

Emilija: So, I'm really excited to talk to today's guest, Piero Scaruffi. Piero started the Leonardo Art Science Evening Rendezvous in 2008 as a forum to present art and science projects happening in the bay area. Today the events have evolved into an international scale and are a way to provide the general public a snapshot of the cultural environment of a region, as well as to encourage interdisciplinarity. Thank you for joining me today, Piero.

Piero: Thank you. Thank you for having me.

E: So, we just talked a little bit about this before we started recording, but you moved to Silicon Valley as a software engineer. And I was going to ask you about this, because when I was looking and doing a little bit more research about you online, there was a lot of different titles that were assigned to your name. I came upon cognitive scientist, cultural historian and software engineer. So, can you maybe clarify it for me a little bit, what is it that you actually do?

P: Actually, I am a mathematician. I studied mathematics. I did my thesis in physics, but my degree is in mathematics. Then in the late 70s the best job for a mathematician was really software. There weren't that many computer scientists. So, I got into software and then that eventually took me to California. My second major project in California, was in artificial intelligence. Artificial intelligence is actually a very old field. Some people think it's brand new, but it's been around for a long time. And so, for AI I went to do the visiting scholarship at Stanford. It was more theoretical and at the time I preferred to call it cognitive science. Today of course the term artificial intelligence is more marketable. Then I got tired of software and I guess my Italian genes kicked in, and I started being more of an intellectual, trying to place Silicon Valley in a broader context. At the same time, I've been writing about music, cinema, art. so then I came up with the label cultural historian for what I do now. These days I mainly write and lecture.

E: Oh okay. That makes sense. And I saw that also when I looked at your website, you had all of these different disciplines that I guess you were interested in. There was music, art, science, even things like cinema and travel and literature. I think I even saw hiking in there. So, would you classify those today as your interests or things you are kind of exploring and researching more on?

P: These are things I've been writing about for a long time. I started writing about music when I was 15 or 16 in high school. In the days when you had to print on strange machines, black and white things and then I would hand them out to my school mates. I've been writing about technology for about 20 years. I started writing for magazines then I just starting writing for my own website. Started writing about cinema twenty, twenty-five years ago. So, if you go to these various sections on my website, you'll see a big mass. Some of the texts have obviously been written in the 80s, because the quality is very primitive. Some other things are more recent. So, those are things I have been doing over the years.

E: That's so interesting that as a fifteen-year old you were writing about music. It sounds like not something that a lot of 15-year olds would do.

P: Those were different days, you know. There was no Facebook, no video games.

E: Well it still sounds thought like you did have a little bit sort of that self-starter or entrepreneurial spirit in you.

P: I don't know if I would call it that way. I guess I'm just addicted to knowledge. I read a book I get excited about the topic of the book, then I start doing my own research. I guess I've always been lucky in having access to a lot of information. I was one of the first people to use the internet, when it was called Arpanet. And there was already a lot of information and then of course, here when I came here, this is a gold mine of information in all sorts of fields, so.

E: Where do the LASER talks come into all of this?

P: Because I had this life in music and software, then from there I socialized and met more artists, more scientists. I did research at Stanford. I was going to conferences. So, it was sort of natural to have these salons, although sometimes they were just meetings at a café, with people in different disciplines. I was the link between the two communities. Hiking helped, soccer. I organized pick up soccer. There were many activities in which there were people from different disciplines. So, I started organizing more formal evenings and initially these were just for the, I don't know if I should call it the 'elite.' These were for the people who were scientists and artists. I got in touch with the Leonardo ISAST, an organization that has been around for 50 years. They are celebrating their 50th year. They were founded by a rocket scientist with an interest in art. So, then we started thinking, ten years ago, we thought why don't we start doing it on a periodic basis. And we have an official name and we take place in San Francisco, which is an interdisciplinary city with a strong cultural history, a pioneering city in many ways. So, we came up with the term LASER. I am not sure if Leonardo Art Science Evening Rendezvous was my idea, or Roger Malina's idea. Roger Malina is a good friend. He was the chairman of Leonardo ISAST. He's the son of the founder. Anyways we came up with this name and started doing them in San Francisco. There was relatively little support from the rest of the world, but some people were excited about doing it. We started doing it. Then I started doing it at Stanford, UC Berkley. J D Talasik started doing them at the national academy of science in Washington DC. He's in charge of the cultural event there. So, these bigger names create critical mass. Then Leonardo ISAST has been doing a good job in the last few years of spreading the word and creating a network. So, now they happen in more than 30 cities. I personally manage only the ones in San Francisco, at the University of San Francisco and the ones at Stanford.

