

**INTERVIEWER:** This is the MIT150 Oral History project. We're interviewing Professor Paul Samuelson. The interviewer is Brian Keegan. The date is July 19, 2007. The interview starts at approximately 1:45. Thank you for meeting with us today, Mr. Samuelson.

**SAMUELSON:** Glad to be here.

**INTERVIEWER:** And so the occasion of this interview and this project we're doing is to reflect on MIT's history; to look at the people that made MIT into what it is today. And also to perhaps forecast what MIT should become in the next 50, 100, 150 years. So looking back, I want to get a sense from you of where you grew up, where you came from. So, maybe you could talk about your childhood. What you were like as a child. Who your parents were. What they did. If you had any brothers or sisters; if they instilled any lessons?

**SAMUELSON:** Okay well, my life is a little bit standard for successful research professors, but also a little bit different. I was born in a frontier town in the Midwest: Gary, Indiana. US steel town, largest steel plant in the world was planted there, made there, just before my older brother's birth. At the very southern most tip of Lake Michigan, where Appalachian coal brought by rail met Minnesota iron ore, brought by ship. And it was a new town. Five years before my birth some people were living in Kent still. And it was an exciting place to be because, I didn't know it at the time, it had a marvelously good school system. You only go to one school system so you don't know whether yours is better or worse than any other. In my ears, at the age of three, I would hear a lot of middle European Slavic languages of the steel workers recruited there. A little bit like Western Pennsylvania. We called that Slavish. It was a mixture of Czech and Croat and Slovene and Slovak and Polish and Russian. And that's an important part of the story, because my father, who had migrated at a young age to Chicago from that little part of Poland that's between Lithuania and East Prussia, of course knew two of those languages from birth and could handle all the different languages.

So his drug store became a Mecca for workers at a time when World War I was breaking out. Even before America was in the war, the orders for steel and other things for munitions were so great that all the workers worked 12 hours a day, seven days a week. They didn't have a doctor. So my father the druggist, who could handle their language, was the doctor. Now when I go to the drugstore today, Walgreen's drug chains, CVS, it's just an order place. Everything comes through a warehouse. In my father's drugstore there was a mortar and pestle. And it was used. And a little Corona typewriter. And it was used. So he was not only the doctor, but he was the fabricator of the prescriptions for them. Well as you could guess that led to considerable affluence so that I had every opportunity. I wasn't underprivileged, never knew a hungry day in my life, and so forth. I was a bright kid. My older brother was a bright kid. Years later, when I got a younger brother, he was a bright kid. I think I had an enormous amount of self-confidence Most of it, as I believe, unearned at that time.

But I had supportive parents. And, in fact, I think in retrospect I was a little unfairly coddled more than my older brother. But he was a very good older brother and I never noted any resentment in him. Well, now that part of my youth is, so to speak, standard. But a pretty good preparation to become, in later life, an economist. Not a businessman, but an economist, because I experienced the boom of war-time, heavy spending. Of course, in the pretty serious recession that followed after the war was over, the demobilization, I experienced that. Furthermore, when I was 10 and 11 in 1925 and 1926, my family moved to Florida where there was a big real estate bubble going on. The way to make a small fortune in real estate is to start out with a slightly larger fortune. And that was the experience of my family. That bubble burst in the second year that I lived there when the big hurricane of 1926 came. Now that kind of bubble and burst has happened 15 times since in Florida. But it's all grist for the mill of experience for somebody that is going to turn out to be an economist. I'd had early memories.

But I should also mention, and this was a part of my life I never did understand why, at the age of 17 months I went to live on a farm in Porter County, next door to Gary's Lake County. A hundred acre farm, and I lived with Aunt Freda and my Uncle Sam. But my Aunt Freda was not a blood relative of mine. So you could say it was a foster home. Why? I don't know. I think maybe my mother was a premature feminist who didn't relish primarily cooking and so forth. Maybe I was a difficult eater, but at 17 months how can you tell? So half of my time, between the time I was 17 months old and five or six years old, I spent on a farm. That existence carries me back to rural Indiana, not back to Abraham Lincoln, but back to the 19th century. My neighbors there, my Uncle Sam for example, had been in Chicago only once at the time of the 1893 World's Fair. It was like a world a million miles away. Today when I got an honorary degree at Valparaiso University, for no better reason than I was a native of the region, you commute every day to Chicago and go to work. That's the difference of the automobile wave. So I know what it was like to have no indoor electricity, no indoor central heat, and of course no indoor plumbing. It means the privy and the chamber pot. However things are all not of one piece. We did have two telephones. Of course our telephone was a cranked phone on a line with eight other people. So you could be privy to whatever was going on. If somebody called the Roettters up the hill, my Aunt Freda could say, well they're not here, they've gone shopping to Valparaiso. Going shopping in Valparaiso which was only five miles away, involved harnessing the horse to the buggy and killed most of the morning.

So I saw the horse go out of existence over the next ten years, so that in the county seat of Porter County Valparaiso there was a square and you could hitch your horse anywhere in the square. And after three years, you lost a certain number of feet. After ten years, you lost more feet. After twenty years, there was no place to hitch your horse. Well it's all the kind of experience that stays with you the rest of your life. I don't think I had a lot of mental stimulation there. But I did read the old end of the 19th century popular books which were in the library there. Let's move forward. This is background education. I was a smart kid. I skipped grades and I was in a very good school system.

For example in the first grade, we migrated from class to class. That didn't happen in the excellent Chicago public school system. Until later when I lived there, you got to middle school or junior high. This took place already at the age of six. You went to school before eight o'clock and you didn't get back until after 4:30. And the motto was work, study, play. So I had two hours of physical education every day. Now it's interesting that at least three eminent economists came from what's a relatively small town. Joe Stiglitz who later was a student here, got a Nobel Prize is also from Gary, Indiana. If I stayed I could've been a master of spot welding, because that would be part of the curriculum.

At the age of nine we moved to Chicago and there I went to some very good public schools. My late wife, who came from a small Wisconsin town, went to one school; knew almost everybody in her class for 12 years including the farm kids who were bussed in. I went to about eight different schools. I'm counting a couple of Florida schools. And, in a certain sense, that was enrichment. But to tell the important truth is I was born on January 2, Monday morning at eight am when I walked into the first University of Chicago classroom. This was before I graduated from high school, but there was an arrangement whereby high performing kids could go to the University of Chicago, which was only a few miles from my own good high school, before they had actually graduated from the high school. And it turned out to be a class on economics.

And there was a discussion of the theory of Robert Malthus about how people will always produce so many children; that by the law of diminishing returns the population will always grow so that wages are held down to a minimum. I found that very interesting, but found it very simple. And I thought there must be some complications that I didn't understand. Well there aren't any complications to that story. But what's important, and was very lucky, is that early on and completely by accident every important thing that's happened to me has been done by accident, often by miscalculation, but lucky accident and lucky miscalculation. My first teacher in economics, was Aaron Director, who lived to be a hundred and was to be Milton Friedman's brother-in-law. He was very conservative, very iconoclastic, but very interesting to me. And I got a great education at the University of Chicago. I was a commuter.

I had been, if anything, an under-achiever in high school, because it wasn't fashionable to be a smart kid. So I disguised most of the abilities that I did have. But when I went to the University of Chicago I didn't know how you should work. So I worked very hard and I did very well. The result is that after three years I graduated and somebody told me about a wonderful fellowship, New Social Science Research Council Training Fellowship. To be given to the eight best graduating undergraduates in economics; to pay for their total graduate school education. However long it would take and wherever they went. But there was one condition. I had to leave the University of Chicago. The University of Chicago was a great place, Robert Hutchins's University. The new plan there and I had great teachers: Frank Knight, Jacob Viner, Henry Simons, Paul Douglas. I was blessed, and also I think I took more courses in economics than anyone previously had ever done, or perhaps done since. So when I'm at this point that I'm required to leave, I'm bribed to leave, which I wouldn't have done otherwise. Thank God I got that bribe, because I think it would have been a terrible mistake to have stayed there. But that's a different story.

