video onto film, so I could then edit it at my own pace and make these compositions. Early on, Image Transform -- I had a piece called *Conception* that's not in distribution anymore. I started working with dancers as well. I did, of course, get influenced by the image process and say, "Well, I've got to have a camera input, have two of them," so I can take the image of a human form, particularly of a dancer, and see how far I could abstract it and still you would sense there's a human there.

Now, those works, such as *Anima*, I consider true abstractions, and the metaphysical circuit at the Electric Concert in Dallas, that was live, real time, a troupe of dancers performing. Video cameras were scanning them, modifying, processing their image, putting it back up on a giant screen. That was a ton of fun. All the live, big concerts I was involved with, and there weren't that many, were all sold out, and they added like six more because it was so popular. People had never seen anything like it.

[GZ]: Do you perform anymore?

[SB]: I have not performed video in a long time.

[JH]: Could you do it?

[SB]: I could be, possibly, sure.

[JH]: Oh, we should do it in D.C.

[SB]: The composition was now single-channel focus, and a concept of time and a concept of having imagery that moved beyond the speed of thought. I wanted something that traveled so quickly you couldn't really even comprehend intellectually what you were seeing, such that you would say, "I'd like to see that again." I mean, that would be the highest compliment -- "I'd like to see that again." And sometimes you say, "No, you can't. You can only see it once," and other times say, "Sure, you can go see it again."

It's like a magician will perform their illusion once, but they won't repeat it, because we're dealing with illusions here, and delusions, to some extent. In my mind there's cinema, there's kinema, the moving image. And I like your handmade website and your description of yourself as a scholar of the moving image, and, likewise, of the kinema, the cinematic form.

I remember at *Open Circuits* I showed some of the work on cycles in progress as a film, and it was considered heresy because this was supposed to be a conference about video, and I think Robert Pincus-Witten -- some of these New York critics, they just jumped all over me and nailed me as that crazy wacko from California with the electronic coloring crayons, you know. "Oh, this has all been done before." "This is nothing new." But Gerald O'Grady was egging me on to get into the ring, and to duke it out with these critics. Well, what I did was I took a dollar bill out of my pocket and burned it, and then I stood on my head for five minutes. I could do that in

those days. Just kind of said, “Okay, sure, whatever. This is what I do. You can love it. You can hate it.” But, then it was a case of, okay, now I can compose not in real time using cinematic as a medium.

[GZ]: Were you photographing? You were filming your monitor. So these are hybrid works, which is really interesting.

[SB]: Yes, they are.

[JH]: Like Jud did with Nam June.

[SB]: Yeah. You found that working with professional video equipment, even what was available, the Portapak’s the one, it had serious limitations in technical and cost, and so to manipulate the imagery, and also to see it sequentially in space, because I always work with color positive, was a delight. And then to achieve the complexity of layering in video was very complicated and expensive and time-consuming, so it just led to working with film for a while. So Image Transform in L.A., I’d send some videotapes down there, two-inch quad, those big, old monsters, and they’d laser scan them onto film, and come back, and, “Wow, this is beautiful.” It was really clear, and the color’s good.

Later, then, on something like the *Voodoo Child* Jimi Hendrix music video, in 1982, I think, Electronic Arts arranged for that with the Douglas brothers, and then it was: okay, how quickly can I make something that is what I consider good enough in terms of the time flow. So I made that piece basically in three days, editing it on one-inch C. So gaining access to editing was a big advance for me in being able to become much more focused on single-channel works, and the manipulation and control of time in a much more precise manner. And then, also, not relying on music to carry the time flow, but creating the flow of time visually, and then going back and adding the soundtrack. PBS -- I wanted to do a silent pure video piece, and they said, “We won’t broadcast it. We will not broadcast a silent video piece. It won’t happen.” I said, “Why not?” They said, “People will call in and complain that something’s wrong with their television” -- or there’s something wrong with the network. It was kind of like the World Cup in South Africa four years ago, the soccer, and I just gotten the 3D TV, and it was in 3D, and I had it on the computer, and just [makes buzzing noise] -- what’s that? I called up, and, “Oh, it’s the vuvuzela. No, that’s not a technical problem. That’s the content. And it’s like, “Whoa, there’s a mind bender.” So, you know, evolution-wise, in terms of performance, the preparation and focus to perform, and the rehearsing is really intense.