E: Yeah. That's really cool how it started as just little get togethers and became something more formal.

P: Yeah. I should say, one reason to start the LASERS, it wasn't just to formalize something that was happening. It was also really to democratize the process. Because when we came up with the name we also made a transition from the Salon for the elite, to the open event. In fact, we've always tried to have more interaction with the audience. But even at the level one interaction was just the fact that there is an audience, it's open to everybody. That made a huge difference. Because initially we were trying to find the scientists interested in the arts and artists interested in the science technology. The latter is much easier than the former, by the way. But now really the emphasis is in presenting the cultural environment to the audience. Every LASER has

speakers in different disciplines. There's always somebody in the audience who comes only to listen to one of the speakers. Typically, we have four speakers. Let's say we have a famous, actually tonight there's a laser in San Francisco. There's somebody talking about block chain technology. I'm sure somebody will come just to listen to this presenter. It has become the mission of the LASERS to tell this person: "There's more." In a sense I always joke that I force people to listen to the other 3 speakers. And so, one speaker is talking about electronic music, another one is a video artist and another one talks about Buddhist economics. Well if you are coming just to listen to block chain technology, you will go home, hopefully, more impressed by the other speakers. Because the others are talking about things you didn't even know had existed. You will go home, and you will say: "Ha. Buddhist economics. Interesting." So, the mission at the LASERS has changed a little bit. It's really become more of an educational form where we try to, at least I try to, convince the audience that there is a lot more in life than the one thing you specialize in.

E: Yeah. That's very true and something I believe in quite strongly too. So obviously in your organization name and the one that you are associated with, the name Leonardo comes up. Am I wrong to guess that's referencing back to Leonardo da Vinci?

P: Of course.

E: So, I'm sure the listeners know who Leonardo da Vinci is. He was a really prominent figure to bring up science and art together. He created these science diagrams and explorations, while also at the same time, being an artist and painting. I think he is a really good example of starting to bridge those two disciplines together. But I guess I was wondering if you could talk a little bit about what can art and science learn from each other. Why is it important that these two disciplines come together?

P: It's very difficult to give an answer, a mathematical answer. Just to show you the formula, how much quantity is increased by what. As a cultural historian I've always been interested in the great hubs of creativity in history: Athens, Florence, Paris, the turn of the century, and today's Bay Area. These are places where you see a general boom of creativity. It's not just sciences, it's not just art. So the fact that the two go together and help each other is proven statistically. Whenever we have one boom, we have also the other boom. In fact, sometimes, it's even hard to tell who started first, because there's many examples of where it's not clear who had the idea first. In Europe when you had this amazing time when relativity quantum mechanics were created, at the same time you had all this movement from Cubism, to Dadaism. They were revolutionizing the arts. The point is that it is important. That human civilization works that way. Brilliant ideas come when brilliant ideas are around. When you encourage people to innovate. In fact, I should mention the place where I live. One day, I think it was 2012, my friend Arun Rou, who at the time he worked for Venture Capital told me: "Why don't you write a history of Silicon Valley?" I had just written a book on rock music, a book on jazz. They were all histories. Cultural histories. So, he told me: "Why don't you write the cultural history of Silicon Valley?" Initially I thought it was an incredibly stupid idea. Who wants to read a history of Silicon Valley? Especially people here in Silicon Valley. They are not really interested in the past. But then I started thinking about the fact that it's really difficult to explain why it happened here.

