



AMERICAN INSTITUTE OF MINING,
METALLURGICAL, AND PETROLEUM ENGINEERS

ORAL HISTORY PROGRAM

**Ray Smith:
The Life of a Mining, Metallurgical, and Materials Engineer: Dedicated to Education**

2018

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00:00 Introduction

Lawrie-Munro:

This is Michele Lawrie-Munro, Executive Director of AIME, the American Institute of Mining, Metallurgical and Petroleum Engineers. I'm here today at the home of Dr. Raymond L. Smith, a prominent TMS member in the Green Valley, Arizona area, and we are doing an oral history capture, one of a series that AIME has been doing over the past several years on prominent members of our Member Societies.

Lawrie-Munro:

Today is Wednesday, March 14th, 2018. Thank you so much for having us into your home, Dr. Smith.

Smith:

It's a pleasure.

Lawrie-Munro:

Excellent. So, I believe a belated happy birthday is in order because you just turned a hundred and one in January, correct?

Smith:

That's correct.

01:10 The Early Years

Lawrie-Munro:

Excellent. Well, as such, we are very pleased to be able to find a time when we were - we could come down from TMS's annual conference in Phoenix to capture your story and share that with others in the field, with historians, and with future generations

Let's start at the very beginning. Tell us about where you grew up.

Smith:

I grew up in a little town in Northern Maine. A very tiny town, it was a railroad town. And where the CPR (Canadian Pacific Railroad) met the Maine Central. So, that formed a long, big part of my life.

Lawrie-Munro:

Absolutely. So, what did your parents do for a living there?

Smith:

That's a pretty tough one to answer. I can answer it because my father abandoned the family when I was about four or five years old. And, at the time, he preferred going to jail rather than supporting us. And, he did. So, we lost track of him. And, his problem was [that] he was an alcoholic. But, in those days, you didn't think of alcoholics as an addiction, you just thought of them as drunks. So, we didn't have a father right then. But, I got a good father, later on, a stepfather. Wonderful, wonderful man.

Lawrie-Munro:

Excellent. Excellent. So did you have brothers and sisters as well? Did you have brothers and sisters?

Smith:

Yes, I have two brothers and a sister. And if you took us, come up this January 25th, I'd be a hundred and two, my next brother would be a hundred and three, my next brother would be a hundred and four, and my sister would be a hundred and five. So, that few days there, we were consecutive.

Lawrie-Munro:

Wow. So you're the youngest?

Smith:

Yeah, I'm the youngest. All the rest are dead, of course.

Lawrie-Munro:

Okay. So, what was it like for your mother as you were growing up? Did she have to work?

Smith:

She had a tough time. It was the depression of course, and she had to raise the four of us with very little help. And, she worked very hard, and she did a hell of a job, excuse me. She had a tough job keeping us going, and she was a wonderful, wonderful mother. And, one of those books is the story of her life. It's called Genevieve. I wrote it, but I used her words. For many, many months, I taped them, and, then, I finally wrote a book about her. And, it's a pretty good book.

Lawrie-Munro:

Wonderful. Wonderful. So who or what influenced you to become an engineer? Who influenced you to become an engineer or scientist?

Smith:

It was all - I went through those first parts of my life without any ambition what so ever, because there were no opportunities. I didn't want to be - go to school. We didn't - there was only one boy in town, in Vanceboro, Maine that went to college. We thought he was a little peculiar. In those days, people just didn't go to college. But it wasn't until I went to Alaska that I went to college and that was, you know

that story I'm sure. Do you want me to tell it or...

04:49 Going to Alaska

Lawrie-Munro:

Yeah, absolutely. Absolutely. I was going to say, I've done a lot of research on you and I know that you did go to school there and you taught there for a little while as well. So yeah. Tell us about your time in Alaska.

Smith:

Well, I was a boy that could fix things. I built cars and, and everything. And I was the only boy in the family - the others didn't do anything, but I'd get a car and they'd borrow it. And I remember I had a beautiful Indian motorcycle and my brother borrowed it and he wrecked it. That upset me some. But I'd get a car and they'd give me the opportunity after I'd bought the car and I built, rebuilt it, they let me have it at my turn. So I've always looked back at that, wondered how the hell, how the devil could I be that stupid? But I did. I just figured they're my older brothers, so I'd take my turn using my car.

