

INTERVIEWER: First of all, congratulations. MIT 150th, you're an unmistakable part of that legacy, to be sure.

There's a lot of different ways of thinking about MIT, and certainly among your narratives is being responsible for initiatives and institutions within MIT that might not have been originally envisioned as part of the Institute. Do you think your success is characteristic of MIT's embrace of new ideas, or did you drag them kicking and screaming?

NEGROPONTE: Well, MIT was dragged in some parts, but lent itself very nicely to other parts. MIT's a little bit like Swiss cheese -- there's lots of holes in it, and that porousness allows interdisciplinary things to happen. The dragging and screaming part was with the arts and the components that had to do with, let me call it, the non-engineering and non-scientific were a little bit more, let me say, people were apprehensive about them.

INTERVIEWER: You are inseparable from the identity of MIT, certainly in this century and in this age, does that surprise you at all based on your background and your history?

NEGROPONTE: Well, I've been at MIT for 50 years, so I have sort of the length that it may not be surprising. And I know that I spent most of my time outside the Institute as a voice for the Media Lab. So as a consequence, perhaps the reputation is disproportionate. Had I spent time inside and in a lab doing my work, I would perhaps be less identified with MIT.

INTERVIEWER: In this 150 years, there have been periods of enormous technological change, change in the relationship between, say, government and science or academia and scientific development and technological developments. How would you characterize the transformation in media and technology that your life, and particularly your life at the Institute, has spanned?

NEGROPONTE: Well, nobody at the Institute anticipated, including me in the early days, that media as a word or as an industry would be something that MIT would show leadership in. Because back in the '70s, the word meant Madison Avenue, meant mass media, which is a bit old-fashioned, and it didn't really sort of carry the technical substance. Journalism, which might have been about the content, whether it was in film or written journalism, was also not part of MIT's world.

Then when everything became digital and it was clear that the transformation from physical media to digital media and representing things as bits was the future, then it became MIT's purview and it was a perfect place to do it. In fact, the Media Lab hasn't been copied at any other university ever in the 25 years it's existed. So there's something very particular about MIT that allowed it to happen.

And one of the particularities was that there was no art department, there was no journalism department, there was no film school, there was no music department to really speak of. So for those things all to come together was rather natural and it was, to be honest with you, frictionless. There wasn't a claim. I remember going to a meeting early on where somebody said what are you going to call this new lab.

And they said, oh, by the way before you tell us, you can't use the word computer, you can't use the word communications. I don't want to. I want to use the word media. Every single person around the table either said, yuck, media? You really mean media, like journalists and magazines and newspapers? And other people said, it's all yours. Absolutely, it's all yours.

So it was not only frictionless in the sense that there weren't the competing departments that said this is my turf, but it was also frictionless in the sense that it wasn't quite a dirty word, but it was really not of any interest to anybody else at the Institute at the time.

INTERVIEWER: The rare and precious occasion of finding, within a place like MIT which has figured so much out, an empty vessel, that is an accomplishment.

NEGROPONTE: It was an accomplishment because it got traction pretty quickly. The timing was perfect. Three things were happening historically. The phone companies were being de-regulated in this country. The PC was born. And then you also had the beginning of digital media whether it was CDs and stuff like that that were happening. So those three elements coincided historically at just the perfect timing. And it was clear that computing would be for people.

Whereas in the '70s it was still for corporations, banks, military -- it wasn't for people. There were some hackers and hobbyists, but it was not a medium of expression, it wasn't a medium for learning, it wasn't a medium that was used in daily life, the way it is today, of course.

INTERVIEWER: As a child you benefit from having, from a very early age, a broad view of the world, of the globe. You sort of came with the idea of globalization, having the background that you had. Tell me about your childhood, and how it gave you a world view that might have helped you here.

NEGROPONTE: Well, my childhood was very privileged. You very often talk to people who describe the poverty they came from and through education made them [INAUDIBLE]. I was sort of the opposite. I came from a rich enough family that traveled all the time. My father was in the shipping business and said every summer you can go anywhere in the world you want, as long as you go on a ship. And that was a way to see the world. We lived in Europe, we lived in the United States.

So, there was an international flavor -- at dinner, nobody finished the sentence in the same language. It was a very multilingual, international family.

Then I went to school a lot in Europe, as well as the United States. When I went to school in Europe these were international schools, so out of 200 students in a boarding school, they represented 100 countries.

So I had always grown up with an interest and small, because it wasn't very long, but small experience in the whole world. Then as a student, taking my father up on the offer, I did travel to South America, to Asia -- and these are long, painful trips when you do them by boat, but it still gave me a world view. Such that by the time I joined the faculty, I mean I'd been to every continent and been to lots of countries.

INTERVIEWER: How competitive was your family, in terms of finding your way, making your identity, creating a place for yourself within that world of privilege?

NEGROPONTE: Competitiveness was not something I really knew. I wasn't competing with anybody.

INTERVIEWER: Did siblings have a--?

NEGROPONTE: We're four brothers, but separated in time such that the two older brothers of which I'm one, lived one kind of life where we were sent off to boarding school and had governesses and so on.

Then the other younger brothers who were 10 years younger than me and 15 years younger than my older brother, lived a kind of different life where our parents, same mother and father, our parents took care of them and they had long hair and played drums in the living room. Did things that were unheard of in sort of our first generation, if you will.

INTERVIEWER: Uncivilized younger siblings.

NEGROPONTE: Uncivilized younger siblings, but they were almost like nephews in the sense that I wasn't really home.

INTERVIEWER: Interesting. How did you decide, after having this unique world view traveling around as you were a student, how did you come to make a decision about what it is you wanted to do at an early age?

NEGROPONTE: Well, in high school, the prep school, I did very well in math and I did very well in art. I loved art. In fact, I even persuaded the prep school I went to before MIT to excuse me from all sports so that I could do art. It never happened before, it never happened again.

But I apparently was persuasive enough to get the headmaster to let me do art instead of playing football or baseball. Maybe it's by chance I got an 800 on my math SAT, and I looked at sort of doing well in math and art, and said, well, I'll combine them and I'll do architecture. I'll go to MIT, which has an excellent Department of Architecture.

And something very interesting happened. I went to see the same headmaster who had excused me from sports, and I said, you know I do well in art and I do well in math, and so I thought I'd go into architecture. And he looked at me and said, you know, I like gray suits and I like pin stripes suits, but I don't like gray pinstripes suits. And I ignored it, and only 15 years later realized what he said when I discovered that actually my interest wasn't architecture, it was computers.

And so the gray pinstripe suit was architecture. But computers really are where art and expression intersect with math. I just didn't know it at the time. But it was a relatively natural transition. And going from architecture to what was then computer-aided design to computer graphics to more general media was a much more natural transition, ending up with the pinstripe suit and the gray suit.

INTERVIEWER: You've claimed in the past that there was a point when you wanted to just live in Paris and be a sculptor and make art your entire vocation.

NEGROPONTE: Well that certainly passed through my mind when I was 17 -- 16, 17 -- and I said that to my father. He said, I'll make a deal. Go to MIT for the five years it takes to go through architecture, and then I'll pay for an equal and an opposite number of years, five more years, for you to live in Paris and do your art. I thought that was a pretty good deal. I went for the five years to MIT and didn't look back.

INTERVIEWER: Did you consider any other schools besides MIT?

