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## Conrad, Charles F Oral History Interview: Carl Frost Center Oral History Project

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**Oral History Interview**

Charles Conrad

Conducted and Transcribed by:

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Edited by:

Charles Conrad & staff

June 15, 1994  
9:00 a.m.

RH- First of all, could you state your name, date of birth, and the company you presently work for?

CC- My name is Charles F. Conrad, date of birth July 8, 1917, and I'm supposed to be retired. Presently, I call my company Conrad Enterprises.

RH- How long have you lived in the Holland area?

CC- I came to Holland in 1941, March of 1941. I've been here ever since, except for about two and a half, three years, when I was in Lansing, Michigan working on environmental simulation chambers during World War II, for simulating climatic conditions for the aircraft industry.

RH- Where were you before you came to Holland?

CC- I was born in Ludington, Michigan. I worked in Grand Rapids, Michigan from 1937 until 1941 as a refrigeration service mechanic.

RH- Can you tell me about some of your first job experiences?

CC- I've always been self-employed, except for the two and a

half years I worked in Lansing. Before I was self-employed, of course, I had some menial jobs in Ludington. First, as a dishwasher at Sterns Hotel. Later as a woodworker at the Carron Manufacturing Company, and at the Thompson Cabinet Company. Basically, they were just small jobs.

RH- How did you get involved with Thermotron?

CC- First of all, I had a refrigeration service business in Holland which I established in 1941, re-established as the Refrigeration and Air-conditioning Service/Sales company, in 1945. In 1951, I became involved with building a processing chamber for H.E. Morse Company (a hundred and twenty-five below zero freezer). I remodeled a home freezer to create a hundred and twenty-five below zero conditions. I sold one to General Motors Heat Treat lab in Grand Rapids, and a couple more. Then, I started Conrad Inc. and had to get out of the service business to devote my time to building test chambers for the electronics and aerospace industries. I called the company Conrad Inc. I started Thermotron in 1962 (after the first company had become part of another company through a merger), and also because I couldn't borrow funds fast enough to keep it growing.

RH- How did you get trained in air-conditioning and refrigeration?

CC- Well, I was a correspondence school student. I'm a high school graduate and correspondence school background. Refrigeration was a correspondence course. The technical things I learned about climatic simulation chambers was learned in Lansing, Michigan during World War II.

RH- What were some of the difficulties, first of all, in starting Conrad Inc.?

CC- Well, I guess we have to go back to Charles F. Conrad Refrigeration and Air-conditioning service. When I came to Holland, I had borrowed three or four hundred dollars to start. It was always a struggle to do the work and collect enough money to live on. I'd say, "I'll be back in a flash with the cash," and I'd go out and collect a few dollars. Five dollars a week would buy the groceries. That was in 1941. It was a struggle, but it was interesting. We made it go.

RH- Could you tell me a little more about your beginnings at Thermotron?

CC- That started with Conrad Inc in 1951. The first hundred and twenty-five below zero remodeled home freezer I built on my front porch at 262 West 12th. Herman Pleasant, who was President of Crampton Manufacturing Company, joined me as my partner in Conrad Inc. It was about 1954, 1955, when that business needed more

money than he wanted to invest. Then it merged as part of Crampton Manufacturing Company. I had their stock and I was an employee. I stayed with that until 1962 when I quit, and did not intend to start again. As it developed, a few months later Republic Aviation wanted some test chambers. I did get the order. I was the only employee, and had a thousand dollars paid in at that time to Thermotron. As we grew, we became the largest in this industry. We had five-hundred and fifty employees. One time I had seven factories in the Holland area. Later we bought a hundred and fifty-eight thousand square feet plant to supplement the one on Kollen Park Drive, of seventy thousand square feet.

RH- So did you ever get any patents or copyrights?

CC- I obtained a patent on the first system which had a heat interceptor plate to make it more efficient. In 1951, I made the application. It took about three years to get the patent. We had many other design copyrights and patents, but not very many on a basic patent. The technology changed too fast to receive patents.

RH- You mentioned a little bit about how you borrowed some money. Could you explain a little more about how you raised the capital to start and expand the business over the years?

CC- I never had much capital. In the service business it was the case of working and collecting. When I started in the manufacturing business, with Crampton Manufacturing, they invested very limited capital, about one-tenth of what was needed. At Thermotron, I started that with the thousand dollars. I came back from Republic Aviation with about a sixty-thousand dollar order wanting to finance it at the bank. They told me I'd have to mortgage the house (which I didn't want to do). So I went to a small bank in Zeeland. They told me much the same thing in a kinder way. They said that if I could manage until it was in accounts receivable, they would finance 80% of the amount. With the specific receivable, as I collected, I would pay off the bank on the loan. From the loan proceeds, I paid my suppliers. That's how we financed the growth of Thermotron, until we outgrew the loan limit at the Bank. Their loan limit to an individual was about two-hundred fifty-thousand. Through a series of negotiations, the Old Kent Bank in Grand Rapids became the supplier of our funds. Finally, we obtained a revolving line of credit. This was more than five million dollars.