The effective choice boiled down to two places: Harvard or Columbia. Without exception my mentors in Chicago said go to Columbia. I was never one, particularly, to accept advice of my elders and betters. And kind of by miscalculation I picked Harvard. I thought it was going to be like Dartmouth, Hanover, New Hampshire. Green hills, a lot of green ivy, white church, very good library, quiet place. And when I arrived by streetcar just across, first encountering coloring MIT on my way to Harvard the first day, the clang and everything made me feel, "What have I done? I ought to turn and go by."

Well it was a miscalculation because Harvard was really coming out of a lean season. And Columbia probably would have been the better choice. But my luck was with me. People like me plus, the beastliness of Adolph Hitler towards scholars in Europe, sent to Harvard Professor Leontief one of my dear mentors; Professor Schumpeter world famous mentor; Professor Gottfried Haberler and so forth. So I arrived at Harvard just as it was coming out of that lean season. And it wasn't me but it was students like me who made Harvard the Harvard it was. At the same time that the new Harvard was making us.

So there I was for five years at Harvard. I was much better prepared going into the graduate school than any of the other students there. So I breezed through very fast and I became the first appointed member of Harvard's Elite Society of Fellows, first economist in the early group. So I had three blissful years. During those years, because it was supposed to be better than a PhD and in competition with a PhD, I was not allowed to work for any degree. No requirements were made. I had tutorial rooms in Leverett House, and I just sat there writing article after article. I wrote so many articles, and they were mathematical which was not very popular at the time. I had to ration them out, so by the time I was 25 I had more publications than my age. Well to me that was a blissful time. If somebody would give me an offer: We'll give you \$3,000 a year the rest of your life and you can just do what you're doing here. Foolishly, I would have accepted it. As an economist I ought to have known how far \$3,000 a year would go 30, 40 years after that. So I came out of that, became an instructor at Harvard. And at that time, and this is another story but we should go into it, I got a better offer from MIT.

**INTERVIEWER:** Maybe we could just use this as a segue. Maybe go back to University of Chicago and Harvard. Maybe you could tell us a little about the intellectual climate there. Was there something about mathematics at University of Chicago that compelled you to incorporate that into your writing?

**SAMUELSON:** Chicago had a good mathematics department. I had a wonderful high school teacher of mathematics, Beulah Shoemith. She mentored a number of Medal of Science people, Nobel Prize people and so forth. And I took to it like a duck to water, but I didn't realize that mathematics was going to be important in economics, and of course I didn't plan to go into economics. Now I later discovered that in my father's library there was the Harvard classics five foot shelf. There was Adam Smith's *Wealth of Nations*. It never would have occurred to me to go into that shelf and discover what was in it and have picked out that particular book. So I was a clean slate, nothing written on me until I walked that morning there. I have mentored hundreds of crack graduate students here at MIT. A number elsewhere too. It's hard to find yourself. Why do you go into economics and not physics? Why do you go into physical chemistry and not organic chemistry? How do I find a thesis topic? I found early that which was fascinating to me and which I was very good at, would be good at. That's like a gift. Like a gift from the gods.

So anyway after these three blissful years in this Society of Fellows, I come out and I get this nice offer from MIT. And my wife and I said well this is a test. They'll meet the offer or better it, or they won't. And a number of people who were admirers of me patted me on the back and said, "hey good for you." And I took that to be a signal.

**INTERVIEWER:** What had you heard about MIT?

**SAMUELSON:** I should I should say that in 1937, 70 years ago, when I was just about to take up my junior fellowship at Harvard, I came over here and taught summer school. I taught a course in introductory economics that summer and a course in statistics mostly to MIT seniors. So I knew the MIT department and one of the mysterious ways in which I was going to end up at MIT came from the fact that a lot of the classes that I took at Harvard, there was an interesting guy, kind of like a hippie in almost every class, usually as an auditor, and that was assistant professor Harold Freeman at MIT. And I didn't know it, but he was intriguing to get me to MIT. It took him three years to land the fish, but it started that summer.

**INTERVIEWER:** Based on the name you'd made for yourself with these papers you'd written?

**SAMUELSON:** Pardon me?

**INTERVIEWER:** Based on the name you'd made for yourself with these papers you'd written?

**SAMUELSON:** Yeah, and he'd seen me in class and so forth. So when I got this offer here, here was my problem. I liked the Cambridge milieu. We lived -- I had never had a watch because we lived where I could hear the bells of Harvard. So I knew within 15 minutes all the time where we were. That was blissful. I wouldn't have wanted to move as I later, because of children, had to do out to Belmont. Because there I was. MIT economics department, I have to say, was a service department. To call it mediocre would probably be fair. Its principal function, was that in those years, every third year student at MIT had to take two semesters of introductory economics. And therein lies a story but that'll come out later. And most of the engineers hated it.

So it wasn't a challenge of great colleagues. On the other hand, again we're talking about my earned and unearned self-confidence. I knew that I didn't need the stimulus of other departmental members. And besides when you leave Harvard to go to MIT, you haven't even moved. I still had all the advantages of the great Harvard Libraries. I had all the advantages of the numerous students there and professors who knew me. These were my friends. And so I decided, I don't want to go on the job market. I particularly didn't want to go back to Chicago which I thought would be stifling. You're always a boy in your father's house you know. And so I came to MIT, and a lot of people would have said that was a miscalculation. If it was it was the happiest miscalculation that could have been made because, for a variety of reasons some of them connected with me but many of them not connected with me, MIT was on the brink of a new renaissance.

The old MIT, the MIT I came to was tech as hell. Boston Tech, translated in 1916, because of the gift of Eastman, to Cambridge. Eighty- five percent of the degrees were not in science. They were in engineering, and a smattering in architecture. And the great names that have made MIT famous were by and large not yet here. Karl Compton was the catalyst, the president who elevated MIT from the best, biggest engineering school in the world, but still not in the caliber of Caltech in terms of the research frontier of applied science, to the MIT that I've come to know and be part of its development. Secondly, the new pattern where government money comes in heavily to the universities and which enriches their research opportunities was just beginning, and MIT was at the frontier.

We should compare Stanford with MIT. The Stanford before World War II was called the farm. But Dean Terman of Stanford came and did war work at the underwater sound lab at Harvard. And he saw what the new pattern was, and he went back and got government contracts. He induced people to come because he arranged for consulting operations. Silicon Valley was born in that way. Well this was the wave that was awaiting MIT to embrace and benefit from. And especially this had an importance, because I was from the beginning a mathematical economist. Well now, a mathematical economist at, what should I say, at Wellesley in those days would be an anachronism. I really don't like diagrams, really don't like calculus. It's a mystery and so forth. MIT graduate students, when we started a program, couldn't say that. Why did they come to MIT? If they were allergic to anything mathematical, this is not the place that they would be.

So when I came, of course there was no graduate degree at MIT. But after one year, we introduced such a program. And its take off was truly amazing.