NEGROPONTE: I believe I considered briefly Cornell. I remember visiting the campus. And that was it. But I'm not sure I even applied to Cornell. I believe I got early admission. I've forgotten to be honest. I think I got early admissions, if that existed, at MIT and I just went.

INTERVIEWER: So, certain at an early age about MIT as a place for you, when you arrived did you discover it to be as welcoming as you imagined for someone with this interest in art and 800 math boards -- that must have been a badge to wear on campus.

NEGROPONTE: MIT was very different at the time, and because I advanced placed a certain number of the math and physics courses, I was able to go right in to architecture versus waiting for the sophomore year. So I had just turned 18 and I was already in the first architecture studios, which happened to be the first year very art and sculpture oriented. So I was delighted. I was having a blast my first year -- doing terribly. I mean I did so badly in academic studies in my first year that I almost flunked out. But thereafter got straight A's and sort of made up for it.

INTERVIEWER: What turned you around? Was it the mentorship of a particular individual or a set of individuals?

NEGROPONTE: I'm not sure any particular thing turned me around. I think what happened is by the time I got into the stream of architecture, which was no longer these basic requirements, like calculus and stuff, and those which I hadn't advanced placed were sort of boring, and some of the other things, I just wasn't that interested. I think it was interest that drew out the doing well in school. It was really the next three and a half years were absolutely fantastic.

INTERVIEWER: Was it about the discovery of a passion for making buildings, or something that you found within architecture that fueled that passion.

NEGROPONTE: Well, it was certainly the passion for making things. One of the things that happens in architecture and design school is that you make something, it doesn't really matter what it is. Then somebody who is your professor sits down and critiques it -- now that could be privately one-on-one, or it could be more public where it's done in front of other people, which reduced many people to tears on many occasions.

But what happened is you're talking about this thing which isn't really you but is you. So you talk about it in a very different way, whereas when somebody's criticizing you directly, you speak to it very differently. This was a very, very nice way to learn, and you would go off and do things. And then the process of being very tactile and very sort of hands-on and literal, as well as metaphoric sense is something I then carried forward as sort of a theme in the Media Lab and a way of doing research in electrical engineering and computer science, that was much more like an [INAUDIBLE] in architecture school.

And to this day, 25 years later, you go to the Media Lab and it looks more like a studio. It looks more like what you would see -- you would think well, this is the Bauhaus of computer science. And that was very purposeful, and it came from those early days.

INTERVIEWER: In architecture school, did you find you were surprised that you enjoyed making stuff? I wouldn't have thought necessarily from your background that you had much experience actually getting your hands dirty and making stuff.

NEGROPONTE: Oh, I made things since the age of three or four. I slightly pre-date Lego. There were things called American red bricks, but oh, I just built things all the time. In fact, in first grade where they asked you five and six-year-olds, what do you want to be when you grow up? I said I want to be a builder because my mother finds me making things all the time. I was building huge things and spend hours doing it. So I was a constructionist at five-years-old.

INTERVIEWER: Did you envision a particular building, a particular mark, on the world that your architecture would deliver at some point, or was it more abstract?

NEGROPONTE: I didn't think in terms of marking with a building or even a whole section of a city. I very quickly realized that the leverage would be making the tools to do that. Whether it happened in the fourth year or the fifth year, I became more interested in the tools of design, because those could affect design in a much wider way than actually doing a design.

So, I left the monumental icon side of architecture pretty early on. There was period where I thought it was just tool-making and the computer aided design, and of course left that when I realized expression in general was even more interesting.

INTERVIEWER: What did your learning about design teach you about the way objects in the world around you had come to be? Buildings, why they looked that way; tools and objects, consumer products, how they came to be that way? What did you learn about that in order to make you feel about what you could do differently?

NEGROPONTE: Well, I studied at a period when indigenous architecture was being recognized. Moshe Safdie had just done *Habitat* at the Montreal World's Fair, which influenced me a great deal. I went right up to see it, and so on. By chance, we're very great friends today. We've known each other, and he had enormous influence on the field, and we were all sort of going out and buying sugar cubes and using them to make models. It was a return, if you will, to a kind of indigenous architecture that people could do these things and they would happen more organically.

There was a man named Rudofsky who had done a show at MoMa, *Architecture Without Architects*, which again, was very influential at that period of time. So the bottoms-up approach to architecture sort of reflected itself in kind of a bottoms-up approach to computer science. Personal computers were to computer science what indigenous architecture was to monumentalism. There is a correlation.

INTERVIEWER: What was your thesis and who was your advisor?

NEGROPONTE: I did two theses, and one right after the other. I had three advisors, and sort of moved between them. One was perhaps more equal amongst the three, and it was a man named Steve Coons who was in mechanical engineering and had invented a lot of the computer-aided design systems of those days. The other was a man named Gyorgy Kepes who was a painter and was Bauhaus, if you will, person who came from Chicago and was at MIT doing his work. The third was a man named Kevin Lynch who was in urban studies and had done some very important work on urban design, the visual aspects of urban design.

The three of them, I forget who was technically -- I think it was Steve Coons was technically the thesis advisor. By the time I got through, the thesis was almost irrelevant, what it was, but I ended that process realizing that what I wanted to do was computers and computer science.

INTERVIEWER: Describe your experience at the first computer machine that you believed embodied, even in part, what you dreamed you could do with such a tool.

NEGROPONTE: Well it was a period where the mainframe was still dominant. People were inventing time-sharing. But the invention of time-sharing distributed the computing, but at very low bandwidth. So you had people typing at slow machines, and it was a kind of interaction -- it was certainly interactive, it wasn't batch, but it wasn't a very rich interaction.

In parallel with that, there were people inventing computer graphics connected directly to the mainframe. So while this wasn't what the man in the street would be using, it sort of simulated what might happen 10, 15 years out. And by chance, I had access, one hour a day, to a mainframe computer about the size of a tennis court. It had cabinet after cabinets, disk racks, and literally a whole room. And I had all by myself. I wasn't sharing it with anybody, and it had a computer display on it, but I'd get it for one hour a day. It was a rather breathless hour, because you're literally running to do this and then you're running over there to switch this switch and you were running back, and you'd get a few seconds with the display and it doesn't work, you have to run back there.

I remember more than anything else, because I was told that this was my hour, and sometimes at the end of the hour they would say power everything down, because the next person wasn't coming or something. When you power down a room full of equipment like that, including the air conditioning, is this spooky silence at the end. For some reason I've never forgotten the silence after that one hour of racing around and powering down and everything, and then the air conditioning goes off. It's as if snow has fallen.

INTERVIEWER: What did you envision computing could be based on those experiences of running around in a room just to get a display to show an output for a few seconds or minutes?

NEGROPONTE: Well, about the same time, a little bit later -- this is now in the period of 1968 to '70 -- people were inventing things called minicomputers. There were a few of them, and those were the size of, let's say, a microwave oven with boards in it and you could buy those for whatever, \$10,000 and you--

INTERVIEWER: Your Wangs, Data Generals.

NEGROPONTE: Well, Wang was a separate animal a little bit later. There were some that you've never even heard of. DEC had something called a PDP-8, which was in that vintage. And then there were others. We didn't happen to use the PDP-8, but that were the beginning of the so-called minicomputer era, which lasted about 10 years -- a little over 10 years. Those were more like scientific equipment that you could connect stuff to.

