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Company Affiliations: Canadian Grain Commission—Grain Research Laboratory, Canadian International Grains Institute

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Summary: In his first interview, former director of administration and secretary of the Board of Grain Commissioners (Canadian Grain Commission) Victor Martens describes the first roles of his career within the CGC at the Grain Research Laboratory. He details the main projects he worked on while with the Lab, including improving tests for durum in macaroni processing, developing a new sample probe for large wartime storage warehouses in Thunder Bay, investigating discrepancies in inspection operations at each Canadian port, standardizing bushel weight measurements across the country, and conducting monthly sample check tests for inspection homogenization. Another major project was improving grain moisture testing and drying equipment. Martens then describes his move into an executive position at the CGC, and his major tasks of working on a committee writing the 1971 Canada Grain Act and running a pilot program of segregating grains by protein content. Other topics discussed include his family's emigration from the Soviet Union, his colleagues at the Grain Research Lab, his interaction with terminal and transfer elevators in eastern and western Canada, political appointments in the CGC, the significance of changing grading to protein content, and the uniqueness of the CGC and the Canadian Wheat Board in the global grain industry.

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Time, Speaker, Narrative

NP: This afternoon, I'm speaking with Mr. Victor Martens in his home on Henderson Highway in Winnipeg. It is April 23rd, 2009, and we'll just start with a little background history about where you were born, how you came to be in Winnipeg.

VM: Well, I was born in the Soviet Union, and my parents immigrated to Canada in 1924. We were on the farm in Saskatchewan and in Manitoba for about two years, and then in 1927, we moved to Winnipeg, and I've been in Winnipeg ever since 1927. So that's a good time. I've seen this city grow from, I think, the population at that time was probably under 300,000, and now it's over 700 and somewhere there. That's the background of my arrival in Canada.

NP: So you were how old when you--?

VM: 4 years old. Yeah, 4 years.

NP: And would I be wrong in assuming that your family moved to Saskatchewan onto farmland?

VM: Yes, we moved onto farmland. My dad, of course, was a labourer. He didn't know any language or anything like that, so it was quite something to be there. We arrived in September, and it got cold pretty fast, and we lived, of course, in the beautiful Ukraine where the climate is very modest compared to what it is in Winnipeg. So, yeah, we had some difficult times in the farm, and then we came to Winnipeg, and my dad found work at Dominion Bridge, and it went very well for a few years. But then the Depression hit, and that was very bad. I think that my mother probably kept the family—maybe not just quite alive—but going because she was a professional seamstress. So she could make some money for our food and shelter. So it was difficult times, but for me personally, I was young and became a teenager through those years. I enjoyed it, but in retrospect, I can see the difficulties that my parents had and what they sacrificed for me to give me a wonderful life in this beautiful country for so many years.

NP: And so, your early years then weren't connected at all with the grain industry other than the short time on the farm.

VM: Not at all, no. I should tell you that story because it's a good story. I went to high school at St. John's, actually, Isaac Newton's for one year—it's changed its name now to something else—and then to St. John's Technical School in the North End all the way from Brooklands. We lived in Brooklands. I got to know the professor or the teacher in charge of the shop area, R. J. Johns. He was a prominent figure in Manitoba and Winnipeg. I got to know him fairly well, and he kind of took a little bit of a liking to me. I liked shop work and so forth. When I graduated, and I left St. John's, I had basically no contact with him, but I knew where he lived. He lived on Glenwood Crescent. So one Sunday, I thought, "Well, I'd like to just go and see my old teacher, you know?" So I went to John's on a Sunday afternoon, and I knocked on the door, and he answered. "Oh, come on in." He welcomed me, and we talked. And he said to me, "You know, there's some advertisements for the government laboratories, the Grain

Research Laboratory, in Winnipeg.” And he said, “Maybe you’d like to just apply and see whether you can get a job there.” I was working in a manufacturing plant manufacturing furniture and whatnot.

Anyway, I did that, and I went and applied at the Grain Research Laboratory. Dr. Anderson was the director at the time, and I was hired. So that was on April 1, 1940. I spent about 28 years in the Laboratory, and I was very, very fortunate. The Laboratory does have some—especially at that time—responsibilities for making the moisture content of all grains at terminal and transfer elevators. And at that time, the development of equipment or the equipment that was used was the Brown-Duval method, which was a very intricate and difficult method. You boiled grain in a flask of oil, and then you got the water vapour coming off, and you just read the graduate, and that was the moisture content. They had to do hundreds and hundreds of samples by that very difficult method at all the terminals where the Board of Grain Commissioners had inspectors.

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So I was fortunate in that sense that I was assigned at one point to-- We had check-tests across the country. We sent them all over to all the terminals, and we’d get results back, and then we’d see how close they were to the correct answer. If they were off a little, we’d inform them and so forth. So that kept the whole thing in line and in control. But aside from that, every year we would make one trip to eastern Canada and one trip to western Canada to all the terminal elevators and then see how they were testing and what improvements we might make. They might have wrong heaters or not doing it properly, and I was involved, fortunately, I was involved in that, and I got to know the elevator people and know the facilities over the many years.

And the other thing that the Board had responsibility for was the grain drying of grain in a terminal elevator. If you have a year of high moisture content and so forth, a lot of the grain had to be dried. Take wheat for instance. If you take wheat and you overheat it during the drying process, you can’t see it on the kernels, but you can destroy the baking quality by overheating it. So therefore, the Board of Grain Commissioners had some kind of control over the temperatures that were used and also to see whether they were doing it right, you see? Because all of the drying in the early years was done in terminal or transfer elevators, not in the farm dryers that we have today and so forth. That only came about about 1955, something like that.

NP: What does a dryer look like in the terminal elevators?