**INTERVIEWER:** What year was that?

**SAMUELSON:** And in a sense of causation. This was 1941, 42, was the first academic year that we had. We called it industrial economics. And now I should name some names. The economics department that I came to, the head of it was Ralph Freeman, a Canadian, who became actually a very dear friend of mine and was head of the department. People outside of MIT or Illinois engineering schools, don't realize the difference between the head of a department at a place like MIT and the chairman of a department at Harvard. The chairman of a department of Harvard, let's say the economics department, is there for five years only at most. And he's only there because he signed a yellow dog contract when he got appointed that he would serve his turn. He didn't even know the salaries, his staff members, except when he had a hunting license from University Hall, central headquarters.

Well MIT wasn't like that. The head of a department, essentially with the head administration had complete dictatorship. However what subsequently came to happen was that this is the way it was done. But me advising Ralph Freeman, I think we ought to try to get that guy, and we ought to avoid that guy. And I think this one is hurting. He's had some new babies and his salary ought to be increased. And the reason that could happen was that I was earning more, getting a higher salary than any of the rest of them. So there was no competition. So Harold Freeman was extremely important in my coming to MIT. And he was always important in the background because it turned out that, later on, it was Harold Freeman who picked out Bob Solow at Harvard. Got him here. It was Harold Freeman who got Robert Merton. Robert Merton was in applied math at Caltech. And decided he wanted to go into economics. He applied at the eight leading graduate schools. Everyone of them turned him down except MIT which gave him a Fellowship.

It wasn't my doing. It wasn't Bob Solow's doing. It was Harold Freeman's doing. But an important reason why I came here was because the Rockefeller Foundation had given eight universities, including MIT, each an Industrial Relations Section, which involved money. And a guy named Rupert Maclaurin was the head of that. Rupert Maclaurin was the son of the great MIT President Richard Cockburn Maclaurin who raised the money from Eastman to build the horse shoe and the MIT that it is. Rupert Maclaurin's father was a New Zealander and Rupert was born there and lived there for six months. Married into a Brahman family here later. And Rupert Maclaurin was the first Harvard Business School PhD in economics. But I'm speaking colloquially. He was a loose cannon on the deck, but Karl Compton gave him free realm to be that loose canon. The great MIT department could never have been created at Harvard in the way that it was here. Because at Harvard every tub must end on its own bottom. You must already have the gift endowment to create a new professorship. If ten members of the Harvard tenured full professor faculty took an airplane to go to the annual economics convention and it crashed. At Harvard in those days, under the Groustein formula, they could have replaced one of them in one year. Another one two or three years later, another one so forth. This was to get equal opportunity. At MIT there was really no constitutional limits. Our saying always was how do we get out of our own way and do it.

So we would replace one of the old professors already here on the scene about eight times. Now when I discussed this later with administration, they said we're not clinically dead. We knew what was going on at the time. So that was how we were able to build up. But Rupert Maclaurin had a gift. He could raise money from a stone. And most people can't. I said, how do you do it? Well he said, what I do is I go out and hold my hat out and say please put some money into it. He said, promise as little as possible, because if you promise something they'll want some results. And he was pretty ruthless on whether they did or did not get any results for their money.

But after Harold Freeman had worked on him, Rupert Maclaurin started calling me up. And he'd say now Paul do you realize that if you come to MIT you will have the income of the Roger Babson fund to help sponsor your macroeconomic research. But it turned out I did get the income on that. But it was the income on \$10,000. But also I didn't realize engineering schools were different. Professor Schumpeter, Professor Leontief, none of them had a full secretary at Harvard. None of them had a paid telephone. I came in as an assistant professor and Harold Freeman and I shared a full time secretary. I had phones. I got summer money for research because this was more characteristic of an engineering school. I still have to stress that the MIT I came to was an engineering school. It was a good engineering school. When I went into the-- well there was no faculty club at that time, Walker. It was a different kind of atmosphere. I'm sure that a vast majority of the professors voted against Franklin Roosevelt. Not one time, not two times, but maybe three or four times. After McCarthy got after professors everywhere, the faculty changed and also the composition.

I wrote down some famous names in MIT in my time. Claude Shannon in coding electrical engineering information theory. Hyman, Minsky, Chomsky. Well famous already was Norbert Wiener and vice president Vannevar Bush. And I was interested actually, and had a scientific interest, in analogue computing, which was what Vannevar Bush was a pioneer in. His differential analyzer. And Norbert Wiener invented the cinema integrator to solve integral equations. And when Gordon Brown, one of our electrical engineering professors, was doing his PhD his assistant, the first exercise on the new cinema integrator was a demographic problem of mine. And I also was interested in the Wilbur simultaneous equation analog machine because my Professor Leontief would do ten by ten sector input, output sections. And those were greater than any at that time Harvard machinery could handle. So even when I was a junior fellow, I had a lot of intercourse backward and forward with the math people at MIT. And that was attractive to me and one of the reasons why I did come here.

But to go back to our graduate program, we had money to interview people and we advertised it. And I was absolutely astonished because we had no reputation. Maybe a few people might've heard of me at that time. But I think we had a hundred applications. And the great advantage to us was that so many of the people at places like Harvard and Yale and Princeton were so behind the times that they weren't competition at all. Did I say Yale? I should've had Yale as an exception. Yale and Chicago and Berkeley were our competition for the best graduate students. Well within 10 to 12 years, maybe less, if the nation had National Science Foundation Fellowships in economics amounting to 15, we would have 11 of those year after year after year. And this is important because in 1947, that's seven years after I came here and I already was a full professor which was a rapid increase, I got a princely offer from University of Chicago. And I thought the only reason to go there would be that I would have, over a life time, better crack at best students. I was wrong. I got a much better crack at the best students here, but you couldn't be sure of that. Stupidly, for 12 hours I accepted that professorship. And I only had to make the decision to know that I didn't want to make it. So phoned in and said, sorry, I changed my mind.

**INTERVIEWER:** If I could ask you, what struck you about the student at the time? When you came in 1940 the war in Europe was kind of increasing in tempo, 1941. But before you had come to MIT, what had you heard about MIT students? Were they socially maladept engineers? Were they eccentric scientists? What was their, kind of, reputation?

**SAMUELSON:** Well MIT students were always known as nerds. This is the Wellesley, Radcliffe common room talk. In my time at MIT they're taller -- it's much less nerd like than it used to be. But there's still a difference because you have to work so damn hard here, in comparison with most places. Now I happen to have been blessed or cursed with six children, three triplets. So I had in one year, four boys going one boy to Yale, one boy to Swarthmore, one boy to Williams, and one boy to Harvard. And I can tell you the easiest place to go through if you're a bright kid and don't want to do any real work was Harvard. MIT isn't like that. You get behind for three days it's a little bit like West Point. So that was a difference. There were very few female students then. And of course we didn't have an undergraduate specialization, course 14 degree until later.

A good advantage at MIT was that we've always been in close relationship with the business school. Course 15, there was no business school at MIT before the Sloan School in 1950-ish, but there was course 15. Harvard was different. The Charles River at Harvard and Allston is 1,000 miles wide. I know because I lived, I had palatial quarters at the business school when I was a student in the economics department. Dean Dunham, at the time, not only did not encourage his faculty to cooperate with the MIT economics department faculty, but in most cases he forbade them to do so. Well that was a loss. The Harvard Business School courses then, and still to a degree, is not the most highly technical admired business school. But it's a good place to go if you want to end up making a lot of money in your lifetime. And course 15, when I came here, the student body were probably the least able in the Institute. But I think most of the gifts that were given later, maybe Alfred Sloan himself would be an example of that, came from course 15 graduates.