There's been so many books written but also conferences, discussions, debates. Why it happened here? If you go back to 1950, and you look at the world, the money was in New York and in London. Wall Street and the city. The great electronic companies, IBM, Western Goods, General Electric, AT&T, they were all in the East Coast or in Europe. Philips, Siemens and so on. All the great inventions you can name in high tech, in electronics, the transistor, the computer, they were all invented in the East Coast and in Europe. Nobel Prize winners: East Coast and Europe. How come today you look around and Google is number one in its field, Facebook is number one in its field, Intel, Oracle, Cisco, Netflix, Airbnb, Uber, I'm probably forgetting some. They are all based in the Bay Area. It's pretty shocking. I mean if you lived in 1950 and somebody asked you: "Which place is going to be the next hub of creativity in the world?" The last place you would pick is San Francisco Bay Area. You would pick New York, London, Paris, Munich. So, then it became interesting to write a book. Everybody talks about the spirit of Silicon Valley but where does the spirit come from? So, if you lived in 1950 and I asked you what is special about the San Francisco Bay Area, that's the real question we have to ask, you know? Before it became Silicon Valley, what is special about San Francisco Bay Area? Well you would never mention technology or science. Stanford was a small university that had trouble attracting professors. But you would answer: "San Francisco Bay Area. It's a refuge for crazy artists and musicians." So, guess what? So, writing the book, I started focusing on the society and if you focus on the society you find the spirit of Silicon Valley. Previously, the fact that this was a place where they didn't care about the establishment, the big New York museums and galleries. Who cares? They just started doing some different kind of art. Here they liked art, videos before these became an officially recognized art form. They liked photography here when it was not considered an art form. And of course, they had rock music. Acid rock was born here and then punk rock. Of course, summer of 1966, 1967 they had the first major rock concert. So, this was actually a place where doing something different. Apple used to have the motto: Think different. That was exactly the motto of the San Francisco Bay Area. Then the proper movement in Berkeley 1964, 40 years before Europe. All these things really shape the spirit that we now call the spirit of Silicon Valley. Doing something different. By the way, these were all young people coming from all over the world to Silicon Valley. It's a place of young people coming from all over the world. If you think of it, usually immigration is about poor families, families fleeing war. The San Francisco Bay Area was the exception already in the sixties. It was a place where young educated people were immigrating. I could go on. I wrote a 600-page book on this. A lot of the symptoms that you associate with Silicon Valley were there before technology came. Then technology came, and you can see in the 50s and the 60s how people here actually like technology. I'm talking about hippies, about the beat boys and so on. They actually like technology, but they, I used the word "highjacked" it. They highjacked technology. They invented the light shows. They really liked multimedia things in the hippie days. This was technology, but they were using it for different purposes. Then technology comes, big technology comes, also because of World War II and the Cold War. Here they highjacked their technology. Everything that you can think of in Silicon Valley, all the way to today's Google and Facebook, is really the product of highjacking technology and science that comes from somewhere else. By the way, a lot of people think that Silicon Valley invents. Silicon Valley has invented very little. The computer was invented in Cambridge. The transistor was invented in New

Jersey. The smartphone was invented in Finland. The world wide web was invented in Switzerland. The internet was invented by Washington DC and initially of source to Boston. So almost nothing was invented in Silicon Valley. Silicon Valley is not good at inventing. Silicon Valley is good at highjacking technology and science that was invented for something completely different. The internet is a very good example, by the way. The internet was invented as a military tool, to survive a nuclear war with the Soviet Union. Silicon Valley totally highjacked it and turned it into a tool to socialize. Unfortunately, also to sell goods and to create fake news. But anyways, definitely not a military tool. Where does the spirit of highjacking technology come from? Well it comes often from music. So, this is a very good example of how influential art, music, the humanities have been to shape the number one technological center in the world.

E: Ha, that was very interesting. Thank you for the little history talk. It reminds me a lot of actually Richard Florida's concept of the creative class. You must have heard of Richard Florida?

P: I heard the name. Honestly, I'm not familiar with his discussions.

E: Yeah. I'm just kind of slowly reading his book. It's obviously a big book and he talks about a lot of different things, but he talks about the same thing, about how there's this sort of class that's coming up where these creative, like you said, young and educated people, the places that they are going to become these hubs. Like Silicon Valley. So yeah, it kind of overlaps with a little bit of what you were just talking about.

P: That's also one reason why it's so difficult to copy Athens way back. Why it was difficult to copy Florence and why it is difficult today to copy the San Francisco Bay Area. Because the creativity really comes from the society as a whole and of course there's transfer vice versa, from technology and science into art. One thing that we are losing a little bit in Silicon Valley now, is precisely the contribution of the crazy minds. All these new technologies, when you hear about virtual reality, artificial intelligence, of course we have the specialists. The specialists keep improving the code a little bit. But then when the artist uses virtual reality, artificial intelligence, whatever, it's the artist who does something completely different. And very often, that thing, the completely different use of technology, is what millions of people will like. So, there's many different ways that these two different worlds can interact and produce something very useful for us. Of course, artists have a very important function in criticizing technology and science, right? Warning about every new technology can save lives and can kill lives.

E: Yeah. It's a very interesting relationship between art and science, and art and technology. For sure. So, I'm interested a little bit more about the talks. Do you sort of pick the speakers to one general theme to kind of give them a connection to run on?

