

Narrator: Anthony Tweed (AT)

Company Affiliations: Spillers United Bakeries, Northern Alberta Institute of Technology, Canadian International Grains Institute (CIGI)

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Summary: Former head of baking technology at the Canadian International Grains Institute Anthony Tweed discusses his career in Canada's grain industry and around the world. He describes his early career in baking in England for Spillers United Bakeries, moving to Canada to help establish the baking school in the Northern Alberta Institute of Technology, and joining CIGI in its early years as the head of baking technology. He explains CIGI's mandate of promoting Canadian grain to international customers, recalls his colleagues at the time, and recounts the Canadian and international programming he participated in. Tweed describes both the routine research work at CIGI and stand-out stories of international travel. He discusses changes to the industry that forced CIGI to adapt, like shifting markets, changes in buying and eating habits, the introduction of new wheat varieties, technological improvements, and the demise of the Canadian Wheat Board. Other topics discussed include different flour varieties and their baking uses, Canada's reliability for quality and consistency, CIGI's work with the Canadian Grain Commission and Canadian International Development Agency, his interaction with farmers and terminal elevators, and the special wheat requirements for some UK customers.

Keywords: Spillers United Bakeries; Northern Alberta Institute of Technology (NAIT); Canadian International Grains Institute (CIGI); Commercial baking; Bread baking; Flour milling; Flour Mills; Pastry baking; Pasta processing; Noodle processing; Grain marketing; Technical baking; Grain research; Baking science; Food science; Grain export destinations; International trade; Grain varieties; Flour varieties; Grain grades; Canadian Grains Commission (CGC); Canadian International Development Agency (CIDA); Food aid; CGC—Grain Research Lab; Certificate final; Grain farmers/producers; Canadian Wheat Board (CWB); Terminal grain elevators—British Columbia; Greece; Italy; Iraq; Syria; Algeria; Niger

Time, Speaker, Narrative
NP: Here we go. It is December 5, 2014, and this interview is taking place in Winnipeg. I would like our narrator for today to introduce himself and just describe your earliest introduction to grain.

AT: Okay. It's Anthony Tweed, commonly known as Tony by most people that I know in the industry. Fairly long tracked to getting to the grain level of the food chain because most of my experience was in the baking industry, which though it's broad, it's still only a small part of the supply chain. So it wasn't until I came to Winnipeg after many years of being involved in baking and teaching baking that, by osmosis I learned that the flour I get is quite a complicated being. So it was a real learning experience originally because at the bakery end, you know nothing about wheat varieties, milling technology, et cetera. So for me, the last part of my career—last 30 years—was quite an eye opener as I got more and more involved in the actual grain industry as opposed to the baking industry.

NP: Interesting to interview you for several reasons. The one at the top of the list is, a lot of our interviews have dealt with people who are at the front end of the baking industry, which is producing the product that goes into it and very little on the baking side. So I'm really pleased to be able to do this interview with you. What interested you--? You weren't born in Canada, and from what we talked about before the interview, you grew up near Cambridge. What interested you in baking in the first place?

AT: Well, it's rather ironic really because it was a small village in a heavy agricultural area, and leaving school as we did in those days at 15, I had to make some sort of career choice. The only thing I knew for sure is I didn't want to work on a farm. [Laughs] So I had been working in the village bakery going through school—cleaning pans and doing menial tasks—and the owner of the bakery, who proved to be my mentor, said, "If you want to do this properly, you should go to bakery school." Which is what I did.

NP: Now, when you said you did know you didn't want to work on a farm, does that mean you grew up on a farm?

AT: No, but most of the families around there and in the village were involved some way in farming. Yeah.

NP: When we think of farming in Canada, especially in western Canada, we think of this huge, massive farm miles from your neighbour. Was that what the farms were like where you were?

AT: No, no. Just the opposite. We're going back, of course, quite a way. Most of the farms were fairly small. I don't know the acreages that would be involved. Certainly, the fields are a lot smaller, and the cropping was a little different. I remember picking brussel sprouts as a kid and tossing sugar beets onto a wagon. So it was quite a mixed type of farming. In that area in *[inaudible]*, I go back there and have been back there many times professionally, farming has completely changed there as well. It's a lot more moved towards grain and less towards the speciality crops.

NP: Hm. So you took your mentor's advice, and you went to bakery school.

AT: School in Cambridge, yes.

NP: So tell us about bakery school. What kinds of things do you learn?

AT: Well, it was a three-year program. It's under a scheme which is called a National Diploma, and the best way to describe that is it's a cross between a Bachelor of Science and a craft training. So they meld the craft training with a bit of science training, and it works very well. Lots of the graduates did very, very well. So we studied everything—all products, all processes, all ingredients, et cetera, et cetera.

NP: Would that have been your first introduction to grain coming over from Britain to Canada?

AT: Again, not working specifically with grain because we're always starting with the flour. So behind that, I knew nothing other than wheat grows in the field, you know? So it is quite a comprehensive program. It is a three-year program. So we covered all the bases, yeah.

NP: And like most of the graduates, I'd say, you then went off to work with a company?

AT: Yeah. Either in sort of what I did, sort of semi-technical positions, or working with larger baking companies, things of that nature. A couple of them actually came from family bakeries, so they went back to the family bakery, et cetera.

NP: Tell us about your career with the milling company.

AT: It was fairly short. It was about two years, and at that time, the company was Spillers United Bakeries. They were one of the largest millers in the UK, and they also owned a large number of very large plant bakeries. At the technical centre, I was assigned, actually, to the cake flour division, so I spent all my time working with cake flour developing formulation and products and checking on quality control and things like that.

[0:05:28]

NP: Tell me a little bit about developing products.

AT: Well, I was junior, remember. I was just coming out of school, so somebody had the innovation to make a chocolate covered Swiss roll or something, and so we had to come up with help to do it and do it economically and good quality and things like that.

NP: So a lot of test baking?

AT: Oh, yes. Yeah. Yeah.

NP: A lot of flour--.

AT: Testing, yeah. Yeah.

NP: And what led you to really pull up stakes? Where was the Spillers?

AT: In Cambridge as well, yeah.

NP: Oh, okay. So you didn't have to go far from--.

AT: Still close to home, that's right.

NP: Yeah. So you made a pretty big change then.

AT: It's rather interesting how I came to Canada. I remember it clearly. I was living in a sort of one-room flat, being poor and young. [Laughs] I remember I'd been playing cricket, and we lost the game, and I came home quite despondent. I picked up a trade magazine, and there was an advertisement for a position in Canada, in Edmonton at the Northern Alberta Institute of Technology for a bakery instructor. So in a fit of depression, not thinking about it, I applied. And two weeks later, somebody from Canada Health came down to Cambridge and interviewed me and said, "Well, when can you leave?" So I uprooted and took off to Edmonton.

NP: Did you have the good fortune to arrive there in the summer?

AT: No, I came in November. I remember it clearly. [Laughs] So what it was was at that time when they were building the technical institutes all across Canada, they were all provincial, federal projects like here--.

NP: So this would have been--.

AT: In Edmonton. Northern--.

NP: In 1964, so that's when these were being built?

AT: Yes. Yeah. And they were being built, as I said, all across Canada. At that time, there was very little technical training in Canadian qualifications, so this was obviously a big gap that Canada needed as a young country. One of the new ventures was to create a baking school, so it was the first baking school in Canada.

NP: Wow. So you went from a pretty junior position--.

AT: Yes.

NP: Because you would have only been at Spillers for two years.

AT: And I was fairly young. So dumped into this big project and ran with it, and it worked out very well. We were very successful.

NP: So starting up a bakery school, essentially, in Canada, what were the similarities and differences between what you were used to in Britain?

AT: Well, there were a few products that I wasn't familiar with. [Laughs] I mean, it seems sort of trivial, but things like, "What's a pumpkin pie?" I'd never heard of a pumpkin pie before. So there was a bit of a learning curve on a few of the projects, but it was a matter of developing the curriculum, establishing that, working with the provincial government on the examinations and the qualifying exams and equipping the school. It was just an empty shell, so we had to buy all the equipment. I also had to take six months of teacher training, which was very helpful. And finally, about a year and a half later, we were up and running with our first classes.

NP: Was it a popular selection?

AT: Yes. Program filled, and like I said, there was a real need for all of these technologies. Plastics technology and things like this, training didn't exist in Canada, so it was all from scratch.

NP: Because this was the first one, were there others that developed across Canada?

AT: Yes, yes. Vancouver and Toronto. There's a program here at Red River, at the Community College in Winnipeg now as well.

NP: Good. And so, the people that would be leaving there, your students, where would they be going?

AT: The focus was on the craft training. So these would be people coming from high school or being sponsored by Manpower or something into the program, so they would be essentially trained to work in a craft bakery, small craft bakery, and in-store bakery, that type of position.

NP: As opposed to working at a place like Spillers?

AT: Yes. Right. Yeah.

NP: So you were there to get things rolling until '72. And then how did you seize your next opportunity?

[0:10:02]

AT: Again, a bit of a long story. I'll try to make it short. I was offered a position by the Canadian International Development Agency [CIDA], Canada's food aid project, to go to Peru to set up a bakery school in Peru. It was a three-year term, and I had accepted that, and then we found out that my wife was pregnant, and she wasn't inclined to go to Peru to have a baby. We weren't quite sure how primitive it was there at that time. So I declined, but I'd already resigned my position. And as it turned out, one of the people on the selection panel for CIDA was also involved in this new institute being built in Winnipeg, the Canadian International Grains Institute [CIGI], and they were looking for a baker, and of course, he said, "Well, I know the guy." So fate was with me. Luck was with me, so I took the position in Winnipeg.

NP: So you didn't even lose any time with that resigning your position?

AT: No, no.

NP: Who was the--?

AT: Dr. Walter Bushuk, who is a professor at the University of Manitoba, and he was seconded for one year for the start up of the Grains Institute as their director of technology. So he was the person who set up the technology actually which we used at this new institute.

NP: So who else was brought on at that time? If you look at the Canadian International Grains Institute in its--.

AT: Formative years?