I also ought to say that we had some pretty remarkable administration. Karl Compton was great. Killian was his successor. Killian, you would have said was a strange appointment because he was the personal assistant to Compton. He had only a minor Southern degree and maybe a course 15 degree. That kind of appointment you would think would be a disaster, but Killian was actually a great president for MIT. But also a great science statesman for the nation. His successor, Stratton was that. Then Johnson, then Gray. Then Wiesner. Then Vest. I'm not sure I got the order just right. We've been very lucky and the MIT portfolio investment and gifts have been very good. Not the equal of Harvard or Yale or Princeton, but very good. And much of modern finance theory was generated here at the Sloan School and in our department. So it's been a first class operation. You ought to ask me some questions.

**INTERVIEWER:** So what presence if any did Vannevar Bush have on campus? Towards the end of '30s he would move down to Washington. And as the war effort was going under way he would take over OSRD.

**SAMUELSON:** Well he was still vice president when I came. But he went to the Carnegie Institution. And he also was a founder of Raytheon here locally and the Lincoln Lab I don't think could have been started, and the instrumentation lab. Except for what it was that Bush knew about MIT. Another story which I will be very brief on is that I had a significant role in the preparation of Bush's end of war plan of how science was going to be done, *Science the Endless Frontier*. And the reason I did -- someday I'm going to write a little chapter, Three Moles. Professor John Edsall of Harvard, biochemist; Robert Morison, physiologist and head of biology at the Rockefeller Foundation; and I were the three draftsman of much of that report.

And the reason it came about that way was that Rupert Maclaurin was made a member of the science committee and the secretary. And Rupert felt, correctly, that he didn't have quite the competence to do that. And so he asked the Radiation Lab where I was. About March of 1945 the war was won. Now everybody in the world didn't know the war was won. But everybody in the close scientific community knew about the atomic bomb and what was going to happen. And that in all probability it would not be necessary to spend a year and a half a million lives invading Japan. So I was asked if I would be historian of the Los Alamos Project. I said hell no. That's the last thing in the world that would interest me. But I couldn't refuse taking a leave of absence from the Radiation Lab to work on Bush's *Science the Endless Frontier*. And we slaves, we scribes, we nothings, we attended every meeting. We interviewed people. Bush never appeared in all of that. That doesn't mean that he didn't have a hand in the total report. Because nothing would have been in that report which didn't meet with his fullest approval. We three were the united mind as to what should happen. We wanted the boost to science which had occurred during the war, which was tremendous, to continue after the war.

There was a strong political element that wanted to give every county in the United States its pro rated share of the science budget. Which would be about the stupidest arrangement possible. I can remember an Ivy League president who shall be nameless and another famous president, each of whom said to us that we should do that. And when quizzed, well why would you want to do that? Well if you don't all the money will go to smart New York Jews. Well I had a private aspiration and that is that economics, mathematical economics, statistics, mathematical statistics, and harder parts of psychology, should be in the new National Science Foundation. Well you don't always get all your dreams realized. But everything that I hankered for and hoped for, and as far as drafting influence could affect, did come to pass, including -- I should have mentioned it first -- NIH. The advances in medical technology which have extended the longevity of good, quality life was predictable and fantastic.

So MIT has been a great place to operate out of. It was in part because I was in MIT and Massachusetts that I became, for a time, the principal economic adviser for John F. Kennedy. Starting off when he was Senator and through the time that he was candidate for the primary and then the nominated thing, and then the president elect. Moses like I did not go into the promised land though. But I could have if I had wanted to. And MIT was an important reason for that.

The American Academy of Arts and Sciences, which is in our back door you know -- I'm not the oldest member of it, I'm 92 only -- but I'm the earliest one there. Because, early in my career, in those days you really just had to be a professor at MIT or Tufts or Harvard, sometimes Wellesley and Brown. It was a local club and since I would be very well known in the Society of Fellows, I was elected at a very young age. Well today it's a national organization much like the American Philosophical Society and the National Academy. Although the National Academy has the highest prestige of those particular appointments.

**INTERVIEWER:** Maybe I could ask you about the war. Because you came to MIT in 1940. Tell me about what the atmosphere was like on campus with both the faculty and students before Pearl Harbor?

**SAMUELSON:** Well I remember well the first graduation. I came October 15th. Not even at the very beginning of the Fall term. And so my first year terminated with the commencement. In those days our commencement was in Symphony Hall. There was no field house, no space big enough. And Karl Compton said presciently, we're soon going to be in this war. I was surprised. I was naive. How could he know that? Because he didn't know that, but he was a very wise person. And we have to be thinking about that. Most of my friends went to Washington. My wife, who's 10 years younger than me, has a certain grievance. All her high schoolmates were the first ones to be called up, went overseas and a lot of them were dead. She said all of you guys are cryptologists, or radar people, or SOS people. And that's absolutely true of almost everybody that I knew. I was pretty sure that I would not be physically acceptable because in the first 35 years of my life hypertension was not a treatable disease. But I didn't want, this was foolish vanity, I didn't want to become a 4F rejectee. So I taught calculus here at MIT and every other week went and organized a division on post-war planning in Washington. And then I came to the Radiation Laboratory where I didn't work as an economist at all. I worked as a mathematician on automatic fire control.

And it was the first time in my life I wasn't one of the two smartest guys in the room. And I didn't enjoy the war years. But a number of my colleagues like Charlie Kindleberger, whom I could say a word about. Those were the most important years of their life, he was at SOS and very important business and so forth. MIT was totally organized for war. We brought in a few women students, but the graduate school enrollment dwindled away to very little.

And the Radiation Lab was a pretty exciting place to be. I was in the famous Building 20. No air conditioning in that wooden building. And I sat with my slide rule. We worked longer hours than a theorist should work. So I read more newspapers in the war period than I had ever before or since done. I didn't have the least doubt that the atomic bomb would be used because we spent all our time talking only about kill ratios. How would we achieve two to one deaths of the enemy compared to us? And there was no qualm of conscience because everybody felt, and not necessarily incorrectly, that anything which shortened the war was going to save on the total number of sacrificed lives.

The whole field of operations research had an important locus here at MIT: Professor Morse of the physics department and many others. I was part of the linear programming, non linear programming, game theory researchers of that war time period. Some of it was before the war. But the war was a great stimulus for it. MIT was an important resource to fight the war and to end it early. Now if you're a cryptologist you think it was solving enigma and the codes that saved the war. If you're a radar expert, we would think that it's radar that did so. If you're an energy physicist you think of the atomic bomb. Well all of them were pretty important, because when we went into war it was still a very dicey thing. If Hitler hadn't been so foolish as to attack Russia when he did, after having had an agreement with them, and so foolish that after Pearl Harbor he made it so easy for Roosevelt because the next day he declared war against us. Well we would have declared war, I think against Germany and had a two front war after Pearl Harbor. But it would have not been such an easy thing. Because in my guess Roosevelt, for a long time, was calculating how can we by land lease and everything else save Britain short of going into the war or if necessary going into the war.

**INTERVIEWER:** So when you were working in Building 20, in the Rad Lab. Did you have any experience working with Dr. Draper, Harold Edgerton or any memories of either of them?

**SAMUELSON:** No. I knew Draper from committee meetings earlier. And I knew Edgerton, who was actually a Belmont neighbor, but [INAUDIBLE] Robbie, the third guy there, I worked with him a lot. Ivan Getting who was a very important person at MIT, then at Harvard, then in the defense department was in the Society of Fellows with me and was my boss at the Radiation Laboratory. Some of the greatest mathematicians in the world were there. It was an important crew. And people like Vicki Weisskopf and others who came to MIT. Because when I came to MIT I think that Slater was the only world class physicist. Ten years later there were more world class physicists at MIT than at any other place. But it took us a long time to begin to get Nobel Prizes from them. Our first Nobel Prize was actually in biology when we imported a whole lab from University of Wisconsin.

