INTERVIEWER: So this is the MIT 150th oral history project. With William J. Mitchell. And let me just talk a little bit about, ask about the early years. Tell me where you were born and what it was like growing up in Melbourne?

MITCHELL: Well, I didn't grow up in Melbourne. I was born way up in the middle of nowhere in Australia, in an area called the Woomera. Which actually Mark Twain visited. And left a description, saying it was basically the flattest, brownest, most miserable place on the face of the Earth that he could possibly imagine. But the people had neat, green little gardens and it was actually a pleasant place. And so I grew up in the bush. Very much. I come from a fifth-generation Australian family, and always very much in the bush. And then eventually moved to Melbourne for my last years of high school. And then I went to the University of Melbourne. I was fortunate to go to the University of Melbourne. A few years before, a university scholarship scheme had been initiated in Australia. Which made it possible for kids with no money, which was me, to go to the major universities, like the University of Melbourne, University of Sydney.

INTERVIEWER: What did your parents do?

MITCHELL: My parents were country school teachers so, I come from a long line of miners, actually. That's why we were already in the bush. But my grandfather got himself to the Ballarat School of Mines which was a kind of vocational school for miners, and mining engineers. And got some education. And then was able to make sure his kids were educated. And then my father graduated -- well, didn't graduate, left high school at 14 right in the middle of the Depression and started work as a bank clerk. Immediately got fired, because of the Depression. And managed somehow to get himself into a teachers' college. And became a bush schoolteacher. Taught in a little one-room schoolhouse right up in the bush. And met my mother, who was also a schoolteacher. And so that's how we got out of the bush, basically.

INTERVIEWER: Is there anything about growing up in the Australian bush that you think has influenced you work, or life?

MITCHELL: Oh, enormously. I think it's a very, it was a very culturally formative thing for me. I think, for all Australians who grew up in that context. It is. It's a very small minority of Australians these days, by the way. Australia's a very highly urbanized country. The big cities have most of the population. And people in the cities romanticize the bush in the same way that Americans romanticize the West. It's not to be romanticized, actually. It's a pretty tough and rough place. But nontheless, it's a place, you know, it's very close to nature. You have a sense that humanity doesn't control things, and it's always floods and bushfires and droughts, and all kinds of stuff. So there's a sense that you're fitting very much into natural systems. And that you, you kind of roll with the punches, you know. You know you're not in control. And you have to, you have to improvise. You have to deal with circumstance. You have to be flexible. That's very much a community kind of place. And people rely on each other, because if you didn't rely on each other you wouldn't survive. It's very, very simple. And in those days it was a very simple life. Looking back on it, it's amazing, actually how little money we had. And we never felt poor, but we didn't have any money. I realize looking back. And we didn't have a car. We didn't have much mobility. You had to deal with the sort of exigencies of day-to-day life in a pretty straightforward way. So I think that's always been a huge influence on me. It's a place I love. I love the bush. I try to get back there as much as I can. My wife hates it. She's a New Yorker, right. She thinks it's, the depths of lack of civilization. In some sense she's right.

INTERVIEWER: You must still have family there.

MITCHELL: I do, I have family scattered all over Australia. But the main thing, my 90-year-old mother still lives in Melbourne.

INTERVIEWER: So how, from this upbringing of being focused on nature, how did you wind up with architecture?

MITCHELL: Well, probably from some influence from my family. They were mining engineers. Some of them. And they built things. Or they at least dug holes in the grounds. I mean, they were interested in physical things. I think the kind of bush influence of improvising and problem-solving, which is really what architecture is all about, and, you know for me, getting to the university. Getting to the University of Melbourne was an enormous liberation. In the, again, where I grew up. Not a highly intellectual place, as you can imagine. There's a long tradition of people being, actually, enormously interested in literature and reading at every opportunity. And that was part of the culture. But very little opportunity for developing any kind of deep cultural interest. Any kind of deep intellectual interest. But getting to the university, and as I said, was enormous liberation. Suddenly there was this place where you could pursue things that were interesting to you. There were all kinds of amazing and interesting people around to talk to. There was a tremendous sense of intellectual freedom, and indeed rebellions, this was Australia. And it was the `60s, right? And you can imagine all of this. And the thing that just fascinated me. And I'm not totally sure why it was, but was architecture. It was absolutely architecture.

INTERVIEWER: So it started at the University of Melbourne. That's when you really --

MITCHELL: Fundamentally. Fundamentally, yes. I mean, I'd always been interested in sort of combinations of technology and arts. Which architecture really is. Is sort of quintessentially of all of the, at least the traditional professions. Architecture is a field that requires you to be a technical problem-solver. It also requires you to be an artist. And so that's what I'd always pursued. Architecture gave the opportunity to do this. The other thing about the University of Melbourne in those days was, it was a period of intense migration into Melbourne from all over the world. And the University, as I said, had opened up because of scholarship schemes and this sort of thing. So, architecture school was a kind of hot spot of, you had people of different nationalities, different cultural backgrounds from all corners of the world. And it gave a sense of global engagement, of intellectual and cultural vitality. It just seemed the place to be. Whether or not that was going to be your profession. It seemed to be the hot spot, really.

INTERVIEWER: And then so how did you, how did you go about deciding what to do for graduate school at Yale and Cambridge?

MITCHELL: Yeah. So the way I thought about graduate school, I realized pretty clearly that in order to pursue the interests I was developing, I needed to get out of Melbourne. It's a fairly city. Sort of, end of the world, basically. And small economy. So opportunities are limited. Particularly to pursue particularly very specialized areas. And that's the way it was then. That's the way it still is today, to a certain extent. I mean, one of the problems with small economies and small countries is that they export their intellectuals, fundamentally. And we benefit from this at MIT, by the way. Enormously.

So the traditional thing for kind of, ambitious Australian prospective graduate students, really up until my generation, was to see if you could get to Cambridge, to see if you could get to Oxford, to pursue the very traditional, you know, go back to what used to be thought of as the mother country. And the traditional great universities. It seemed to me that wasn't the path that the, there was much more going on in universities in North America. Particularly in the US. And at that moment, the Yale School of Art and Architecture was absolutely the most exciting place you can imagine for architecture, for the visual arts. For rethinking urban planning. It mostly had to do with a very charismatic dean of the school, Charles Moore, who was a very, very great architect. Wonderful, wonderful architect. And he brought in a group of extraordinary people to teach in the design studios. Bob Venturi and Denise Scott Brown, Jim Sterling, Bucky Fuller, the list goes, Louis Kahn, used to show up from time to time. It was an extraordinary place. So it was clear that was the place to be. There was absolutely no question. I didn't apply anywhere else. I didn't, you know. That was, that's where I wanted to be. That's where I ended up.

It was an extraordinary experience, because it was right at the moment of the `60s really exploding. So the Bobby Seale trial took place in New Haven. There were armored troop carriers on street corners, you know. The Vietnam War. The bombing of Cambodia. So it was a very, very intense moment. Literally, I was fresh off the boat. I really, really was. I mean, I came, one of the ways I got there was, one of the scholarships I had was from P&O shipping lines. So I got a passage across the Pacific on a P&O ship. Makes it seem like a very long time ago. But that's in fact. And I had the experience of of, just still the most romantic thing you can possibly imagine, of steaming in under the Golden Gate Bridge. And that being the, you know, the kind of arrival point. It's not the same now, to land at LAX, after a flight across the Pacific. But anyway, that was, that was what it was like there. And then I got to know Charles Moore very well. We became very close friends.

We, I moved to UCLA to start teaching after I graduated. And then I rapidly became chair of the Architecture Department there. And the first thing I did was hire Charles Moore away from Yale and then brought him to UCLA. And we worked together a lot. Wrote a book together, along with Bill Turnbull, another great architect. And so, these things change. I think great academic departments, or, sort of, great intellectual institutions, have a kind of life cycle to them. They have a set of conditions. Sometimes accidental. Sometimes, you know, deliberate, put together by somebody who knows what they're doing. That create a kind of intellectual magic. But it's highly unstable. It doesn't last forever. And after a while, either they kind of explode and disappear, which is more or less what happened to that era at Yale. People went to a lot of different places. Or, you have to remake them. And that's one of the challenges, actually, in running a great academic institution. To understand that kind of dynamic and be able to deal with that sort of dynamic.