NP: Formative years.

AT: Yes, yes.

NP: What divisions were there and who were the people in there?

AT: Again, it was a case of coming to a facility which wasn't quite finished yet. Construction was still ongoing, the final construction. So the staff originally was quite small. Our executive director was Mr. Vic Martens, who had been the executive director at the Canadian Grain Commission [CGC]. Denny Stephens, who had been with Federal Grain, he was in charge of programs and activities. We had somebody in communications, visual aid support, and things like that. And then in the technology areas, it was a case of a pilot flourmill, a large pilot flourmill, a bakery, an oilseed laboratory, a wheat and flour laboratory. That was the starting point for this new institute, yeah.

NP: And over the years, did they add technical sections?

AT: Yes, very significantly. We then went into pilot noodle processing, pilot pasta processing, couscous, and the last trend over the last few years is looking more and more at pulse crops, how these can be processed and incorporated into foods. So no, it still is in a continual growth pattern thing, yeah.

NP: How did they choose what areas they would--?

AT: Well, there was a board of directors at that time. That's changed recently with the exit of the Canadian Wheat Board [CWB]. But the directors were originally from the Canadian Wheat Board, from the Canadian Grain Commission, and from the federal government. That was the board of directors. So they would look at the general direction and where things should be going and what direction. Yeah.

NP: Hm. From my knowledge of the grain industry, strictly from the people I've interviewed, it sounds like those new areas really reflected either an intent to broaden the market or to help develop a market that already existed.

AT: Yeah. The basic premise going into the Institute from the beginning was to maintain and expand markets for Canadian grains and oilseeds. That was the general directive we were given. But in terms of major developments, as I say, it would be discussed and drawn up by the board of directors and then passed on to be executed. So yeah, it's grown significantly since those early years, and as I said, still growing.

NP: Couple of questions about those early years. First of all, you came in as the head of the baking technology piece. Did you have a staff?

AT: I didn't. I was on my own, I think, for the first two years, and then I was allowed to have a second person. [Laughs] It's not four people in that area. Because it was very--. Again, to put it into the timeframe it was, remembering at that time there was no fax, there was no email. If you wanted to telephone someone in an obscure company, you had to book the phone call, so communications was very, very difficult. And that was really one of the reasons the Institute was formed because our customers around the world didn't really have access to-up-to date and good knowledge on the Canadian grain industry and how it operated and how it worked, the crops we grew, how to buy the crops, et cetera, et cetera. So that was the need that was identified at the very beginning.

[0:15:12]

So we ran with that, and we would bring customers or potential customers from around the world into Winnipeg for training programs, educational programs, field trips. Show them how a country elevator works. Take them to the railways, show them how the railways work. Take them to port, show them how the harbour facilities operate, the terminals, going to breeding plots to look at how the plant breeders get to the new varieties. So all aspects of the grain industry were covered.

Now, originally—as I said, bearing in mind that worldwide communication was pretty limited—these participants were senior. In the early years, we wanted to bring in the major buyers and users around the world, both government--. There was a lot of government business in those days, government to government. And of course, the private industry. So in those first few years, we had probably all of the major senior grain buyers and users from around the world in Winnipeg. To cover all material we thought we should cover at that time, I think the program was five weeks, which is a long time to bring a senior businessperson in. You know, our reputation grew very quickly through the grapevine, so it wasn't hard to convince these people to come. It was quite

detailed then, like shipping contracts and arbitration dispute under the various rules and regulations and things like this. So it really, really had a major impact on getting knowledge to the customers and potential customers.

NP: Who were some of your colleagues at that time, and were there some that sort of stick in your mind as being quite--?

AT: Yeah, yeah. The head miller, who was hired at the same time as I was, was a gentleman by the name of Alf Panter. Alf had been many years with Ogilvie Mills in Canada in various positions, senior milling, technical milling. We had a lady by the name of Beverley Thomson who ran the laboratory, so she was there several years and then moved onto something else. It was a fairly small staff originally. Probably in the first couple of years 10-12 people. At that time, even the visual aids in the classrooms, I mean, it was all glass slides and hand painted slides. When you think back now, everything's obviously done on software, so it was quite a different situation then to what it is now.

NP: It must have been very satisfying though.

AT: It was. The other aspect of the work was, of course, not only would be bring the customers to Canada, we would come visit them. So there was a lot of missions to learn to build our customers, and sometimes doing programs offshore as well. Rather than bringing a large group of Chinese here, we would go to China and do two or three seminars—big country there. Again, going back to the early years, if you go back to that era, how many people in Canada knew what a pita bread was? [Laughing] So here I am the baking expert, never seen pita, never baked pita. [Laughs] So again, it was a real learning experience going to these countries and looking at the different products, and of course, the different products have different requirements in terms of wheat quality and flour quality. So it was a good learning experience as well for all staff originally.

NP: So you would have to work pretty closely, then, with Mr. Panter or Dr. Panter?

AT: Yes, Alf, yeah.

NP: Because he was the flour guy.

AT: He was the flour miller. We even had a grain inspector on staff to demonstrate the grading system to the participants. So yeah, it was well thought out and well planned and proved to be very successful. What was interesting, I think, after about five years—I forget the exact timing—but our neighbours to the south, of course, are our major competitors in the export market could very quickly see the value of this institute because they were hearing about it from their customers as well. So they decided that they would try and create a similar situation in the US. Their problem was, of course, that they have a major spring wheat growing area

in Dakota, Minnesota, et cetera, and a major winter wheat growing area in the Midwest—Kansas, et cetera. And of course, they compete with each other for the same business.

Whereas in Canada we had this Canadian Wheat Board, which was a central selling agency. We had the Canadian Grain Commission, which was the sort of policemen and quality control organization. So we didn't have as many obstacles as they had in making it work. So they did, in fact, create two institutes, one in North Dakota—Northern Crops Institute—and one in Kansas called the International Grains Program. So they did, in a way, copy us, but they still had a lot more hurdles than we had because not all of the lecture material and information we presented was by staff. We would bring in the key people from the industry to our institute. I mean, if you're going to talk about country elevator operations, we'd bring in somebody who's operating a country elevator, et cetera. [Laughs] And they're not worried about which customer they're talking to because it was a small, centralized selling system, whereas in the US it was more competitive of course, company to company that was selling the grain. So they had a few hurdles, but they did, in essence, --. Copying is the best form of flattery, apparently, so that just gave us further evidence it was working.

[0:21:11]

NP: Mmhmm. Like oftentimes you have like the top ten universities or the institute—a chance to brag here if necessary or just to be honest—even when competition of that sort came online where would the CIGI, Canadian International Grains Institute, stack up? **[Audio pauses]** That should do us.

AT: Yeah. As I said, I think our reputation was very solid. And part of the touchy-feely thing about doing what we were doing, if you bring somebody from Angola here, they are impressed with Canada as a country, its clean water, farming practices, well monitored. There's no risk of contamination of food, and things like this. That if they buy a No. 2 Canada Western Red Spring 12.5 wheat, they're guaranteed that that's what they're going to get. So as I said, as all these people came through, I think we hear it all the time from people I see now who were here years ago said, "I'll never forget that because it was our first impressions of Canada as a country." Friendly people, as I said, clean water, blue skies, [laughs] a very honest and transparent system in the grain industry. A lot of these countries, of course, they live on bribery, so they could see that here it was a very clean system from that respect. And of course, we would put a lot of focus on the quality because we did have at that time—and still have—if you want high protein bread-making type wheats, we still have the best quality. There's no doubt about that.

NP: Did you have, when you were working at the Institute, any connection back to Britain? Did you ever reconnect with Spillers?

AT: Oh, yes. Yes. At that time, we would have the top management come over, yes. Yeah. And ever since, every time I go back to England, there's still a few people there that I knew. Oh, yeah, absolutely. And of course, I had to act as an interpreter a few times. [Laughing] Yeah, those were ongoing relationships still today. Not as much with the Spillers people because they don't exist as a company anymore. There were various mergers and acquisitions, but certainly people in the milling and baking industry, I'm still in contact with, yeah.

NP: Who were Canada's--. **[Audio pauses]** Who were Canada's best customers from the baking--?

AT: Well, there's several answers to that. As I mentioned earlier, in those early years, there was a lot of government-to-government marketing of wheat. Brazilian Wheat Board, for example, was a national organization, and they were a huge customer, not necessarily of the highest quality wheat. But then you have Japan, the UK, the other end of the spectrum. Private companies in the UK would buy. A government agency in Japan would buy the same quality wheat. So there were several major, major customers. At that time, interestingly enough, Cuba took all of their wheat and flour from Canada as part of Russian food aid. So the Russians were buying, but we shipped directly to Cuba.

Algeria, Egypt. These were all government buying agencies, and in essence they still are today, Algeria and Egypt. But next door, Morocco is a completely free market, so it's many, many differences on the type of buying that they have to follow, buying systems that they have to use, and of course, the different qualities of wheat that they're looking for.

[0:25:15]

NP: Over the time of your position, would you say there was a shift from central buying agencies to--?

AT: Yes. Brazil gave up the central buying agency. That was the big one. I think even some time—I may be wrong on this—but I think we were actually shipping wheat to Russia on some occasions. Of course, now they're a marginal exporter, so things change again. China was a major customer, government agency. Now, I think the best way to explain it is a quasi-government agency, and there is still some freedom for other importers to import wheat. So things always change, yeah.

NP: When you think back to sort of the technical side of what you were doing, can you describe maybe one situation where it was a particular challenge, and you were able to eventually--?

AT: Yes, I can. Again, I hope it's not too long an anecdote.

NP: I like anecdotes. [Laughing]

AT: On one day, we had a gentleman from Greece brought over to us by the Canadian Wheat Board to introduce him, and he had a durum flourmill, and durum, of course, is used primarily for making pasta products. A durum mill did not make flour—it makes a coarser material called semolina. So he was a durum miller, and he'd been in the United States in some conference, and two or three people had told him that Canadian wheat was the best wheat in the world, and he had this idea that he'd bring in some high-quality Canadian wheat and make the highest quality wheat flour available in Greece. He even had the bags printed with Canadian flags on them and everything.