As we started to use those over the mainframes and the mainframe would now be in the distance because it would be used with time-sharing and then you'd connect to it remotely. It became much more, at least for us, much more about sound and light and touch and connecting electromechanical devices. So it was the beginning, sort of 1970 to '72 was the beginning of things that look and feel like the stuff you see today at the Media Lab.

INTERVIEWER: When did you decide to join the faculty at MIT, and how did that come about?

NEGROPONTE: I decided to join the faculty in '68. But in '66, '67, I actually left MIT for five days. I graduated, I had some loose affiliation, but I went across the street to work for the IBM Cambridge Scientific Center. I went there in part because my then girlfriend was the receptionist there and I thought that would be cool to spend time there. It was a good place to work, but on my fifth day I got a phone call from Steve Coons, my thesis advisor, because I had graduated in the summer, August.

He said you've got to come back next week and teach my classes because I'm taking a sudden leave of absence, a medical leave of absence, and I'll be gone all year. And I said, Steve, I don't know your subjects -- they're pretty advanced matrix algebra. He said, all you need to do is stay one class ahead of the students.

So I did. I went back and I taught his class for a year. He came back from his medical leave, and by that time -- and I was doing both. I was teaching at MIT and I continued working at the IBM Cambridge Scientific Center. The then dean of the School of Architecture and Planning offered me a faculty position. So I joined the faculty in '68 and never looked back.

INTERVIEWER: Was it an absolutely natural offer? Was it something that was surprising and a source of pride and amazement? Describe your emotional sense of going from being a student to being a part of the faculty.

NEGROPONTE: It's probably less surprising than -- it didn't really happen that this was some great aspiration that I finally arrived or that there was a great demand that I was filling. It was more sort of seamless and almost happenstantial. Steve Coon's called up, I teach his classes, and then I find myself more interested in building a lab, and then the minicomputers come along and then there's some lab space, and then I say, well I'll do this, and will you teach such and such, and yes. It just sort of evolved. This is long before affirmative action, long before committees that make these decisions. It was the then dean said, well, this feels like a good idea, let's do it.

So the hiring process was very different in those days. It wasn't quite just a conversation in the corridor but almost.

INTERVIEWER: But also driving that, it seems to me, is a sense of confidence that comes from deep within you that you are at the place where you're supposed to be, and by God there are things I'm going to do here. It may not be today but eventually. Where did that come from in you?

NEGROPONTE: Well, let's tease it into two parts. One is just confidence comes from many places. Having gone away to boarding school since the age of 10, I knew how to fend for myself, so that's one kind of confidence. Then the other -- but this was all sort of naturally happening that computers were in design and civil engineering at the time had a strong computer-aided design program, mechanical engineering was turning around, architecture was looking for a place in that space.

So there were just enough moving parts that you could argue I was in the right place at the right time. And also willing to be very entrepreneurial. I have no hesitation, so if we needed a piece of equipment, to go to the CEO of the company and explain that you really should be giving it to us, we don't want to buy it.

INTERVIEWER: Can you explain one story where you did something like that?

NEGROPONTE: Oh God, there's so many of them. Just take the computer. InterData was the name of the company that made it. It was an independent company that subsequently was bought by a bigger company. But I went to see the CEO and said, listen, you really want your machine at MIT? And he was at a trade fair at Boston. I literally went up to the booth and he looked and he said yeah, actually I do, I really do. And within a week, I mean the machines they had on the floor came to MIT instead of going back to New Jersey where they were headquartered, and that was the beginning of our lab.

It seemed so easy to, if you went directly to the CEO, that you could get people interested in doing this. It was a new era for computing in general, because most of the serious computer scientists weren't looking at these little InterData machines and these PDP-8s. They were kind of toys. You couldn't do the deep mathematics on them that you could do on big mainframes. So it was a special character that was needed to be even interested in those as part of computer science.

INTERVIEWER: Was the go to the CEO and ask for the computer at the booth just something that oh, Nicholas will go get it for us, or is that something that all of you did in a collaboration in those early days?

NEGROPONTE: I might have cornered the market on that. I remember a professor in design school who told me what you lack in talent you make up in gall. So I was very happy to go and talk people out of those things, and have done in for 40 years.

INTERVIEWER: So many people describe their experience at MIT as eventually coming upon the boundaries and the clear sort of categories of disciplines at MIT, and the resistance within the Institute of becoming interdisciplinary. Did you ever have that experience?

NEGROPONTE: No, I did not have that experience. I found MIT extraordinarily interdisciplinary, and I found it very easy to move between the schools and the departments. Now that may be because I had a habit of always spending time with the very senior faculty, the people whose careers had already been made, and they were much more generous and they were looking at the world differently.

So a man like Licklider in computer science had already done so much. He was a psychoacoustician who had done computer work and was fascinated in what we were doing in our lab. And you found somebody who was running the humanities department, a man named Roy Lamson who was awfully interested in computers and the future. And there are just these giants in the field that they were long beyond sort of the disciplinary side. And, of course, Jerry Wiesner himself in the '70s was the real icon of that because he had had a personal life that included music and arts and computer science.

So, my view of MIT is much more interdisciplinary than perhaps almost anybodys.

INTERVIEWER: Tell me about your relationship with Jerry Wiesner. How did it begin, and why did it seem you were immediately so close and almost collaborators?

NEGROPONTE: Well, not almost, we were collaborators. And there was a geographic coincidence that is very important. That is that our laboratory was about 200 yards from his office. It was a small detour to go from his office to his car -- he was the last president to have a chauffeur to park down in the parking lot.

But by just making a small detour he could come into our lab, and he just brought his visitors constantly, because it was a very photogenic lab. We became sort of his place to say to somebody oh, Tom, want to see some cool stuff? It's just on our way to lunch, let's stop over there. He would come and spend more time and more time. It became clear that his interests and what we were doing were really coplanar.

Then around 1978, '79, he said, you know I'm not going to retire and become chairman -- because usually the president retires becomes chairman, the chairman becomes chairman emeritus and everybody shifts up. He said, Howard Johnson who was then chairman, he said, he's younger than me, he's doing a fine job. I'm going to not displace him. I'm going to go back in to be a faculty member. But there's no lab for me to work in. There's no lab I really want to be part of. I said, well I have an idea, we'll build one. That was really the origin of the Media Lab.

Now, it might be a bit of an exaggeration to say that it was designed to be a place for Jerry Wiesner to go after his presidency, but it's not too much of an exaggeration. And the constituent parts were the parts that were in a degree program that I was heading up using the former lab that I was involved with and the film department and the graphics and computer music and all those things merged, and it was a real *salon de refugee*, the people who were kind of on the fringes of their various departments.

And if you look at the five or six people who were the core of the Media Lab in the beginning, they were all refugees -- not bitter, but people who were so eccentric that electrical engineering didn't really appreciate Marvin Minsky. The math department didn't really appreciate Seymour Papert. And the humanities department didn't really understand Barry Vercoe. You get all these people and you put them together and that was the beginning of the Media Lab.

INTERVIEWER: Who were the people in that lab that Jerry Wiesner loved to show off as the whiz kids doing all the cool stuff?

NEGROPONTE: The few that are still there today, Andy Lippman was one. A man named Chris Schmandt is still at the Media Lab. Walter Bender you knew. That was about it. That was sort of the team and still was there when we opened the Media Lab.

INTERVIEWER: And how old were you all?

NEGROPONTE: I was just under 40, and they were all sort of under 30.