Lawrie-Munro:

Excellent. Nice of you to share that with them. So then, how did you end up wanting to go to Alaska or what opportunity led you there?

Smith:

I was a kid that could save money and I saved every penny I could. And I got enough money to take airplane lessons. And, there was a group of us, three of us were going to buy a Great Lakes flying, you know, airplane. And I remember on my motorcycle, I went down, and backed out of it. Because there was an old book, it was a red book or something, and I could tell it was in August of 1938, or something like that. I'm going to try to research and find out what it was; it told me how you could get rich in Alaska. So I decided, well, maybe I ought to go to Alaska, instead of buying this plane. So I backed out of our deal and they had to take it up and I remember, take my part, and they were pretty angry at me. We were down to the airport in Hartford to watch them take off in this plane, oh it was a beautiful little Great Lakes plane. And they got it up about 50 feet and the motor stalled, and the plane came to the ground, and the wings fell off, and I figured, well, it was time I go to Alaska. And so I backed out of that deal, used my money to turn my motorcycle in, and I went across the country to go to Alaska. I had to catch a boat, of course. That's how I happened to go there.

Lawrie-Munro:

Wonderful. And did you fly in Alaska? I read something about you piloting in Alaska. Did you fly planes in Alaska?

Smith:

Well, yeah, I was trying to think the other day. I didn't do much, but I was copilot on a couple of big trips to ah, one to Nome on a big plane. I can't remember the name of it. It was a four-engine plane. And then

another time, to Point Barrow. But then, when the war came along, I wanted to get in flying. But they tested my eyes and said, no, you can't do that. And then a day later I got a call to come out to the airport, I forget where that was, and I was very thrilled, I thought now I'm going to get in. You know what they wanted me to be? A glider pilot! And, there was no way I was going to be a glider pilot. I had no desire to do something without an engine. That was a long story, too much. But anyway, I never did much flying.

09:06 University of Alaska -- Dr. Charles Bunnell

Lawrie-Munro:

So, then what inspired you to go to University of Alaska, Fairbanks? How did you get to the school?

Smith:

Well, we got to Fairbanks. I went to Fairbanks in steerage of course, with my buddy. Incidentally, he didn't have any money, but he got me to do these things, and he participated in what I had. But we got to Alaska and, I'd been, I'd been a hobo in the United States, there was nothing to do, so I did quite a bit of hobbing. So I knew all about catching rides on trains and stuff like that. And I was going to go into Anchorage, there was no Anchorage then, there was just a port. And we were going to catch a seat because I knew there was a railroad going into to Fairbanks because I wanted to get to Fairbanks because that's where a lot of the gold mining was at that time. But the people there advised me, you can't ride the rods on a train up here, you'll freeze to death.

So then we got back on, stowed away on the old Aleutian, and they kicked us off, and uh, what's the name of that little town? But anyway, that's where I wanted to go anyway, because they had one road that went into, from Valdez, it was Valdez, that one road through the mountains into Fairbanks. And so we helped load a truck and got into Fairbanks, and they had bread lines in Fairbanks just like they had in the United States. So there were no jobs. And I wandered out, I'd heard about this school, and I figured maybe we can go out there and get a job. You've heard this story before, haven't you?

Lawrie-Munro:

No!

Smith:

Well anyway, we went six miles out, so we walked out there, my buddy and I, and we saw a guy digging a ditch, and so we asked him if there was any work around there. And he said, no, there's no work.

He said, here, he says I'm lucky to have a job. But then, he started asking us a lot of questions. Then I worried, because in the old days if you were working with a shovel or doing anything else that resembled overseeing, they'd fire you just like that. So I figured, he's leaning on a shovel talking to us, he's going to get fired. But finally, he asked us lots and lots of questions. Then he directed us, he said you boys look like you could stand a square meal. So he sent me over to a house, and he said, just tell them you'll work for dinner. So we did just that, and we went in, and everything smelled so good. And of course we'd been eating bread, stale bread, it was tough to get along, we were hungry. And the woman come out and, the cook, and she said, "Well, you just wait awhile, and you don't have to do any work for

your dinner because the president will be out and see you in a minute." And, I figured we'd been lied to. There's a word for it, but it's a dirty word. So, this guy came out all dressed up, and it was the guy that was digging the ditch. It was President, Charles Bunnell. He was the president of the university. And why he asked us all those questions, he needed students, and he knew that we were students and pretty bright guys. And I said, well we can't go to school, we don't have any money. He says, well if you go to - if you're a resident of Alaska, you don't need to pay any money like a tuition. And I said, well, I'm from Maine. The other guy said he's from Cape Cod, Massachusetts. And the guy said, did you get off the boat and go into Anchorage? Not Anchorage, one of the towns, I forget what it was. There's where my memory's bad.