But it's been an enriching experience knowing Norbert Wiener, whom I knew real well, and somebody like Elting Morison who was a cousin of the historian Morison. He came from a famous Boston family. Taught literature in the Sloan School and was a good friend. We had artificial intelligence.

**INTERVIEWER:** Maybe you could tell me about how after the war there was a sense that everything was demobilizing. How were you demobilized? How did you return basically to the civilian academic life?

**SAMUELSON:** Well during the war when I got bleary eyed -- the difference between the modern computer age and what it was like then is different -- I would go to the Math Library, and so I was still publishing papers during the time of the war. But it was moonlighting. And I was actually revising my prize dissertation. So the war years were very busy, but not happy years. And of course most of my mentors were in Washington, Harvard mentors. But I never felt the Radiation Lab efforts of a person like myself were demeaning or anything. I thought it was important. But I wasn't going to do that kind of thing the rest of my life. So I just got right back into publishing.

**INTERVIEWER:** Sure. Some people have called 1947-1948 as a sort of Annus Mirabilis, like Einstein's year, because you published *Foundations of Economic Analysis* and your textbook both came out at that time. Were these ideas just a backlog of things that went unpublished during the war?

**SAMUELSON:** Yes. Definitely. Because most of the work for which I got the Nobel Prize I had already begun to do as a junior fellow before. And once I ceased to be a junior fellow and was free to take a degree I did. But it's interesting that I got my job at MIT, and Bob Solow got his job at MIT before having a PhD because engineering schools didn't make a fetish of that because most engineers in those days didn't get PhD degrees. But I have to stress that something like biology at MIT was very primitive. Samuel Prescott, the head there, was hired by the Brazilian coffee industry to make a little film on how to make a good cup of coffee. Somebody found him a white coat. He put on the white coat. And then he said in order to make a good cup of coffee you must be sure that your water is boiling hot. Well that's not Caltech-like engineering. Today biology is one of the strongest departments at MIT. Electrical engineering, of course, was strong back in those days. Wiener worked very intimately with Bush. And that's why Wiener was here. Norman Levinson, who was probably the luminary mathematician, was probably a protege of Norbert Wiener.

And gradually we got first class, world class, mathematicians and physicists. Vicki Weisskopf was a much liked and respected person. I knew all these guys real well and it was a pleasure to be here. So if the lunchroom at Walker seemed like a different world from the Harvard common rooms I had known in 1940, by 1950 there was not that difference left at all. In fact the old faculty club at Harvard, I mean at MIT, which alas has collapsed into nothing, was a very important part of MIT. And I can remember countless conversations with John Nash, the great mathematician. You know who I mean?

**INTERVIEWER:** Um-hum.

**SAMUELSON:** And I saw a lot of him when he was going down into his terrible psychological schizophrenia. But on the other hand when I had a really tough mathematical problem and I would go to five different world class mathematicians, I would get very little help from four of them. And why should they steep themselves in my problem? But often Nash would come up with a good suggestion. Just at a time when he was going down under.

**INTERVIEWER:** Tell me about what motivated you to write your economics textbook.

**SAMUELSON:** The textbook, well that's a simple story. Ralph Freeman, my dear friend and chairman, head, came to me and said, Paul, we've got this requirement that every student must take as an elective requirement two full semesters of introductory economics. And they hate it. We've done everything. Including, he said, the worst experience of his life was to have a joint textbook written by the members of the department. He said, would you take a light teaching load for a few months and write an interesting text that they'll enjoy? And I know if you write it it won't be unsound. And it doesn't have to be long. It just has to be interesting. And I said, sure, why not?

Well I didn't realize that three to four years later, after countless additions and so forth, the book came out. And I knew it would sell well. But what I didn't know is that it would sell well for fifty years and set a new pattern. So the kind of fame that most interests me, if any does, is what I do in economics, which is mostly mathematical economics. But the reputation I got in life from the textbook is like no other reputation. I still meet people who say, you changed my life. That kind of thing and correspondence and so forth. And it's now the most important single book in China. In fact that's where it's primary importance is because everybody else is kind of tired of 18 editions of Samuelson. Although I now have a secondary author, collaborator, who does the heavy lifting.

**INTERVIEWER:** How did you go about building the department, the graduate program, the department as a whole after the war?

**SAMUELSON:** I'll tell you what I'm most proud of. In the first place it was a group effort. Not a Samuelson creation. But what I'm most proud of is that it got done in what was widely regarded as the most amiable department. Because we never made the previous people feel like dead wood, and we paid a lot of attention to the human aspects of it. So most of my colleagues got a lot of offers, because in the early days people would figure that you're not teaching economics at MIT by choice. That you're susceptible to a counter offer. On NSF grants. Let's say Solow applies for a summer grant from NSF to study growth theory, you have to give a budget based upon your salary. Well Solow's salary was, because he's the kind of guy he is, was so low that he'd get countless offers. They'd say, well my God we'll double his salary. And I was offered many times a large percentage increase in my salary. And I wasn't really tempted. Because when I was asked by the *Harvard Crimson*, well why didn't you accept this offer from Harvard or that offer? I said I did a cost benefit analysis and decided that I was best off where I was. And that's what I told many a star here who all had counter offers. Well take it if you like. But notice how many of those few people who have done that. What's happened to their future productivity in comparison with what their productivity was when they were at MIT? Now you have to factor out age too in those calculations.

So it's remarkable, since we don't have this super abundant amount of money that let's say Princeton or Harvard have, that we're still able to mount either the first or tied for first economics department. And we're kind of an expensive department I think to the Institute because engineers always relied so much on outside money too. Which is only partly the case. Although these days there are a lot of millionaire economists I can tell you.

**INTERVIEWER:** How did you come to know a lot of the famous laureates, or who would later become laureates? Through students or the faculty? Like Modigliani, Scholes, Merton, McFadden, Engel. MIT is seen as kind of, right after the war, this kind of balloon, this kind of Camelot, almost.

**SAMUELSON:** Well, in the first place, early on I was elected to office in the American Economic Association and gave lectures. So I had a really wide acquaintanceship in the profession. And as a textbook writer, especially the first years, it was almost embarrassing. If I went to a convention there'd be a whole group of people saying we use your textbook *Slippery Rock*. There is *Slippery Rock* in Pennsylvania. And I learned to say, well Mrs. Samuelson will be very happy to know that. So I had a wide acquaintanship. And also we were very good judges of quality. And there were so many years when a place like Harvard didn't know which way was up. As some of us say, until the Berkeley mafia got there, it was really a pretty sad thing. Because the number of people they lost was much greater than the number of people that they bred or were able to keep. It's now a powerful department. And of course it's well endowed. Princeton was nothing except white shoe boys when we started our program.

So that's part of the secret of our success. We weren't looking for Rhodes Scholars. We let them have the Rhodes Scholars and we wanted the guys who were going to be the leaders in the different fields of economics in the years ahead. We didn't give a Master's degree along the way, so you had to be pretty serious coming here. Whereas the Chicago, which I left -- of course I had never done graduate work except as an undergraduate I took graduate courses -- would take anybody. And then flunk out half the class each year. We didn't do that. We picked very carefully and some flunked out but it wasn't a very large one. We also had a very large fraction of foreign students as is typical of MIT.

**INTERVIEWER:** You were awarded many accolades over your career, but you won the John Bates Clark Medal in '47.

**SAMUELSON:** That was the the first one by the way.

**INTERVIEWER:** You were named Institute Professor in 1966.

**SAMUELSON:** I'm sorry what was in 1966?

**INTERVIEWER:** You were named Institute Professor in 1966. And then you won the Nobel Prize in 1970.

**SAMUELSON:** Right.

**INTERVIEWER:** Throughout all this were you surprised by any of these? Or was it a normal reaction? What was your reaction in kind of winning these very lofty awards?