VM: Well, in the terminal elevator it’s a huge container, you know, you might say, with I don’t know how many bushels exactly. Probably 4 or 500, not more. And you have heaters at the bottom, and it just flows through the grain. Then you determine the moisture as like-- A drying would be required, let’s say, for grain at 16 or 17 degrees because they couldn’t store that very long without it going bad, and they’d get into trouble with a whole lot. So they were continuously drying. That was a big project, and the

Board of Grain Commissioners had the control to see that they were using the proper temperatures, and that they weren't damaging the grain. So that was one of the things that I got involved with to some extent in my travels there and so forth.

Then, of course, later on when the protein grading came in—that's another story I'll tell you about a little later—there we had other responsibilities, you see. Additional ones in that regard. So with my travels to the different transfer elevators and terminal elevators both at the West Coast and Thunder Bay and then, of course, the transfer elevators all along the Montreal, Quebec, and Sorel. They were all transfer elevators. And I became involved also in the information we got in the grading system because of the Board. We had some responsibilities in that. So I was fortunate to just get into that niche, and over the years work that whole program out. So that was the beginning of basically my career in the Laboratory other than being there and being the assistant to the PhDs, who were responsible for doing research work and also control work in the Laboratory at that time.

[1:10:43]

NP: Who were the scientists there at the time, do you recall?

VM: Oh, yes. The one that I worked with very closely—in fact, I guess I was his first assistant—was Dr. Cunningham, who was a physicist, and during the latter parts of the war, he was called to Chalk River to the nuclear program, you see. In fact, I don't know whether this is a place, but there's a nice little story with regard to Dr. Cunningham. I don't know if you know the Ignatieff, Michael Ignatieff, who is now the leader of the Liberal Party. His father was the ambassador, Canadian ambassador, I guess. I think that's what they assign it as ambassadorship to the United Nations. George Ignatieff. He happened to-- His father, George Ignatieff, Michael's father, lived right next door to Dr. Cunningham, who I had worked for. So on one of my visits to Ottawa, Dr. Cunningham said, "Do you know who my neighbour is?" And he told me about Ignatieff, George Ignatieff, and told me something about how the family got out of Russia during the Soviet Union. His grandfather—Michael's grandfather—was the Minister of Education for the Tsar in the Tsarist regime. And of course, when the Communists took over, he was in great danger, so he was able to take his family, who had an English-- What do you call them? An English person looking after the children.

NP: A nanny?

VM: An English nanny, yeah. That's what it was. Summerfellow, I think, was her name. Anyway, they were able, Count Ignatieff with his whole family, including George, Michael's father, they were able to get across by the Count's knowledge and so forth. They got to Odessa with the whole family, and there this lady who was with them, there was a British warship there, and the warship, she went up to see the captain of the warship. And she said, "You know, the Ignatieff family is here. You know who they are. They want to get out of the country. Can you help?" And they did that. They got out onto the ship, the whole family, and they

got to Turkey, and I think his grandfather, the Count, knew the Turks from his work as Minister of Education. And eventually, by this route they got to the UK, to London, and spent--. Most of them were educated there. They got a good education there, and then they came to Canada. And George, Michael's father--.

And so he told me this story, you see, and then I got the book. Michael's written a biographical sketch of this whole thing. So he was in Winnipeg here a few years ago, and I thought, "Well, I'll go and see him, hear him talk." It was at the Art Gallery he had a talk. Very nice. So I thought, "Well, I'll go out and see whether he remembers anything about Dr. Cunningham because he was his neighbour." And Michael might have been, what, 3 or 4 years old, 5 years old. So I asked him, "Do you remember Dr. Cunningham?" "Oh, yeah, sure. I remember." So we had a little chat. So that was a little side experience.

[0:15:28]

NP: Small world category!

VM: Small world, yeah. But it was a wonderful story. Anyway, that's outside of the realm of what you're after.

NP: Now, just going back to Dr. Cunningham, a physicist. How does--. Like that doesn't strike me as being the type of scientist that would be in a Grain Research Lab. How does that work?

VM: Oh, my good. Oh, my goodness.

NP: Obviously I know nothing.

VM: Yeah, he was a physicist, and he became the leader or the research worker in the area of durum wheat, and I was his assistant. And there were all kinds of tests, you know. He applied physical tests. For instance, there was one test that deals with a colour in macaroni, and at that time—I don't know how true it still is today—but at that time, if you had a nice amber yellow colour of macaroni rather than white--. It was colour. It wasn't taste or anything. It was colour, which is profound in many things. So we worked on that, and we developed--. They had a fairly large macaroni processing equipment in the Laboratory, which required, I don't know what it was, somewhere around ten pounds of grain, and we'd make semolina and that, and then put it through a die of about three inches in diameter, and you had--. [Telephone rings]

[Audio pauses]

NP: But I'll just--. That makes a nice move back into it. So I'm back recording now after the telephone finished ringing, and you were in the middle of describing the test that was done for the--.

VM: Oh, yes. The macaroni.

NP: For the macaroni. And the size of the die

VM: That was very interesting, the test. The die was, I don't know, maybe three inches in diameter or something like that, and it had 16 strands of macaroni. That had to be dried. It was very fussy, the whole thing, but this was the only way that you processed into macaroni. And then you compared all the plant breeders' varieties of durum wheat and selected which were the most yellow ones and the best, and then the plant breeders, of course, would take those and breed the ones that were the best and come up with varieties. [Coughs] Pardon me. That was one of the tests.

So we looked at that, the two of us, and we thought, "Gee, we've got to get this down to a smaller sample because they can't bring ten pound samples. If they bring us a one-pound sample, what can we do with it?" So we developed—Dr. Cunningham and myself—we thought, "Well, let's take this die and have the manufacturers put one hole in it, and we'll make the cylinder very much smaller. And then we'll put the dough in that cylinder, and we'll put it in the hydraulic press," which was part of the Laboratory. So we ended up with one string instead of 16. So that would probably be approximately the proportion of wheat that would be required. So this was a real boon for the plant breeders because they didn't have to give you so much. We had it down to, you know, 50 grams of wheat. Built little mixers and this one strand of macaroni and had it dried, and that's the way we made tests. So that's the sort of thing. You asked, "Well, how does a physicist get involved in this?" Well, this is what he did.