INTERVIEWER: When the Media Lab started.

NEGROPONTE: Yeah. When it was conceived. By the time we opened our doors, I had just turned 40. We used to talk about how we had nobody between 40 and 60. Everybody in the Media Lab was under 40 or over 60, and we used to talk about that as a feature, how you get people in their early career. Of course, now it's happened 25 years later, a lot of people are in that middle slot.

INTERVIEWER: Aside from a place for Jerry Wiesner to go after being president, what was the unmet need that you saw that the Media Lab could immediately fill, either for MIT or for the world at large?

NEGROPONTE: Well for the world at large, it was the only place where you could have the inventors and the users of new media be in the same place. The reason I thought that was important is that if you looked back historically at photography, the people who invented photography were the creative users -- they were photographers. Compare that to television, which was invented by engineers and then used by people thereafter, so the invention and creative use were very decoupled. And then sometimes look at what we got.

Computers seemed to me at the time to be something that should follow the mold of photography where the invention and the creative use were in the same place -- that you wouldn't just invent something and hand it off. MIT was the one place where you could arguably invent, really invent, push that envelope, and also attract the creative users.

When we created the Media Lab it was a small detail that occurred in the early 1980s, and it has to be credited to Howard Johnson who was then the president -- sorry, chairman. And that is that MIT as an Institution is divided into church and state, really, where the church side are the academic departments, and the state are the labs. The labs have, if you will, the money, and the departments have the power. And the departments admit students, hire faculty, award degrees, and put people up for tenure, et cetera.

Then typically a faculty member will be in a department but work in a lab where they'll have RAs and income coming from grants and contracts. So you have this, call them checks and balances, if you will. We said to the Institute that we wanted to be both a lab and a department. This wasn't so much a power play as it was a means of admitting students who wouldn't normally get in, hiring faculty who wouldn't normally be attracted, and putting people up for tenure who would not normally get it.

So by being both an academic department, at least in behavior, and a lab, we could do things that no other department and no other lab in history at MIT had ever done. Because no lab has ever had that dual personality. At the time that Howard Johnson pushed it through at a Corporation meeting in the early '80s, there were people on the Corporation and people at MIT that said let's humor them, let's humor Nicholas and Jerry. This isn't going to happen, so don't worry about it.

Of course, it did happen, and by having that license to bring in faculty, admit students, award degrees, et cetera, we were able to really change the media industry versus sitting back like a department has to do -- sorry, like a lab has to do while the department admits the students and then you take whoever they've admitted.

INTERVIEWER: Why did you think it would work when the rest of powers that be at MIT were basically humoring you?

NEGROPONTE: Oh, that's just a combination of arrogance and youth and over-confidence, and sort of the three of them combined the -- you know, I didn't even look back.

INTERVIEWER: So without arrogance and youth and unbridled enthusiasm about ideas that others thought were perhaps madness, could the Media Lab have been born?

NEGROPONTE: Probably not. You're doing things that go against the normal trends, and you reward people for behavior that isn't traditional academic behavior. In other words, the people who do well at the Media Lab are the crazies, are the ones who have the willingness to take risk. A lot of academia is risk-adverse. Especially before tenure, if you're on a tenure track, the incentive you have to take big risks is actually diminished. And then once you get tenure you either become a risk-taker or you, in some cases, just go off and do other things.

INTERVIEWER: Did you get a building built for the Media Lab at the beginning?

NEGROPONTE: We built a building in the beginning, and I'm trying to remember exactly why. We were always having these extraordinary space problems. Space at an Institution like MIT is the scarce resource and people fight over 50 square feet. And it's you turn closets into offices. I mean it was one of the limiting resources. As we were pulling this together we said let's build this entity and get the industry to fund it.

So from about 1980 to '83, Jerry Wiesner and I spent more time with each other than we did with our respective wives and our families, and we traveled and spent a lot of time in Japan raising money to build the Media Lab. And at the time there was not only land but I. M. Pei was chosen as the architect and there were alumni that were enthused by it, and we decided let's build a building for it.

INTERVIEWER: You were convincing people to fund a building before the lab actually even existed. That's unusual.

NEGROPONTE: It was unusual, but the story was so compelling that the motion picture industry, the publishing industry, and the computer industry; so if you take entertainment, publishing, and computers, and the Venn diagram we showed at the time was how they were going to all merge, they saw the writing on the wall. And the companies who participated in building the building were also the companies who participated in the early research. So it was a little bit backwards, but it rallied people. Versus going and trying to start a particular project, we were starting a discipline. By chance I went back and read the early papers that we were giving people and it really argued for a new discipline.

INTERVIEWER: Is this a case where the big idea really attracted the big dollars in this particular case? Or were you finding donors that had given to MIT in the past and were happy to fund another idea because it was MIT?

NEGROPONTE: These people were all new to MIT. Very few were traditional MIT sources. MIT hadn't dealt with the media industry, hadn't dealt with the motion picture industry. So the computer companies maybe were more part of the bread and butter of MIT, but none of them really participated in the building. As this emerged, we found that there were new friends -- the Institute was making friends in the advertising industry, and the people in the content side of it and the messaging side of it. So there were more new friends in this deal than perhaps any previous project at MIT.

INTERVIEWER: How is your success at attracting new donors from different categories of industries? How was that received at MIT as your success proceeded?

NEGROPONTE: Well, you have to think of the reception at MIT as being highly modulated by the fact that Jerry Wiesner was my partner in this. And if anything, people resented the opportunity costs that that posed for other things that Jerry Wiesner may have been raising money for. So, once he made such a commitment to it, then the Institute, especially because of Howard Johnson, was more receptive to it. Paul Gray was also very receptive.

So you had at the highest levels of the administration enough encouragement that if there were jealousies and concerns, they were muted. At least I didn't hear them. I was probably deaf to them anyway, but I wasn't getting those signals.

INTERVIEWER: What is it about you, again, that causes you really not to see that this is really climbing uphill? It all seemed so effortless the way that you describe it. And there under the wing of Jerry Wiesner, Nicholas Negroponte can do no wrong.

NEGROPONTE: Well there was some truth to that, and also, we started printing money. I mean money was coming in, and that speaks quite loudly. People don't bother you. So when you're the pet project of the boss and money's coming in, it was a relatively good pioneer's license. And sure, we were abrasive, we were offensive. In fact, 20 years later when the economic times turned on us, there were people who came out of the woodwork who had been offended for 20 years.

But it was at that time it was in a period of assent and enough things were happening, enough attention was -- Stuart Brand wrote a book about the Media Lab that got wide circulation. Then 10 years later, I wrote *Being Digital*, which became a bestseller and brought more attention. We were all giving a lot of public lectures. I was doing as many as five a week in different cities around the world. Just the noise level and people started hearing about it and reading about it.

And it was photogenic. What was happening was about sound and picture, and it was easy to come and make a movie about it. And suddenly more and more people came because it was about the media, so the media was interested in the media, so there was that fueling it as well.

So without a doubt, we got a very disproportionate amount of public attention. And that public attention converted into funding and converted into sustained growth, almost 50 percent per year, per year for a decade. Then sort of the world catches on and things happen, and so it plateaus. And you could argue that it's plateaued to some degree now, but then other things come in and you get new work that is on its assent. These things additively still has to have the vitality it had in the early days.

INTERVIEWER: The late Bill Mitchell describes those early days as like being a member of the Beatles -- young and fearless and crowds following you wherever you went almost.