INTERVIEWER: So, why is it you wound up in academia? Why aren't you at some architectural firm designing buildings?

MITCHELL: Well, the reason I ended up in academia -- well, firstly, I wouldn't say, really, that I've ended up in academia. I mean, I've always done a combination of practice and academia. And I think in a field like architecture, that's an optimal thing to do. Because getting your hands dirty, being engaged in the everyday business of dealing with cities, of making buildings, or, and I design a lot of other kinds of things other than buildings these days. But that's a very important part of it. So, it's always been a mixture, for me. But the reason I ended up in academia, there was a particular set of research issues that I thought were going to be enormously important for the future of the architectural profession. And other design fields. And in the early days, you could really only pursue that on a research front in academia. I mean, that's the way the facilities were. That's where you could get, you know, a research environment. That's where you could work with graduate students. There really wasn't any way to do that sort of research in practice. And, in fact, still that back and forth between research and practice is an enormously important thing.

The particular field was digital technology in architecture. And what became computer aided design. Use of computer technology. As a design medium, to enable you to design buildings in different ways. To open up all kinds of new possibilities. This absolutely didn't exist at that point. I mean, computer technology was still very young at that point. So, I was utterly convinced that was the direction for the future. It did turn out to be absolutely right, and it totally transformed the architecture profession. Design fields. But, in those early days people thought it was insane. And if it wasn't insane, it was dangerous. And going to destroy the cultural traditions of architecture. And so, I used to give lectures. And people would literally stand up in the audience and yell at me. I mean, it was really that contentious. It's hard to imagine now, that. So that's, and I went to UCLA in order to pursue this as a very young faculty member. Because it was a new school that was starting out. And it was trying to move in some new directions. And it chose this area as one of the directions it wanted to emphasize. And so I jumped on that opportunity.

INTERVIEWER: Must be the Hollywood influence, somehow.

MITCHELL: Well, there is a Hollywood connection between, there is a connection between the sort of Hollywood and computer aided design. And UCLA, it's, I think it was, I think it must have been Nathaniel West who said, UCLA is Hollywood's version of a university or vice versa. Right? And I loved UCLA, it's a great place. That admixture of Hollywood glamour and showbiz is actually a very important part of it. And I've always enjoyed it. But, you know, well, let me give a little quick history of the whole field of computer aided design and computer graphics. And a little, sort of two minute history. It was actually invented right here at MIT. By Ivan Sutherland, and he did it in his doctoral dissertation, and dissertations actually can change the world. Ivan's dissertation certainly changed the world. He developed the first interactive computer graphics system. It was called Sketch Pad. This was about 1963. And it was a, he made a little movie about it that was enormously influential.

And things went off in a number of different directions. One was the direction of computer aided design. Which he very much had in mind. It was the idea that you could work on a computer as a design medium. The other direction was computer animation. Which was the idea that instead of Disney style animation, with wonderful old craftspeople making drawings by hand, you'd generate three-dimensional characters. And that took longer than people expected, to actually come to fruition. But it led to places like Pixar, and movies like Toy Story and of course it's impossible to imagine the movie industry now without computer animation and computer special effects. So it actually was very important in Los Angeles, in those days. That the movie industry that had deep pockets was actually, sort of, pushing money and interest into this whole field. And architects are penniless. Architecture, architects can't support anything much, really. So it requires something else. The real development of this field, the investment that led to the development, came out of the movie industry. And it came out of the automobile and aerospace industries. Which are of course very different in their structure.

INTERVIEWER: Are there other ways that you feel you've contributed to the field of architecture?

MITCHELL: Well, you know, I think architecture's a very, very complex field. And if you're around in the field for a long time, as I have been now, and active in the field, and able to have some level of influence, I think it tends to be a fairly diverse kind of thing. So I've been engaged with, the whole computer aided design. And that morphed into computer fabrication, and whole new ways of thinking about building. I've been very much concerned with the way digital networks affect cities. The way that cities develop nervous systems in the end, and how that affects the functioning of cities. I wrote a book back in 1994, I think, called *City of Bits,* which really, it was very early for thinking about this kind of thing. And laid out that, laid out that idea that cities were going to be radically transformed by digital technology. And a lot of my research has been involved with that.

Interesting story about that, to put it in sort of temporal context: I was working on the draft of this, and I was having lunch one day with Mitch Kapor. Mitch and I did some teaching together. And Mitch, as you know, was a founder of Lotus. And knows a thing or two about digital technology. And he said, come back to my office, I want to show you something that I think is going to change things. And it was the first browser, it was the first prototype of Netscape, or whatever was the predecessor to Netscape at that point. And we kind of looked at it together and said, actually, this is going to change things a bit. So I went back and started rewriting the manuscript. At that point. So that book came out more or less exactly at the moment that people were understanding this concept that was starting to emerge, the World Wide Web, right? Which had actually come together from a bunch of different sources. And it was built on top of the ARPANET, which became the internet, and then Tim Berners-Lee, doing basic standards and infrastructure. And then browsers making the interface. And then a little while later, along came search engines. And so on. So it was one of those moments where a lot of technologies were converging. And that opened up something that I thought was very, very important. And interesting, interesting to pursue.

Then, more recently, I've been working on other aspects of urban networks. A lot of my recent work has been dealing with mobility systems, and reinventing the automobile, and reinventing the way people move around cities. In clean, green, intelligent, sustainable ways. That turns out to be timely at this moment, too.

INTERVIEWER: It must be interesting to sort of recognize a new direction at a moment when most people don't see it.

MITCHELL: I think one of the most important things in research, and one of the most important things if you care about technology as a social force, as a way of transforming human life, is to try and keep focused on what are the really important issues at a particular moment in time. And what that means is not only are they issues where a big problem needs to be solved, or a big improvement in human life can be made by pushing in a particular technology direction. But the timing also has to be right. So, typically it means not just one technological breakthrough, but normally it means a convergence of technologies coming together, that create an opportunity to respond to something that's socially and economically and culturally important at that particular moment. And you need to recognize how all the pieces can come together. And how something really important can happen. And I think over and over again, we've seen this in the history of MIT. We've seen those sorts of convergences. And that sort of impact. Sometimes has to do with luck, too. Sometimes you think, wow, I'm interested in this stuff, and wow, actually the moment is right to do something about it.

INTERVIEWER: So, let's talk a little bit about MIT. How did you wind up here?

MITCHELL: I wound up at MIT pretty much by accident. I had been teaching for a number of years at the Harvard Graduate School of Design, just up the road. And I was very happy there. Had a nice chair, I had great students. It's a great institution. Wonderful design school. So, I had, I wasn't unhappy, I had no intention of leaving. Then one day, completely out of the blue, Mark Wrighton, who was provost at the time, called me up and said that the School of Architecture at MIT is searching for a dean. And, would you be interested. And I said, no, no, I don't want to be a dean. The best job in academia is to be, you know, a faculty member. Doing research. Doing design work as I was. Having a good group of students. Teaching things you want to teach. Why on Earth would anybody want to take on this sort of task? I had no interest in, sort of being a dean in itself. Struck me as actually not an interesting thing at all. But Mark was very smart. And he was right, actually, as it turns out. Said, well, look, this, is the moment in the history of the school. And in the history of the Institute, where there are going to be opportunities to do some really interesting and exciting things and really have an impact. And why don't you think about it? So I said no a couple of times. And Mark kept saying, yeah, let's keep talking about this.

And eventually he convinced me. And he was absolutely right. And I never regretted it. It was a great move for me to do this. It was a moment when the school needed some rebuilding. I mean, really, really needed some rebuilding. There hadn't been a lot of investment in it for a long time. And this is difficult in a field like architecture and planning, where we don't have rich alumni, and all of these kinds of things. The physical conditions of the school were in absolute shambles. It was absolutely a slum. In fact, a lot of MIT was kind of a slum at that point. And so, I saw the opportunities. And took it on really as, I had a pretty clear sense of the things I wanted to accomplish. And that I wanted to do it in a finite timeframe. And then I'd want to go back to being a researcher. And being a designer. So, that's what I did.