[JH]: Was collaboration part of that?

[SB]: Definitely. There was all that collaboration at the National Center for Experiments in Television, particularly on the *Metaphysical Circuit* concert in Dallas, Texas, people like Warner Jepson, Richard Felciano, a masterful composer and musician who was my first recording -- when I get to the NCET they have videotape recorders, Ampex one-inch C, one-inch -- not even C, helical. I’d never been able to record and watch what I was doing before without doing it. This was like, wow, now I can do it and watch it and see what I can do to make it better, or

change it or improve it. It's like this Yamaha Disklavier piano that I could play acoustical piano. It records it, and it plays it back, and it's the first time I could actually hear what I sound like on the real piano without having to play the music at that time.

So, of course, now in the post-digital era everything's different. It's all on computers. For a few thousand dollars you can get a really souped-up graphics computer system and write some custom software, like I'm doing with the *NOOR* project, the *Light*, and get real time Lumia.

[JH]: Talk about the *NOOR* project

[SB]: I haven't been sitting around not doing anything for the last ten years. I could show you my notebooks, you know, from the 1970s, of this concept. I've been fascinated by architecture such as the Alhambra and Morocco, the so-called Arabic or Islamic patterns, a term that scholar Keith Critchlow of the United Kingdom coined when he published a book that found its way into my hands in the mid-1970s, where he deconstructed all the mathematical foundations. I said, "Oh, this is great. If I can take a compass and straight edge and do all this by hand, maybe I could get the synthesizer to do it." Well, I was about thirty-five years too early for that.

[GZ]: But *Video Weavings* is a nod in that direction.

[SB]: It is. That's true. I really haven't talked that much about *Video Weavings*, but to the point that a television video image is made up of horizontal and vertical scanning, that was the key metaphor for textiles, where you have the weft and the warp, and that's how I sort of bridged that question that people kept asking, "Well, how do you do it? How do you do it?" I said, "Well, the TV image is like a textile. It's got horizontal and vertical." So then I thought, well, if I build these counters that count numbers, and I assign the numbers colors, and I have feedback tap loops on these counters, I wonder what it might look like. So I put one together on a bread board, and out it comes. It was, "Oh, look, its Navajo blankets."

Well, I realized then in studying scholarly research on textiles and weaving that, one, the Navajo and Pueblo people had a very advanced mathematical knowledge. It was embedded in their textiles. They didn't write equations like European mathematicians, so they weren't recognized. Two, textiles were largely the province of women in the culture, there weren't that many men, and certainly in terms of the tradition of computer technology, the punched card, data, stored program on the Jacquard loom. Ada Lovelace, you know, I found out about Ada, Countess of Lovelace, and her early pioneering vision of computers, with Charles Babbage's differences engine.

[GZ]: So this brings up so many interesting things. One is that things like *Video Weaving* sort of anticipate the digital in so many ways, because they engage ideas that are now very present in media histories about the relationship of things like the loom to things like screen resolution. And the fact that women were the first computer programmers for ENIAC [Electronic Numerical Integrator and Computer] and things like that. But, also, something that seems to run through your work, which we've been skirting around a little bit, is that alongside this desire you seem to have to externalize interior vision, there's also a lot of math going on, and the math may get you

to some of these universalities that you're describing -- across these cultures, from Navajo to the Middle East to the West. These mathematical patterns occur organically, they occur in nature, and they occur in culture-- but they're also occurring in your mind.

[SB]: In my mind's eye, yeah.

[GZ]: But you also seem to have a rich knowledge of math.

[SB]: Well I did study a lot of math and once could do a lot of it. I can't do it now intrinsically, but I can conceive of it and design it, and then I can organize orchestras and teams of talent to work on the details. So I've kind of moved from just being a soloist to being like the conductor or a composer. And the underlying mathematics of *NOOR* -- Noor is an Arabic and Farsi word that means light, and so to some extent, post-9/11, I reexamined this concept that had dated back to the 1970s, and thought how could we maybe help build some bridges between the cultures of the West and the Middle East and this rich heritage, and it's not just the Islamic. It's the Persians, who got it from India, who got it from the Chinese.