But yeah, I said we got off there. Juneau. He said did you get off the plane, train in Juneau, did you get off the boat in Juneau, go into Juneau? I said, "Yes." So he said you boys are residents of Juneau. So he pronounced us residents of Alaska. That way we didn't have to pay any tuition. And he got talking to us and he finally convinced us that we had to spend, we had to do something during the winter, and that we ought to go to school and so we decided to go to school. That's how I got into it. I never wanted to go for an education because it was impossible. But we did, and of course, I did very well.

Lawrie-Munro:

Yeah. I was going to say that actually changed your life pretty much, so.

Smith:

Yes, it changed it. That was a major change in my life.

Lawrie-Munro:

Why did you decide engineering or metallurgy or anything like that? Why did you decide for engineering or to go into metallurgy?

Smith:

Well, it was an engineering school. And so mining engineering was a major, major thing. So I took a...

Lawrie-Munro:

So is that what you had in your undergraduate in, was in mining engineering?

Smith:

You know, one of the things, when I went there, I graduated cum laude, well I would have got magna cum laude but there was one English teacher and he tested, he tested - said I want to test the students to get an idea. I want each of you to write a story. So, I wrote about the river drives because I worked at 16 years old I worked driving the logs down the St Croix River. And so I knew how to ride logs and knew it, so I wrote a story about that. So what he said to the class was, now we're going to talk about plagiarism today, and we have an ideal case. Smith, here's plagiarized and wrote something about something he knows nothing about, but he's read about it. And like a damn fool, I didn't go to the dean or anything and complain to him about it. But he was not on my good list from then on in. But, anyway.

16:24 University of Pennsylvania -- Robert Brick's Influence

Lawrie-Munro:

Understandable. Wow. So, when you got - I read that, I think you got your bachelor's degree from there right? And then when you went to, you went to get your Ph.D. at University of Pennsylvania, Philadelphia. Because Robert Brick from Cambridge went there. And I couldn't find any information on him. So tell me how Robert Brick kind of inspired you to get, to go to the University of Pennsylvania.

Smith:

Brick was a very famous metallurgist, and he'd written a book, which I wished I had a copy, cause I had a few fires and one of the fires burned that book. But he was my teacher, one of my teachers, and he made you think. He didn't just say one and one is two, he'd make you understand why one and one is two. And he was a teacher that made you think. In fact, he wasn't really popular with the students because they didn't like that. They liked to have you tell you something and you repeat it. But he was - in Harvard, I forget, and he'd agreed to accept me. I wrote a letter and he said, yeah, I'll take you. But then he moved to Penn to start the school of metallurgy there. And so he wrote and asked if I'd join. So I said sure. And, when I got there, I remember the interview, he looked at my resume and he said, he says, you can't, can't study a master's degree or a doctorate degree in this.

He said you don't know anything about it. And I said, well look, you had all my resumes before I came. You accepted me. Now, if you let me take what I want to take and I don't do it, I'll take what you want to take. That was the end of that because then he said, okay. And then he tested the students early in the game of what they - to give a seminar, so he could analyze. So I remember he gave me a seminar and it had to do with a physicist that I had mentioned. I forget that name now, but when I used that name, he says, you know, you kids make me sick. You talk about things you don't know nothing about because I'd used an equation of his. I wished I could remember, to tell you that story, but I can't. But anyway, I said, would you like me - because I'd used a formula that he'd used. I said to him, would you like me to talk about this for a while. He said, go ahead. So I filled the blackboard with mathematics and you should see some of the mathematics I could use. I did it on my own. He never ever asked me another question all the while we were there. And when he died, I remember, his wife was very friendly and I knew her very well because I was older when I went to school. And she said that he thought I was the smartest student he ever had. So I was very pleased with that. But that was Robert Brick. He became a good friend of mine.