INTERVIEWER: So, you were at Harvard and then UCLA. What were your first impressions of MIT when you got here?

MITCHELL: You know MIT when I first got here, was of course not an unknown quantity. It's a place that has an enormously high profile in the world. And has an image in the world. Actually, of all major universities, probably has a stronger and clearer profile in the world than any place I can imagine. That people know about it. Not only do they know about it, they kind of know what MIT does. And they know that, you know, it produces people who are mathematically literate and have amazing technical skills, and good scientific grounding, and all of these kinds of things. So, I sort of knew what MIT was. I had a lot of friends here. Particularly in the Media Lab. Nicholas Negroponte, who was the founding director of the lab, is an old, old friend. I've known Nicholas since the late `60s, when he was a freshly minted assistant professor of architecture. And I was a graduate student at Yale, still. Steve Minton, in the media arts and sciences program, was a very good friend before I came anywhere near MIT, really.

So it was a place that was actually very familiar. I knew the intellectual profile. I admired it intellectually, enormously. I was a bit shocked at, when I started to really look closely at it, at kind of what a physical mess it was. That, you know, really, there'd been a couple of decades of building really mediocre buildings across the campus. There were a lot of things that just hadn't been maintained. What's essentially a fabulous campus organization of quadrangles and corridors and so on, had just become a kind of mess of parking lots, and service areas and that kind of thing. So that shocked me, that a place so, you know, so extraordinary and with such a place in the world, was, and in fact with such a great architectural tradition, going back to people like Oliver Alto, had allowed himself to get into such a condition.

INTERVIEWER: What a wonderful transition to start talking about the revitalization program that you were such a big part of. How did you come to be that sort of, the advisor to Charles Vest?

MITCHELL: You know, the whole revitalization of the campus was not something that I expected to be involved with. And I think it was not something that Chuck Vest really imagined was going to happen. Opportunities to do something like campus revitalization come in cycles. Firstly, the money has to be there. And the demand for space has to be there. So, there has to be a reason to build buildings. And the kind of moment has to be right. And when I came to MIT, it was not with the explicit intention of working on the revitalization of the campus. But a couple of things started to happen. There's a little, actually very nice, building over on Vassar street now. It's called the Bill Dixon Cogeneration Plant. And after I'd been here for a year or so, the cogeneration plant was being designed and built. And somebody happened to show me a set of drawings of the building that was going to be wrapped around the cogeneration plant. Because, you know, all the money in a cogeneration plant is in the plant, it's not really in the building that wraps around it.

And I looked at this, and I was absolutely horrified. It was just a horrible, horrible building. And it was done, I think, by the in-house architects or the engineers or something like that, I'm not even sure who did it. So I was just outraged. And I kind of threw a fit, and went and talked to Chuck, and went and talked to Bill Dixon, who was the executive vice president at that point. And said, we can't do things like this. I mean, we've just got to do something better. And so, they listened. And we went through a process of rethinking the project. Bringing in Harry Ellenzweig, who's a very, very good local Cambridge architect, to take over the project. And do what turned out to be a little gem of a building, which is the building that eventually got built. Very transparent building. On Vassar Street there, that makes the plant visible and that sort of thing. And that, I think, kind of sparked an era of taking architecture much more seriously. Meaning, you know, I think, I'm sure if I hadn't just thrown a giant tantrum, basically, about this thing, things would have gone on the way they had been for a while.

And then opportunity started to emerge fairly soon after that. It became clear that there was going to be a lot of building on campus. There was going to be one of those moments where it could potentially be a transformative moment, because a lot of buildings were going to get built. And I talked to Chuck, and we saw very much eye-to-eye on this. When you have one of these transformative moments, you want to take advantage of it. You don't want to do it in a mediocre way, it's a once in a generation, once in a lifetime kind of thing. So you want to do it absolutely at the highest standard possible. And I think this is a cultural responsibility of great universities, anyway. To be leaders in the field of architecture. Be the leaders in the field of urbanism. And if we don't, who's going to do it, right? We really, we really need to do this.

We should not think of architecture as, you know, just acquiring space like ordering up office supplies. It's-- building is a statement of who you are. And it's an expression of your values. It's a process that engages the community and becomes a kind of definition of what the community is. And we should, furthermore, we should no longer, we should no more, accept mediocre architecture than we'd accept mediocre physics or mediocre mathematics. I mean, it's not part of our value system. We wouldn't do it, right? And of course I feel the same way about architecture.

So. It became, you know, really it became clear that, that's the way we wanted to do things. And Chuck was terrific. Really, he asked me to take on the role of architectural advisor. I did it because I knew he was receptive and very smart, and would take good advice. MIT has traditionally not had this role. Pietro Belluschi, who was one of my predecessors, great predecessor, long ago, did play the role of architectural advisor for a while. Traditionally, the campus has not had an architectural advisor. And doesn't have one now, incidentally. So.

INTERVIEWER: Now, why do you think that an institution that has a school of architecture would not pay that much attention to it? In their own backyard?

MITCHELL: Well, you know, it's easier and less trouble just to do commodity buildings in the simplest and most straightforward way possible. Just, to not take any risks. Not put a huge amount of effort into the process. Delegate it to, as a kind of, service task. Or a kind of administrative task, just to supply the space that a campus needs. You know, large institutions like this are fundamentally risk averse. And building is risky business. There is no way out of this. It's a risky business. It's easier if you don't try to innovate. If you don't take any risks. If you don't have very high cultural aspirations. So that's the default condition. And most institutions are like that. That's why most university campuses are architecturally mediocre, right? And so it's just a default condition.

INTERVIEWER: Do you think here, in particular, the influence of science and technology caused people to, sort of, think of building as more of a functional task?

MITCHELL: Well, there's no contradiction between being functional and doing great architecture. In fact, on the contrary, the more deeply and carefully you think about function, and engage people who really know about the uses of building in the process, the better the architecture is going to be. But I think a whole lot of people at MIT just don't think about architecture. I mean, it's not like they're hostile or Philistine or anything, but it's just not in the core of their interests. So, it's a place that, I think, does need to have architectural culture really vigorously represented. And does need leadership. I found people are actually enormously responsive to high architectural ambitions. To sophisticated thinking about architecture. But you have to lead them into it. You know, it's a place that responds to argument. It responds to evidence. It responds to, certainly has high standards. So if you kind of lay out the issues to people, you build up a lot of support, I think. But you have to do that. It's absolutely crucial.

INTERVIEWER: So, some schools, if they were going do a big revitalization, spend a lot of money, would look to have a sort of similarity to the buildings that were built. And MIT took a much more creative approach. Can you tell me a little about how that criteria was developed?

MITCHELL: Well, if you look at the history of campus design in the United States, it basically begins with Thomas Jefferson. And Thomas Jefferson was a great architect. He would have been remembered as a great architect if he'd never messed with politics. He was extraordinary. So, the University of Virginia is a great prototype. And, and there are a bunch of other historical roots of all of this, too. But there has been a tradition of thinking about American college campuses that demands kind of consistency of style and materials. There are a lot of reasons for that, it's a big, complex discussion we probably don't have time to go into now. One of the reasons is, kind of, branding reason. And this sounds very crass. And universities don't like to hear it put in these terms. But, in fact that's a large part of it. You know, think of the image of Yale, for example. With its neo-Gothic quadrangles. And they're wonderful neo-Gothic quadrangles, by the way. That's part of the brand of the place. It's part of the image of the place. And very carefully tended to. Think of Harvard, with its red brick and, so think of Princeton.

So, universities use that for branding. And if you're going to preserve a consistent brand and identity, you kind of need to do that in some sense. I think there are more creative ways of handling the issue, but still. That's the argument. And also, a lot of institutions, like the Ivies, for example, part of their branding is, you know, 400 years of tradition. But that's not MIT. MIT is not about 400 years of tradition. It's, I would say, more about inventing the future. MIT has always been a diverse, heterogeneous place. A place that's been an upward mobility path for bright kids from blue-collar families. A place where kids from migrant families could come. A place where we'd hire outrageous people who couldn't get a job somewhere else because they were too outrageous, and then they'd do something brilliant at MIT. And so that heterogeneity and that sense of constant invention, and that sense of looking towards the future, I think, is very much what MIT is about. So, the whole business of imposing some sort of spurious visual unity on the thing, on the place, would seem to me to be totally wrong. You know, just absolutely wrong.