Then another measure was how opaque the dough is, how transparent. It all has to do with the quality. Maybe not so much the quality of nutrient that you get from it, but certainly the quality of visibility, which is the key in marketing or buying it. You don't want it left with something that may be very good nutritionally but doesn't look good. So it had to do with looks. And here again, Dr. Cunningham developed the concept, "Well, look. Let's make a disk of dough dry and of a specific size, and we'll have transmission of light onto that disk, and then we will have a photocell underneath and the other part, and we will measure what the transparency of these--." And you'd be amazed the differences you'd get from that. So that's the sort of thing. So you say, "He's a physicist." Well, that fits right into it. So those were my early years in the Laboratory, and I had some wonderful relationships with the--.

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We had, I guess, there were about five or six PhDs. Dr. Leibfried comes to my mind. He became the director in Ottawa during the latter part of the war, maybe middle of the war, of all the oilseeds. There was quite a demand for oilseeds or for the oils in various areas, so he went to Ottawa at that time, also seconded from the Grain Research Laboratory, and a few others. There were about--. The staff when I started there, it was total of about 15, and that got to be, I guess, today it's probably about 60 or 65. Somewhere around that level. At that time, there were about 5 or 6 PhDs in various disciplines.

NP: Where would they have come from? All over the place, those PhDs?

VM: Oh, yeah. Well, a lot of them were—well, not a lot—but some of them would be Winnipeggers. I just think about one Dr. Irvin, who was the director of the Laboratory after Dr. Anderson, and he got his PhD at McGill. Some from--. What's the Twin Cities university? St. Paul?

NP: St. Paul, mmhmm.

VM: St. Paul, I think. Dr. Meredith, who was the barley specialist, that's where he got his PhD. So it depended. They came from all over.

NP: So you've mentioned a durum specialist, a barley specialist, then--?

VM: Hard Red Spring wheat, which that was the prime. That was the big money maker in the world. But of course, during the war—and maybe I can relate a few things here—we were not--. England was a very big market for Canadian wheat before the war, and of course, shipments now were lagging, and we were still producing. We had large volumes of grain that we had no storage for anymore. The terminals were full, and so what they did then is in Thunder Bay, they poured large areas of concrete flooring, let's say, and then they built, around them, they would build a small area of enclosure, and then they would pile the wheat in there. That created a real problem because how are you going to maintain quality or know anything about it, and you don't know when it's going to go. So some of this stuff had to be moved, which was very complicated.

Then we were involved, and I personally was involved to quite a large extent during those early years. We needed a probe to--. See, the ordinary probes for putting into grain were about, I don't know, five feet long, and then they had ports right along, and you could open them, and the grain would pour into that. Then you'd have a measure of all the grain at different levels. Well, these temporary storage areas, that height might have been 25, 30, 40 feet. So how do you get the grain from way down there? You can't come at it this way. So we developed—it took quite some time—we developed a deep grain probe for putting right down. They were in sections.

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And here, I guess, I got a little bit of credit for this because in building this, we had to do a certain amount of machine work, and we had some machines in the Laboratory, but we needed some precise machine work. So I went to R. J. Johns, who was still the technical director at St. John's, and I told him what we were after and could we come and bring some of this stuff and you do it in the machine shop? So that's another connection I had. We made this probe, and that became quite successful. It wasn't easy. It was in approximately two-and-a-half-foot sections, and you put them together, and then the lower one had a spiral on it, so it would be like a corkscrew.

NP: Like a screw?

VM: Corkscrew. And you'd move that down right to bottom and open them up, and you'd have all samples from the whole level, and then you could tell where the moisture level was or where it was heating and so forth. You didn't have to move the whole thing, you see. So that became very important. So that's some of the early work that I was involved in in the Laboratory.

NP: Where was Canada's place in grain research in the world?

VM: I think—we used to say this, and I think it was true—that the Grain Research Laboratory had developed into a worldwide recognized laboratory, primarily because we, of course, had an impact or developed the system of assessing quality in grain, and then that grain was exported to world markets. And we followed that up in latter years with the Canadian International Grains Institute [CIGI], which that's sort of the last part that I was part of doing.

But I had a very close relationship with Dr. Anderson, the director, and I guess he took a little bit of a shine to me. I don't know, but it just happened. Because in latter years, we played chess together. He would come to my place Saturday evening, and I would go to his place the next Saturday evening, and we played chess. So we had a very good relationship, and he helped me a lot and gave me a lot of responsibility in the Laboratory so that I became the head of the—what did they call it—the ancillary services in the Laboratory because there was still a lot of routine work like the protein determination, all that.

And the sample room. All those areas where there were thousands of samples that had to be processed, you know, in different ways. There was a staff of, oh, I would say eight or ten people in that area, so I got to look after that whole thing. Then I was given a lot of special projects to do because I had a knowledge of terminal elevator operations and so forth. So if we wanted to find out something-- Are the inspectors at the West Coast, are they inspecting in the same manner as the inspectors at Thunder Bay?

They're using weighing devices and so forth and whatever they're doing. Are they doing it the same here as there? All that sort of investigation work, I got involved with. So I have literally books of special reports of that kind, and much of that information, of course, was not suitable, and indeed, that did not go outside of the Board of Grain Commissioners because you wouldn't--.

[0:30:22]

But I can tell you we found that--. Right now, I can't even think offhand which it was, but on dockage, which is part of the grading system, you have two percent dockage on a parcel of grain. Well, we did tests on hundreds of car lots both at Vancouver and at Thunder Bay, and we found that there was a difference of I think it was something around a quarter percent, which was quite significant if you take the total amount of grain involved. You get a quarter percent of 100 million bushels, you know, of what that is, so that's the sort of thing that I was involved with. I've got two books that I thought I'd let you have, but you don't want that kind of detail.

NP: Oh, that's not true. [Laughs]

VM: Where I have, well--.

NP: We'd love to look at them.

VM: Well, you can. It's only one copy because--. So we made very, very many experimental and practical testing of grain throughout the whole system.