Your observation about the mathematics is really brilliant, because all of mathematics has proceeded from within people's minds, and it's a reflection of some kind of internal structure of our own being, our own essence, our own knowledge. It's not easy to learn mathematics, and the way it's taught, by counting and memorizing, may not necessarily be the most effective path to reach the final consummation. But now -- you know, in the 1990s you could buy a silicon graphics computer for five million dollars, and people were making movies like *The Terminator* and *The Abyss* over at Industrial Light and Magic. Now for five thousand dollars you can have that kind of capacity in a souped-up personal computer, a Macintosh or IBM. I'll take you down to the studio later and show you the Noor system running. But I would prefer to let the work speak for itself, I'm not evading or avoiding your scholarly inquiry.

[GZ]: Yeah, that's our job.

[SB]: But, yeah, that's your job, and I echo Kandinsky. The inner necessity forced me to do everything that I've done, and continues to force me to do what I'm trying to do today. It's just a drive. It's an inner compulsion. It's: you have to do it, and overcome the obstacles and the struggles.

But with Noor there is a new approach to beauty of the geometric patterns, the calligraphy. We invented something called calligramation, which is, we can take calligraphic script of any world language, and transform it into a three-dimensional object and animate it. Now there's the *NOOR* and the *Gardens of Paradise*, the environmental projections, the nonlinear projections. There is no screen. But, you'll see, I've discovered a class of imagery that will focus on just about anything.

[GZ]: You're fulfilling Moholy-Nagy's ideas about light and projection in the world.

[SB]: Yeah, it's interesting to mention, because he came to Chicago, as many of the refugees of the Bauhaus, and I often describe the National Center for Experiments in Television as a video Bauhaus. There were so many disciplines there, and I was just one little, tiny, thin, slice of that pizza, and there were scholars. When Rudolf Arnheim came and analyzed and deconstructed the *CBS Evening News* from a visual thinking standpoint to Terry Riley coming in and jamming, you know, I wish I'd had a book and everybody signed who passed through there.

And then, of course, with Howard Klein, a dear friend and really the patron saint of much of early video art in terms of empowering by his ability to finance and fund artists and institutions through the Rockefeller Foundation, I met Howard at the same event where I met Nam June Paik. To me that was a really seminal, critical day and time. And Howard and I became fast, good friends to this day. We just saw him in Virginia in early June, and his wisdom and vision -- of course, with Nam June, he had sort of originally a hate, and then a love relationship, because when Klein was the music critic of the *New York Times* in the 1960s, he didn't get Nam June Paik's performance, but then they got together, and, of course --

[JH]: He was an inspiration.

[SB]: Yeah. It was a complete inspiration, and Nam June wrote the information superhighway, the whole prefiguring of what's come later.

[JH]: In my preamble to this, I was identifying the importance of your work, and I just want to say, Steve, that your comments on your career were so precise. This was really a terrific interview, and Greg's questions to the point have enlarged our discussion. I really find this idea about the artist who performed, the artist who embodied, and it was about that experience, and bringing that mind's eye experience into the world. Your work is a very interesting challenge to the notion of the history of the moving image. I mean, it's there, and it's elusive, it's been recognized, and it's important, and it's ongoing, and I really want to conclude by saying that this text will become something very significant, and it will be added to, because we will continue to correspond, and, also, Greg and Michael Mansfield and myself will be working toward bringing some of this to bear in terms of recognizing it, and hopefully having it seen again by more people. You have been very generous with your thoughts, and enlightening to your ambition and what you realized. Thank you.

[SB]: Well, thank you, John. Thank you, Greg. I'm really honored that scholars of your quality are showing an interest in this work, and as Richard Kostelanetz wrote in *Dictionary of the Avant-Gardes* about *Video Weavings*, he said, "This work fell so far out of fashion I hadn't seen or heard of it in twenty years, but then I saw it again, and it was as amazing as I remembered it." So stay alive, keep making work, that's what you do, and as an artist you hope that you can contribute a small bit to improving the quality of human life for some of the people out there.

[JH]: Amen.

[SB]: Bravo. Thank you, gentlemen.

[end of transcript.]