Also, just from a pragmatic point of view, needs change. Technologies change. Ways of building change. So it's awfully difficult to stuff 21st-century functions into, you know, Renaissance or Medieval forms. You can do it, if you're clever, but it's, just, it's a kind of strange mismatch that you don't necessarily want to engage.

So there are very good reasons for taking a more heterogeneous approach. A cultural reason, too, is that cities are not unified things. Cities are heterogeneous, complex places where, really, each generation that contributes to the formation of a city is adding to a conversation across the generations. Responding to what previous generations have done, and making, adding their response to it. And then some other generation will come along after them, and add that response. That's what makes great cities. You know, wonderful. That's what makes a city like London or New York such a fabulous place. Why cities that are all designed, all at once by some master architect, usually a national capital or something like that, in a uniform style, are absolutely boring. Absolutely completely boring. So, MIT is an urban institution. It's part of the city. And I've always felt it ought to have the heterogeneity and complexity, and that sense of an ongoing vital, experimental questioning, critical sort of dialogue, or discourse across the generations. That seems to be the right way to do it. And this idea of a, kind of, spurious, intellectually vacuous unity imposed on things, is, I just think completely wrong.

Furthermore, in many ways, the kind of nostalgia that that represents, nostalgia for a kind of golden ages that weren't so golden, so, well I'll name some names. So Princeton building in sort of traditional architectural styles, harks back to a supposedly golden age. When in fact there were no women. There were no black people. There were no Jews. Right? I mean, that's not a golden age.

INTERVIEWER: They're pretty buildings to look at, though.

MITCHELL: Well.

INTERVIEWER: Unlike Gothic architecture.

MITCHELL: I have absolutely nothing against the great Gothic campuses. Yale is an absolute masterpiece. The University of Chicago is an absolute masterpiece. They were done by great architects who knew what they were doing, and in fact were doing something new when they did it. What had been done on those campuses before that, well, there wasn't anything at the University of Chicago. But before that, they were adding their generational intervention into the whole process. And in many ways, that made sense at that point, but...

INTERVIEWER: It was, to me, it's one of the only ways in this country to bring a little bit of a European feel. There aren't many places where you can get that sort of ancient feel.

MITCHELL: Yeah. I think the strength of American universities is not, in fact, in harking back to Europe. The universities are a long tradition, and tradition is important. But what's always been important in American universities is in fact intellectual reinvention. Taking a new path. Making it new. And so, I think, I don't regard, sort of, nostalgia for Europe as a particularly important thing to pursue. You know, there are some genuine connections in some of the older Ivies. Sort of, back to Cambridge and Oxford and that sort of thing. So that's, I think, makes some sense. But if you look at MIT, if there is a European connection it's much more to the polytechnic tradition. And that's a whole different kind of thing. You know, I like the, like the spirit of invention. I like the spirit of making something that comes out of a cultural mix. Out of an immigrant, diverse immigrant society. If you look at most of our student population now, the roots are not so much in Europe in any case. So, I'd much rather see something that reflects that, that condition of the early 21st century, where you have an extraordinary community of people who've come together from all over the world. The strength of it is the cultural -- well, one of the strengths is the cultural diversity and complexity. And I think the architecture should reflect that.

INTERVIEWER: So going back to the revitalization, how did you arrive at, or how did MIT arrive at the criteria that was used to award the design contracts?

MITCHELL: For each project that we did in the revitalization of the campus, we thought extremely carefully about the, who would be the right architect to respond to the particular set of conditions. The particular requirements of the context. And the particular kind of discipline, and, sort of subculture that was being addressed. So, the set of architects we ended up with, you know, it's very diverse. They're very different, different kinds of architects. And I think that's a, that's a plus, too. So, for example, in doing the athletic center, we asked Kevin Roche to do that project. Kevin, great architect, Pritzker Prize-winning architect, one of those things that probably most people don't know is that as a young architect, he'd worked with Eero Saarinen, and Eero Saarinen, of course, was the architect who did Kresge and the chapel, and in fact developed a design for that whole quadrangle there, that was never fully implemented.

So it seemed to make enormous sense to ask Kevin Roche to come back-- he's quite old now, towards the end of his career-- to help complete the quadrangle. Something that he'd been engaged in, right at the beginning of his career. And I think that worked out very well. He, you know, Kevin Roche at this point in his life had nothing to prove. And so he was very mature and sophisticated architect. He was somebody who could do a background building, which the, the athletic center really is. It's completing the quadrangle. And making a background for, you know, the wonderful buildings that Saarinen did. The Kresge, Kresge Auditorium. And the, and the chapel. It was very different down the street, down Vassar Street, when we did the new residential building that Steve Hall ended up doing.

INTERVIEWER: Simmons Hall?

MITCHELL: Simmons Hall. Simmons, firstly, is a piece of urban pioneering. I mean, we're opening up an area along the edge of Vassar Street that had been an old, decayed, industrial area. So it was important there to have somebody who could, in a very tough way, unsentimental, tough way with a lot of urban understanding, could make a building in that kind of context and start to effectively put a stake in the ground and say, this is now becoming part of MIT. It's no longer this old industrial area, but a part of the residential life of MIT. That requires a particular kind of talent, and particular kind of architectural orientation. Steve Hall, I think, did a masterpiece. He did a sort of wonderful thing in doing that. We were also very interested in making a challenging building that raised critical questions about, what does it really mean to live as part of a university community. You don't want to build a motel, right? I mean, it's being part of a university community is a particular kind of commitment about your life. It requires you to think about who you are, and how you want to live and that kind of thing. So I knew that Steve was an architect who had that kind of critical view of things. And would make something challenging. And powerful in that kind of way. So, we went with him on that. And it's the same kind of story, I can go through them with the other buildings.

INTERVIEWER: I actually want to ask you about the other buildings. Because it's interesting to have a little bit of a story of how the building, or how it came about. Or why it's unique to the university. So, what about the brain and cognitive sciences building?

MITCHELL: The brain and cognitive sciences building was, it's a building done by Charles Correa, who is an alum, by the way, of MIT. And he's probably the greatest and best-known architect in India. He also happens to an old friend of mine. I've known Charles and admired him for a very long time. This was a building, firstly, that had to accommodate very complex technical requirements. It's a wet lab building. These are very complicated to do. They have a lot of technical requirements. They have to accommodate things like animal facilities, in addition to the labs that you see. You never see the animal facilities, by the way, because they're always very discreet, for all kinds of, all kinds of reasons that you can imagine. It had to accommodate, actually three different academic units in something that had, gave identity to the three units. And also had some sense of coherence, and overall unity to the thing. It all had to be built over a railroad track. That was the site. And it had some donors who are very smart people with very strong ideas about what the whole thing ought to be. So it was an incredibly tough problem.

And I knew that Charles Correa was an architect who could solve all of that and make it look easy. He's an architect of immense skill in doing these kinds of things. And an architect of immense humanity, who wasn't going to get lost in all of the technical detail, but was going to think of the, think of the place as a community. And was going to find some clever way of pulling it all together as a community. Which he did. He did a brilliant scheme. He does make it look easy, so it's easy to miss this. But instead of making three separate buildings connected by bridges or something, which would have been the obvious thing to do, and some early design studies pursued that direction, what Charles did was say, well, we can bridge the railway line with an atrium. So it raises up a floor. Make a community space, kind of village green, in the center of the space, or a piazza outside in the center of this space. And then arrange the three, the three units, around that. And spanning the railway line.

And then, so happens that this building is built, the logic of wet lab buildings is they're kind of big fat rectangular things. Because that's just kind of the way they have to be, for technical and economic reasons. And usually they come out a big fat ugly things, because of that. What Charles realized is, this kind of rectangular logic had to go within a site that wasn't rectangular at all. It was an odd-shaped site. So an economical way to do things would be to put these rectangular chunks of space within that. And let the space at the edges, between the kind of big rectangular chunks, and where the street came, be social space. Be space for tea rooms, and lounges and libraries and that sort of thing. And that would also break down the scale of what in fact is a massive building. So that it would fit into its context in a way that really made a lot of sense.