NEGROPONTE: It did. I mean there was a certain rock star status you would have depending on the country. So for instance, China was, I mean China was off the charts enthusiastic. And Japan had attenuated. Japan in the early '80s was deeply interested and by the early '90s were almost gone. Europe was very sort of cautious and didn't really jump into it as much as a lot of the American companies, a lot of Silicon Valley type companies. Particularly the big companies -- big companies that saw the writing on the wall.

So you got a lot of funding from the IBMs of the world who did it because they could afford to, but also the people worrying about the strategies of those companies realized that they needed to do something that wasn't incremental. And we were one of several options for many companies.

INTERVIEWER: You've described a little, what are the key models for how the Media Lab was set up?

NEGROPONTE: The model that we used and more or less invented was a model that the Japanese referred to as pre-competitive research. Where you could have a consortium of competing companies fund the stuff that is so risky that none of them could fund alone. But have enough things happening that there'd be something for everybody.

From the Media Lab faculty and student point of view, you could basically do what you want because there was enough of it. If it had just been 10 people it wouldn't have worked, but it was already over 100 people. And when 100 people are doing different things, I can say to you with some confidence -- a few of those things, I don't know which ones -- but a few of those will be really important to you. I don't know which ones, but we'll show them to you and you find out which ones.

So it's sort of reversing the whole process. We're going to find solutions and then you put the problems there for which those solutions are relevant. The reason that model works is that from the faculty/student point of view they're doing what they want to do; from the sponsor point of view they're getting innovative solutions to problems they know they have, we don't. And very often companies would come see things, integrate them into their product thinking or their strategy, and 10 years later tell us, you know it had a huge impact on us and we did this, this, this, this, and this as a consequence of what you did.

I hear that all the time. It has very often sort of moved the needle of a company that we didn't know -- we were confident that sort of thing was happening, but we didn't have the specific examples.

INTERVIEWER: In the beginning, what started to get made that began to tangibly give weight to your vision that you were creating a new discipline? What were the gadgets that came out in the beginning that were really exciting and that you couldn't keep from running out of your office and touching?

NEGROPONTE: It had a lot to do with display technology, video compression, interactive video. I remember, and this is the very early days of the Media Lab, we had a sort of two foot by two foot, it was a square, beautiful color display. The touch sensitive screen and text on it that looked like it was photo typeset.

I mean today's iPad has that quality, but this is 25 years ago. And you'd see this text and there'd be a color photograph in the text. Then you'd touch the photograph and it turned into a movie, a video. And people, you could hear air being sucked in when somebody saw it. They'd be gasping. And you could touch a word and it would go off and there would be sort of a hyperlink to an explanation of it. And all these things that were up and running you could show to somebody, and they'd walk into the room and they'd be caught by the beautiful appearance of this text and display.

Then you could touch the sentence, it would speak it. And just the sensory apparatus that was in place in those early days were stunning. And people would go home and the experience of visiting the Media Lab is something that you would tell your spouse or your kids. Very often executives would land at Logan Airport, CEOs of companies with their families and say well, let's see, do we go to the MFA or the Museum of Science or the Media Lab?

They would come very often with their kids and their husbands or wives and they were come, and I thought that was terrific. I thought that was absolutely the right thing. I would personally, when I was there, take people around and show their kids and show them. It wasn't just your normal visit to a scientific lab where you got a Powerpoint presentation.

INTERVIEWER: When people would come upon this beautiful display with all the images that popped out, and they asked you some day will we all have one of those? What would you say to them?

NEGROPONTE: Unequivocally, yes. And it'll be on a flat panel, it'll be in your hand. We even had images of that. The first flat panels were in our lab. It had 64 pixels by 64 pixels in black and white and 10 of them were missing. These were pieces of glass that we were paying \$100,000 for the first samples. You said you see this piece of glass and you see that display, they all come together and these will be sort of consumer products and they will have one that'll have every book in the world available, and so on.

So yes, we were saying this is going to be part of your daily life. Most people didn't believe it, by the way.

INTERVIEWER: And you were saying it in like 1987, 1988?

NEGROPONTE: Yup, '85, '86, '87. Very much so.

INTERVIEWER: And only today does the iPad exist.

NEGROPONTE: Yes, but the whole display technology and all of those things have been there for a very long time. The ID, for instance, cell phones really took mobility as the main theme, and as part of mobility there was this assumption it had to fit in your pocket and be a certain size. So there wasn't much in a cell phone except for the mobility. The screen was kind of too small and even with a beautiful screen it's still relatively small. But mobility, mobility, mobility. Then once that was achieved, then people started to look at some of the things that were done even before mobility was possible.

INTERVIEWER: You've described some of the names in the early days at the lab. Get into the collaboration with some of the people who came on in the early days, like Seymour or Marvin.

NEGROPONTE: Well Seymour and Marvin played a very important role in the early days.

INTERVIEWER: And we're talking about Marvin Minsky and Seymour Papert?

NEGROPONTE: Marvin Minsky and Seymour Papert played a very important role. First of all, attracting people who were deep thinkers. There was a risk when you're interested in sound and light that you could be all icing and no cake. And some people even looked at the lab and said wait a minute, this is all [INAUDIBLE] --it's sound -- there's a lot of sizzle but there's no meat.

Well, first of all that was not true, but the deeper thinking that was done by people like Seymour and the context of learning and children, and Marvin in the context of machines and intelligence and common sense, brought the whole package together in a way that was, again, very different than you could do at, let's say, from school of design or that you could do it from a traditional arts background. And it was very important to have people like Marvin and Seymour in the lab in the early days.

And there was a hard core engineer named Bill Schreiber who was looking at video from a signal processing point of view. And then there were people, originally Ricky Leacock and subsequently Glorianna Davenport that were looking at it from a narrative point of view and storytelling and a genre of documentary film that was, again, unique to the technology and eventually had a lot to do with the kind of hand-held cameras that we all take for granted today.

INTERVIEWER: Richard Bolt.

NEGROPONTE: Dick Bolt is somebody who came from psychology, very much in the mold of Licklider whose work was before the Media Lab. And he did very profound work in something called Spatial Data Management System, and another thing we call Put-That-There. And those two pieces of work were such strong predecessors and had these movies and video tapes that in five minutes were sort of jaw dropping. And Dick Bolt's work was very important sort of before the Media Lab. And then when the Media Lab opened, he took sort of early retirement and went off and has been since then an author, a fiction writer.

INTERVIEWER: Publishing papers wasn't the mission at the Media Lab. It was something else. There was competition to do what to show results?

NEGROPONTE: Well there was an expression at the Media Lab called demo or die, which was our version of publish or perish. And it had to be shown. I mean writing papers, that's OK, but it's somewhat incidental. What you really have to do is build things and make things, and that architectural tradition of making models, writing programs. They only had to work once -- we're not trying to get into reliability, and even for that matter, too much repeatability. But you've got to be able to show your idea.

So the world of demos was very much a part of it. Actually, people enjoyed making these. And before sponsors would come and stay up all night to get it up and running and so on. It's again, part of the spirit of the place. A very nocturnal lab. Sort of rush hour is from midnight to 2:00 AM.