So they brought him over just to do regular introductions and that, so that's fine. About three weeks later, we got a desperate phone call from the Canadian Wheat Board saying, "Our miller in Greece has got a major problem. He said they've made the flour, and it's just terrible. Can you go over?" So, "Of course." So within two or three days, I ended up in Greece. And of course, what I knew to a small degree—and which he knew to zero degree—was that you need a different type of mill to mill semolina into milled flour. So he was putting this high-quality very expensive Canadian wheat into his mill, and he couldn't make flour that would bake well, and he's got 20,000 tonnes of Canadian wheat sitting in a silo, and his bags printed with Canadian flags on them! [Laughs]

So I did--. And he didn't have a test bakery. It wasn't a big mill, but it wasn't a small mill. It was a medium-sized mill, but they weren't making bread-making or baking flours before, so he didn't have to worry about that. So I remember I had to go down to the marketplace, and I got myself a home mixer and all the odds and pieces I needed to set up a little miniature baking system in his kitchen sort of thing. And he was right. You couldn't bake it. It was terrible.

So I phoned back to Winnipeg and spoke to our milling technologist. I said, "Well, I think, obviously, the problem is here," I'm not a miller, but I said, "he's got the wrong equipment to make flour." So Alf said, "Yes, he has. Get him to send the flowchart, the diagram of the flow of the mill." So we sent that over back to Winnipeg. So a day later, our milling people came back to me and said, "Well, this is what he's got to do. He's got to take the rolls out of the grinding machines and reverse them, and he's got to change the sieves, and he's got to do this, and he's got to do that." Well, if it didn't work, I'm in big doo-doo. [Laughs] So that took him about two or three days to do all the changes, and bingo! We made very high-quality flour. [Laughing]

NP: Thank God!

AT: Thank God! [Laughing] So there were several of those kinds of situations, yeah.

NP: And you mentioned that—and this was an example of it as well—you mentioned that CIGI made a point of meeting with the customers both in Canada and elsewhere. So what are some of the memorable stories of travelling to other countries?

AT: Well, there are a few horror stories, of course.

NP: Oh, good. We like that. [Laughs]

AT: Probably the best one was we got caught up in a conflict in the Middle East between Syria and Lebanon. We were actually in Baghdad in Iraq, and our itinerary was all laid out of course. Two days here and three days there, et cetera.

[0:30:07]

NP: And what was the intention of the mission?

AT: Again, to visit customers in Iraq. Again, it was a government buying agency, so we had the meetings with them and visited a few bakeries and plants, et cetera, and then the plan was to go onto Damascus. Well, what happened is the day we checked out of Baghdad, this conflict between Lebanon and Syria broke out, and the wealthy Lebanese just flooded out of Lebanon, took every hotel room they could find anywhere. And as it happened, we went to make our flight from Baghdad to Damascus. They had cancelled the flights. So again, a long story, but we managed to find a driver who would drive us, and it was a long, slow, hot trip across the desert, you know.

So we got into Damascus, but we're now a day late, so we'd lost our hotel rooms. Guaranteed reservation meant nothing. We couldn't bribe our way into a hotel room. Again, to make it short, we were there, I think, three days living in the hotel lobby because we just couldn't get a hotel room, we couldn't fly out anywhere, and eventually a few flights came up. We actually had—I remember—we had to split up and go our separate ways to get help. So that was a stressful time.

NP: With that particular mission, just because of all of the upheaval, was it successful in any way?

AT: Well, the first legs, we had to cancel the last leg, but yeah. Again, it was this partly--. These visits were partly courtesy to the customers. A customer likes to see you sort of thing, so there's some goodwill there involved. But in the case in Iraq, they'd built a big, new bakery, so I spent a day in there just snooping around and seeing what they were trying to do, and maybe offer a few suggestions here and there, that type of service. Yeah.

NP: Was there any connection between the Grains Institute—and their marketing and technical assistance—and financial assistance to customers for building things like--?

AT: No, no, no.

NP: No?

AT: No, no. The Institute was founded as a non-profit institute, and the original funding was shared between the Canadian Wheat Board and the federal government. So the federal government contribution was for the good of Canada, and the Wheat Board contribution was on behalf of the farmers. So it was a joint venture, really, on the part of the government and the farmers of western Canada. That was the original funding. It's changed a little bit over the years, but that was the root funding. So strictly a non-profit organization.

NP: With your travels, a lot of your travels were in the European, Middle Eastern areas where flour was the carbohydrate.

AT: Right.

NP: How did things shift as markets shifted?

AT: Well, the biggest change I think was probably seeing Asian countries because the history of--. For example, bread in Japan—western-style bread in Japan—was only introduced after the Second World War by the Americans. It didn't exist then as a food.

NP: How did they manage to do that?

AT: Well, the Americans, "If it's good for us, it must be good." [Laughs] So that's how the bread industry evolved in Japan. Prior to that, of course, it was mostly noodle consumption, which is still very important today. And again, going back to the early days, we knew nothing about noodles, very little about pasta, but we had some basic understanding of the pasta industry. But the noodle industry was completely foreign. I remember going on the first mission to Japan and getting introduced to all the different--. You know, I thought a noodle was a noodle was a noodle. It's like bread. There's different preferences for taste and shape and thickness and colour and all of these things. So again, a whole new learning curve there. Until today, we've got a noodle centre, which is probably as good as anywhere else in the world as far as small-scale processing of flour quality and noodles.

NP: So I've heard, and you've confirmed that, that in the flour situation, Canadian Red Spring is the top preference for high-quality blending.

AT: Yeah, exactly.

NP: Did the same thing, then, become so for durum and whatever is used in noodles?

[0:35:02]

AT: Again, the durum is, again, ranked very highly on the quality scale. Our good friends in Italy, of course, they have access to a lot of durum, domestic durum, and durum from Greece and France, et cetera, but they, going back, they have always imported some Canadian to improve the colour, the yellow pigment in the spaghetti, in the pasta, and the cooking strength that comes from the protein. So there's a long tradition there of them buying high-quality durum to blend with other durums to meet their needs.

[0:35:40]

And the other big durum markets, of course, in North Africa where it's more for couscous than it is for pasta. And the same sort of preferences exist there. They want a bright yellow pigment and high protein, good strength for making couscous for the cooking, steaming of the couscous. Yeah.

NP: Any differences in business practices from various customers?

AT: Oh, yes. [Laughs] Sanitary conditions in bakeries would be the biggest.

NP: Okay.

AT: If you go into the so-called developing world or third-world countries, obviously, it can be very grim.

NP: What's your definition of grim?

AT: Well, certainly, it wouldn't pass any inspections in this country. But having said that, I always told myself that the nice thing about baked goods is that they have been baked in a nice hot oven. [Laughs] And they're staple foods. Countries like Mozambique and Sudan and that, a lot of very, very primitive, small, very small, very primitive bakeries. But even those countries now have

slowly, like everywhere else in the world, they're becoming a bit more industrialized. Sudan, for example, is a big customer of Canadian wheat.

NP: When you were travelling or when you weren't taking part in instructing some of the CIGI sessions for their customers, what would a typical day look like in the bakery?

AT: Well, again, each year as the crop is harvested, yes, it's the same varieties maybe, the same growing area, but growing conditions can vary quite a bit. So we would be very anxious to get samples as soon as we could to look at the various grades and to see what needs tweaking or if there was a major degrading factor. Say we had a year like we had 20 percent of the crop was hit by frost. Well, this changes a lot. It changes the milling quality, the baking quality, but there are ways to sort of help ease some of that technically in the mills, adjustment in the mills, and the baking processes, changing the baking processes.

So then we were armed with information on the new crop from the best quality to the poorest quality to visit the customers and just give them a heads up, you know, "When you start getting new cargos, expect your water absorption to be up or down. The colour may not be quite as good. You might have to reduce your extraction one percent or two percent or increase it if it benefits." So a lot of the time was taken in doing that. Not really research, it was just very practical investigation. So we got real-time information to pass onto the customers.

NP: So rather than fighting fires to get them prepared.

AT: Yeah, exactly.

NP: How did the system work for actually getting representative--.

AT: Samples?

NP: Samples.

AT: Well, again, because of this nice centralized system we had at that time, it was through the Canadian Wheat Board. They have area representatives across western Canada. I think there's 12 districts or 11 districts they have, and they have an on-site representative. He would go to the elevators in his area and collect samples and ship them into us. We would blend them up and make a composite sample by grade and such forth and go from there.

NP: Is that still being done, do you know?

AT: Oh, yes. Extensively. More extensively than it was then because we've not sort of expanded our inventory of wheat types and wheats, so we've got more emphasis on--. There's more emphasis on white wheat, which we didn't have until a few years ago, another class of wheat called Prairie Spring Wheat, and the winter wheats. So there's more sort of classes of different qualities now than we used to promote before. So yeah, it's a really ongoing process. The harvest survey, as it's called, is a very key part of the Institute's operations today, yeah.

[0:40:05]

NP: From a technical perspective and for those of us—which is probably a lot of listeners—what are the general categories of flour and the technical characteristics of them that leads to--?

AT: Well, again, it varies from country to country in terms of the grades of flour they produce from the wheat which they buy. You'll go into some countries, and they'll have sort of a catch-all grain, sort of an all-purpose flour, which is used across quite a big spectrum of their domestic industry, and maybe a few special flours for very high-protein breads, et cetera. So it varies. Again, in some of the noodle markets, they mill to a very, very low extraction. That means that they remove less of the flour from the wheat because they want to see that nice white colour. You go into Egypt, and it's all very high extraction—90 to 93 percent—so it's almost a whole wheat flour but not quite because the standard bread they make there is a government subsidized product bread. It's the pita-type bread, flatbread, and really a very low quality compared to, say, some of the other markets in Lebanon or Syria where the pita bread is using a very refined flour, nice white flour, et cetera. So it's different in every market. You can have two markets geographically next to each other—Peru and Chile for example—and the bread types are completely different.

NP: And is that--. A lot of that would be not so much the initial grain that goes into it but the milling process.