So this is all easy to explain at this point. It's a nice easy story to lay out. In fact, it was a brilliant synthesis. And it takes a master architect to do something like that. And make it all look easy. And did achieve all of those goals, I think, very, very, powerfully. It also had to deal with one other thing. It was being across, it was being built across the street from a Frank Gehry building, right? So, Frank Gehry is, in some ways, exactly the opposite kind of architect to Charles Correa. Frank is a kind of flamboyant, improvising, incredibly creative convention-breaking sort of cowboy architect from California, right? Now, you can't out-Gehry Gehry. Right? If that sort of game is going on one side of the street, you need a different game on the other side of the street. So, I kind of think of it, and, you know, the normal urban design response, or a typical, I shouldn't say normal, but a kind of typical urban design response would be in fact to try to make two similar things on different sides of the street. And we have lots of examples that in Boston.

A much more interesting response, and it's really the response that Charles took on was to think of it, think of it like a tango. Right? So on one side of the street there's one partner, who's performing one role. And dressed in a particular kind of way. And on the other side of the street, that will be the male partner, I guess, in the very formal, formal dress and providing a kind of foil to the, the sort of flamboyance of the, of the other partner. So, it really, from urbanistically, very consciously, it is that kind of dance. And I knew, I know Charles well enough to know that that was the way he was going to think about it.

INTERVIEWER: So, tell me about the Frank Gehry building.

MITCHELL: Yep, yep, yep. Well, the Gehry building, so it's interesting that the Gehry building is known as the Gehry building. And Frank has become such a kind of international superstar as an architect that his buildings get referred to as the Gehry building, right, instead of, instead of something else. Frank Gehry as an architect, I've known just about forever. I, some time, late sixties or early seventies, I first got to know him. And he's an architect who has always been intensely admired by the avant-garde. I mean, if you, for decades, if you ask young architects who they really admired, it'd be Frank. Incredibly charismatic, inventive figure, who's gone through a lot of different phases in his career. Opened up a lot of, a lot of interesting ideas. And so, there's a real inventiveness to him that's enormously important. And then, strangely enough, completely unexpectedly, to him, and, I think, to everybody else who knows him, late in his life became this kind of international superstar and the general public knew of him. And it happened because of one building he built, the Bilbao Guggenheim. And that generated enormous fame and made him into a kind of rock star. In his mid-seventies. It's not everybody who gets to be a rock star at that age, basically. Anyway, that's Frank.

The thing that's always distinguished his work has been sort of critical inventiveness. Taking on a problem and not accepting the standard solutions. Not accepting the received wisdom, but always being prepared to say, okay, let's step back and examine the assumptions underlying this. Let's think critically about this. Let's see if we can come up with something that's not just new for being new for its own sake, but is really going to move us forward into a fresh way of thinking and a fresh way of inhabiting buildings. And a fresh way of working. So, that fits together very, very nicely with the culture of ECS, and with linguistics and philosophy. And, you know, all of the great units that are being accommodated in that building. And the other thing that was needed was some real social thinking. How do you make a real community and a the place of social interaction out of all of these pieces that have actually been scattered around the campus and off campus as well. How can you pull them all together and create a place where they'll interact. Where people are, and it's going to add up to a community that's more than the sum of the parts. This has always been the core of Frank's architecture. The general public knows him as somebody who's amazingly, formally, inventive. You know, makes funny shapes and that sort of thing. That's actually the least important thing about Frank's architecture. It's very visible that, the most important thing is he thinks about how you can make a community. How people work together. How people interact socially, and so on. And that's really what I wanted him to bring to it. So, we started out on the selection process of the project. And we went through a very classic process. Because we needed to have all of the stakeholders involved in the process. So there'd be buy-in, and all of the things that you want to get. And the committee doing it, constructed a very long list of architects. And I added Frank Gehry's name to the list. And they said, okay, fine, as a sort of indulgence. We'll let you add, since it's never going to happen. So we added Frank's name to the list. And then, did our homework. The committee did its homework very well, and went and looked at the work of various architects. Traveled around, and interviewed people. Looked at publications and magazines. And they got a short list. And Frank was on the short list. And then we went through some more homework. And it came down, in the end, to two very, very fine architects. Frank Gehry and Harry Cobb, who's a wonderful architect. He did the Hancock Tower here in Boston. He did the courthouse, the Federal Courthouse of Boston. And he was chair of the Architecture Department at Harvard. And Harry's absolutely terrific. But I would say represents elegantly done, well worked-out, fairly traditional approach to the thing. And whereas Frank was going to do something unpredictable and going to break the conventions, and there was very, I would say evenly and passionately divided opinion on the direction we should go in. And it ended up on Chuck's desk. On Chuck Vest's desk. And Chuck asked advice for everybody, from everybody. And went away, and made the decision.

Bill Dixon, I think, too, had a lot to do with that decision. Because I think we all relied on Bill's judgment enormously. And he's a wonderful old MIT character who loved the Institute. Knew how to get things done. Knew how to get things built. And Chuck asked Bill Dixon, is this going to be possible? Are we going to get ourselves into deep trouble, or are we going to be able to pull this off? And Bill said, I believe, I wasn't part of the conversation, yeah, go for it. So.

INTERVIEWER: So, what are your thoughts about the problems that the buildings had, and the lawsuit, and?

MITCHELL: Oh, this is ridiculous. And, you know, when you do a building, a big building, firstly you build your prototype. It's not like automobiles or airplanes or anything like that. You build the first one and then people live in it. And so, there are always going to be a few teething problems with a big complex building. Particularly in an innovative building. Because, you know, you try some new things. For good reason, I mean, you don't take gratuitous risks, but you try, so it's an innovative, ambitious building. It's like a piece of software, too, by the way. You have to debug a piece of software when, you know, you develop it. So, there was a little bit of debugging to be done on the building. No more than I would expect. In fact, less than I would normally expect.

But because Frank is such a high-profile architect and because it's an extremely innovative building, people make much more out of these sorts of things than they would with a, you know, mediocre standard building. And also, I don't know what happened. It wasn't privy to the discussions, and I don't know exactly what happened. But on large building projects, it's very, very common to get a few technical problems. It's very difficult to sort out where responsibility lies. Whether it's the architect, whether it's the general contractor. Whether it's the subcontractors, whether it's the material suppliers. Sometimes it's a combination of these things.

Normally those sorts of things-- and they're extremely common-- get sorted out rationally. Very low-key, behind the scenes by negotiation. And somehow that process broke down. And I don't know how. In the case of, in the case of this building. So, a lawsuit is absolutely the worst way to solve these kinds of things. I cannot imagine how MIT got itself into a position of being involved with something like this.

INTERVIEWER: The last building we haven't talked about is the Media Lab building.

MITCHELL: Yes, yes, yeah. The Media Lab building is done by Fumihiko Maki, who's a very great Japanese architect. Who interestingly enough, though, this had nothing to do with the selection, really began his architectural career right here in Cambridge, Massachusetts. He was one of the first young Japanese architects to come to the United States to do graduate work after the war. Maki, in his late seventies or early eighties at this point. He, you know, he grew up in Tokyo before the war. Has wonderful poetic memories of Tokyo being a city with unpaved streets and no street lighting, and wonderful. Wonderful kind of things. So, anyway he did his graduate work at Harvard. And then he worked for the Boston Redevelopment, Redevelopment Agency. At some time. So he knows, he knows this place very well. And it's part of his, sort of personal and intellectual and cultural formation. But anyway, he's an architect who's done an immense amount of work around the world. He's been very prolific. I describe him as kind of an architect's architect. All architects admire Maki. If you ask, you know, a lot of architects, who do you really admire, who do you think you have a, has astonishing skill and finesse, a lot of architects will say Maki. I certainly would put Maki right up in the very top of my list of world architects. He's not flamboyant. He does things with refinement and subtlety and finesse.