P: Not really. I mean, I invite speakers when they are doing something interesting and ideally, they are also good at speaking in public. Then they get a lot of freedom. The only discussions we have over email is about the title of the talk. Because of course, the scientists tend to come up with a title that's very long and you don't understand it. The only things you understand is the articles: THE and A. The artists sometimes is even worse, because the artist comes up with an

artistic title. Again, people don't understand what this is about. So, for the interest of helping the audience understand what they are talking about, I work on the titles of their talks and a little abstract. But these are interesting people. So, I don't really train them on what to say. What I do is a spreadsheet. So, I don't like to have two physicists in the same evening. I don't like to have two poets on the same evening. So, I try to make sure the evening is as diversified as possible. The whole point is to show that there is a lot more than the specialization that you are familiar with. And very small things. Like, I like to keep the series gender balanced, so at the end of the year I want to see 50 men and 50 women. So, I work on the spreadsheet, but there's no coaching for the speakers.

E: Okay. And after each of the speakers gives their talk, is there sort of a discussion period that the audience can kind of interact with them?

P: A Q and A follows the talk. Some speakers like to be interrupted, so they tell the audience: "Ask me questions anytime." But in general, they give a 20-minute talk and then there's Q and A. Which originally was a very important part of the event. Now that the audience is bigger, it's harder to have the conversation. Then at the end, there's always a group of people who remain and take some of the speakers hostage. The interaction is important. It's hard to find the right way to have the interact between the audience and the presenters, but we try. One thing I should add, there's another project that I started a few years ago. The LASERS have turned out to be mildly successful, that's why they are relatively easy to organize, relatively inexpensive and the public seems to like them. My frustration was that the scientists and the speaker, it's easier for the scientist to speak about her work. It's harder for the artist to speak about her work. Because the artist, especially when it's installation or its music, how can you speak about your music? If it's an interactive installation, yeah, you show the video, but it's not the same thing as letting the audience touch it. So that was something that is really hard to do in a conventional evening of talks. So, in 2014, I started the LAST festival. LAST stands for Life, Art, Science, Technology. It started at Stanford and then we did multiple locations in the Silicon Valley. Some people call it The Big LASER because I pick some of my favorite scientists to talk about the new science and technology but then the artist, we gather 15 or 20 artists and then build their installation. So that's why it is a festival. It's a weekend long event and you play with the art. There's also science talks at the same time. That's much better. In my opinion it's a much better way to show the art and science interaction. And then we have performances, workshops. So, it's more real life.

E: Yeah. And it gives them like an even playing field, because scientists may shine while giving a lecture, whereas artists may not, you may not be giving them justice to their work, when you are just giving a lecture. So, letting them show their art probably makes it a lot more impactful for the public.

P: Very good point. You walk into the auditorium and you see the scientist giving his presentation. Then you walk out of the auditorium and you walk into the playground of the artists and that's their natural environment. I totally agree. Sometimes we have debates between the two, but the real important thing is that the art can do what it does best, which is their art piece.

E: Yeah. I'm interested about those debates you brought up and more of that sort of interaction that the public is doing with the scientists and the artists. You said earlier that people usually have a hard time, they want to come to just one lecture, on the topic they are interested in and leave. So, in the interaction period, are people only asking questions in the discipline that they are interested in?

P: You can tell the specialist asking the specialized question to the scientist. But you can also tell when they are asking a question because they got curious about something they did not know. So, you can really tell when the scientist is asking the artist a question. The artist rolls her eyes because it's such a silly question. But actually, it's an important question, because this is somebody who obviously doesn't go to museums or galleries. This is the chance where you can lure this person into the world of art. So, I think it goes both ways.

E: That's awesome that people really are going out of their comfort zone and doing that. So, if people want to find out more about the talks and the festival, where can they do that?

P: Leonardo ISAST is www.leonardo.info You just click on LASERS and you see the series worldwide. Mine are the ones here in the Bay Area at www.lasertalks.com The LAST Festival is www.lastfestival.org. The latest one is at Stanford in a beautiful building that is usually one of the most advanced laboratories in the world and we turn it into a playground for a weekend.

E: Awesome. That sounds really good. I didn't know about the festival so I'm going to definitely go on that website and check it out. So is there anything final you'd like to add?

P: I just think if you want to build a world that is fun to live in and a better world, technological progress coexists with creativity and humanities, we have to force people to realize there's more than the one specialized thing that you have been doing for 20 years.

E: Yeah. That's very true. Well it's been great talking to you. Thank you for joining me.

P: Thank you.