NP: So going back to the survey that you did of the dockage testing, what was the solution to it?

VM: Well. [Laughs] You ask a good question, because what do you do now? First of all, is there a difference, let's say, in the humidity at Vancouver as compared to Thunder Bay on a 12-month basis? Then that might be a relative to that because if you have very dry, you might get—what would it be?—a little higher dockage than if there's somewhat higher humidity that you're treating it. So all that had to be followed up with. Other experiments, again, you see? There are literally hundreds of those. And then you tried to--.

Well, there's another good one, which I don't even like to mention that because it's so elementary, but you see, the bushel weight is a grading factor in grain. How much a bushel of grain weighs. If you have a higher bushel weight, it will qualify for a higher grade, you see, all other things being equal. Canada never had a bushel measure. There was no--. You could do it by calculating, but you

never had an actual bushel measure. So we wanted to study bushel weight, and I was put in charge of that study of determining bushel weight. So the first thing that I wanted— What's the outfit in weights and measures in Ottawa?--Well, they knew nothing about--.

NP: National Research Council?

VM: Yeah. National Research Council in Ottawa. Well, they knew nothing about--. Well, they knew, but they didn't have anything. So we had to go to the United Kingdom, and the bushel measure is an exact measure in inches. Cubic measure, that's what it is, and in size. In other words, if you were to take a bushel measure that was, let's say, two inches in diameter and 20 feet high, and that was a bushel, you'd see that would give you quite a different answer than if you take a container that's that wide and that high and put the grain in that.

NP: So more squat.

VM: Yeah, yeah. It will make a big difference because of the surface and so forth, you see. So all that had to be taken into account. Anyway, we went to the UK, and they sent us a—I don't know where it is now—but a beautiful, oh my, beautiful official bushel with all the certification and that. And we made some comparisons with that, but what I found was that our inspectors and the way they measured bushel weight—and they probably still do—instead of having a bushel measure, you take 1/64th, I guess, of that, and that's a pint or something like that. And they all had, the inspectors were supplied with pint measures, and you multiplied that by 16 or whatever the figure is, and you'd come up with a bushel weight. They all had this measure at their desk and with a striker, and the striker was part of a broomstick—you know, a round dowel—that you did this with.

[0:35:45]

NP: To smooth off the surface.

VM: Yeah, yeah. And then weigh it. You put it on a scale, you poured that in, and then it would--. In fact, the scale was calibrated to come out in bushels. You'd know exactly what it was. So here, you know, I did some investigation work, and here I found that, oh, my gosh, two people are making such great differences in the measurement, and it's a critical thing. I would say that there were some that were probably a pound difference in bushel weight. This had a determination of where the grade fell. So we looked at what the inspectors were doing, and this was primarily in Winnipeg because we had the large grain inspection in Winnipeg, which it's not now. Then I found that what they were doing, they had these bushel measures—pint measures, which were bushels—and they had this stick, and when they were through, they just popped the stick in there and put it away. So I took I don't know how

many—a dozen or whatever—so they were all over the map, and the reason was that they were throwing the stick in, and it wasn't a very strong base, and the base was doing this.

NP: It was bowing?

VM: It was bowing. So all kinds of stuff like that. I did so many experiments of that kind. Then, of course, we correct that with--. Made them get new ones and better bottoms and more precise. And the way I did it, which is very elementary, but what you do is you take the bushel measure—the pint measure that was related to a bushel—and then you would put water in it at 20 degrees, supposedly, so it would be always the same, and then you stoked that off, and then you made a precise measurement on the scale of what that total weight was, and you would find differences. So what you did then is we had a lathe and so forth, so we put them in the lathe, and we would take off a little bit of the surface and try again, and finally get--. That's the way we'd then calibrate the bushel measurement. But there's hundreds of stories like this that we helped the inspection division to operate in a system that was the same throughout, from Thunder Bay right to--.

Well, Thunder Bay was the big one. Thunder Bay was the end of the line for a certificate final, grain certificate final. All grain moving east of Thunder Bay was IP-ed—Identity Preserved—by the certificate final, Board of Grain Commissioners. In Vancouver, that was the west part. All grain had to go out of the Vancouver port on a certificate final basis. That was it. And the identity had to be preserved. You couldn't mix it. It was illegal. And that's the control that we had, you see.

NP: Had or still have?

VM: I suspect it's still there. That part of it is probably still there. So there were many, many, many. If you want to take that book, I've got most of the stuff that I was involved with is referred to in that book, and those experiments, controlled experiments, it was not material for scientific publication because, you know, you couldn't let the trade know. You'd let nobody know. So those reports, they're not secret. I'm sure they could turn them up, but you wouldn't be publishing them in a scientific journal. Some you might, you would. Like I think the macaroni ones that I told you about, the plant breeders one, that was published in a scientific paper, but generally, this material, how our inspectors are performing and what not, that was sort of--. We didn't tell too many people about that.

[0:40:54]

NP: You were talking—and I'm going to switch gears a little bit or at least go back to an earlier point that you made—that you travelled to the various places where the grain was--.

VM: Terminal elevators.

NP: Terminal elevators.

VM: And transfer elevators.

NP: Yeah. Do you recall your first experience with terminal elevators?

VM: Well, the first experiences in the terminal elevators was primarily what I told you about, testing. You see, every month, the Grain Research Laboratory would get a large, large sample, four or five or six bushels of grain—I'm just not quite sure how many—of a specific quality, let's say, No. 2 Northern wheat at that time, and we'd mix that in a mixer so that it becomes one huge sample. Then you would take that huge sample, and you divided it through what was called a Boerner, B-O-E-R-N-E-R, not U-R. Boerner, I guess, sampler, which is a device that when you pour grain through that, it has certain directions that that grain flows and ends up in the container so that it is completely and thoroughly mixed, that you could take any part of that sample and it would be the same.