And that's what the Media Lab building is about. It's an extraordinarily elegant, beautiful building. He does something that people haven't seen yet. But they will when the building opens. He tends to do buildings that are quiet and elegant on the outside, like a good Italian suit, let's say. And then explode with space on the inside. With all sorts of things happening in section and light coming in in amazing ways. And so you enter these buildings. And it's a sudden revelation. And it has to do the kind of attitude towards urbanism that says, you don't want to scream and shout in the streets. This is the way, I think, Maki would put it. But you want to be discreet and quiet in the street, and then when you move into your own space, then you know, then you can move into a different mode.

So I knew from the beginning that we initiated that project. And Nicholas Negroponte and I did initiate that project. I was dean of the School of Architecture and Planning at that point. Nicholas was director of the Media Lab. And we decided we needed to do a new building. So we initiated the project, started the fundraising. Convinced people at MIT that the building should go ahead. And so I knew from the beginning we wanted Maki on this one. So there wasn't a the selection process, like on all of the other projects. I just said, we want Maki.

And MIT people said, well, call him up and say we want him to do it. And I said, actually, you don't quite understand. You don't approach Mr. Maki that way. You fly to Tokyo and you say, Mr. Maki, would you be interested in doing this building. He's a, you know, world famous architect. A sort of cultural icon in Japan. Has more work than he can possibly accomplish for the rest of his life. So you have to convince him that doing a building at MIT is really going to be worth his time, and something wonderful is going to come out. And we have to promise him that we're going to do it right. That we're not going to mess around with this. That we're just going to do, the goal is going to be to do a great building. And so, everybody bought into that.

Maki, also somebody I've known for a very long time, was delighted to do the project. And when I asked him to do it, he went and found a little drawing and showed it to me and said, when I was a graduate student, I was invited to a fancy party in the penthouse on top of the apartment buildings on Memorial Drive there. Right next to the Media Lab building. And I made a little sketch looking back over the MIT campus. And he pulled out this sketch. It was exactly the site for the building. So, we all said, well this has to be, this is absolutely clear that this is the way it needs to go.

There was another very practical thing. It's a very constricted site. There's not much space on the site. And one of the major goals had to be to elegantly, but nontheless do it, jam as much usable space on the site as possible, to make use of every square meter of the site. Maki is a Tokyo architect, and he really knows how to do this. And, which he did. It absolutely uses the site to its maximum capacity. So, as with all of these projects, I think from the conversation we've had, you can see there's a different set of circumstances for each one. And you're always looking for the sort of magical mix of the, you know, what are the circumstances of the project. And who's the architect who's going to make the, sort of, right response to the context. So, this building's come out wonderfully well. I was worried about whether we could get it built right. Because Maki designs things like, they're going to be built like a Lexus. And the American construction industry tends to build things like a Chevy Nova, right? So there's a significant difference. And I had a great deal of worry about whether, in fact, the American construction industry was going to be able to realize Maki's vision. But, also, and this building's part of the School of Architecture and Planning. And I really felt very strongly that it needed to represent very high standards and high aspirations in detailing and construction. And all of these sorts of things. So, of all of the schools, if, you know, I really felt we needed a building that sort of raised the bar. And, I must say, so far, and it's mostly built now, the contractor has done a great job. It looks terrific.

INTERVIEWER: So when you think about when you first got here, and sort of the architectural look and condition at MIT. And now with all of these, all of the buildings related to the revitalization, what difference do you think it's made to MIT?

MITCHELL: I think the new buildings made an enormous difference to MIT. Firstly, just, at sort of a basic level of improving the quality of everyday life for a very large number of people on campus. Which is really the bottom line. I mean, the bottom line is not to build architectural monuments, or to express the ego of great architects, or something like this. The bottom line, always in architecture, but particularly in this context, is how can you improve people's daily lives? How can you make their working conditions better? How can you make their living conditions better? So we've built a huge volume of new buildings. And I think we can certainly claim to have done that.

Not just in the obvious ways, but in some less obvious ways, too. I tell a little anecdote to illustrate this. One of the things in the Stata Center that's an important feature is a childcare center. Now, this is a social innovation. A decade or so ago, putting a childcare center in an MIT lab would have been a, just, un-thought of thing. So it's very important, both as a practical thing and as a kind of statement of a new set of values. And a new direction for MIT. And a recognition that it's a different kind of community and different kind of population than existed a couple of decades ago. So there's a childcare center. That changes the atmosphere of the student street at Stata. Because you have little kids running up and down there, right? You don't see them elsewhere at MIT. And it makes it a much more human, humane, interesting kind of place. One day when I was walking into Stata, just after it, it had been in operation for a little while, Jay Kaiser, a prominent member of the linguistics department, sort of came and grabbed me on the shoulder. And I thought, oh, here's one of those terrifying members of the linguistics department, going to complain about, complain about something. And Jay said, when I look out my window, now I see children playing. And that's changed my life. Right. And fantastic. I mean, what could be better than, what could be better than that? So, it's not just accommodating people, but also changing the way they think about their daily lives. And the opportunities and the experience of their daily lives. So we've done that.

I think, also, it has been important to represent the spirit of architectural innovation and critical, critical exploration about new possibilities of architecture. And I think that has changed the image of MIT out in the world. It'd had got to the point where it was not thought of as anything like a center of architectural innovation, even though there were some great things in the past. But, you know, it's certainly, I think we gave a lead to other campuses who've become much more adventurous. You know, we showed it could be done. And that it didn't all explode in flames if you did something like this. So, a lot of other campuses have become much more adventurous. And I think we've made an urban contribution, too. And this is very important. A campus is not an isolated monastic institution. Maybe it was a few hundred years ago, but it's not now. It's part of the city. It needs to make a contribution to the urban fabric. And I think we've succeeded in doing that. So, I think a lot of things have been accomplished by doing these buildings.

INTERVIEWER: So when you think about the other buildings at MIT, and some of them, you know, got, like, IM Pei, and then you've got some more functional kinds of structures around, what do you want to see in the future, for architecture here?

MITCHELL: What I'd like to see in the future in architecture at MIT is a continuation of what I think has been a great tradition at MIT. Sometimes interrupted, but fundamentally a great tradition. The initial buildings, by Wells Bosworth, are fabulous buildings. I mean, they're great, old, the old main complex. Are just terrific, strong, wonderful innovative buildings of their time. The building was done by Oliver Alto, Baker House, is a great masterpiece. It is probably the best building in Boston, still, I would argue. It's an unpretentious building. It's not some big monument, but just the deep humanity and the wonderful thinking about architecture that's in Baker House is quite extraordinary. So, MIT did that in the immediate postwar era. MIT did the Saarinen buildings a little bit later than that. So there's been a long tradition of innovative, adventurous architecture. And I'd like to see MIT continue that tradition. And the tradition of, this kind of heterogeneous continually inventive and challenging, kind of, discourse across the generations, I think is the way we ought to think about it. And I certainly hope we don't slip back into, you know, what I've described as the default condition of just doing fairly mediocre buildings because it's easy and less trouble and less difficulty.

I would say, by the way, that it's not correct to describe some of the less-good buildings as functional. They're not functional, in fact. Bad architecture is not functional. Horrible double-loaded corridor environments, with kind of crummy spaces off them. Not good working environments. Not good socially. These are not buildings that are easy to maintain. They're not sustainable. I mean, they're just bad buildings. They're not, they're not functional. So, the idea that somehow doing things at absolutely minimal first cost and doing repetitive, clunky buildings is functional, I think is absolutely wrong. What's functional is to really care about people and the way they live their lives. Be really sensitive about responding to what they really need personally and socially in their everyday daily lives. To be sustainable. To build buildings that can be maintained over the long term without falling apart, and without excess energy cost and so on. To respond responsibly to urban context. These are the things that are really functional. Cut-rate, mediocre buildings are not functional.

INTERVIEWER: I'd like to go back to your, to talk a little bit about the School of Architecture and Planning. What contribution do you think that school makes to the university?