**SAMUELSON:** I certainly did not expect to get the Nobel Prize in the second year of it. But on the other hand when I was awakened at five in the morning and a foreign accented voice said how does it feel to win the Nobel Prize, I said well it's nice to have hard work rewarded. And my daughter said that was a very vain thing to have said. I said no actually it was the case. I guess I probably would have been a bit surprised if in the first eight years I didn't get it. But I know people just as good who never got it. And what I know is that science is a group thing. And the people whom I have known who were recommended to the Society of Fellows and didn't make it are just as good on the average as many I've known who did make it. And that's true of every prize in science known to me.

I've received, I think because I was a textbook writer, 40 plus honorary degrees. Well it means something if your alma mater gives you an honorary degree. Particularly if you have developed different ideological views from your mentors. That's noble of them. It's nice to get a Harvard degree, where you've done a lot of important research. It was nice to get an Oberlin degree because it was the first honorary degree I got. From then on, it's nothing. But it's not so much that I'm being honored; my field is being honored. And in Thorstein Veblen's day, you got an honorary degree if you were likely to give money to the university. So if somebody from Indiana University on this faculty calls me up and says I'd like to have lunch with you and I've known the guy for 35 years and we've never had lunch, I say to him I'm glad to have lunch with you. But why do you want to have lunch with me? He says because I'm New England representative of the Indiana University alumni association. And I said well that's interesting. Would it interest you to know I never give a cent to any place that has given me an honorary degree. He said yes, that means we don't have to have lunch together.

**INTERVIEWER:** You were among the first cohorts in the Institute Professors because the position was created in the '50s by Stratton or by Killian -- by Killian.

**SAMUELSON:** Well that's not quite correct. What about Soderberg? I wasn't in the very first tranche.

**INTERVIEWER:** Okay.

**SAMUELSON:** But early.

**INTERVIEWER:** You were early on. Maybe you could tell us what an Institute Professor is or how it changed the capacity you did your research or your teaching?

**SAMUELSON:** Actually in my case it changed nothing because my teaching load and my research load were precisely whatever I wanted it to be. But I think for others it made a big difference. And, well I certainly got more intimate friendships with people in other fields than my own because of the Institute Professorship. But it doesn't have the frequent meetings and so forth which we in the Society of Fellows had with each other. And I imagine that the University Professors at Harvard maybe get together more often than the Institute Professors at MIT.

**INTERVIEWER:** How much did you interact with other members in other departments and schools? You mentioned that economics had historically close ties with Sloan, but perhaps within the engineering and science fields? Did you develop any --

**SAMUELSON:** Well I had a great interest in various aspects of math. So I interacted with people in the math department. But I also had done research over the years in classical thermal dynamics. And that came about because one of my important mentors at Harvard, and I should have mentioned this earlier, was Edwin Bidwell Wilson who had been acting president at MIT when the first guy named Stratton died a month or two after he was inaugurated. I privately think of the good Stratton and the other one. This other one had been head of Bureau of Standards and was not an impressive president. But he was only a short term president. And Edwin Bidwell Wilson had been a cracker jack mathematician in 1900 at Harvard and he was the only protege of the great Willard Gibbs at Yale. Well I was the only protege at Harvard of Edwin Bidwell Wilson. And at a time when Harvard instruction in mathematical statistics was woeful, he was an exception. And I benefited. But he also gave a course every other year in mathematical economics. And so, I should've said this, one of the reasons why I came to MIT was that he wrote me that in 1907 when he got an offer to be head of the physics department at MIT and left Yale, people thought he was crazy. But it was one of the best moves he had ever made. And that carried weight with me.

So Harold Freeman, Edwin Bidwell Wilson, Rupert Maclaurin, each for quite different reasons, were important reasons why I came here and didn't go, let's say to Purdue or Berkeley a couple of years after I'd ceased to be a junior fellow at Harvard. I'm a stick in the mud. I get countless invitations to go to China and India and so forth. And I like to stay at home with my lined pad. And unlike people in the laboratory science, wet lab, when they turn 65 or 70 and they lose their lab support, they're finished. This is my support. I don't even need a computer or a slide rule. But I'm favored. So here I am at 92 doing about what I have been doing over the previous 70 years. But MIT has been a really important part of my life. Including tennis.

**INTERVIEWER:** Including tennis?

**SAMUELSON:** Tennis.

**INTERVIEWER:** Do you play tennis now?

**SAMUELSON:** I've just hung up my gloves, yeah.

**INTERVIEWER:** Maybe you could tell me a little bit about the 1960s. It was a great time of social change. How aware were you of the social changes that were going on? Were you sympathetic to any of them? What are your thoughts on the kind revolutionary aspects of it?

**SAMUELSON:** Well I wasn't happy about it, because there was a four or five year period when there really were some students at MIT who might have taken almost no single examination because you didn't have to. So there was a lot of ferment. I think ours was a more eclectic department than many. So our students at least had some instruction in Marxian economics, for example. There was a famous occasion when the students, our graduate students, asked me if I would debate with Noam Chomsky. Well debating with Noam Chomsky is a little bit like being rid out of town on a rail. If it weren't for the honor of it, you could forego the pleasure of it. But I felt duty bound to do it. And it was done under favorable circumstances here in the lounge of what was the faculty club. And a big crowd and everybody was polite. But I heard a couple of our students who had been four year undergraduates at MIT and three or four years in the graduate school say some of the most foolish things that I heard said. And as I drove home I thought now, what is the model that a great mind, linguist, like Noam Chomsky has about economics, my field? And I knew Chomsky when he was a junior fellow, but that was years after I was. But I've never known him intimately.

And what I decided, but I have no reason to have confidence that this is a correct thing, that he had about the same vision that Albert Einstein had. Which I know Albert Einstein did have. That the world should be organized a bit like an Israeli Kibbutz, where you rotate the head guy different months and from each according to their ability, and to each according to their need. And I thought, how could I explain to one of my daughters, who might have a similar view -- but I wouldn't explain to her my viewpoint because I wouldn't want to impose my viewpoint on her -- that there's never been a society of some thousands of individuals that has ever been successfully organized by means of such principles.

I wrote a foreword to a Swedish book in English on the new leftist economics. I published, I don't know 12 to 15 papers on Marxian Economics, giving praise at a few places and giving criticism at many places. It was a disturbing time. On the whole, at MIT, things were not as rough. On the West Coast people were being killed and so forth. And when I went to Cornell I remember seeing the students carrying rifles on the campus. I like quiet times.

**INTERVIEWER:** Have you seen the student body change? How has the increasing presence of women or minority or international students changed the role that you do?

**SAMUELSON:** First, I read every week *Nature and Science Magazine*. And the *Journal of the New England Medical Society*. And I've done this, in the last case, ever since my son went to medical school. The improvement in science is so colossal. There's no resemblance between any weekly issue now and the other. This elevates MIT. When I read the MIT newspaper, and so forth, the number of interesting projects -- It's nice to be associated with the wave of the future. Whereas if I had a gift for classics or humanities, these would be kind of dreary days. It would be very hard as a good scholar to get a job. And when you got the job you're repeating, over a 30 or 40 year lifetime, so much of the same thing. I like to plow new fields.

**INTERVIEWER:** Since economics lies at the interface between the harder sciences of mathematics and engineering and the physical sciences and the kind of other sphere -- the humanities, arts, and social sciences -- what role does the humanities, arts and social sciences have at an institute of technology?