So every month, we would have one of these huge samples taken, and then it would go through the Boerner system and develop or segregate out approximately, let's say, 200 samples of, let's say, six ounces. I think that's what they were. And they would go into cans. At the beginning, we used cans so they were absolutely seal-proof. Then those samples would be sent every month to all the inspection points and terminal elevators and transfer elevators across the whole country. The information would come back, and then you would have what they determined, what their moisture content was on that sample, and all specifications on that sample. That's the way the system was controlled, by a monthly check test system. So we kept our inspectors in line with the physical aspects of it, not there--. Because the inspection system is a wonderful, wonderful system. There is nothing like it ever in the world. It was the best.

Those inspectors, I think we didn't have more than about, I would say, 200 who were able to sign a certificate final. To be able to sign a certificate final, you would have to be I don't know how many years, many, many years—and you would be the top line of the inspector. You could have a lot of assistants around and one inspector at that time could--. It was primarily all physical except for the weighing, which you could do that in the bushel weight, which I told you about. Other than that, it's amazing what these guys could do. I mean, they could tell you whether it was Marquis wheat or--. You know, it's just unreal. They never got enough credit for their knowledge. They could do approximately 100 samples each in a day, you say. Now they have, of course, many other things to take into account. For instance, protein is the big one that I'll talk about a little later. So that was the control that the Grain

Research Laboratory in conjunction with the grain inspection. They were on location. They were the boss people, the grain inspectors, and they were all subject to the chief inspector in Winnipeg. Even the man in charge of Thunder Bay was responsible to the chief inspector in Winnipeg and so forth. So it was a wonderful system that worked. Now, many of the things that I'm telling you now are not applicable in the same way as they were in that time.

[0:46:06]

NP: So what changes did you see in that system in your time with the Commission?

VM: Well, we made-- [Laughs] The chief inspector, and I guess I knew three or four of them, they were like—I really shouldn't say it publicly—but they were it. They were very, very powerful, and they were not that anxious to have the Laboratory become involved in some of the techniques that they were using or questioning them, you see. They thought that they could do this on their own. But for instance, the Brown-Duval moisture test, well, they couldn't do that because that was definitely a Laboratory test. And certainly, the protein test that came in when protein first became official where grain shipments on a protein basis, you see, the early years, they had very difficult tests to make for protein. Today, it's much simpler. So the chief inspector of the time and the chief chemist, who was the director of the Grain Research Laboratory—Dr. Anderson for many years—and all the chief inspectors, they did not always see eye to eye. I guess the Laboratory thought, well, they had the answers more than what the inspectors had, but they worked very closely. It was for the benefit of the whole, not just the one unit. So yeah, there were a lot of interesting times.

NP: So the changes that you saw in the time that you were there, very many?

VM: Well, if I dare make this observation, I guess, I've said it many times. The Canada Grain Act, I think, was 1930—something like that—was still valid up until about 1971, I guess. And we were working with a very difficult and obsolete act. And under the Act, of course, the Board of Grain Commissioners could make regulations on their own, but it was subject to the Act. You couldn't make regulations that would be contrary. For instance, the grades of grain, all the grades of grain were in the Act but not in the regulations so that if you wanted to make a changes, let's say, of a name or the change in bushel weight or anything like that, any change, it would have to be an act of Parliament. So you can see how difficult that would be. And no Minister of Agriculture wanted to touch it. If we said, "You know, we've got to change this because it's not working--." You cannot change a part of an act. If you want to change something that is in an act, it opens the whole blessed act. So no minister really wanted to do that, until Bud Olson came along, and Bud Olson took us into-- I was already--.

[0:50:32]

I've transgressed a little. But I was already in the executive office. I was director of administration, secretary and director of administration of the Board of Grain Commissioners, and I recall very distinctly--. I think I got that position in 1966, I believe, '64 or '66. Yeah, it would be '64. Bud Olson took the three commissioners and myself, and I think the chief grain inspector may have been present, sat us down in the boardroom, and he had just been made Minister of Agriculture. He was from Alberta. And he said, "I want a new Act." [Hits the table along with the words.] So, oh, my gosh. We've been trying to fool around with this for years and years, and here's a minister that now says, "I want a new Act." If anything frightens you, that would be it. So we didn't know really how to go about it, but we eventually set up a committee, and two people--. Let's see, who was it? The chief inspector, one commissioner, Lem Shuttleworth, and myself, and Earl Baxter, who was the director of the economics division. We said, "Okay. Let's not look at the Act at all. Forget about it. And we will write up of what we would like to do in the industry."

So that's what we did. We did that for about a year and a half, two years. We had people from Ottawa assigned to us and a lawyer from the Canadian Wheat Board [CWB], and we set up the new Act, and then, of course, it had to go to the Department of Justice to be put into legalese and that. It was reviewed by--. Then you have the Committee of the House that reviews all this, and we got it pretty well through. I think it had first reading, and then Parliament was, I guess, prorogued. Yeah, I think prorogued is the word, which means that everything that hasn't gone through has to start over again. So we were very, very disappointed that it hadn't gone through. But we were fortunate that when Parliament arose again, then we came up and we maintained our position in the lineup. So we finally got the Canada Grain Act of 1971 through, which is the one they're working with now. And I'm assuming that, and in fact I know, that they're having quite a bit of difficulty with working with that one because of the many changes that have occurred. And you will have heard that from others.

NP: Can you pick two or three changes that came about in the '70s version of the Act that you just referred to?

VM: Yes, yes.

NP: What would be--?

VM: The major ones would be that all the grades were taken out of the Act and made by regulation so that the Board of Grain Commissioners could make, at the present time, they could make any changes they want. If they wanted to take out CWRS [Canadian Western Red Spring] and call it whatever, they have the authority to do that. It doesn't have to go through the--. So that was--. But just prior to that, what I wanted to say to you—which was very significant to me—is that we were, although the old Act, the 1930 Act, was there, we were doing many, many things that were not within the realm of the Act. Very many. And fortunately, the trade thought that we were doing such a good job that they always accepted it. Well, we did--. Oh, my gosh. When I think of what we did prior.