MITCHELL: The School of Architecture and Urban Planning is a unique institution in the world, nationally, and within MIT. It was the first school of architecture, or the first architecture program in the United States. So, it has a long tradition of being at the core of architectural discourse and architectural education in the United States. So, it has played that role from the very beginning, and continues to play that role. So that's important. I mean, architecture is a fundamental discipline. It's not just a profession. It's a humanistic discipline. If you go back to, for example, Roman times and the great Roman Latin author on architecture, Vitruvius, he defines it as a humanistic discipline. In the Renaissance, people like Alberti and Palladio defined it as a humanistic discipline. And I still believe it's that.

So it's an interesting combination. On the one hand, the technical and technological foundation to architecture. And at the same time, it's a profession. I mean, we prepare people for professional practice. And it's a humanistic discipline in the same sense that history is a humanistic discipline. Literature is a humanistic discipline. So it plays that intellectual role within the university. And I think this is fundamental to the intellectual and cultural mix of a university. That architecture be represented. I think a university is incomplete if that, it's like not having a literature department. I mean, just the place is incomplete. So that's one role it plays.

There's been, I think, a kind of unique role in architecture at MIT that's different from every other place that I know. It takes advantage of being in the context of a great scientific and technological institution. And it's very multidisciplinary in the spirit of MIT. So, many of the great architecture schools -- Yale, where I was educated, for example. Harvard, where I taught for a long time, are fairly isolated, self-contained kinds of places. I mean, Harvard has this slogan about its schools, every tub on its own bottom, right? And that's both good and bad. But, anyway, MIT is different. I mean, the School of Architecture is part of this multidisciplinary community that exists at MIT. And that's enabled it to do some unique things. That spawned the Media Lab, for example. Which could not have happened in any other architecture school in the world. And that's an integral part of the school. And it's part of the uniqueness of the school, that firstly, this, I think kind of amazing, rebellious, innovative entity. Sort of, appeared.

MIT has a capacity for things like this to happen. And it happened within the School of Architecture and Planning. And continued traditions, in fact, that are very fundamental architectural traditions. The idea of project-based work. Of, you know, really building and making things, as a way of knowing, is fundamental to the Media Lab. And that comes out of its embedding in the tradition of architecture. The idea of design being a core intellectual activity, that synthetically thinking about things. And putting together new inventions, and designing things is a fundamental intellectual activity. That comes out of architecture. And the Atelier tradition, the idea of working in workshop research groups, sort of day and night working together as a way of investigating, as a way of knowing, comes out of the architectural tradition.

So, kind of summarize what's important about the school, it's at one level it represents the long tradition of architecture as a profession. As a humanistic discipline. At another level, it's an extremely unusual place that represents design thinking. Represents synthetic thinking. And takes advantage of its unique situation at MIT.

INTERVIEWER: Are there other ways or other characteristics of the school that you think distinguish it against other architectural places?

MITCHELL: The MIT School of Architecture is very different from many other architecture schools. And I think that's its strength. Firstly, I should say, I think the way to do something like an architecture school is to take advantage of the particular opportunities. And also deal with the particular constraints of a particular context. So, there are many different models for doing great architecture schools. And one of the wonderful things about the American university system is, there are a lot of universities. And there's room for a lot of diversity. And this is a tremendous strength that can instantiate a lot of different models. So, Yale, for example, is a small, intense design studio oriented place. That has always been a hot spot of bringing in whoever, whoever of the, the kind of hottest practitioners right now, is the core of their teaching. That's what they do well. Harvard is a different kind of place. Princeton is different again. Berkeley and UCLA out on the West Coast are different again.

The real strength that MIT has really derived from its embedding in a research university, a major research university. And it has enormous strength in science and technology. And where the boundaries among disciplines are very low. One of the great strengths of MIT in general, always, is the possibility of quickly making new intersections and new cross-disciplinary connections. And inventing new fields. Which the Media Lab, represented, by the way, in inventing the whole business of digital technology.

INTERVIEWER: Any other contributions you feel you want to mention from the time that you were dean of Architecture and Planning?

MITCHELL: If I think of the time I spent as dean, I mean, I think, a number of things. We rebuilt the place physically, so there's a sense of identity. And sort of coherence about the physical places of the school. Part of that's in the main complex here, around the dome, which has been the traditional location. So design studios are located there. And that had been a real mess. We built up the Media Lab, both as an institution and, you know, finally, finally, getting the building built. So the physical facility's there. That's an absolutely unique thing, and I'm very proud of the work we did in building the Media Lab over more than a decade. I think, extremely important thing.

Put the school on a sound financial footing. Strange to talk about this under current circumstances, where nothing's on a very sound financial footing. But architecture schools are difficult. And university administrators often don't understand this, because, people come into architecture because it's a vocation. People come into urban planning because it's a vocation. Because they want to do that kind of work. They're both very difficult fields to advance in. They're both fields where you never make any money. Even the most prominent architects don't make a lot of money. So we don't have rich alumni. We don't have corporations that spring out of what we do. The the Media Lab, of course, is different. But you know, and the traditional elements of a school like this. So it's difficult to make them work financially. They're very expensive. Presidents and provosts always tell me this. And of course, they're right. But what can you do, this is the nature of the thing. We hand-make architects, one by one. In the design studio. Labor-intensive kind of thing. There's no other way to do it well that I've ever seen. So, you know, it's both expensive and it's difficult to raise money. So I think we did, actually, a very good job of navigating through the financial issues without letting them dominate the intellectual issues. Which is really what we're all about in the end. You have to run a business in order to keep the doors of an institution open. But running the business isn't the point. The intellectual work and the learning and the research, of course, are the point.

And I think the other thing that we did, intellectually, over the time that I was dean, was really move the school, and again, I'm talking about the architecture part here, into a leadership position in the field of digital technology. And really, MIT is very firmly recognized as the place that, you know, that has the best graduate students. Has a very strong research group. This is the place where you come if you want to learn about and do research in digital technology in architecture.

So, you know, like all of these things, it's, there are kind of a bunch of practical things that deans have to do and keep the doors open. And these are absolutely essential. You have to do that. You know, building up the institutions, building up the Media Lab. Dealing with things financially. Building up the facilities. All of that is very, very important. But in the end, you have to measure what happens over a period, but what happened intellectually. And so I'd say in the end the most important things are revitalization of thinking about design on campus. Moving design into a much more prominent position in the Institute. Building up a leadership position in digital technology in architecture. Doing a lot of very interesting things in urban planning and in the visual arts. And, really building up the Media Lab, which is an absolutely unique thing.

INTERVIEWER: Tell me a little bit about smart cities. And how would you describe that?

MITCHELL: Well, my smart cities research group at the Media Lab is a multidisciplinary group. It goes all the way from mechanical engineers who worry about ball bearings in wheels, all the way up to urban designers and urban systems people. And it's really concerned with thinking about the future of cities. And trying to develop positive strategies for dealing with, you know, the immense problems that cities face at this point. And, in particular, bringing innovative thinking about new technology to thinking about the future of cities. There are a lot of different fronts that we operate on. The most prominent over the last several years has been the reinvention of urban mobility systems. And we've approached that by rethinking the automobile. Developing a, working with General Motors, a new kind of ultra-lightweight intelligent electric car that folds and stacks like shopping carts at the airport. Or, shopping carts at the supermarket. Or like luggage carts at the airport. Occupies very small footprint. This had a huge amount of attention. We're very excited about that. We've done some other lightweight vehicles, too. The lightweight scooter, the Sanyang Corporation. Also folds electric. A new kind of bicycle wheel. A hybrid, human-electric hybrid bicycle wheel called the Green Wheel. And so on.

So we've done a lot of that kind of work. And we do it very much in the spirit that I've described of, you know, build the prototypes. Experiment. Design. Really, to be very concrete about it. At another dimension, at another level, we have been very much concerned with, for example, what I call mobility on demand systems. Which is systems where you place stacks of vehicles around the city. And when you want to go somewhere, you walk up to a stack of vehicles, swipe a credit card, pick up a vehicle, drive it to where you want to go, and just drop it off at another stack. And so, this --

INTERVIEWER: Now they're doing bikes in Paris now.