AT: In some cases, yeah. Your milling--. Obviously, miller's preparing the flours that their customers need. So the type of bread or the type of process the bakeries are using, et cetera, would determine the flours that they produce, yeah.

NP: So if we just look at the Canadian market, which has different kinds of baked goods, what are we looking at? It's not all the same. A bakery would not just--.

AT: Oh, no. I mean, a domestic mill in Canada will make a strong bread-making flour that is, A, suitable for small bakeries, and B, a different flour that's used by the larger industrial bakeries.

NP: And why do they need a different one?

AT: It's the processing. Different processes. You need more tolerance in the small bakery because a small bakery's production isn't tied to the minute in perfect humidity and temperature, so it needs a little bit more tolerance. Whereas in a larger bakery, everything is optimized and stuck to a timeframe and schedule and process. So they just want a certain level of flour. From there, of course, there's all types of grades of flour. The domestic flour, as it would be called, retail flour, again, is quite different from the industrial flours that are produced.

NP: And what's the difference there?

AT: The quality, it's sort of a saw-off because the same flour is going to be used to make pie crusts, gravy, Yorkshire pudding, and layer cake, et cetera. So it's not necessarily perfect for any of those, but it does reasonably well in all of those situations. So it's a compromised flour in terms of its protein strength and its colour and absorption and things like that.

NP: So if I were running a commercial bakery of a substantial size, and I was doing croissants, what would I be looking at for flour qualities?

AT: Again, that's funny you should choose that because there are two schools of thought and two ways to process the basic croissant dough. But generally speaking, you do need a high-protein flour with good extensibility, which means it can be stretched out without shrinking back. It's got to have good extensibility because there's a lot of sheeting involved, thin sheeting. Whereas in a regular bread product, there isn't as much of that. There is some sheeting, but not real thin sheeting.

NP: And if I were doing a donut?

AT: A cake donut or yeast donut? [Laughs]

NP: Okay, well, let's do both, [Laughing]

AT: Well, the cake donut, obviously, is mainly chemically aerated with baking powder, et cetera, so a very soft, low-protein flour ideally from a Soft White Spring, which is grown really only in southern Alberta or in Ontario.

NP: Oh.

AT: And for the yeast donut, again, it would be some variation according to the type of equipment that's being used to process it. So various strengths, but basically a stronger flour. Yeah. Not too strong because you don't want it to be too tough to the bite. You know, again, it's sort of a bit of an optimization involved in the protein there.

[0:45:10]

NP: So if I were to go in to buy flour to bake a cake, I really should look at cake flour versus--?

AT: Yeah, retail flour is available as cake flour. Some of it is marketing, I agree. Like bread machine flour is not a lot different than the regular all-purpose flour. But yeah, cake flour, if you're making particularly the really light angel food-type cakes and things like that, cake flour will help you a lot.

NP: Since we're talking about bread machine flour, is there an assumption there that the handling is quite different than handmade?

AT: I think it's the mixing, the rigid mixing in the mixing machine. It's standardized. It's on a little computer system, you know, eight minutes or whatever it is. So they try and get the flour which will be fully developed within the constraints of the type of mixing you have in one of those bread machines. So again, it's blending wheats to get the right protein profile, I think, mainly.

NP: Making homemade bread?

AT: Do I? Oh. [Laughs]

NP: If you did, what do you really have to be careful with, with making homemade bread not in a mixer?

AT: The hardest part to get right is the mixing of the dough, developing that gluten strength and gluten extensibility if you're doing it by hand or in a home-mix master thing.

NP: That's the kneading part or the actual mixing?

AT: Yes, yeah. The mixing and kneading, yeah, that's right. If you get that right, then you're off to the races.

NP: And pie crust?

AT: Well, yeah. Again, do you want it flaky or semi-flaky or short or--? [Laughs]

NP: We like flaky. When I was having a discussion with friends of ours, “How come some people just can’t make pie crust that’s flaky?” [Laughs] And maybe it’s because--. Has it got anything to do with the flour?

AT: Well, if you’ve got the right flour, obviously, you’re off to a good start, but with pie crust, again, it’s making sure the mixing--. If you want a flaky crust, it’s not overmixed. Then you disperse the fat more than you want it. You want the fat to be sort of some pieces, which give you that layering or flaky effect. So don’t overmix and keep it as cold as you can when mixing so that the fat doesn’t melt and run into the flour.

NP: Does it matter whether you use cake flour or all-purpose flour?

AT: Sorry, I’ve lost my train of thought.

NP: Cake flour or all-purpose flour?

AT: What were we making?

NP: Pie crust.

AT: Oh, pie crust. Again, you want a lower protein flour.

NP: Oh, okay. So I should go for the cake flour?

AT: No, that’s too low and too fine. So they do also make a pastry flour, so you’ll have to look for that.

NP: Okay.

AT: Pastry flour is lower protein than the bread flour and a higher protein than the cake flour.

NP: One thing I’ve always wondered: Could you ever do a high-quality, flaky, whole wheat pie crust, or just by the nature of the product you’re not going to get that?

AT: No, it's not commonly seen, but it could be done. Yeah. It wouldn't be a major change in the process. The major difference then would be that the flour is going to soak up the water a little differently because of the bran. Bran has a different absorption property than the white portion of the flour. So initially it might seem a little soft. To get it right, it might seem a little soft and sticky, but then after a few minutes, it would sort of hydrate up and pick up the moisture and be okay.

NP: So the secret there would not—because it would be moist—to throw in more flour.

AT: Right.

NP: It would be to wait.

AT: Yeah, just give it a bit of time, and it'll gradually soak up and firm up a little bit and be able to handle it, yeah.

NP: I really like to talk about this because our particular project is very interested in practical applications of the technology and science that you've got.

AT: To be honest, I'm no expert on home baking, because it's not really been part of our repertoire.

NP: Well, it's become less and less a part of anybody's repertoire. [Laughs]

AT: yeah, yeah.

NP: Buying off the shelf is really--.

AT: Saskatchewan still holds the title for the most home baking in Canada per capita. They've done a study a few years ago, and definitely Saskatchewan was way ahead of any other province in terms of home baking.

NP: Do you recall what the bottom province was?

AT: Quebec.

NP: Oh, gee.

AT: Probably because there's still the big preference for the baguette in Quebec, and that's difficult to make at home.

NP: Okay. What is it about baguettes because that's another product that you can get really good ones, or you can get very poor ones?

AT: Canada, to be honest, is not the best place to buy a good baguette. There are a lot of baguettes which are the same shape as a baguette, and that's where the similarity ends. [Laughs] No, it's quite an art to make a truly authentic baguette. It's quite an art. And you want to get that coarse open-crumb structure. You want that nice crust, that nice natural glaze on the crust, and the cuts have got to be perfect, and the shape. So authentic baguette is quite difficult to make. They're not difficult, but it requires certain knowledge and skill.

[0:50:35]

NP: And what would be the best flour for that, given that maybe the Canadian one isn't the best?

AT: No, mostly it would be too strong, the spring wheats. So we would look at something--. Like the standard of bread-making quality in wheat is sort of 13.5. Everything sort of bakes from 13.5 protein for marketing purposes. So it's either discounted or premium—above 13.5 and below 13.5 protein. You'd probably need a wheat of about 11, 11.5 protein to make a good baguette flour, and that's why the French wheat is so suitable to it, because the French wheat is mostly winter wheat, a little lower protein content and a little lower absorption. That's perfect for--. There are some bakeries in eastern Canada actually import flour, believe it or not, from France to get the really, really authentic baguette. Not in huge volumes, but they do.

NP: Maybe you could explain to us—I sort of just skipped over it quickly—why is it important for especially the large bakeries to have that high-protein content? What does it give them that makes it worth the extra cost?"

AT: Well, you back up from the type of bread you're making. So if you're making a standard, white, Canadian, sliced, packaged loaf sort of thing, that's your starting point. So what you're looking for there is volume in the bread. You're looking for a fine crumb structure. You're looking for good, white colour, and you're looking for high absorption to give you good softness. So most of those characteristics, or a lot of those characteristics, come from the flour. So that's where you start, with the end product.

Once you've got to that point in a large bakery, the most critical factor is that the flour coming in forever and ever is very consistent in quality. If you get a fresh tank or a fresh load of flour, and the absorption is down two percent, it's going to take you two or three

doughs to figure it out, and a dough is 1,200 loaves. So it's once you've set your standards, you get the specification to the flour miller on the flour—the protein, the falling number, et cetera, et cetera, et cetera—and as long as he gives you stable supply, then you've got a good business model. What happens if, as I say, something goes wrong and there's a mistake at the mill or the crop is a little different? Then you've got to readjust everything.

NP: What do you mean by falling number?

AT: That's the measurement of the enzymic activity in the flour. It's an enzyme which degrades the starch and breaks it down to sugars, and the doughs can become very sticky and not as good volume, and the crumb would be very open, et cetera. So it's not part of the grading standard, but you can specify, or the miller can say, "If the falling number is outside the range, I'm not going to take the wheat." It's caused when the wheat starts to sprout very slightly in the field. So you have the very wet harvest, that's the usual environment that will promote the sprout. So the wheat just starts to germinate. Very, very little bit of germination, that's where the enzyme is formed, and then it can end up in the flour and break down some of the baking characteristics. It's just a test that's used to measure it.

NP: I'm going to throw a little, almost like a quiz at you. [Laughing] Which comes from--. Oh, who was it? Oh, Keith Tipples.

AT: Oh. My good friend Dr. Keith Tipples.

NP: Yes. Anyway, he was describing a situation that he had to deal with, which was interesting. He was--. I think it might have been in the Philippines. He was actually there to receive a shipment of Canadian grain that was there, and when they opened the hatch, it had a covering of snow on it. So from what you know about degradation of grain, would there have been any issue if they had managed to get it out before the snow melted? And it was 100 degrees, I think, even in the shade, so.