I remember about 15 years ago, taking Carlos Slim to visit the Media Lab on a Sunday night, and he wasn't yet the richest man in the world but he was clearly on his way, and he had come to my house for dinner in Boston. At the end of dinner -- it was late in the Mexican tradition, it was about midnight on Sunday night. He said, Nicholas, you always say the Media Lab is running 24 hours a day. Let's go right now.

Unrehearsed, nobody thought of it, it was Sunday night. I said, oh my God. You know, I couldn't even call somebody to say make sure there are people there. And so we leave at -- you know, we get there just before 1:00 AM, it's now Monday morning, and go down into the basement of a lab. It's filled with people. Absolutely filled with people. And he spent the next hour and a half there.

And then at about 2:30 in the morning or almost 3:00, he says well, this is maybe an exception. Let's go up to the top floor. We get in the elevator and we go to the top floor, and it's filled with people. Maybe we lucked out, but the next day he made a pretty substantive grant and there's a Telmex lab in our new building which can be attributed to that visit.

INTERVIEWER: It's amazing. Describe some students that you saw from a very early age learn this power of making things and then went on to be very influential in the industry or in other place in media as a result of their experience at the lab.

NEGROPONTE: Well we have about 1,000 alumni at the Media Lab, and one of the hazards of being on the street so much is that I didn't have enough interaction with them, in fact, they didn't see me very much. One of the jokes at the Media Lab is that I went to school with Michael Douglas as a kid, and Michael Douglas came to visit me one day at the Media Lab all by myself. He was in Cambridge and he comes out and we talk about his dad and we talk about things.

And I say, well let me show you the Media Lab. So we get in the elevator and a young lady almost faints when she sees it's Michael Douglas and we're walking through the lab. And I hear somebody saying, who's that with Michael Douglas? I wasn't around very much. I really was on the street.

The students that I had a lot to do with were the early ones who went off and very often started groups like this in other universities. And there was a replication, whether it was a university or an experimental lab, like Interval, or the basic early design stages of Apple. Our students went in waves. There was one year when half of them went to work at Atari -- remember Atari? It was a cyclical sort of phenomena. They always were hired because of this mixture of expression and technology. It was really an asset for the students.

INTERVIEWER: A lot of laboratories and disciplines have their own professional journals where researchers publish their papers.

Is it possible to say that your role in helping to found *Wired* magazine was the creation of a professional journal for a discipline that was also partly your invention?

NEGROPONTE: I've never thought of *Wired* that way. But in some sense, yes. *Wired* was a podium that could be used where the digital world was leaking into life. And the fact that *Conde Nast* bought it in the end, like *Vogue* magazine was very telling. I remember when that transaction was happening, I said, you know this is really great because you won't be able to tell the difference between advertising and content, which is a sort of a mark of *Wired* magazine, and it's a statement about sort of something leaking into society and every day life.

INTERVIEWER: As a columnist for *Wired* and then as the author of *Being Digital*, did you embrace this role as a kind of oracle of the future? Was it something that flowed naturally out of what you'd been doing pitching ideas within the Institute? Or was it something you found yourself taking as something of a surprise?

NEGROPONTE: *Wired* happened because I was the initial financial backer. So I decided I better protect my investment. So I wrote the back page of *Wired* every month. The first 20 back pages, 1,000 words, took me around 30 minutes to do. Maybe 40 minutes. And it was nothing to do with predicting the future. And whatever we were working on at the time we'd just write something about it, and there was enough happening that that was very easy to do.

The next 10 or 15 took a few hours, took a couple of hours to do. And then the last 10 or 15 took like five, six hours to do. As I was getting to the last ones I said, maybe it's time to stop because maybe now what one is doing is trying to predict the future versus extrapolate some things that were happening around us. By the time I stopped, I found that what we were doing, what distinguished us from futurists, was that we were just looking at ourselves, which was at that point we're almost 500 people at the Media Lab, and you find something that's pretty interesting that had this extrapolative aspect to it.

That made for the *Wired* story. Before I stopped doing the *Wired* stories, I thought wow, let's take what were then 40 or 50 stories, just staple them together and call it a book. That [INAUDIBLE] decided it was a very good idea. I was so naive that I thought I would just do a little editing and sort of put these together and almost not a word from the stories got into the book. It was a whole new thing. But it came out of the stories, the *Wired* stories, and then basically wrote a new book. But the book only took six weeks. The book didn't take very long.

Then the editing process, which was done very sort of rolling up sleeves, working with the editor was a matter of just chopping out 50 percent and going to press with something I had no idea at the time would be a bestseller. But it took off, and Bill Gates was writing his book at the time, and it hadn't quite come out, but *Being Digital* did come out. I'm told, I've never compared notes with Bill, is he went back and re-wrote some things, and then his book came out a year and a half later.

INTERVIEWER: You mentioned before that it was really, really important for you to make sure that the trajectory of small scale computing didn't turn out the way television did. These boxes that users couldn't get inside, and had to just sit in front of and watch. Do you think the personal computer would have turned out like the television but for the influence of the Media Lab and your leadership of it?

NEGROPONTE: Well in some sense, there's an element that it did turn out like the television. Arguably something like the iPad is the worst example because it's consumed media, it doesn't encourage creation, it doesn't encourage making things. So you could come up with a relatively convincing case that after all these years we ended up with iPad which is just a consumption medium.

What you lost along the way is the whole art of computer programming and what we thought, in the early days, would be the essence of learning and thinking about thinking. We'd be writing computer programs, and yet kids can go to very fancy schools today and have computer labs that are meaningless, and most kids don't even know how to write computer programs. It's not part of thinking about thinking, as we had imagined.

On the other hand there is, because of the internet and because of the richness of media, the opportunity to make things, and it's not all just iPad stuff. There really is a constructionist ring to a lot of new media. But it's by no means all constructionists, all making -- there's still an awful lot of consumption, intellectual property rights, and all those issues. And open source still is sort of an uphill battle. It's not the general mode of use.

INTERVIEWER: If the invention and the pitch for the Media Lab was a mission to create a discipline that was just emerging out of a particular moment in time, what was the mission of One Laptop per Child to create?

NEGROPONTE: Well, One Laptop per Child, again, happened at a point in history, which included my own stepping down from the Media Lab. I spent 20 years making a place for other people to do things, and I thought well now it's my turn and I'll do something, and I chose One Laptop per Child as would be kind of my project. It came out of and very influenced by Seymour Papert's work, but also by the simple fact that you could do it. You could make a \$100 laptop and you really could do things that normal market forces wouldn't do.

INTERVIEWER: So create a tool that was universally accessible and that it would be available to anyone in the world. But that it would embody the notions of how we learn that came directly out of Seymour's work. Essentially, it would be a tool that understood how you learned.

NEGROPONTE: I'm a little hesitant on the word "tool" because it always carries connotations. But call it a tool, sometimes toy is a better word, a toy to think with. But this tool was not a diminutive laptop, was not taking the world of office automation and doing a cost-down so that this could be afforded by kids in the developing world. But it would be built up from the very core of it for children in mind, children in the developing world, children who have no power at home or at school, children who are going to be dropping this thing and carrying it through the rain. Just a lot of physical characteristics and a lot of intellectual ones built on what I'll call constructionism.

And the laptop in the beginning was, again, a lot of hype. A lot of going around and selling plastic models. Walking into, in this case, the heads of state, with little models of laptops saying this is what we're going to do. It was pretty outrageous, but credible enough. And here, the credibility of MIT and the Media Lab was very important. It was very important because you got your foot in the door and people would say OK, I'll do it.