[0:55:31]

You know, I was in the executive office, and we found that one of the grain companies, they were doing something wrong in Churchill. So we looked in the Act, and we thought we had all the power. We'd never used a lawyer, never, in my time. That only came after the Act of '71. Prior to that, the Board of Grain Commissioners made a decision, that was it. So we called in, I think, it was Northern Sales. I'm not quite sure who it was. But we called them in and said we were going to fine them, and it was a real hefty fine. You know, what happened was that instead of--. They could've gone to court, and we never would have had a chance, but the trade always came through. There were at least two occasions that I was involved with, and they came through both times. One of them was Maple Leaf Milling, and I remember the CEO of Maple Leaf Milling coming down and begging us and not, "Why do you want \$25,000?" But in the end, they paid up because they knew it was the right thing to do.

NP: So what kinds of things led to those fines? What kinds of things could be done wrong?

VM: Well, I'll tell you one that's easy to understand. Some of them are difficult to understand. But one of them was, for instance, one of the companies—I won't name the company, but anyway—one of the companies was bringing in flax from the US through a country elevator in southern Manitoba, United States' flax, and calling it [No.] 1 Canada Western flax. Okay? Now, how can you do that? They were doing it, so we fined them, and they paid a fine and quit doing it because we didn't want to be using American flax with our grain names. So there's one example. Others at the terminal had something to do with grain going out of condition, that they were not identifying properly and so forth.

NP: Rare occasions, in your experience, that these kinds of things happened?

VM: Oh, yeah, sure. And most of the time it would be sort of corrected and that's it with no consequence, but if there were serious mistakes and no changes--. See, the Board of Grain Commissioners also had the responsibility for weighing grain at all terminals. There was a weighing division in the Board of Grain Commissioners. There was the weighing division, the Laboratory, and inspection, and economics, and an elevator. We used to run the--. What did we call them? The terminal elevators at--. Well, there was National Harbours Board, they also had terminals, but we had interior terminals that were ours. Saskatoon, Regina, Edmonton, and Calgary, and one more. What was the fifth one? Anyway, they were sold off now to whomever, but we were responsible. We had a manager, elevator manager, to run those elevators.

NP: Is that person still around?

VM: No, no, that was--. He died long ago. Wilson was his name. Oh, wait a minute now. Yeah. Yeah. Yeah, Wilson was the guy that was there for a long, long time. He was a difficult one to control. What's his name now? Yeah, he's still around. Hm.

[1:00:22]

NP: Oh, we'll think of it later.

VM: Yeah, yeah. Yeah, he's still around. In fact, I think he comes to every last--.

NP: To the retirees'--.

VM: Every last Thursday of the month they have a lunch.

NP: So we've sort of gone off track a little bit on your career.

VM: [Laughs]

NP: So you stayed with the Lab. I think the last I heard you had gone up to be in charge of auxiliary services, do I have that correct?

VM: Ancillary services.

NP: Ancillary services.

VM: Ancillary services. It was a little more--.

NP: And you moved--?

VM: Then I got the position for a very short time as assistant secretary to the board, and I don't think that--. That was maybe less than a year, and then I was made the director of administration and secretary. You see, secretary of the board in the old Canada Grain Act was really the CEO of the whole operation because the board, they were all political appointments. You had three commissioners, and they were political appointments, and then you had the secretary who ran the whole operation because it was written into the Canada Grain Act. I had passes to all the railways and all the ships in Canada so to speak. I used the rails a few

times, but I used the--. Well, the ships, I used--. Well, you didn't even need that for--. I went from Thunder Bay to Montreal on a grain vessel, so. But it was a very powerful position.

NP: The commissioners themselves, I think the general public hearing "political appointments" oftentimes think that that doesn't necessarily translate into a good--.

VM: I know what you're saying, but--.

NP: Was that your experience, or were they variable?

VM: Experienced up to a point, but most of them or some of them very, very good. Lem Shuttleworth. Gee whiz, I better put a glove on or something. Lem Shuttleworth, who became a very close friend of mine, he was assistant commissioner when what's-his-name, the Alberta man, Olson, was made Minister of Agriculture. I had kind of personally hoped that he would become the chief commissioner, but Olson had other ideas. Should I be talking this way? [Laughs] He appointed Del Pound [Harold Delmar Pound], who was the--. He had knowledge in the grain industry. I won't dispute that, but he was Olson's campaign manager, and he became the chief commissioner. He did well. He worked. He worked hard, but I thought that Lem Shuttleworth would have been the man that would have been elevated to the chief commissioner. But you had that. You know, that's politics.

NP: Did the commissioners really have much involvement at all in the day-to-day?

VM: Not in the early years, but when Del Pound took over, yes. Yeah. [Laughs] I was very happy in a sense to leave the Commission at the time. I guess I served for about a year, maybe, with Del. But he wanted to be a hands-on man, and he was, and he was quite good. But.

NP: Were they limited-time positions, or were they--?

VM: The Board of Grain Commissioners were at pleasure. The Canadian Wheat Board were for cause. That's the difference. So to be relieved, the government wanted to relieve a commissioner from the Canadian Wheat Board, it had to be for cause. The Canadian Grain Commission, you could have been the finest man and done the most, but it was at pleasure. That's the difference you had.

[1:05:22]

NP: I'd like to go on and talk about the next step in your career, particularly--. [Telephone rings] **[Audio pauses]** Okay, just a sec. I'm not back online here yet. So again, we're resuming after a brief telephone call. And I had asked you earlier about changes that came in in the 1970s through the change in the Act that governed the Grain Commission, and you'd mentioned one about taking the ability to name or change grades out of the legislation at all and put it into regulations. Were there any other changes in that act that made quite a difference to the way business was done?

VM: Well, there were many. I can't think of--.

NP: That was the major one?

VM: That was the major one. That was a very significant, major one. A lot of it was basically housekeeping. You know, "Why is this here? It's not being used." So there was a lot of that, but there were other changes. But that was a very, very big one because that gave room for protein segregation, and we could now make changes to the grades. We made changes to the grade names, we combined [No.] 1 Northern and [No.] 1 Hard and a good part of [No.] 2, and we called that grouping [No.] 1 Canada Western. So there you had from [No.] 1 Hard to the better part of [No.] 2 Northern that now became one grade.