In fact, when I became president of the university, I had him up to the school, and my wife gave me hell because we were having dinner, and I'm sitting here and one of the board directors, the head of school was sitting here and then he was over there. So, I talked across her and my wife gave me hell. She said, and you really blew it. You got her awful mad at you. And so she solved that problem. She was a smart woman. So she got a good bottle of liquor and gave it to her cause she knew that woman liked to drink. From then on in she was our friend. There was no problem there. I don't know how I got rambling off that way!

21:17 Getting Back into Education

Lawrie-Munro:

Okay. So, Dr. Smith, you were telling me about Robert Brick coming to your home and having dinner with you. So what else can you share about that experience?

Smith:

Well, before I go into that, which relates to me being president. When I left to go up to get a job, I wanted to get back into education. I'd been doing high-level research and I got to draw up in an old car in the back of the metallurgical engineering building, just to be a head of a department. And within five years I became president. So I just, every job I got I moved fast, and there wasn't any intent, it was just natural. So I just moved fast.

Lawrie-Munro:

Right. You had those leadership qualities that allowed you to rise very quickly in your profession. That's wonderful. So let's back up just a little bit to talk about, um, between when you got your degree in Alaska, Fairbanks, and you taught there for a little while, and before you got your Ph.D., I understand you served in the Army during World War II. So what can you tell us about that experience?

Smith:

Well, I never shot anyone and I never ducked any bullets. I was an engineer already. I was a good engineer and so I got a job then building things. And that's what I did. So my military experience didn't amount to much.

Lawrie-Munro:

But was it here? Was it domestically here then? In the U. S. that you built things? Did you build things in the United States? As an engineer, did you build things in the United States for the Army?

Smith:

In Alaska. Because I was up there. Never went overseas or anything.

23:30 Meeting Rachel Malcolm – Beatrice Smith

Lawrie-Munro:

Okay. So when did you, when did you meet Rachel? Your wife?

Smith:

About fourteen years ago. I was giving the keynote address. There was a celebration of the gold rush of the early nineteenth hundreds in Alaska and so they invited me up there to keynote that. That was a week-long thing. So I gave the opening lecture and a guy came up to me afterwards, and he liked my talk, and he'd given a talk too. And, he was so impressed with what I had to say and how I did it, that he invited me to give a lecture for him down in South Carolina. There was a lot of ins and outs there, but I eventually ended up down there giving a lecture. And I went into the room early in the morning,

because I had to drive all night. And, there was a woman sitting there, one woman, and I went over and said, "Well, here's a nice lady, I could sit beside!" And, she said, "You can't sit here, you're a speaker."

And so I said, oh, well. And then, while I was lecturing, I watched her. She was taking notes. Well, I could, write something, I never looked at notes, I didn't need notes, I could write something, my memory is excellent. I could give you word for word of what I'd written. So, she was impressed by the fact that I talked for an hour, with no ins and outs or e's or o's. So, she got very impressed, and she wanted to meet me. And so, we met her after a while after that was over. And, then we started corresponding, and we got married after two years.

Lawrie-Munro:

Oh, very nice. So that was all in Alaska?

Smith:

That was. No, that was in Charlotte, Carolina. I gave a lecture there at the time. I'm trying to think where, I was out here then, yes, right here, and I was semi-retired and my wife of 54 years had died. She was a brilliant woman. She died right here. I can't talk about that.

Lawrie-Munro:

Okay. No, and that's perfectly fine.

26:26 Franklin Institute of Research - Technical Director of the Laboratory

Lawrie-Munro:

So, after your Ph.D., you got your Ph.D. at University of Pennsylvania, Philadelphia. As far as your schooling, just to close that out, did you have any professors besides Robert Brick that, that mentored you or influenced you, or any classmates? Or anything else in school you want to talk about to finish out that?

Smith:

Oh there are a few here or there but not many. No one that stands out in my mind.

Lawrie-Munro:

So after your time in Philadelphia, you worked for the Franklin Institute of Research as the head of solid state physics and a technical director. So was it difficult for you to transition from going to school to being in the profession? What was that transition like?