MITCHELL: Yeah. I mean, we were doing it before the bikes in Paris. And they, people used to think we were crazy. And now we have an existence proof. I mean, there are now 30,000 of these bikes on the streets of Paris. And it's a very, very successful, successful system. It can be much more sophisticated than the Paris bike system. And that's really what we're aiming for. And we're aiming to do it with electric vehicles and so on. There's a lot, when you come right down to the nitty-gritty details of this, there's a lot of mathematical modeling and software behind how you make something like this work. And there's a lot of thinking about how the economics of mobility work. And all of these kinds of things.

So, those are the sorts of things we deal with in the smart cities group. And we do it by working in very close collaboration with industry. And I think we bring a lot of new ideas to the table, but we respect enormously the domain knowledge that our industrial partners bring to the table. So, you know, GM has built a few cars, right? And they have enormous domain knowledge. And they have, I think, frankly, it's a pretty dysfunctional organization these days, but they have brilliant people within it, who we respect enormously and work very closely with. Sanyang Corporation knows a whole lot about building and marketing scooters. And so on. So we work very closely with our industrial partners.

As I said before, we take a very much multidisciplinary approach. Going all the way from the mechanical engineering, and low-level electronics of how we actually make the vehicles work, to the high-level urban systems and economic view of these things. And new kinds of business models, and so on. And it's very multigenerational, in the spirit of the Media Lab. So a couple of old-timers like me. There are post-docs. There are advanced graduate students. And of course, there are undergraduates. There are undergraduates UROPs who we make enormous use of, and who are absolutely brilliant, and full of energy. And can solve any kind of problem you can possibly throw at them. And who don't know what's impossible. So they just go and do it. It's amazing. Get a little older and a bit more cynical, you do know it's impossible. That's probably a disadvantage. They know what's impossible. So, sometimes they actually pull off the impossible, which is, which is wonderful. So, and it's very much an Atelier kind of operation, too. Very much in the style of, I think is a great strength of the Media Lab. And pretty much unique within MIT, by the way. That you have this multidisciplinary, multigenerational Atelier. People work together on projects together. Huge amount of peer to peer learning within the group. I mean, much more peer to peer learning than formal instruction from me.

Very much a sense that everybody is everybody else's responsibility. So if we want, if there's something we need to know about, for one of the projects we're working on, we take it as the responsibility of one member of the group to go out and learn something about that. And then bring it back into the group and educate the other members of the group. So we think of design being very closely connected to fast learning. One of the principal skills of a designer is to be able to go into a situation where you're pretty much completely ignorant, and very, very quickly learn about the situation. Because most interesting problems, in fact, require that sort of stepping across disciplinary boundaries and comfort zones, and all sorts of things. So that's the kind of style we have.

INTERVIEWER: I wonder if we could just step back a little bit, about ten years. When you first became chair of the Council on Educational Technology --

MITCHELL: Oh yes, right.

INTERVIEWER: Remember that?

MITCHELL: Yes. Yes.

INTERVIEWER: How would you describe the, sort of, state of technology at MIT at the time?

MITCHELL: The Council on Educational Technology was an interesting watershed moment at MIT. You know, what had happened, of course, MIT is a great technological center. Digital technology, and innovation. And had done some very important pioneering things. The most prominent being Athena. The whole Athena network. And that kind of thing. But by the point we set up the Council on Information Technology, it was clear that there was going to have to be a lot more investment in educational technology. That a lot of innovation was going to be needed. That there were some huge opportunities, and there are also some huge risks. That, it was possible to do some very positive innovation. It was also a possibility to mess things up very, very badly. So we pulled together a group. Again, very much an interdisciplinary group from across the campus. With some very, very smart and interesting people on the group. To really kind of brainstorm through what might be some of the opportunities. Some of the difficulties, and some of the possible directions for the future. And I think it was a very important process. Wasn't so much that we came out with a very detailed plan for the future. That then we went off and implemented. But it really got a kind of critical discourse going. And a lot of thinking going, thinking about the future of digital technology. And, in fact, over the last decade, a lot of very innovative things have happened at MIT. OpenCourseWare, I think, is, you know, an extraordinarily powerful and important idea that has actually changed the way we think about universities and their role, I think. So.

And the important thing about something like that is not just the technology. In fact, the technology of OpenCourseWare is pretty much uninteresting, I mean, it's very standard technology. But the kind of social thinking. And the kind of thinking about education and learning, and how you build communities. How you build global communities, is very much part of that.

INTERVIEWER: Are there ways in which being at MIT has helped or hindered your work?

MITCHELL: In my own work, being at MIT has been a wonderful experience and an enormous help. And the powerful things about it are that it is a place where you can reach out across the disciplinary boundaries. Where you can define new intersections. Where if you have an intelligent question, if you're pretty careful about asking the questions intelligently, but if you have an intelligent question, there's always a world expert just down the corridor somewhere. Who can answer the question. So, to do the sort of thing that I do, which sprawls in kind of messy and unpredictable ways, outside of the disciplinary silos, across the boundaries, MIT is an absolutely terrific place.

And then the quality of the students is so enormous. The quality of both the graduate students and the undergraduate students, that if you operate in the way that I do, which is, you know, building an Atelier team, a research group, and working on challenging projects, that is an enormous advantage we have at MIT, and something that I couldn't imagine replicating anywhere else. Being able to build the sort of team that you can, and build it. I mean, there are great students, actually everywhere. And certainly at other great universities there are great students. But the thing you can do here, that I think is unique, you can assume they can all do the math. Right? You can assume that they all really know some science. They're hard-working, they're ambitious. And they have grown up in this kind of culture of, you know, just getting the problem solved. Whatever it takes. You know, reaching out across the boundaries. Talking to people. Doing some courageous innovation. Our students will do all of those things. I think that's always been the strength of MIT, that it is a place with absolutely extraordinary students.

And part of the reason, you know, there are many complex reasons for that. But a big part of it is, the place really is a meritocracy. I mean, there's no way you can talk your way into MIT. There's no way you can get to MIT because of what your parents were, or any of that. Of all the places I've ever been, and I've spent a lot of my career at great, great institutions, this is just a rigorous meritocracy. It's a place where the, you can aspire to come if you, you know, you come from a penniless family, when you come from an immigrant family, where your family has really no cultural background in academia, you can in fact get to MIT. So that constant influx of enormously highly motivated, hard-working young people who realize this is the big opportunity of their lives to get to MIT, is an enormously powerful thing. You know, it's an indefinable sort of thing. But an enormously important part of the culture. And something that resonates with me a great deal. Because, I came from a family with no money, and came from the bush. And all of those sorts of things. So I recognize it in these kids. They're very young when they come here. And it's a very tough place in many ways. But that kind of character of the place is enormously important.

You know, one of the things that's very powerful about MIT, and makes it a wonderful place to be, is the quality of the students. And part of the reason for the quality of the students is that the place is such a rigorous meritocracy that students get here through hard work and merit. They don't get here by talking their way into the place. They don't get here because they're legacies. They don't get here because their parents gave a lot of money to MIT or something. None of those things work. You get here by just being good enough to get into the place.

Of course, the selection process is not infallible. But it's pretty good. So we, we end up with students who come from diverse social and economic backgrounds. Very often who recognize very clearly what an enormous opportunity it is in their lives to be at MIT, and that this is just an opportunity that's not to be wasted. So they work enormously hard. And they're intensely, highly motivated. So, having those kinds of students who have not only the intellectual skills but the motivation and the work ethic and the kind of social and cultural diversity is one of the greatest strengths of MIT.

INTERVIEWER: Any advice for the MIT community for the future of the institution, or?

MITCHELL: I think a very important thing for the future of MIT is to be aware, very self-aware of what the unique qualities of MIT are, and very careful to preserve some of these unique qualities. Which I've mentioned this as we've gone through this discussion. There's always a temptation, and of course we look at other institutions, and we benchmark, and we measure ourselves against other institutions, as we should. But we're different in many ways. I don't think we should fetishize that. But, you know, the differences are important. And need to be preserved. And the spirit of, sort of, adventurousness of being critical. Of constantly trying to reinvent things. And of being prepared to take risks, are really fundamental for the future of MIT. There's a temptation, particularly in tough economic times, to sort of pull back into your shell a little bit. Not to take so many risks. Not to be so adventurous. But that spirit of adventure has always been at the core of MIT. And that's what MIT needs for the future.