NP: And what practical difference does that make?

VM: Well, the practical difference is or was that we wanted to include protein segregation. So if we had have kept [No.] 1 Hard and [No.] 1 Northern, [No.] 2 Northern, [No.] 3 Northern, et cetera down the line, we would have had about five or six grades that qualified for protein segregation. And if you put three on each one of those grades, can you imagine what you end up with? Three times five, 15. You'd go crazy. So we collapsed those six grades including feed wheat and the ones we wanted for protein, which was up to [No.] 4 Northern, we collapsed that to basically three grades, which are segregated today. The segregation is generally three levels of protein in each one of those grades. And we changed the grade name.

NP: Earlier on you mentioned that establishing grades related to protein was something that you helped in developing. How did that come about? Why did it come about, and what was involved?

VM: Well, Dr. Anderson in the Laboratory had developed concepts of how protein might be brought into the grading system, and you did that by a lot of changes in making small samples and so forth and putting them together. But in the Laboratory, you can do very, very complex things, and you can come up with the right answers with this complex thing. But can you put that into a practical operation? And I had been together with, or part of, Dr. Anderson's team in doing a lot of this in the Laboratory. Then when I got to the area of being the secretary of the Commission and so forth, when we started to review this, I had all this

background information. And then I looked at the thing. “Now, how can we make this practical?” So that was the concept. Now, there are many papers. I can give you one if you wanted to spend a few minutes reading it, then you’d get the concept of what was actually there. That worked out.

[1:10:18]

Again, we did everything in the Laboratory. We had thousands of samples of different protein levels, and we put them together and measured them. It looked so beautiful and wonderful, you know? And then we said, “Okay. This is a laboratory. Now, what happens if we do this in a terminal elevator on a large scale? Now, how do you do that?” Because now you’ve got the elevators full of grain, classified under the Canada Grain Act sitting in terminals. So we went to the Saskatchewan Wheat Pool—I think it was Elevator No. 4, I’m not quite sure which one—and we had a good relationship with, who was it, Turner? I’m not quite sure who the chief was of Sask Pool at the time. But we talked them into it that we would segregate for two or three months or whatever it was into a new concept of grading, new grades. You might actually say, “Well, could you do that under the old Act?” You see, well, yeah, I guess the Act was not quite through yet.

But anyway, we talked them into it. We said, “You’re not going to lose any money. We’ll take the warehouse receipts that you have as you receive the grains—[No.] 1 Northern, [No.] 2 Northern, and so forth—and you can total that. And our economics division will work this all out so that when we’re through with the testing that you won’t lose any money in that regard.” So we did what we called the pilot study, and we had I don’t know how many car lots involved, but there were hundreds of car lots involved that we segregated on the concept of what we had done in the laboratory.

Then what happened was we got the data, and we started to analyze it, and we found that it wasn’t that simple. I don’t know whether this is very difficult to understand because we had the top people, PhDs, that couldn’t give the answer to it until one of them found the answer in some work that had been done by a monk somewhere, you know. [Laughing] Monks. He found a scientific paper that related to this difficulty that we were having. And what it was was that—I don’t know how much statistics you know—but you have a bell curve, and what happened was that when you made these divisions in the bell curve, then you had a lesser number of samples at the lower end than you had at the higher end and vice versa. You couldn’t come up with the same answers that you would when we worked. We never took that into account. We had the same number of samples in the low end as at the high end, when we were shuffling paper in the Laboratory. It worked out beautifully. But in actual fact, when you’re putting grain into an elevator, it’s on a bell curve. You’re going to have-- The largest proportion of grain is going to fall within 60 percent, say, of the bell curve, and you’re going to have the low end, and you’re going to have the high end, and they’re going to be much, much less. And therefore, you can’t take the average of the high one and the average of the low one and make those two figures and

this one. It just doesn't work. This was proved by this, luckily, that we did--. Well, luckily. We had to do it anyway. But that was a pilot study of what would actually happen in a terminal elevator.

So we were able to correct that once we found out the real reason for it, and it worked. Subsequently, the system worked very, very well. We had to put in laboratories in Calgary and Thunder Bay, Kjeldahl, which is a very difficult test. It requires a lot of precise work and so forth, but we did it. And the way it started out was that we decided that we would have the country elevators—this couldn't be done today, but this is the way it started out—the country elevators were instructed to send a sample of every car lot that they loaded at the country elevator to the laboratories either in Winnipeg, Thunder Bay, or wherever by post. Wonderful system. My analysis of the whole thing was that I thought that we should capture approximately 85 to 90 percent. We wouldn't be able to catch them all, but I would say 85 to 90 percent, which would still be a real boon to the system if we did that.

[1:16:15]

Now, what it was that you would make the determination, or you would get--. The country elevator would send the sample to wherever it was going, like if it was at Thunder Bay it would go to Calgary--. Or, if it was at Thunder Bay it would go to Thunder Bay because we had installed a laboratory there, and for Vancouver, it would be Calgary. That's where they would go then, you see, to either end. Then they would immediately do the test that they would assign that to a car lot number that was loaded. Now, you know, that takes time to get a car from, let's say, Boissevain or wherever it is in western Canada until it's unloaded at Vancouver. So I felt there was a time lapse there that maybe we could make it. We did it. And we got, I'd say, probably 90 percent of them, which was not good enough in the whole if you want to be precise about assigning where the dollars are and who gets them, you see. That is, of course, has all be changed because now they have the MIR tests or whatever they're doing where they take it from the car lot that's there. They just take a sample and *boom!* It's there. But the system started and worked for a number of years that way. It was successful. So that's how the protein system started within Canada.

NP: And am I correct in saying that the reason why it was so important to have the protein system was because higher protein grain was more saleable as a higher price product?