Smith:

Well, it was unusual. I was in graduate school with a guy that was a physicist, and we had worked on some papers, joint papers, when I was in metallurgy at Penn and he was in the physics at Penn. So, he advised me to take this job at Franklin Institute. And they hired me to start a metallurgical section, and

I'm working with five in my group. There were five top-notch physicists, and, somehow, I got to be appointed the head of that group, which was unusual for a metallurgist to be involved with things like that. But, with my mathematical abilities, they were very, very good. Oh, after we're through with this talk, I want to just show you a little pamphlet of the kinds of things I did. And, so, I became head of that, and I raised a lot of money. And, as a result of that, I got appointed technical director of the whole laboratory. There was a lot more than those four groups. It had a whole bunch of things. So I worked there for a couple of years.

Lawrie-Munro:

And how did you like that work, what kind of things did you do there?

Smith:

Well, I did mostly theoretical mathematics because I was good at that. It wasn't a part of my background. I just did that. I'll give you afterward when we relax with this stuff, I'll show that to you, and you'll understand more what I'm talking about.

29:33 Michigan Tech - Martin Caserio/Simone Bernard

Lawrie-Munro:

Okay. My understanding is that, after that Michigan Tech snatched you up to chair the metallurgical engineering department in 1959. And you told, I think you had told someone in an earlier interview at Michigan Tech, that you went there because of Martin Caserio, who headed up Chevrolet. Who was a Michigan Tech alumnus and General Motors Group Vice President, eventually. He served on Michigan Tech's board later on. So tell us about your relationship, and kind of how Marty affected you. How Martin Caserio affected you and why you wanted to go to Michigan Tech because of him?

Smith:

Well, he worked for Delco Radio, which was a division of General Motors. And that's when I went up there to give a lecture. What happened is, Frank Gemole, the physicist that was with me in Penn, had been invited to give a lecture. That was because Martin was supposed to give one, at Tech, and then he got, Frank Gemole, he's the physicist I'm talking about, to give the lecture. Frank couldn't do it, so he suggested I do it. So I didn't want to do it, but, finally, I did it. And I saw this rundown place, and I thought well this is an interesting place because they have the one thing that other schools don't have. It has one of the largest metallurgical groups of students that I ever saw. And so I thought, well, you know that might be a good place to work. You've got the students, and of course, I changed things around.

Lawrie-Munro:

Absolutely. Yeah. In fact, what I read in the interview that I saw you did with Michigan Tech, there were a lot of people that said that you were a visionary, that you, took the school, and, and really kind of catapulted it into the great school that it is today. I understand that, that as a part of that actually, you and Marty started a foundation at Michigan Tech as well. That you started with raising \$30,000 a year and then into the millions. So what can you tell us about your partnership with Marty to build that

foundation for the school? The foundation for the school? The money.

Smith:

Oh, well, when I went there, and less than six years after I was there, I mentioned before, I was made president. And then I saw the most money they had, they'd get about \$30,000 a year from the alumni, and I thought that was ridiculous. So we needed to have a fundraising campaign. And so I got Marty Caserio to head it up and boy he put together a foundation, just like you have at TMS, to raise money. And we raised a lot of money. The most amount of money they had would be \$30,000 a year or something like that. But we ended up within the millions. And Marty was a major figure in getting that done. He's a fabulous man.

Lawrie-Munro:

Excellent. So, as far as your time in the metallurgical engineering department, they said in this interview that "Dr. Smith's research led to the development of some of the purest iron in the world." So, tell us about your research in developing pure, very pure iron. And what that was like and what happened as a result of that.

Smith:

We developed, or I developed, or we developed an idea of how to get pure iron, and it's too complicated to talk about. But we did, and the French invited me and paid my way over to Paris, twice, to lecture about this and to help them. And, so, I went over to Paris, and I met Simone Bernard. That was her name. And there was the first time that I'd really met a woman that was in top-notch scientific research. I was very impressed by her. Could I go tell you a little story that's off-color, not off-color? I was talking, I could talk French, but, of course, Frenchmen don't like you. Most countries like you if you try and talk their language, not the French people. You've got to pronounce everything right. And, I was saying something, and she burst out laughing. We were on our way to go to lunch, and she got in tears, and she wouldn't tell me what I said. And she said, "Well, I want to introduce you to a bunch of men." We had lunch with all of their people that were standing there. And, she asked me to tell that story. And, they all rolled in the aisles. I never found out what the hell I said. I still to this day, but it had to be off color, you could bet your boots.

Lawrie-Munro:

Exactly, exactly.

Smith:

But anyway, I enjoyed that. I enjoyed my relations with Paris.