And we picked six countries -- Thailand, Pakistan, Nigeria, Libya, Brazil, Argentina. If you think of those six countries, there's a sort of geopolitical, ethnic mix in those that was somewhat thought out. And they were poor but rich enough to do the laptop. So each of those heads of state agreed publicly to do a million laptops. So that was six million laptops would be done for the kids in those countries.

Now, that kind of statement or the pledge isn't a purchase order, it's Qaddafi on TV hugging Nicholas saying I'll do 1.2 million laptops, and Lula doing the same thing, campaigning with it in his hand. Obasanjo referring to it in public as enchanting, and Kiefner loving it because he's called, his nickname is the penguin because he comes from Patagonia, and Linux happens to use a penguin as its mascot and he thought when it fired up it was for him, penguin. And Musharaff liked it and Tosin Chin and A. Patra liked it.

Everybody was behind it, and most of the engineers in Taiwan, and the north and south of Taiwan were spirited in their companies, because they weren't on our payroll, were spirited because they saw all this world noise and enthusiasm and interest. So they did the work. Then when finally it was done, it turned out that none of those six countries participated. That it was three other countries that came along, smaller countries -- Peru, Uruguay, and Rowanda. And those countries made the commitments the other six wouldn't, and really launched it.

The rest is history because the two million that are out there today are in the hands of kids six to 12 years old in the remotest parts of the world.

INTERVIEWER: Re-state for me the typical argument against One Laptop per child -- "Oh, Nicholas, this will never work."

NEGROPONTE: The most typical argument is you don't want to give a kid who's starving and has primary health problems and no roof over their head and no clothes and no school to go to a laptop. And that there are many things that come first. All you need to do is ask a person to substitute the word education for laptop and say the sentence over again, and nobody would say it. Nobody will say you don't give a kid education if they don't have this, they don't have that.

An education is a key element to actually all the others. Now if a kid really is starving or really is dying for instance, that's at the moment, it's like not having air, then yes, you really worry about it. But in terms of lifting people out of poverty, creating better health systems, dealing with the environment, any of the big problems, education is fundamental.

About 100 million kids get no education, and by that I don't mean they dropped out of the fifth grade, I'm talking about first graders. The kids who just do not go to school. You can actually give those kids connected laptops, and the cost of doing it is a dollar a week. Spread over five years, you amortize the purchase and throw in all the other costs of ownership, a dollar a week is a lot.

On the other hand it's not that much. The dollar a week number is a very convincing one to see this go out. And it's now widely accepted. If you take the character string, "one laptop per child," lower case and quotes, put it into Google alerts, you'll get 100 a night where people are using it. It doesn't have to be our laptop.

So the concept has caught its momentum, and in many ways our mission is accomplished. There's still things to do, we can't go away, we can't stop because other things will happen. But there is a mission accomplished and one does have to recognize that and our behavior going forward is very modified compared to what it was five years ago.

INTERVIEWER: What do mean when you say it's very modified? You mean the pitch is different, the investments are different, the metric for success is different?

NEGROPONTE: All of those things are different, but most noticeably, when I wake up in the morning I ask myself one question: will normal market forces do what I'm doing? And if the answer is yes, stop. That's very important. I can't tell you how important that is, because so many people do things like One Laptop per Child and then they forget that. And it's really critical if normal market forces will do it, Nicholas, don't keep doing it. Media Lab, don't keep doing it. You want to do what the normal market forces won't do.

So many of those things now normal market forces are doing, and one has to not compete with them but recognize which ones they will do and where you have to pull harder and where you have -- and sometimes it's not technological, it's going into Gaza and Afghanistan and doing places where those aren't markets, those are missions. So we do a lot more of that today than we did three years ago.

INTERVIEWER: You said a couple of years ago when I saw you speak, I'm not making laptops here, I'm creating something different. Articulate that again.

NEGROPONTE: Well, the line was "it's not a laptop project, it's an education project." That was the line. And that's very important because you have to view children as a mission, not a market. In the education world when you say we need education, to most people that means schools, teachers and teaching. That the child is the object to whom you teach, the recipient. And that child goes through a curriculum and it's a very industrial process and they come out the end having learned a body of knowledge that you can test them on.

Now, it's not clear that that's the best way to either achieve or measure learning. But most importantly, and in some sense unequivocally, if the child is the agent of change, not the object or the recipient of learning, then the child can play a very different role and it's a social project, not even an education one. We find children in remote parts of Peru and other parts of the world sometimes is -- you know, all the children sometimes, half the children, depending on the village you're in -- teaching their parents how to read and write.

And to me, if a child is teaching their parents how to read and write, that's a measure of success that's awfully different than I would have ever thought of in the beginning, but it really is an element of social change. You find that kids can learn how to read and write very quickly without a teacher, without going to school, without looking at a white board, without people doing calligraphy, without pictures of cats with the word cat underneath. They can learn a little bit the way we learn how to walk and talk, and that will have a very big change.

INTERVIEWER: What did the OLPC teach you about how humans and machine interact that you hadn't learned up till that time?

NEGROPONTE: The good part was that there is no noticeable difference between a child in the remote parts of Africa and a suburban child that's in the USA that's had all this experience with technology and electronics. It's the same sort of, almost genetic, an ability, like ducks swim. That there really is an ability to jump right in and do it.

The bad news was that the commercial interests were much more aggressive than I expected. I thought I had a Mother Theresa shield because it's a non-profit, I don't draw a salary, the whole organization is the humanitarian effort. That shield didn't shield us from normal market forces. So many times we found ourselves in situations where commercial interests obscured or confused -- and even in places with great clarity. So it took much more bravery, if you will, much more conviction on the part of a head of state to make this leap. So those were the two things that fell out of it.

One is just an experience which I hadn't expected, and the other I did. I did expect the kids in those countries to be just as fluent, or at least fluid is perhaps the right word.

INTERVIEWER: You described some frustration in dealing in South Asia with the government of India, the world's hugest democracy. I'm wondering if you found yourself yearning to deal with people who most of the world might call dictators in the sense that they can make a decision right on the spot? And that something like OLPC is uniquely suited to be bundled by a democracy like India.

NEGROPONTE: Well, there are three subjects, democracy and--

INTERVIEWER: Well it's like the CEOs. You wish you were dealing with a CEO back at the booth to get you the computer.

NEGROPONTE: We did deal with the CEO in Uruguay, President Vazquez said every child will have one, and guess what, every child has one. It's a democracy, it's a very strong democracy.

So there an issue of scale and where you are in the development curve, and so on. You want to deal with strong figures, and Vazquez is one, and Garcia in Peru is also a very strong head of state. And so those countries were very easy to deal with. Kagame in Rowanda likewise, that some people argue he's too dictatorial. He's too strong handed. I don't happen to think that because I think in the early stages of development democracy can get in the way in the sense of being a very inefficient system, and India is an example of that.

India, in my opinion, is one of the most over-rated countries in the world. By comparison to China, it hasn't lifted out of poverty anywhere near what China has done. Part of that is the chaos of the Federal government. If you took the Indian state today, and made each of them an independent country, it would doing wonderfully. But as a single country, it's a bit of a mess. And what happens is in spite of the Federal government.

So each country is India's different, and it's not just that we like to deal with dictators because they can make a decision, witness Qaddafi didn't. I mean Qaddafi early on said he would and he didn't. And there's some posturing that you make.