RH- When you filled that first order, did you already have a factory or plant?

CC- No, I didn't have a factory or plant. I had one small office in a city building. This was the parks department warehouse, at 937 S. Washington Ave. I paid twenty-five dollars

a month rent. When I received the order, I pushed back a few dozen picnic tables. We set up the assembly of these cabinets. Metal work for the cabinets was done in Grand Rapids, Michigan by a company I'd worked with before. As we were doing this, the city manager came in and said, "well you're overflowing a little aren't you." I said, "yeah." He offered to sell the building to me on the right terms. I did buy it. That was our headquarters for seven years.

RH- Were there any particular reasons behind your decision to locate in Holland?

CC- I wanted to be in business for myself in refrigeration service. Ben Harris, who had been here, started a refrigeration wholesale company in Grand Rapids. So there was an opening to come here from Grand Rapids, where I was then working. I'd never really been to Holland before coming to be in business. I like it. It's a good city, good people.

RH- What were some of your most difficult decisions you've had to make over the course of the business?

CC- There have been many because the challenges of change are always difficult. Almost on a day by day basis there are new challenges. I don't call them problems. They are "opportunities." People lined up at my desk (six deep



sometimes), all with new "opportunities." In building environmental simulation chambers, I never had a cost plus contract. I never had a subsidy of any kind. It was always win or lose. We were always building systems that had never been invented or built before. We did this on a firm price basis. Many times we lost money, and sometimes we made a little. We always tried to develop a good foundation for a good business.

RH- Has your company ever experienced a crisis situation?

CC- Almost everyday, I think management of crisis is an art. You have to be able to realize that everyday brings a new challenge, a new combination of circumstances. Unless, it's a very routine kind of a business, which ours is not, and never been. Everyday is a new challenge. One learns everyday. Many times the profit on this job is what we learned, not what we earned, financially.

RH- Has there ever been any hard economic times where you weren't sure if the business was going to stay afloat?

CC- Yes, sure. I had one large order from a company. I bid twice what I thought it should be. That's about the time I had some new management come in. We didn't put our most experienced people on the job. We practically had to rebuild it on the job.

It cost me a loss of about a half a million dollars. It almost put me out of business. That was back in the early seventies. It certainly took a lot of time to earn back from that loss. Every time you loose a dollar, you have to do from thirty to sixty dollars more business to have the dollar you should have earned in the first place.

HR- What was your title when you were at Thermotron?

CC- I was President, Chief Engineer, Sales/Marketing Manager everything. I did anything I couldn't assign to others.

RH- How would you describe your management style?

CC- I learned a lot from Dr. Carl Frost. It's a caring and sharing philosophy, Scanlon Plan philosophy. The Scanlon Plan is a series of methods to implement the golden rule, and adapt it to business circumstances. "Do unto others as you would have them do unto you." If you treat people right, customers or employees, they'll respond properly. The magic is to adapt to combinations of business and other circumstances, to create this accomplishment. Carl Frost has shown us the way.

RH- How and when did you first become aware of the Scanlon Plan?

CC- In the mid-fifties I heard of it. I didn't know the

details. Dr. Frost was implementing it with Donnelly Mirrors and Herman Miller. Through some people that worked at Donnelly, I finally understood the Scanlon Plan was a philosophy about operations. The Plan is not a set of arbitrary rules. The philosophy must adapt to changing challenges.

RH- How did you come to know Carl Frost?

CC- It was through that early association. Later I joined the Scanlon Plan Associates. In the mid-sixties, I became the President of the Mid-West Scanlon Associates. I came to know and respect Carl Frost.

RH- Was he involved with your company?

CC- Yes, we established the Scanlon Plan in the mid-sixties. Dr. Frost had the professorship at Michigan State University. We engaged his graduate student interns to work with us in our plant, Thermotron Industries.

RH- Could you describe in your own words what you feel the Scanlon Process is?

CC- It's often difficult to explain. A starting point is to say, "every man a manager" to the total limit of his ability. If you work with individuals to be responsible, you will soon find

that their ability has expanded far beyond what might have been perceived as being possible. Beyond that, of course, if you have people that carry out their responsibilities, then it's not necessary to try to inspect quality into products. It will be built into it. It will be built into the management systems as well. The Scanlon Plan or philosophy is not something to only give lip service to. It must be a dedicated belief by the company founders, owners and the management people that this is the way to operate a company. It will not function in a dictatorship style operation. If it's only given lip service, employees know that. You must do it right to implement the Scanlon Plan. You have to believe in it.

RH- What led to your decision to implement the Scanlon Plan?