VM: Yeah, it's a good question because, you see, protein ranges from approximately, oh, ten percent to 16, 17 percent. Now of course, with what's happened today with fertilization and so forth, they do so much, so a lot of this is sort of wiped out. Not the determination or the result. But what protein actually does, it increases the loaf volume of a bread. If you take a ten percent protein bread and a 12 percent protein bread and a 14 percent protein bread, you can visibly see the difference that that makes, you see.

[Audio pauses]

NP: Okay. So I'll ask the question then and--. You've had a long history with the Canadian Grain Commission [CGC], and we haven't even gotten to the start up of the Canadian International Grains Institute, which I understand you were part of.

VM: Yes.

NP: But before we move onto that—and maybe we'll leave that for another tape—is my reading of the history of the grain trade in Canada is that the Canadian Grain Commission is a fairly unique organization. Would you like to comment on that?

[1:19:58]

VM: Well, yes, I suppose it is a unique organization, but the one thing that you have to remember or consider is that Canada's, western Canada's—the grain growing area—which we are basically talking about as western Canada, the three Prairie Provinces. We're not talking about eastern Canada. That's another story. But western Canada, which has a high export area. We depend on export grain to a large extent. It brings a tremendous value to our country exports. So it's a centrally controlled organization, which works together with the trade, and it has a system of distribution which is unique in that there are basically two areas where the grain moves from western Canada to the world markets. One is the Pacific Coast, the other one is Thunder Bay. For western grain, those are basically the--. You have some going across the border to the US and so forth, but that's--. And some out of Churchill and so forth, but the main thing is that.

I suppose you might say it's highly controlled by government organizations, but I must say, knowing a little bit about the parliamentary procedure and how it runs and so forth, that the Board of Grain Commissioners were a very, very—I shouldn't say independent body of the government—but their decision making was basically never questioned by government. In the latter years, maybe when we were doing the Act, yes, but not with the actual system, the way the inspectors were trained and grown up and so forth, and the significance of the Grain Research Laboratory on the whole system. So I don't think that there is another country that is of major exporter--. Australia comes to mind, yes, and they are competitors. There's no question about Australia, and they have advantages. When you think of our grain, you're talking about 1,500 miles in either direction through mountains. I mean, it's incredible that you can make a penny on any of that, you know? You go and see that every car lot is winding through the mountains, and we've got the Seaway going the other way. So it's incredible.

So that requires a--. Or let's put it the other way. Well, it requires a very, very unified effort to actually do that. So the trade has been very good, and I can put in a plug for the Canadian Wheat Board. I know there are problems today, but you know, for instance, the hopper cars you see. Well, that was the Canadian Wheat Board brought in the hopper cars. Larry Kristjanson—I don't

know if he would ever sit down with you, I doubt it—but he was such an innovative commissioner. The quota system and that whole control, all of that is wonderful for the western farmer, in my view, as a whole. I know what’s happened today, of course. You’ve got the young people, and they are all so computer literate that they think they can do everything from their desk. And maybe for them, they can to a large extent, but if you think of the success, then you have to think of everybody’s agreed, and this is working, and somebody’s calling the shots, and they’re trying to do it in the best way they can, and it’s fair. Because the Canadian Wheat Board, that’s not a profit seeking organization for the people that are administering it, it’s for the farmers. Good or bad. There are more problems today than there were, in this regard, than what there were before.

[1:25:35]

NP: What do you mean problems?

VM: Well, you wouldn’t have had the questions of the Canadian Wheat Board, their usefulness or whatever you want to call it, at that time than what you have today. But it’s primarily because-- Well, the other thing is these-- What’s the farm? A farmer now, my goodness, you’ve got, what, three or four sections. At that time, the average was under a section of land for a farmer in western Canada. Well, today they’ve got three or four or five or up to ten or whatever. So it’s different. You can’t make easy comparisons and say, “This is right, and this is wrong.”

NP: Why do you think that other countries would not have adopted similar systems?

VM: They didn’t have the volume, which is one factor particularly in government-to-government contracts, and this is what irritates-- Ah, I shouldn’t be talking this way. This is what irritates the Americans so much, you see, is that the Canadian Wheat Board can offer an agreement in the long-term to governments like China, or Russia at one time, because they wanted to talk to government people. They didn’t want to talk to Cargill, you know? So that’s quite a difference. So the Canadian Wheat Board then could make an agreement, let’s say, five years, not for price, but an agreement, “We can guarantee you X number of bushels of this quality that will come to you. The negotiation of price, that’s something else. We’ll do that as we get closer to the time.” That was the-- Well, a private, even the big ones, could not get their hands on that amount to guarantee that sort of thing. And on top of that, the governments of these countries are not prone to deal with private enterprise. They’re more prone to deal with government people, you see. So that’s one of the reasons.

The other one, you know, Australia, yeah. It’s a great big country like that with water all around it, desert in the centre, and then you’ve got a little strip here of a few hundred miles right against the ocean. That’s where grain is grown. So basically, that’s

relatively simple compared to ours, and yet--. You can go to a buyer, which I have done on several occasions or many occasions, and our certificate final which guarantees that grain is sacred, and they know that, and they agree on that.

NP: So they have a level of comfort?

VM: Yeah. There is a greater variability in grades of grain of other countries. Just how much--. But it's true. It is. Ours is very, very closely controlled, and we have very clean grain. So it's a matter of competition, and you've got--. Well, we can talk about the Institute sometime later, but you know, the Wheat Board, they were very, very good. They used to bring in people from overseas and give them a tour of Canada and so forth, but not in an organized manner. It wasn't until the Canadian International Grains Institute, which they funded 60 percent. I'm getting into this new story now, which I shouldn't venture into until maybe next.

[1:30:28]

NP: Yeah. We'll leave that to the next time.

VM: Yeah.

NP: So we have had an hour and a half on tape, and that's a pretty long haul, filled with information. Thank you very much. And we'll set up another time to move onto the Canadian International Grains Institute.

VM: Yeah. That will be a good one. That will be a good one.

NP: Thank you very much.

VM: Okay.

End of interview.