**SAMUELSON:** Well first let's go back to the textbook which I wrote in order to serve primarily the MIT constituency. I could've made that a mathematical textbook. It would have been well within the grasp of MIT students, way before their junior year. I made a deliberate decision against that for the reason that MIT students, then and probably still today, like to do exercises and then think they have done something important. Well you can solve a lot of problems in applied economics using the calculus and not have a serious notion about the choices and the difficulties of different choices. So, although my book was considered to be, by literary people, a fairly rigorous book -- and people in junior colleges who adopted it in droves didn't realize how difficult the questions were which were being cleverly handled -- I thought it was much more important for them to get a notion of what economics life is really about. And that just illustrates that I'm not interested in mathematical economics as mathematics. I'm interested in it only to the degree that it throws light on economic history. And I do a lot of writing each month for newspapers all over the world. And I think that a person who could write the best current accounts of current economic history would be doing the most important task of the good economist. Mathematics is just catalyst that enables you to handle multivariate things.

**INTERVIEWER:** So MIT has often come to loggerheads between balancing its priorities. Since like in World War II and during the Cold War it was a national asset, you know? For national security. But it also became world renowned as a center for learning for its students around the world. So when it came to classified research, what things international students should or shouldn't be allowed to do, there was often trade offs or the final kind of priorities MIT should set. Do you have any thoughts about the balance that MIT should strike between the priorities of the nation versus maintaining its world class appeal?

**SAMUELSON:** Yes, and this problem has come up a lot. For quite a number of years after World War II, after World War II, if I went periodically to commencement which was kind of a duty, not to go every year but to take one's turn, you would see on the program a classified thesis in the field of organic chemistry. And that kind of jarring thing. That doesn't scandalize me. But I remember a time, one of the few faculty meetings I ever went to because I was drummed up to go, there was a proposal that Iran under the Shah would send 25 graduate students in nuclear engineering each year. The students would be picked out by the Persian government but the degree to be given by MIT. And a couple of trouble makers, one of them from this department, objected at the faculty meeting to this. Well nobody was fired or penalized. But it wasn't long after that that the Shah was kicked out of office with no friends. And we now have hindsight of many years, that would not have been a good thing for a place like MIT to be doing just because you would be getting some extra oil money receipts. And the problem on nuclear engineering always involves a proliferation potential. I'm now very grateful that those two trouble makers slowed things up enough that it dropped out of consideration.

You have to make those decisions all the time. I think a problem that our new president inherited was this Star Wars. Whether we were developing in America such wonderful anti-missile controls that we would have no fears from the Soviet or the Mao nuclear bombs. Well it may be that Reagan's pretending that we had that capability helped deceive and impress the Soviet Union and contributed to the Soviet Union under Gorbachev departing from the Stalin type. But I think it's more important to keep out of politics, the university. Now some members of this Institute, I'm not even familiar or remember the names, believed that the Lincoln Lab was going soft on the failures of the tests. And the new president has to decide what to do. It'd be a shame to lose the Lincoln because you're simon-pure. But on the other hand, to be to opportunistic and ready to shut your eyes to something that's blatantly wrong, I think there it turns out to be a test of character. And I prefer to lose a few shekels and keep more of your integrity. But that's easy to say - It's tough to be. In fact the job of president of a university is all responsibility and no power.

**INTERVIEWER:** Did you have any aspirations to take any leadership positions outside of the department or teaching roles?

**SAMUELSON:** No, no. I've always cultivated such ineptness that my turn to be chairman of the department has never come up. And I don't have to try very hard to create that impression.

**INTERVIEWER:** Do you serve on any committees?

**SAMUELSON:** By the way I also, from the age of 50 on, decided I was going to ease out of any power relations within the department. So the present department is not a carbon copy of my aspirations. I'm not saying that there are things there that I dislike. That's not so. But I think of one of my mentors, Professor Leontief when Harvard didn't want to build a permanent little shrine to his input output life work, he was angry and he quit Harvard. I don't want anybody to create a little shrine on my life work. Do their own life work.

**INTERVIEWER:** That brings me to an interesting anecdote. It's often said, kind of in the mythologies, that you said when you were defending your thesis that Schumpeter turned to Leontief and asked, "So have you passed?" When you had finished? Is there any truth in that?

**SAMUELSON:** I've been asked innumerable times about that. And I say, now look, read the story literally. How would I be able? No. The story says when I left the room this happened. Now do you want to know what I think?

**INTERVIEWER:** Sure.

**SAMUELSON:** I think probably that did happen. However Schumpeter was also known to praise exorbitantly quite incompetent people. So praise from Caesar important but airy compliments from Schumpeter, actually Schumpeter had very good opinion about my abilities and a slightly exaggerated opinion about my abilities. But I suspect that something like that could've happened. It's the kind of thing he was capable of saying. But I don't know.

**INTERVIEWER:** You worked on many committees at the national level as an adviser to Kennedy as both a candidate and president-elect How important do you feel it is as an academic or researcher, to kind of assume these national roles?

**SAMUELSON:** Well, when I was recruited by Senator Kennedy, I was skittish. And I said I'm not for you. I'm for Stevenson. He said I don't want your vote. That's one vote. He said but I'm thinking of making a run for it and if you think you have good ideas for the country, here's your chance. Well I had some other problems. I believed his father old Joe Kennedy to be an SOB and an appeaser and a bigot. And also, when I testified before a number of congressional committees on economic matters, I was surprised to learn that Senator John F. Kennedy was a member of the committee and I had never seen him there. Of course I didn't realize how serious his health problems had been and continued to be. So it was considerations like that. But my private skinny was I think this country is too important to be run by the advice of economists like John Kenneth Galbraith and Walt Rostow. Walt Rostow was a colleague of mine here and John Kenneth Galbraith was an old acquaintance at Harvard. Now I didn't mean anything malicious there. But I didn't think they were masters the way say James Tobin at Yale was of the intricacies of macroeconomics.

And that's why I was ready to step into the beach and do it. And I think I performed a useful role and I also ended up with a lot of confidence by Kennedy and what I said because he turned out to be a very smart listener and a very long remember-er. So if I said you really ought to do this and he said no we can't do it because I don't want to use up my political clout doing it. And I said but really you ought to. He would say, look, we've been through that, we're cycling. Let move on. He also would say, fortunately not about me, wasn't X the man who told me if we didn't do this, that and the the other, that this thing would happen. And it hasn't happened. Yes. So I learned that every adviser to the king has a need to bamboozle him a little bit because you won't get his enthusiasm up unless you exaggerate. I learned that was not a smart thing to do with this particular man. Actually that increased my respect for him because I had also been entrusted with explaining Keynesian Economics earlier to Stevenson and to Governor Harriman, and they weren't also so acute in these respect.

So there were a lot of things where I didn't get my way. But who am I? And I learned to, I guess I knew that the sovereign gets the kind of adviser he wants. If you're not the kind of adviser he wants, then you're not going to be his adviser. I thought we should have devalued the dollar on taking office and blame it on Eisenhower. You know the predecessors. But it wasn't in the cards to do that, and as a result we spent a whole decade defending the indefensible until the dam broke after considerable time after Kennedy was dead.

**INTERVIEWER:** I guess now we'll just move on to sort of reflections about MIT and yourself. I guess I'd ask, what are you still working on now? What do you keep yourself busy with? What are your interests now?

**SAMUELSON:** Well a lot of modern finance theory was generated in this building. Fisher-Black was here. And Robert Merton. By the way I mentioned Robert Merton, one of the people that Harold Freeman helped us get. That's one of my interests, working on capital theory. And a lot of time gets spent in memoir writing and so forth. Because so many of my contemporaries are dying off and so forth. So here I am. Pure luck.