[0:55:02]

AT: It would depend. Again, I'm sort of speculating. It would depend on the amount of snow because when a miller takes wheat into the mill, he adds moisture to it. He had to bring it up to a certain moisture content before he starts milling it. So it's done by spraying the wheat with water and tumbling or agitating it until the moisture is dispersed evenly in the bran of the wheat. So if it was a little bit of snow, I wouldn't think it would have been that--. If it was a big pile of snow, which would have meant a lot of water, then it could have been a major problem, yeah. If it happened halfway across the ocean—bearing in mind, some of these trips are three weeks or whatever it is—if it had been snow and then it melted halfway, then you would have a moisture problem

just in the top layer of the wheat, and you could have some sort of mold development or something like that. So they might have had to lose that top layer.

NP: Or that sprouting that you were talking about. Unlikely?

AT: Unlikely. Yeah, unlikely, but it could happen. But the voyage would be a little too short, I would think. Again, that's just speculation. Yeah. There's always problems around the corner somewhere you have to deal with.

NP: You may not have the answer to this, but you talked about the importance of alerting customers to possible changes in what their grain was going to be that year. How would you describe Canada's reliability in delivering what was ordered?

AT: Various surveys have been done with customers over the years by various organizations, and always we've come out very, very high. That, again, is partly, I think, because of the role of the Canadian Grain Commission because it's not the seller who inspects the wheat that goes on the boat. It's an independent organization, sort of, as I say, the policemen of the industry. So when they load vessels at the ports, you know, however many tonnes it is, they see a sample, and they check it, and if it's off-spec, they can hit the panic button and stop loading the vessel until the elevator sorts out the problem. So you've got that protection.

The weight is guaranteed by the Grain Commission, not by the seller. So the Grain Commission issues what they call a certificate final, which is a document almost guaranteeing—it's almost a guarantee—that this is what you bought. This is the grade. This is the inspection information, and this is the weight, et cetera. Very rarely do we have complaints. I would say in an average year, they might see a few complaints for various circumstances and reasons, but generally accepted that if you buy Canadian wheat, you're going to get what you buy.

Some of the other exporters, not quite that degree of sophistication control. Well, certainly, the US is very similar, but there are other exporters in the world, the quality can shift quite a bit from cargo to cargo or within a cargo. I'm coming back to this consistency and uniformity, which processors want—millers and bakers.

NP: So what happens if by either accident or whatever it gets over to a customer and it's---. What's the process?

AT: Okay. Well, what happens, there's a system. I think it's still the same. When a vessel is loaded, as I said, samples are taken incrementally as the vessel is being loaded, and those samples are kept by the Canadian Grain Commission in proper storage. I think it's for six months. So the first thing that would happen if a customer complains, they would retrieve the sample, reinspect it,

maybe process it—mill it and bake it or whatever is required—and they would do a full investigation. Again, that's the Canadian Grain Commission.

And I'm sure there have been a few occasions over the years where, if the cargo is not up to what was guaranteed, then, of course, the seller has to make the financial adjustments. In that case, over the years, it would have been the Canadian Wheat Board would have to make some sort of financial arrangement with the buyer. But as I say, those, I can't think of any. Maybe over the years, many years, three or five or ten really major concerns.

NP: They don't just send the ship back?

AT: No. There is the option, but see, you don't know you have a problem until the customer has unloaded it or has started to unload it before the problem, whatever he thinks the problem is, has arisen. So you can't sort of diver the ship to another market or something. You just have to go through the process, but it's been very, very small.

NP: And so, normally, it's just a financial payout thing?

AT: Yeah, there's some sort of--. Yeah.

NP: Bringing them back to what they would have been if they got the right product, and hope they order from you again.

[1:00:05]

AT: That's right. Again, that's a positive thing. If the seller's willing to compensate and admit that there has been an error or some sort. But again, I keep emphasizing, there has been very, very few over the years.

NP: Yeah, because that was a long career that you had. That was '72 to 2012, right?

AT: That's right.

NP: One, two, three, four. 40 years?

AT: Yeah, close to it. Yeah.

NP: Whoa! Not bad! Average of--.

AT: No. Good innings, good innings.

NP: I'm going to just suggest that we take a little bit of a pause here and offer you rest your voice, and I'll also tell you what direction my questions will head in.

AT: Okay.

[Audio pauses]

NP: Okay. When we broke it, I mentioned that I'd like to get a little bit more into the collaborative work with the Canadian Grain Commission.

AT: Yes, that was quite significant because obviously, the head office and the laboratories and that of the Grain Commission are in the same building, and obviously we had a lot of mutual interests. And again, in the early years in this sort of late '70s into the '80s, I was fortunate to work with two very inspired gentlemen, Dr. Keith Tipples, who was the scientist at that time—he later became the head of the laboratory—and his colleague Henry Kilborn, who unfortunately has since passed away. But these two guys were really, really brilliant in what they did. Their interest and where it flowed over to our area was that all of their work was benchtop, scientific, small-scale research in the baking area, and of course, they want to see if it would follow through to larger scale production.

So I worked very closely with them on a lot of their projects. One in particular, they did a lot of work in understanding mixing, just the simple process of mixing a dough and all the factors that can influence just a simple--. You know, you think you mix a dough, you mix a dough. Well, there are many factors that come into play—the speed of the mixer, the design of the mixer, the temperature, et cetera, et cetera, et cetera. There's one process which is used in several countries around the world, but it's not used in North America, and that's using a machine called a dough break. And a dough break is just simply a pair of large rolls. It's power rollers, and you pre-form the dough very loosely—just mix the dough so it's all sort of hydrated, no free water—and you feed it into the rolls and sheet it, and you take the sheet and you double it and feed it through again and double it and feed it through again, and that's how the work of mixing goes into the dough to develop the protein and the gluten.

So this was a completely unknown process to us. We'd seen it in several parts of the world, in the Caribbean countries, in some of the African countries, some of the Asian countries, and it's just--. And Cuba, as I said, was at one time a big market for us, and

most of their bread was processed through this dough break system, and we had no knowledge of it at all. So we actually designed and had custom built a dough break. So again, they would do their preliminary investigations—50 grams of flour type of thing—and we could then transfer that over into the larger processing and prove or help them figure things out. So I worked very, very closely with them. They published a lot of papers and won awards within the scientific industry for their work. So that was quite rewarding to do that type of work and to learn as you're doing it, you know?

NP: Now, with the two different types of milling—the dough breaking versus the standard one that you're familiar with--.

AT: Yeah, this is the mixing, not the milling.

NP: The mixing.

AT: Yeah, sorry. It replaces a traditional mixer.

NP: Right. If you were setting up your own bakery, would you pick one method or another?

AT: Yes. The dough break wouldn't fit in the so-called sophisticated country because the labour input is so high, so you wouldn't go to that system. Apart from that, there are various systems. You have a long fermentation system in some countries. Very slow, long fermentation to virtually no fermentation and all processes in between. Each of those processes have some effect on the quality of the bread and some impact on the type of flour that you need to do that. So it's a matter of matching everything together.

NP: So would the Grain Research Lab be more the chemical basis?

AT: Yeah. It would be a lot of basic research, but still—I don't think it's the right term to use—applied basic research. [Laughs] It was a very practical point of view, but it was definitely basic research. And then the other work we did in collaboration with the Grain Commission was as breeders brought new varieties into the system, we would sit on the committees that review these new varieties being presented for production and licensing and that sort of long, slow process. It's three years of registration trials where the test varieties are grown in different locations to make sure you cover all the soil types and weather types and so forth.

[1:05:36]

So again, as the variety got close to registration or it was registered and produced for the first year on the farms, we would get samples of something new. “We think we got it right by releasing it. Is it a good variety?” So we would bring it in and do the

baking and noodles and all, pasta or whatever's involved, and just to prove the point that, "Yeah, we've got a good one here. We can use this one."

NP: So would it be fair to say—and correct me if I've got the setup wrong—you'd like to know before you send it out to be grown in different areas that it's got a really good chance of succeeding. So in the early stages, there would be the Grain Research Lab taking a look at the different aspects of the--.

AT: Well, they were one of the players. These committees as they're called—the Wheat Quality Committee was one of the committees, there's an Agronomic Committee, and there's a Disease Committee—so as the breeders present these varieties for licensing, they have to go through all of these committees. They have to meet the agronomic requirements. They have to meet the disease resistance requirements, then of course, the quality requirements. So once a variety gets accepted for testing—it's three years repeated—and over the three years, the data has to show that it's not short in any of the parameters that are needed. Again, there may have been one or two varieties over 40 years that shouldn't have been licensed, but then if they're obviously a problem, they can be withdrawn registration to get them out of the system as well. But it's a very good batting average. They've got it right.

NP: Was this similar to other countries in your experience?

AT: No other country has the sort of registration of varieties system. They would have the same system for developing the varieties, but a private company can develop a variety and put it out on the market. If it succeeds, it succeeds, and if it doesn't, it doesn't. So that's another element of quality control which has been inbred in our system right from the very beginning.

NP: Inbred, very good. [Laughing]

AT: No pun intended!

NP: Producers. Did you have any connection with the farmers themselves?

AT: Yes. We did on a regular basis, and still do programs at the Institute for farmers. So we would bring a group of 30 farmers in for a week, and it's again everything beyond the farm gate because--. Less so than in the early years because material information is more freely available now, but I mean, a grain farmer in western Canada grew his crop and took it to the elevator and delivered it and that was it, right? So they're more and more interested in why we have the strict regulations on quality. I mean, to many farmers, well, it's wheat, right? [Laughs] So as long as they can get a basic understanding that these things are in place for a reason, and we can demonstrate that in practical sessions and take a good flour and a poor flour and bake them side by side and, "Yeah,

here's the difference." And general knowledge on all of the organizations—the Canola Council, and barley, and all of the crops. So yeah, they're very valuable. So you certainly get to know-- Spend a week with a bunch of farmers. It's a lot of fun. They really, really are really interested.

NP: Who would sponsor them?

AT: Up until a few years ago, again, the Canadian Wheat Board would, again, on this regional structure they have, they would say, "Well, bring three farmers from each region," and the area rep would nominate them. And they were usually considered farm leaders sort of thing. More innovative, more-- What's the word? More professional, if you like, farming operations. So they'd bring those in. And with the changes now where the Wheat Board is not sponsoring that, it can either be a fee for service program where the farmer pays, or one of his grain companies will sponsor him and cover the cost, et cetera.