35:57 Raymond L. Smith Award – The Gates

Lawrie-Munro:

Excellent. Okay. So, going back to your work for the foundation. So, Marty Caserio and you kind of took the foundation to new levels, new heights. And, I understand, from that article too, that you're a major

donor as well, a member of the second-century society, and that you endowed the Raymond L. Smith Award for outstanding male and female senior athlete of the year. So, that award, since it's for athletes, I was curious if you were an athlete yourself or why you chose to give awards to athletes versus maybe a technical award, for example.

Smith:

My wife watches all those sports. People love sports. I never was a big hand in sports at all. I played baseball in high school, but that's all. But, up there I realized how important sports were. When I saw what the students did - they were just incredible. In fact, I was trying, I've got a book over there, I'll show you. It was about an alumni, a book, it was written in 1927. And, in it, it shows the Gates people. The Gates people, two men, brothers were graduates of Michigan, Michigan Tech. And, they were multimillionaires of course, ran the biggest rubber company in the country. So I was going to raise money from them. So I went out to see them and, I got to know the two older men that both died, but I hadn't gotten any money from them. So I went out once more, I said, I'll make another try and see the son.

Well, he met me, instead of meeting me in an office, a nice one, he met me in a decrepit place. He met me in a little downtown office, it wasn't an office, it was just a hole in the wall. And I figured he's insulting me, but he let me talk a few minutes, and then he said, "Don't you realize that you're wasting my time?" And, that got me very angry. So I said, "What, do you think you're doing with my time? I came all the way out here ." And I said what in the world do you do anyway, besides make tires? Do you have anything you do? And he says, well, I like to play tennis. I said there you go, we don't have a good tennis court at all. And here's these poor guys up there and no girls hardly at all, and so we need a tennis building. And, he said, bring me a proposal on that. I brought him a proposal, and he donated a million dollars to build the Gates building.

Lawrie-Munro:

Wonderful!

39:19 President of Michigan Tech - A Visionary: Seeing the Potential

Lawrie-Munro:

So, Dr. Smith, after chairing the metallurgical engineering department at Michigan Tech for just six years, you became the university's sixth president. So, what was it like transitioning from teaching and researching to working in the administration? Did you enjoy it more or less?

Smith:

Oh, I enjoyed it very much. And I knew those things had to be done, and I always liked to have things to do. That I could change things. And I wanted to change things. And I knew they needed all new buildings. It was a mess. And it needed all kinds of new programs. That was very bad. It was like they were functioning 20 years earlier. And, so I wanted to make those changes, which I did. That was a thing that I fought to do.

Lawrie-Munro:

That's wonderful. I read on the Michigan Tech's website, author Mark Wilcox, in an article about you when you visited there a few years ago, called you a visionary. What do you think about that?

Smith:

Well, I never thought of myself as a visionary. I just looked at what had to be done, and I did it. And, I knew, well a visionary yes, because it had the potential because it had the students. And, it had the potential of being something important. And, there was a story I should tell you about, that's off the bit. But when I was President, I went down to meet the major budget guy, running the budgets for Michigan, and I started giving big spiel like we've been talking, and he says wait a minute, he said, wait a minute. I have one objection. I said, what's that? He said, my objective is to close Michigan Tech. They don't need it. And, so I thought that was funny. It didn't bother me a bit. I said I think well I'm going to show him a few things.

Lawrie-Munro:

Absolutely. And, in fact, what the author of this article said was that after 12 years you had signed 10,000 diplomas, the same number as from the founding of Michigan Tech in 1885 to 1964. So, in 10 years, you ran through the same amount of students that they did from the very beginning. I thought that was interesting. And also, from 1964 to 1980, enrollment grew from 3,400 to 8,000 and faculty nearly doubled. In fact, nine buildings were constructed or acquired during your tenure, shaping the modern face of Michigan Tech. So I think that's quite an accomplishment. They in fact, even have a building named after you, the R. L. Smith building, I saw.

42:30 Melvin Calvin Medal of Distinction

Lawrie-Munro:

I also noted that in 2010, on Michigan's website in an article, that it says that you went back to address the graduates and received their highest honor, the Melvin Calvin Medal of Distinction. Congratulations on that. I understand that this is named for the first recipient, for its first recipient, Michigan Tech alumnus, Melvin Calvin from 1931 who won the 1961 Nobel Prize in chemistry with Andrew Benson. It recognizes individuals who have an affiliation with the university and who have exhibited distinguished professional and personal accomplishments. The current president, Glen Ross, also credits you as being the process of moving Michigan tech toward its role as a research university and increasing the level and stature of programs and accelerating the pace of change in this article. So that must've been a great honor to be able to go back and talk to the students and be able to receive that award. Yes?