So do we prefer to deal with strong people? Yes. Do they have to be dictators? No.

INTERVIEWER: Does Nicholas Negroponte have the same amount of gall today that would have been ascribed to you in the early days with Jerry Wiesner?

NEGROPONTE: Well again, gall's in the eyes of the beholder. And there's also the phenomenon of being like an aging hippie. I mean the things that you did whether to music or something else, it's a different kind of gall. So what you have to do is use the power of complication, the power of being able to call somebody a little bit differently. You almost have to pinch yourself, at least I do, and say, well, maybe don't be quite as outrageous as you really were in the past.

So it's tenuates, it becomes more palatable to people. And maybe it's because you say it differently, maybe it's because you say it with enough experience and it's not just off the cuff. Also, one just, the force of age becomes a little bit better at listening. In youth, listening is a sign of weakness. I mean there are a lot of people who they don't listen at all. I mean out comes the next smart remark and then the next smart remark.

And if you're fast enough and you're spouting these things out, the signal to noise ratio doesn't matter that much. All there has to do is be five or six patentable ideas in your discourse of 15 minutes, and the person you're talking to will take notice and that's fine.

INTERVIEWER: What do you still want to make?

NEGROPONTE: What you want to do is make peace. It's still incredible to me that in Afghanistan today we spend \$2 billion a week on war, and we spend \$2 million a week on education. When I look at the \$2 billion a week, and these are the real numbers -- \$2 billion on war, \$2 million, which is USAID, State Department, other money, all the different things. So you look at those two numbers, I say, you know, Mr. President, all you need to do is take half of 1 percent from column a and moving it into column b, half of 1 percent, and every child in Afghanistan will have a connected laptop in 18 months. Duh. Why not do that?

So to me, that's what I'd like to make. Gaza's another place we're working. And when I go to Gaza and see the kids and the laptops and I'm not legally allowed to talk to Hamas, but I see in there sort of this hand grenade that's being made. By that I mean as soon as you build another level of metal around Gaza and then it gets more exposed and we're going to build another metal. And finally there's such a thick layer of metal surrounding this place and this thing that's going to detonate inside and explode.

The only way to defuse it in my mind at the moment is with the kids. Get the kids connected, get the kids online, get the kids -- the thing that surprised me the most when I went to Gaza is that the kids I met had never met an Israeli. They'd never met anybody who had met an Israeli. And this was to me, extraordinary. Absolutely extraordinary. One kid had heard of another kid who had actually made it out to go to the University of Oklahoma, and at the University of Oklahoma met a foreign student who happened to be Israeli. You say what the hell's going on? This is the distance of Brooklyn to New York. I mean this is not the other side of the world. So all you need to do is get some communication, some connectivity to defuse what's going on.

INTERVIEWER: In all the predictions that you've made and things that you believed would come about, so many have come true, what were you most wrong about?

NEGROPONTE: Well, at least one thing. That was that I had predicted, published, written stories, written in a book, that by now we would have had absolutely perfect speech recognition. We'd be talking to everything, you'd be picking up your phone. I've just been wrong constantly about how fast that would come about. It's amazing to me still because it doesn't seem right to be wrong about it, because as we started to get hand-held devices, it was small so just touching them was hard. There still is not widespread use of speech recognition. Certainly wrong about that.

Others I think I underestimated how fast things would take off. There were more of underestimation rather than over estimation. Somebody in the press yesterday said that my prediction that paper books had only five years left was an exaggeration, and it's not. The person doing that lives in a very privileged part of the world where we still go to operas and ballets and live theatre.

The developing world doesn't have books. You can't ship physical books into Africa. You can't start building libraries. Building libraries is the most foolish thing to do in the developing world. Physical books are not the way to do it. We ship in 100 laptops to a village, each laptop has 100 books on it. But what people don't realize is that each of the 100 laptops have 100 different books. That means 10,000 books. You and I didn't have 10,000 books in primary school. And suddenly now kids in places that didn't have electricity still don't have electricity, have 10,000 books. Come on, you can't even come close to that with physical books, and so on.

So it's not how comfortable is the Kindle and the iPad versus reading a physical book, it's the rest of the world can't have the physical books.

INTERVIEWER: Today would be easier or harder to do what you did back in the 1980s when the Media Lab was created?

NEGROPONTE: Today it would be harder because it's an established part and you have other people doing it or claiming to do parts of it. It was much easier then because it was alien. Nobody knew what it was. It's always easier to be a pioneer.

One of the challenges of the Media Lab is to keep being a pioneer. Because if you're not a pioneer and you're jumping onto a bandwagon versus making the bandwagon, it's just not very interesting and it's much harder to do because then you're competing with the rest of the world and there are just noticeable differences -- I'm better at this and you're better at that. You don't have the pioneer's license.

INTERVIEWER: Your impressions of the new Media Lab building and how it represents a continuation of the original vision that you and Jerry Wiesner had and how it breaks new ground.

NEGROPONTE: Well, keep in mind that I was the client team. When we just got permission to build the building, I happened to be at a meeting in California with Frank Gary, and I said to Frank, whom I'd known from the tent meetings, I said to Frank, I just got permission to do a building and wouldn't you like to do it? He said, you know Nicholas, I'm already doing a building. I said, you are? I didn't know that he had been given the computer science, electrical engineering building. He said, but I can do two. I said, no. There's not room for two Frank Gary's in a city, let alone on one campus.

And it was Bill Mitchell and others who chose Maki. My counterpart, Mike Dertouzos at the lab for computer science was on the client team with Frank Gary. Their meetings with Frank were always calm down, calm down, you're being [INAUDIBLE]-- and our meetings with Maki were the exact opposite, liven up. Lighten up. He came into my office the first day and drew this box beside the other box and put little dots around the edge, said I'm going to make a box with a screen around the edge.

And I said, Mr. Maki, we have this piece of land that goes here and we can build big, and we want to have the lab merge into sort of three different things, something focused on education, and something focused on physics and so on. Just not another box. So he humored me a little bit and he did some slightly wilder designs and then went back to the box.

So I made a special trip to Tokyo to get him to lighten up. We had lunch, and he's a very mild person, but he got a little annoyed. He took his napkin and he threw it on the table, said that's a Frank Gary. He said inside it's all chopped up. It was very orthogonal sort of a rabbit warren of offices and this very exciting outside. He says my building's going to be a box, and inside is going to be explosive. It's going to be an inside-out Frank Gary. So I said OK, but lighten up.

Of course we ended up with exactly that, a box with a little screen around the edge, just as he planned, and he was right. It is an inside-out Frank Gary. I even told him when I saw him, I said, you know you were right and I was wrong. The reason it works and the reason it's very much a part of a vision and it's very much the two-story spaces and modeled after what we did in the cube of the old building, is that Maki understood the diagonals that weren't in the horizontal plane.

When you look at a floor plan, you can understand them when they're on the horizontal plane. These were not in the horizon, and you could see from one space into another space, and that he could do in his head. Most mortals like you and me can't do that. It's breathtaking. The building is really -- and I can say it because I was worried it wouldn't be, and then I was worried that the fire codes and sort of being a little bit more economical here and saving money there, et cetera, et cetera, would make it more closed-in, less glass, less of an inside-out Frank Gary.

But in the end it's exactly what the Media Lab needed and it's a place which will encourage collaboration. You look out of your office and you can see exactly who's where. It's really a very important step forward.