[1:10:03]

And the other side of farmer contact was every international group that comes through—virtually every one—visit a farm because that's the starting point, right? So having tramped around 500 farms in the last few years, you certainly get an appreciation for farming and farm life. Like the Japanese are not really forward in asking questions, so I would lead and ask the questions, which I knew they would want to ask anyway and that type of thing. Yeah, certainly, the farmers were more than happy to have guests and often go the extra mile. They'd have a little barbeque or something. So that was a good relationship, yeah.

NP: Now, as you said, the farmers are the start of the system, and then we move through—and the customers are the end of it—so what about the contact with the grain handlers and the terminal elevators? To acknowledge them and experience--

AT: Again, as I mentioned earlier, being a centralized system while the Wheat Board was operating the centralized system, an elevator company, a terminal company would know that if the overall volume of grain is sold, they would get their share. So in that way, they're not really in direct competition as much as they would be in a completely open market. So when we arranged our programs and put together our programs, again, I think I mentioned earlier I would say 70 percent of the lectures and sessions are not presented by staff. We would go to the industry, and we never got a no. We would go to a grain company or a plant breeder or an elevator operator or a terminal company, "Can you come in for two hours and speak to this group?" And we never had anybody say no. So in that way, we were always seeing these people in the building and listening to them and sharing coffee with them and this type of thing, so there was a lot of good relationships there, yeah.

NP: A lot of cooperation.

AT: Oh, 100 percent, yeah. 100 percent.

NP: Do you remember your first visit to a terminal elevator?

AT: Yes, and it was to Vancouver. I didn't realize they were that big. [Laughs] Well, it's fascinating. Everybody, I think, has a natural interest in going on a ship and watching a ship being loaded and talking to the captain and talking to the people at the terminal. So yeah, they were very open. Very, very open.

NP: And what did you learn about terminal elevator operating--?

AT: Well, again, the facts of this quality control system, which has to be in place, right? So at the terminal elevator, there are company inspectors and there are CGC inspectors, so it's a double check. The company elevators check what goes into what bin, and when they're loading the boat, what bin it comes from to go in the boat. And then the Grain Commission inspector, of course, is just overseeing all of that and doublechecking. So it was taken for granted now, but it was quite an eye opener to see the system that was in place, you know?

NP: The cleaning systems and the drying systems and--?

AT: Yeah. There wasn't much drying at the terminals in those days, but certainly the cleaning, yeah, and the grading and re-grading. So it's a very tight system, I guess, is the way to describe it. And then, as I say, the sheer volume of the boats and the terminal itself.

NP: I was talking to one fellow who was doing the--. I guess the company he was working with—and he was a grain handler—the company he was working with had a contract with one of the, I believe, it was a milling company in Britain, and so they had very tight specifications for what was getting put on the ship.

AT: Yeah. Am I able to name to company?

NP: He did.

AT: Okay. This is probably the Warburtons Company?

NP: Yes.

AT: Yes. Again, funny you should mention that because Warburtons, I think they've been active in Canada for 20 years. They originally built their own little lab and pilot bakery system in Brandon, and what their interest is—getting back to, I mentioned several times, this consistency and uniformity—what they were finding if they just bought the Canada Western Red Spring [No.] 13.5, maybe for the rest of the world that was a guarantee, but because of their very, very unique process, their tightness on the specification was tighter than the general. So they delved into it and said, “It’s certain varieties that work well in our system, but others don’t.” So they went into a variety identity preserved system, and they have a staff person on the ground here working with the farmers. So they contract with farmers the varieties they want grown, and once they’re grown, if they meet the specification on the quality, the farmer is given a premium over the regular market price.

[1:15:30]

This has been growing and expanding more and more each year as their business in the UK has got larger and larger. They’re now the number one, I think, or at least the number two baker in the UK, and that’s all grown in sort of the last 15 years. So they’ve got big expansion. They used to be a regional baker in the northwest of England, Manchester area. Now, I think, they cover the whole country and Scotland. So it’s been a--. It’s a family-owned business, and everything they do is quality, quality, quality. Their products in the stores are more expensive than their competitors and still people buy it. They’ve found depending on the quality of the English crop each year, they need Canadian to blend to meet their end specification. Maybe it’s 50 percent Canadian this year or 60 percent or 55 or 65. So they figure all that out.

And so the wheat is delivered by farmers to a designated elevator, it’s binned separately as Warburtons’ wheat, goes to the Lakehead and up the St. Lawrence, and shipped to England as identity preserved wheat. Actually, since I retired, they’ve asked me if I would stay on as their sort of Canadian consultant. So I’m still working on a fee basis with them using the Institute facilities because what happened is the Brandon lab that they had they decided was not quite as sophisticated or adequate is the right word for what they need. So they approached the Institute if they could do their work at the Institute. So we moved in some of their equipment, specifically the mixer which makes their process so different, and so, we do that bake testing now at the Institute. And again, they contracted that with the Institute. So yeah, it’s a growing business. Their volumes have gone up every year.

NP: Now, from the taste-test perspective--.

AT: Right.

NP: So when you were over in Britain just recently, did you buy some of the product and have a little taste test?

AT: Yeah. I mean, you probably think I'm biased, but there is no doubt they make the best quality loaf of bread in the United Kingdom, all aspects. Taste is not huge yet, as long as there's no off taste. It's not a huge criteria in that type of white sliced bread because how often do you eat a slice of white sliced bread with nothing else? So the taste isn't a problem. It's not the big thing. So they're more interested in the crumb structure and the colour and the softness, shelf-life of the bread. The other thing that's happened—again, things are always changing in that market over the last, what would it be, maybe five years—they've been under pressure to reduce the salt content of foods. The baking industry was targeted because it's one of--. People don't realize if you eat a lot of bread, you're getting a lot of salt. So they're voluntarily, I think, meeting certain guidelines laid down by the European Union. They've met these guidelines and reduced the salt.

One of the main functions of salt is, of course, flavour, but the consumers haven't--. There's been no rebellion. The consumers haven't noticed it, I don't think. But that was quite a transition going from a certain level of salt to a low level of salt has lots of effects in the process. So yeah, that's a major program for Canada is the Warburtons' identity preserved wheat.

NP: And is Canada their supplier of choice?

AT: Choice? Yes. I think there may have been, again, over the last 20 years, one year when they had to go elsewhere because we didn't have the volumes of the quality that they needed.

NP: So in the description of what they were expecting of the farmers sounds very much like the sort of malt barley setup where the contracting a specific--.

AT: Variety? Yeah, exactly. Yeah. It's got to meet very strict specifications for malting, yeah.

NP: Mhmm. Canadian Wheat Board, connection with them?

AT: Oh. That was our major colleagues when we were--. Again, up until the Wheat Board was disbanded. The structure of the Wheat Board on the marketing side was that they had, obviously, areas and special marketing people for each area. So each year when the board of directors had to decide how to allocate the money we have and what programs we would do, then these area sales people, of course, would say, "Well, you know, I really want a program for Guatemala this year because of *blah blah blah blah blah*." Or, "We need something for West Africa because *blah blah blah blah blah*."

[1:20:28]

So once the programs were identified and the customers came in, then of course, the area rep for that area would be a participant on the program. When we travelled in Canada, field trips, they would come along. So we worked very, very closely with the sales people, the front-line sales people. There would be two or three in each area. They had Caribbean and Central America, Central America and South America was an area, Asia of course, Europe. So they were divided up on geographic markets. And then they would always get things over the telephone from customers— questions—and they would refer them back to us. Yeah, very, very close relationship with all of those people.

NP: So with the Wheat Board no longer having that function and that function reverting to the private industry then, would you see an increased demand for the CIGI services because there'd be so many more agents?

AT: Well, I think what's happening that's evolving over the last few years is that the funding for the Institute has changed, obviously, because there's no funding coming from the Wheat Board. And I'm not an expert in this area, but there is now a check-off on the wheat. So the Institute gets, I think, it's two cents, three cents, four cents—I'm not sure—per tonne or whatever it is. So that funding replaces the Canadian Wheat Board funding. So the only difference is now when it comes to identifying the participants for wheat and barley, that was obviously the Canadian Wheat Board. So that role now comes directly to the Institute to keep up to date with what's happening in these markets and identifying where dollars can best be sent to promote the wheat.

Then throughout the years because the Wheat Board money was obviously for wheat and barley, for canola, for example, the Canola Council would sponsor a program. So the same concept, but the Canola Council would provide the funding.

NP: But the program would be delivered through the Grains Institute?

AT: Through the Grains Institute. They would select the participants and provide the funding, et cetera. There were a few other non-Wheat Board crops that did the same thing. Alfalfa was one. I remember doing alfalfa for South Korea or something, you know. So that was the structure. So I think the only major change today is that the Institute are now nominating the participants and identifying, through the board of directors again, the markets that we should be bringing in.

NP: So are there similar testing and product development efforts done through the Canadian International Grains Institute for oils, like such as flax seed oil and canola oil and--?

AT: If needed it could be, but they don't currently specifically have an area dedicated to that, and there may be other labs that are better suited for oils. But certainly, in the pulses, they're very active now. Peas, beans, lentils. They have a processing area for milling and dehulling and splitting and all that. So they have the processing equipment now, so certainly in-house they can handle the process for the pulse crops. Not so much in the oilseeds now. As I said, we used to-- No, there were technical programs for the Canola Council. We did feed grain programs for some countries—feed wheat, feed barley, feed peas. So over the years, they've covered everything really.

NP: Right. And what changes have you seen over the years other than, I would say, quite a shift from a major dependence on wheat to a much more mixed crop?

AT: Yeah. Certainly, we've seen canola, obviously, come on over the years to be almost, I think, it's the number three crop probably right now. Wheat, barley, canola, I think. That's probably the way it goes. So that's been a big change, and the pulse crops. What, 15 years ago, I don't think we grew chickpeas in Canada. I'm not sure. So there have been changes, big changes in the crops that are being produced.