Smith:

Yes!

Lawrie-Munro:

Excellent. Okay.

43:44 Searching for Mines at 93

Lawrie-Munro:

One other story I wanted to talk about a little bit was what I read in Michigan Tech's blog from 2009, from a feature story here in Arizona's Green Valley News and Sun, that, at age 93, you searched for mines in your golden years with a group of other men, and you located old hazardous mining sites in south-central Arizona here, pinpointed the location, recorded data on the environment and the wildlife, and you erected safety signs and it was called, I think, the Hazardous, Abandoned Mine Finder Group?

Smith:

Yeah, that was a group we started that was really worthwhile because they put a law on the book, that all abandoned mines had to be marked. And, so one of the guys, not me, but he's the guy that started it, decided we should start a group, but the mining division of Arizona would have nothing to do with us. So, he didn't give up. He went to the forest service, and they said, okay, we're used to having volunteers, so we can help you. Well, that grew into a group of nine people. We limited it very much. We're very special about who we let in. We had one guy appointed to be the guy that wouldn't let anyone in. We finally ended up with nine people. We scoured these bones, and we put 10,000 signs up, aluminum signs up in a period of our life. And it was a good job, and it gave us good exercise.

45:36 Renaissance Man

Lawrie-Munro:

Absolutely. Well, no wonder you've lived such a long and illustrious life! That's wonderful that you were able to do that. So, I have one more quote from the website, and then we'll talk a little bit about your time in TMS as a member. In the Tech Alum newsletter, January 19th, 2016, Dr. Joseph Kirkish, Professor Emeritus-Humanities calls you a "Renaissance Man." So, he said "He was an administrator, a writer, an exceptionally talented background in Alaskan piloting, automobile constructioner, art admirer, and so much more." What do you think of that as a summation of your life?

Smith:

I'm really pleased and honored and embarrassed a little bit by it. And, I'm just thinking you got to be careful talking to about this because it looks like bragging, and I don't like bragging. In fact, when you started asking me questions, I wrote a little thing down about bragging, and I thought, be careful about what you say.

Lawrie-Munro:

Absolutely not. I think it's very apropos after hearing your life story and researching your life story. I think that's a perfect explanation and synopsis of your life.

47:00 Longtime TMS Member - Advice for Young Members

Lawrie-Munro:

I understand, so you're a member, a long-time member of TMS, and you're also a member of ASM, was

my understanding. So, when did you first hear about AIME or TMS or ASM? How did you get involved in the society, and how have you benefited from the society over the years? Have you met different metallurgists through the society? Have you gone to conferences?

Smith:

I was very active in the minerals business because it was something I loved to do. And, I got very early on. I think I must've been one of the first places I ever joined was the AIME. And, as a student, I was the president of the group, and we had a student membership of the AIME. And, from the time I was a student until now, I've been involved with the mining engineering.

Lawrie-Munro:

Wonderful. Wonderful. Now, what do you think, what kind of advice would you have for young members that are kind of just starting out in these fields in mining and metallurgy? In physics even. What would you tell those students as advice that you'd have from your career that you could share?

Smith:

That's a tough question to answer because the world has changed so much. Nothing's the same. And, of course, when you get older, and you look back, you think what a crazy world it is now. So, the only advice I could give them is don't believe anything you read or write unless you've thoroughly examined it. To find out what is right, what is scam, what is right, what is wrong, and do your best to correct it. That's about all I can say.

Lawrie-Munro:

Yeah, that's wonderful advice. Very wonderful advice. What a fascinating career and life you've had. It's been such a pleasure to meet you and to talk with you! So thank you, again, for allowing us to come into your home and record your story and be able to share it with others. We really appreciate it.

Smith:

Well, Michele, I'm very honored that you would come, that you would talk to me. That you let me brag a little bit.

Lawrie-Munro:

Absolutely. Absolutely. It's been a pleasure. It's been a pleasure. Thank you, sir.

Smith:

Thank you, Michele.

Lawrie-Munro:

Thank you.