**INTERVIEWER:** If you saw yourself 25, 50, 75 years ago, and based on all your experiences since then and everything that you see coming down the road, what advice would you give to other aspiring economists or academics or students of mathematics, broadly?

**SAMUELSON:** Well I guess for a long time I would have said, if I was talking let's say to a graduating Milton seminar where a child attended, if you are going to go into a subject like economics -- You know the expression in real estate it's location, location, location. In predicting it's timing, timing, timing. Going into present- day economics it's math, math, math. That's the kind of thing you can learn when you're young, like languages. And you're not likely to be able to learn later. And you're going to be pretty severely handicapped in this age. And I had a lot to do -- when Saint Peter admits me into heaven he's going to say why did you help make the subject so mathematical -- and my answer will be well I couldn't help it, sir. Or madam, I don't know which he is.

**INTERVIEWER:** If you look at your time when you were here at MIT, can you recall any decisions that were particularly difficult to make? That there was a particularly dark time that you recall? Or that there was just a decision that had to be made that fell squarely on your shoulders -- ?

**SAMUELSON:** No, but I can give you a nice experience. My textbook was considered by people like Bill Buckley, who wrote God and Man at Yale, as a radical, Keynesian textbook. Some people would say Marxist-Keynesian and so forth. And some members of the MIT Corporation got on my case and so forth. And Karl Compton wrote them a letter and said any time anybody interferes with the freedom of expression of a member of my faculty, that will be the day of my resignation as President of MIT. I appreciated that. I'm not absolutely sure that James B. Conant would've said the same thing at Harvard at that date. Whom I knew.

**INTERVIEWER:** Would you count that as one of your more affirming or rewarding experiences in your life?

**SAMUELSON:** I would say that would be to exaggerate it because I always could laugh at the bank at the sniping of my textbook as so radical. In fact when I got on Nixon's enemy list it raised the prestige of myself within my own family and in my circle. But I know a lot of people who suffered tremendously and unfairly from witch- hunts. And plenty of MIT people involved. Members of the math department who had been members of the Communist Party, which was not at all illegal. Most of the convictions and stuff in those cases were in the cover up. The moment you told a lie, your goose was cooked. Your first lie. And it's very easy to tell that first lie, because you've outgrown a past. You've broken no law. And you don't want to have anything change. And you make the story a little prettier than it actually was. That's not good. **INTERVIEWER:** What do you make of the current state of academic freedom compared to eras you've experienced? Whether it was McCarthy or the '60s?

**SAMUELSON:** Oh I don't think that in my line of work, the pressures if anything, economics has moved a lot rightward from where I am. But I don't think anybody's freedom is being impinged. But I don't like it when in state documents -- I don't know if you happened to notice the testimony of the four year Surgeon General of the United States. But he was required to name Bush's name three times on every page of anything that he wrote. And was not allowed to talk about disabled children because that prominent family would be benefited. That prominent family turned out to be the Kennedy family. I think we're in one of the, in all the history of this democracy, this is one of the most deplorable regiments, and will probably go down in history as recognized to be that. But history often gets things wrong, so don't count on it.

**INTERVIEWER:** What do you think that histories or accounts or the mythology that surrounds you, what does it get wrong?

**SAMUELSON:** Well --

**INTERVIEWER:** Are there inaccuracies in what you feel are stories told about? Something you'd like to correct for the record maybe.

**SAMUELSON:** Well I've written some things that needed to be written, but that weren't at least at first well received. That globalization is a good thing both for the developing country and the developed country as far as the total average is concerned. But it brings with it an increase in inequality which is hard to alter. And that just follows. And in fact the only reason I would publish it is that I had a mathematical model which showed how to measure these things. And what it meant when Toyota gave you a cheaper car and a higher quality car and you lost jobs in Detroit, good jobs in Detroit. And then took whatever the next layer of jobs was. And I had a way of calculating that. And that was why I wrote it. Because the bulk of the economists of my generation and the generation younger than me, didn't really understand this. But I think that things that are true should be said because they're going to come out anyway in the end. So I've never especially minded being unpopular except when I later thought I was making a mistake. And I've made a lot of mistakes.

**INTERVIEWER:** Just a final couple questions. What about MIT sets it apart? Why can't other universities, why can't other colleges imitate its success?

**SAMUELSON:** They do. One of my former collaborators here at MIT, who was a collaborator as an undergraduate with me in research, was encouraged to go to Harvard for his graduate work, where he now is. He's finished one year there. He showed me his exam. That exam was so different from any exam that I ever took at MIT or saw given. It was 99 percent closer to an MIT exam than anything I had seen. So the Princeton and Harvard that were no competition to us, are damnably effective competition to us now. But I like that. I mean I don't mean I like being out-competed But I like the better paradigm spreading over the less good paradigm.

**INTERVIEWER:** What do you feel MIT's trajectory is? What is it evolving into? How would you change its direction if you could?

**SAMUELSON:** Well I guess I would make it much luckier. So its endowment would double its rate of growth in comparison with its competing ones. It's, by the way, got a pretty good investment record. But that's just a joke. That's not something that's at your command. If you continued to get the kind of work in genetics and molecular biology that we're getting at MIT, you will continue to gain in reputation and continue to improve the state of human life. Now there's a downside of science because now, if you had a slightly demented farm boy he could torture his own dog or poison his neighbor's sheep. Today he can go to the library and get out of the encyclopedia a recipe for making his farm fertilizer nitrogen into a bomb that can explode the Oklahoma City high rise government office. The capacity of dissidents, particularly dissidents who aren't contained by the fear of death, to do harm is a downside of science. On the other hand problems like pollution of the atmosphere, which come from the scientific advances of GDP, science itself will in the future help you solve their own problems and have something left over.

So that I don't think of economics as its old title, the dismal science. I think of it as a fairly cheerful science. I just wish sociology and geo-politics and drug addiction and so forth were in as favorable a state as my discipline of economics is.

**INTERVIEWER:** Do you have a favorite hack on campus? Did you ever see a favorite hack or prank that the students would have?

**SAMUELSON:** Well when I first came here the typical kind of prank would be to disassemble a Model-A Ford and reassemble on the roof of one of the buildings here. I remember, it could have been even a Harvard-Yale game, where explosives on the field traced out something like MIT Yeah Yeah Yeah or something like that. I wasn't infatuated with fraternity hazing, where things like this would happen, did happen. On a snowy winter day a guy's taken out to Lincoln, near Hobbs Pond, and blind folded and then released and he plows across the snow and his body is found next spring from the bottom of Hobbs Pond. Maybe a lot of fun while it's happening, but not my kind of fun.

**INTERVIEWER:** Did you have a favorite place or a favorite time here on campus? A location or a building or a garden or anything that you liked to retreat to?

**SAMUELSON:** Well, you know, actually the first office I ever had which was Building 1, that's the nearest to Massachusetts Avenue corner and to Memorial Drive -- mine was on the just inner court and the federalist windows went down almost to the ground and high, high ceilings -- that was a really nice location. But if I went, oh maybe 150 feet, I might be where mechanical engineering drawing tables were. Which was a requirement for all first year students. When Harold Freeman came to MIT in like 1927, he was six feet tall and weighed only about 120 pounds. And one of the required first year subjects was forge. And you had to take a big dollop of molten steel and pour it, which he was too weak to do. And by the way the same Harold Freeman, 25 years later, was a star basketball player on our graduate basketball team at the economics department. That wasn't at all like the present MIT. And I like the present MIT better than the older one.