[1:24:59]

And then other changes have been how countries have evolved sophistication-wise in food processing. As I say, you go to some of these countries 30 years ago, it was pretty basic, and now, like all other aspects of life, they're getting more sophisticated and more dedicated baking companies.

NP: Do you think that that additional sophistication bodes well for Canada's product?

AT: Yes, absolutely. Absolutely. As I said, you can go from making a flatbread from any wheat you can get your hands on, and in an operation bakery you can probably tweak everything and can make it work, but as you go to larger production, again, will match this uniformity and consistency in quality, which Canada offers.

NP: Much change in the technology of the milling process?

AT: On the milling side, I think a miller will tell you that the basic concept of milling wheat into flour has not changed—the basic process and concept—but certainly the equipment to do it has changed dramatically. [Laughs] So obviously, automation, online management of quality and such forth. So it's still basically the process of grinding and sifting and grinding and sifting and grinding and sifting to produce the flours that you want. So the basic, in 150 years, I don't think that basic concept of milling wheat

has changed. It's just the sophistication of the equipment and the process control, sanitation, and things like this. Yeah, it's really gone like everything else. Technology is with us.

NP: Now if you had gone back to your little bakery where you started out, would it still be pretty much operating as it was?

AT: The business--.

NP: Or would they even be operating? [Laughs]

AT: Yeah. Well, I visited there two years ago. Yeah, the business grew over the years. As I said, it was a small village, and one little bakery in the village. This gentleman who owned the bakery, he inherited it after the Second World War from his father and was very progressive. I think they have 10 or 12 stores now around the area. Yeah. It's grown very significantly. So very little hand work, yeah, but even that's evolved within our system.

NP: So you might not have a job cleaning the pans.

AT: No, no. Pans don't need cleaning anymore. [Laughing]

NP: It doesn't sound, from what you've said—and I might be putting something into that that's not correct—that it wasn't difficult to deal with change on the job, that you were expecting that change would be required.

AT: No, it wasn't difficult. There were sometimes a situation where what was happening is as investment in food processing around the world was taking place, leading more to the developing countries or the semi-developed countries where they would go into a country where no major bakery producing a type of product existed, and they'd from scratch build it. It was state of the art. And so, we were always having to make sure our equipment was at least very close behind the person who was coming in because we couldn't bring somebody in from a process and not be able to replicate it. So again, it was always upgrading and looking at what we needed in terms of equipment in all areas of the Institute, even in audiovisual and things like this. Classroom support and all this type of thing as well as the technology areas. We had to keep abreast of what was happening in the world food processing.

NP: So I would think budgeting would be a challenge.

AT: Yeah. And again, there were major infusions of capital equipment from the Canadian Wheat Board on behalf of the farmers when a major installation was decided was needed. There's two examples of that. As I said, the noodle processing equipment. We

had a very small--. Well, larger than a domestic machine, but it was a pretty crude sheeting system for noodles. It was quickly apparent that we were not satisfying the customer who is using very sophisticated equipment. It was a huge investment. I forget the amount of money it was. It was probably close to \$1 million. But again, the Wheat Board looked at it very, very carefully and came to the plate again with farmers' money, so we installed this state-of-the-art, pilot-scale noodle processing line to make all kinds of noodles—fresh noodles, steamed noodles, boiled noodles, instant noodles—all on the same production line.

[1:30:13]

So then we were really happy because the customer would come in. They'd walk in and see the equipment, "Ah, great! Let's get to it." And then the other example was the pasta area, a big industrial pasta press, again, to closely simulate industrial situations. So the Wheat Board, as I said—and again, I keep repeating it—you say the Wheat Board, you forget it's farmers' investment. So the farmers invested to keep us current.

NP: And that would be a change, the change now from Wheat Board to no Wheat Board and return to the early days of the industry, which was the open market system. Do you see any impact for that either way?

AT: Well, because I retired over these last two or three years, I'm not as close to that as--. I still read the farm press and such forth, try to keep up to date. As I said, with the contract work I do in the Institute talking to the staff and that there, it seems from the Institute's perspective, it's been a very smooth transition. They're probably in some ways the least affected by the major change because it's really, as I understand it, it's been a shifting of where the financing comes from. Instead of farmers' money through the Wheat Board, it's farmers' money directly into the Institute.

NP: Yes, and the basic research that's done, assuming that you are kept abreast of the markets, which I would guess would be the challenge.

AT: That's right. And again, the grain companies are playing more of a role in that because where the Wheat Board would service any questions or queries with their customers, now it's coming to the grain companies. They say, "Oh, we don't know." [Laughs] So it eventually still ends up, I think, at the Institute that kind of--.

NP: May end up with more work just because of more questions coming in from more sources.

AT: It could well be. As I say, I'm a little bit out of the loop now, but it could be.

NP: Vivid memories? So you've told us some of the stories and incidents, but are there any others that you can think of that are--. If you were talking to grandchildren if you have grandchildren, "Oh, yeah. I remember when grandpa did this." Are there other stories that stick in your mind as being--?

AT: There are lots. Mostly they involve travel situations. I gave you the one example. There were many others. One other would be I went to the country of Niger in West Africa.

NP: Spelled?

AT: N-I-G-E-R.

NP: Okay. Niger, I would have said, but Niger?

AT: Yeah. They pronounce it Niger.

NP: Okay.

AT: This was on behalf, again, of the Canadian Food Development Agency. They had a food aid allocation from Niger, and it was a very simple request was, "We want to go there and do a bit of an audit. Should we send them wheat or should we send them flour?" It's a very small country. I mean, it's probably one of the poorest countries in the world. So the challenge wasn't that daunting, so I said, "Yeah, I'll do that." Well, this would have been what era? Late '80s, I guess.

At that time, to get into the country--. Probably nobody knows the capital city. The capital city is Naimey. [Laughs] So to get into Naimey was one flight a week from Paris. One week in, and then one week out. So that's the flight I obviously took. Well, when I got off the ground, and there was somebody from a non-government organization. It wasn't CIDA. I forget who it was. Some local non-government organization met me at the airport, which was great. It was 42 degrees. Fine. So I go down to the hotel, and the hotel was probably what we would classify as a mid '50s motel-type thing in this country. I'm not being too brutal. It had probably been cleaned twice since it was built, you know? [Laughs]

So here I am in the middle of nowhere on my own, and the room—well, it was a room—and it was an army cot. There was a little black and white '70s television which had two channels. One was the news in French, which I don't speak, from Paris, from France, and the other was a gentleman reading the Quran. So that was the entertainment package. The shower was literally a big old copper shower head in the corner and a drain in the floor, nothing else. So that was my accommodation. No air conditioning.

[1:35:16]

So I went down for my first meal, and they had a little restaurant area with checkered table cloth and a candle. It was kind of cute. A waiter came over, and he was actually in a sort of uniform. He looked fairly reasonable and asked me in good English what I would like for breakfast. I said, “Well, a couple of eggs would be nice.” “Well, we don’t have any eggs.” “Well, how about some breakfast cereal?” “Don’t have any breakfast cereal.” So this went on, and I said, “Well, what do you have?” He said, “Well, we have rice,” and he said, “and I might be able to get you a banana.” “Well, that’s fine. A cup of coffee?” “No coffee.” And I’m a coffee addict. I was there for a week.

So all week, they had—I was there six days—I had rice, I had bananas, I had oranges, and I had fish one day, a piece of fish one day, and that was it. I went down to the market—they had this little open-air market area—and there was flies everywhere. Raw meat covered in flies and this type of thing, which is sort of expected in some of these situations, but there was a stall there, and they had a box of like granola-type bar things, French made. Wow, you know. So I said, “I’ll take the whole box.” [Laughs] I took the whole box, took it back to the hotel, opened it up. It was crawling with maggots. [Laughing] So these are some of the situations you get in. When you check in, they give you a can of insecticide—when you check in at the hotel. So I finished my project in two days, wrote my report, and then I had to sit there with absolutely nothing to do in that heat, no entertainment, no food, couldn’t get a cup of coffee, and I couldn’t get out any quicker than when the plane came back the next week. So you don’t realize how it plays on your brain when you’re in those situations. You get really quite anxious.

NP: Mmhmm. Starvation diet. The only thing that was missing was water torture. [Laughing] Unless the--.

AT: No, didn’t have any of that.

NP: Unless the shower leaked. But at the same time, what an eye opener for your report.

AT: Oh, yeah. And photographs, of course. Not only of my hotel, but again, I mention these very primitive bakeries, very unsanitary. They had a warehouse there, and it was just terrible.

NP: So what did you report?

AT: Well, it was--.

NP: What did you recommend?

AT: It was pretty basic because it's a land-locked country, so whatever you ship—whether it's wheat or whether it's flour—it's got to go through at least two countries to get to there. The problem is if you send flour which is bagged in 100-pound bags, it's loaded on flatbed trailers. They just stack it on there. If you send wheat, at least it's in a hopper. A very primitive hopper car, but it's a hopper car. The problem is if you send the flour, by the time it gets there, there will be none left. It will all be stolen. So it was that basic a decision. They did have a mill there, which was in very bad shape, but it could have probably milled. But that was a pretty easy, basic decision that if you wanted to get the food literally to them, you had to send wheat.

NP: Mmhmm. Now, did you ever follow up on what happened?

AT: Yeah. They did. They did continue to give the food aid to Niger for a few years. I don't know. I didn't follow up much beyond that. It's just one of those basic things that has to be done.

NP: Did they grow any of their own wheat?

AT: No. They had no agriculture there at all.

NP: No?

AT: There's a major river that goes through. There's a little bit of agriculture. Their major export is acacia for making gum, for extracting gum. Acacia trees along the riverbeds, along the riverbanks. So there's literally--. There's very little agriculture there. Very little.

NP: And was the staple crop rice because that was foreign aid?

AT: No, most of their food is imported. They don't produce hardly any food.

NP: Could they?

AT: It's desert.

NP: Okay. Even with the river there?

AT: Yeah, yeah. They've just got the one major river, and life revolves around the river. Still nomadic people. Goats and--. It's a very, very poor country. Poorest country I visited.

NP: So even with sending wheat, would there be the ability to even use the mills?

AT: Yeah. As I said, the mill was in rough shape, but it could still mill. And as I said, the bakeries, there were small bakeries, and they were very, very, very, very basic and crude, but I mean they could produce bread, and they were producing bread. Yeah.

[1:40:17]

NP: Well, and it makes me think when you're talking about that about old-fashioned movies about Mexico, and you have the individuals working there with corn and just using rocks to do the--. So was there any of that that people could--?

AT: No, no. Not there, no. No, no. No, I haven't actually seen that anywhere, I don't think, where it's been that basic using stones to--. There is a lot of stone-ground flour, but they're sophisticated stone mills now. They've got automated stone mills. They're still using the same principle but milling stone-ground flour. But no, that was definitely the poorest country I visited. It was quite an eye-opener.

NP: Mmhmm. You didn't sign up to go back?

AT: No need. [Laughs] Project accomplished.

NP: I think this question is just going to allow you to wrap up what you have said because it's what is your sense of the role that you and the Canadian International Grains Institute played in Canada's success as an international grain trader?

AT: Yeah, I think it's pretty easy to wrap up. As I've alluded to throughout this session, we provided information and a service which the customers did not have prior to that. When it was offered to them, they just grabbed it. The more we did, the more our reputation was growing and positive. And the fact that I also alluded to that we kept up with technology, answered all the questions. The grain industry here is relatively transparent to grain industries in other countries, into Argentina or Ukraine or things like this. A different degree of--. [Laughs]

NP: What do you mean by transparent?

AT: Well, you could follow--. Like financially, it was above board is what I'm saying, I guess, politely. So that side of the business was totally transparent. The commitment by the whole industry—the breeders, the farmers, the grain handlers, the exporters, the grain companies—the commitment to quality. Quality, quality all the way. It was easy for us to sell. I mean, it wasn't difficult to convince people that it was a good product, and over the years, there was two complaints you heard about Canadian wheat. One was the moisture content was too high when we ship it. That's agronomic. We can't do anything about that. And the second problem was it's too expensive. [Laughs] So if that's the only two problems you have, then you're in the driver seat. If they wanted Canadian wheat, they paid for it, and they paid a premium.

But no, I think it's been a tremendous service to the grain industry, and for me, it was just a fantastic career. Again, as I said, from a very narrow baking by osmosis you learn about the whole industry, particularly about the flour milling and flour quality and flour plant breeding. So it was a tremendous, tremendous experience for me personally.

NP: One of the--. I had talked to you earlier, and perhaps you've forgotten because I think it was a few years ago now—it was before you retired—and I was telling you about the project that we're working on in Thunder Bay where we're trying to get recognition for the grain handling and export shipping as part of the growth of Canada's successful grain trading. Our hope is that we will have a little centre of some sort that will feature the various aspects, including the Canadian International Grains Institute which are all those pieces of this very interesting puzzle.

AT: Yeah, exactly.

NP: That has allowed us to create a successful export trade. So if you're thinking of something that has a public focus—people who really don't know anything about the grain industry, but they're coming in, and we're hoping that they'll experience its complexities in a pleasant way—what do you think would be most important to feature about your part of the industry?

[1:45:05]

AT: Well, I think probably that we're growing wheat. We're exporting it to over 70 countries most years, and in each country if you take the standard basic bread of that country, there's something unique about it against all the others, whether it's the recipe, whether it's the shape, whether it's the type of process, *blah blah blah blah blah blah*. Again, going back to the early years, I mean, could you go in the late '60s into a store and buy croissants or bagels or pita bread? Okay. So we've had to accommodate all these end uses which we weren't familiar with, so we've learned from that.

So I would think something like breads of the world display or something like that just to illustrate that this single commodity of Canadian wheat has to satisfy all this whole range of product types and processes and customs and such forth. And over the years, I've done a couple of displays of that type. We held the Bread Congress here many years ago. The International World Bread Congress was here. Even the Prime Minister attended. It was a big, big event for the grain industry. So I remember I did a huge display and baked up all of these different types of products and had a big map of the world with pins and ribbons, you know, going to it.

So I would think something like--. Because most people won't appreciate that. You know, we know our domestic bread types, and as I say, some of them we brought into our system like the bagels, as I said. Now the big thing in the UK—I was just over there this week—is what they call thins. It's a sandwich thin, so it's just simply a thin square about three quarters of an inch thick rather than a slice of bread. You just take two thins and put them together. They're making loads of different flavours now, and I bet you in five years we'll be seeing thins in the Canadian marketplace.

NP: And what is different about them that--? I mean, the shape and the height, but from a technical basis?

AT: Well, the technical basis is it's a sheeted product again, so you've got some issues there to make sure you've got the right flour quality. It's what we call fairly lean. It's not a lot of fat or sugar. It's fairly lean, and for some reason people run all over it. Instead of a sandwich and cutting and slicing, they just take two of these and put them together to make a sandwich.

NP: Almost like a wrap, but a little thicker than a wrap?

AT: Yeah, it's like a wrap, but thicker than a wrap. Yeah, exactly. A square. So they've only had them over there for two years, I think, and it's--.

NP: Whose product is it?

AT: Well, again, most of the major--. The three major bakeries are all making them, competition.

NP: Do they have competitions for novel bread products?

AT: Not for novel bread products, but a big part of the baking industry—it's so different in the UK—even when I was a student there would be competitions where you make a specified product, and it's judged simply on its quality. So you submit your samples and judges and awards and all this kind of thing that's still going on with students and right through its whole system. So they have

these baking awards, as they call them. The best cottage loaf, and the best this, and the best that. They get hundreds of entries. It's more of a passion. The baking industry is more of a passion in Europe than it is in North America.

NP: And it's something like that that we would like to focus on in Thunder Bay, --.

AT: I think, as I say, something off the top of my head right now as a suggestion, as I say, a breads of the world display. A little bit of information on each and the country and--.

NP: Best muffins in the west versus the best muffins in the east. [Laughs]

AT: In the east, that's right.

NP: Which, as a fact, my husband—I'll credit him on tape here—he said he was going to--. I was suggesting this kind of competition thing because people sort of like to compete, those who are really good bakers. So he said we should call it "Best in Dough." [Laughing]

AT: Very good.

NP: To rival the best in show dog ones.

AT: That's right, yeah.

NP: Any questions I should have asked you that I haven't?

AT: I don't think so. We seem to have covered quite a bit. No, just repetitive, but as I say, and probably with some degree of bias, but I think this Grain Institute concept was just the right place at the right time, and it proved to be very, very successful. I mean, the Canadian farmer has to benefit from it. They just have to.

NP: And recognize that they do.

AT: I think most of them do, yeah. Most of them do, yeah.

NP: Yeah. Did you gather any memorabilia over the years? Pictures and things such as that?

[1:50:04]

AT: Yeah. I've got particularly the early years. I kept quite a bit of it in China. They can be very formal, and of course, when we were first going there, they were all wearing the Mao suits with the red star and the cap and that type of thing. That's all changed now, of course, and very Westernized. Yeah, lots of formal banquets and this type of thing. To be polite, you had to make sure you knew what you were doing because you could offend them very easily. Some of the expected customs, et cetera. So, yeah, I've got quite a few photo albums over the years, and gifts we were given, of course, when you travel.

NP: Would there be any photographs that would reflect the stories that you've told?

AT: I could probably dig out a couple.

NP: Yeah, because that would be great because our intent is to have little snippets taken from interviews. People will get an opportunity to listen to the whole interview, but for the website presence, people don't have--. We're lucky if we get a minute worth of their attention. [Laughs]

AT: Exactly, exactly.

NP: But to have photographs to go with it would--.

AT: Yeah, I could. Yeah.

NP: Yeah. And have you decided what you're going to do with your photo collection?

AT: Collection is probably a strong word, but I have quite a few. Particularly in the early years, I remember for example in Algeria—the first time we went to Algeria—and as I said, it was a government buying agency. Very government bureaucracy from top to bottom, and so they hosted us for dinner. This is late '70s. I remember it clearly. The gentleman's name, the director of the grain buying agency, his name was Mr. Louis-Bey. Of course, everybody thought he--. Who worked in the organization you went to almost bowed to him every time you saw him. It was that kind of structure. We had this final—we were over there for a week, I think—we had this final dinner with maybe 100 people or something, and Denny Stephens, who was travelling with me at the time, sort of my boss at that time, said, "What can we do for a bit of a gimmick to polish this up?" I said, "Oh, I've got the right idea." Have you ever seen a wheat sheaf made out of bread? Yeah.

NP: No.

AT: No? So what I did, it looks like a carving, you know. It's almost full size. I did this beautiful wheat sheaf in bread, and so that's what we presented him. Well, that was a big hit. He was moved. Nobody had ever seen one before, and he was the most important man in the world, so. [Laughs]

NP: How did you make it?

AT: Well, I've done them before. I've made it. We used to do them for window displays and--.

NP: So you made it here to take?

AT: No, in Algeria.

NP: So you just found a spot where you could set up shop?

AT: They found me a little bakery, and I went in there one night and made it. It's a long process. It takes about five hours, but we used to make window display pieces out of bread for the shop windows and things like this, the stores and that. So yeah, this big, beautiful wheat sheaf. I think I've got a photograph of me presenting that to him.

NP: Perfect, perfect.

AT: And I think I'm in my bakery whites as well.

NP: Oh, well. There we go! [Laughing]

AT: And of course, they all clap away and--.

NP: That's right. You could get a guest spot on one of these baking shows on TV now! Yes, I have a bag of CWB pasta that's in the shape of CWB.

AT: Yes. Yeah, that's right.

NP: It's probably a collector's item now.

AT: Yeah, yeah. We had a special dye made to make the letters.

NP: Yes, I'm very impressed. [Laughing] Well, thank you very much.

AT: Okay. It's been fun!

NP: I've had a great time. Learned a lot. I'll just end the formal presentation here.

End of interview.