CC- I know what I don't know, which is most everything. I'm not a CPA. I'm not an electronics engineer, or a mechanical engineer. I'm a good refrigeration system analyst. I think I know how to talk and sell. I had to employ the best help I could in all the facets of expertise. It is necessary to hire the best talent. You have to treat them equitably and fairly in a style that allows each person to carry out their responsibility without feeling boxed in.

RH- What were some of the obstacles and difficulties that your company faced as you tried to implement the Scanlon Plan?

CC- It required many meetings. Also, on going "selling," of what you're all about and what your goals are. In a sense, you have to keep explaining because of new circumstances and new employees. We had as many as seven-hundred suggestions from our people of how to do and make things better. The usual complaint was "not enough was being done to make things better." We always had twenty or thirties things that took a little longer. They would look at those things and say, we're not getting enough done fast enough. But we did get a lot done, and became a good company and a better organization for it.

RH- How have you seen the Scanlon Plan change over the years?

CC- I haven't been that close to it for a long time, but I think it's the same philosophy that has to be implemented. The challenges will be different in different companies depending on what they do and how they function. If you're into high technology and very labor intensive, that's one circumstance. A high production system with machinery to turn out a lot of work per man-hour, is another situation. If you're into operations such as hospitals, universities, and colleges that is "people intensive." If each person has areas of expertise that they believe is "their turf," then it's a little harder to implement the philosophy. However, working together is better for everybody, even though one carries out individual responsibilities very well. It's continual change, an on going

challenge. I was very surprised to find the Scanlon Associates with five-hundred people attending the meeting in Grand Rapids. When we first had it, it was about thirty or forty people, and mostly from the West Michigan area. Its success is a great tribute to Dr. Frost and the people that are running it right now.

RH- Could you describe the principles of identity, participation, equity, and competence?

CC- First of all, you begin with the people with whom you're working to build communication and understanding and trust. Communication is always easy. The person communicating thinks that is clear. What's heard or understood may be totally the opposite, different, or short of what it should be. I know this very well, and experienced it many times, and still do! It's almost an individual case study. The plan must be equitable and fair. Folks in a group, work circle, or whatever it's called, must work as a cooperative team to be effective. Until communication, understanding, and trust are developed, work circles, Scanlon Plans, etc. will not produce the best results.

RH- Can you think of any examples of implementing these Scanlon principles at Thermotron?

CC- Yes, we had work sessions, work groups with the people from various departments. They elected their own members. They would study their field of interest. They know the needs in greater detail than people in the office could possibly know. In the engineering, it's not unusual in some dictatorial companies (as the automotive industries used to be) that some people in the shop will build it according to the drawing even if it was incorrect. The idea was to prove the engineering was wrong. With the Scanlon philosophy, they'll look at the thing. If they see something wrong, they'll call it to attention, and correct it before it becomes a major expense. A good example would be in high technology, electrical systems. It wasn't unusual in aircraft/aerospace industries that expensive "black boxes" would be totally assembled. There might be some little ten cent part in there that would keep the product from working, and cost thousands of dollars to take it apart. By proof-testing all of these items, powering them up (they call it burn in systems), they find the failures before assembly as a final product. It never used to be that way. Then they would build an electronic system, shake it to pieces, and then try to figure out how to repair it, and try again.

RH- What do you see as the future of the Scanlon Plan?

CC- I think a good comparison might be aspirin. Dow Chemical company said that aspirin was the by-product of something in the

tanning industry. For aspirin to be accepted as a headache pill, or general medical product that will do a lot of good for different things, it took about forty years for that to be accepted. Carl Frost was ahead of his time with Joe Scanlon. It took about forty years for this to become a generally accepted way of life in industry. I think this was accelerated some what by what Dr. Deming in Japan. Dr. Deming took a number of his own and Scalon/Frost ideas when he went to Japan. He was a good publicist. "Work circles" are thought of as a Japanese way of doing things. Actually it started in America. Carl Frost should be recognized as an unsung hero who has been working on this most of his lifetime. The results are now coming into general acceptance through U.S. industry. It's better to work together trying to get the job done, than with management and assembly people feeling they are not part of the same team, trying to show each other up.

RH- Do you think there are any types of organizations where the Scanlon process wouldn't work?

CC- Yes, it wouldn't work if a person has a dictatorial style of personality. He won't have any part of this in the first place. Therefore, it wouldn't work with that kind of a person. I think that would be much worse than the Scanlon Plan.

RH- What are some of the changes you've seen in the market and



your business over the past twenty years?

CC- I've been in about thirty-five different kinds of businesses some of them are interrelated. If you look at the basic interest, systems for testing electronics, aerospace equipment, and truck and automotive equipment; about every ten years a total change takes place in product requirement and design. When I first started the test chamber business, testing was about the last thing anybody wanted to do. They usually installed a test chamber on the shipping dock where they did testing (if they had to). During the next ten years with NASA/aerospace coming along then test systems moved into laboratories. Testing of minute electronic systems parts and pieces was very important. In fact, the testing and processing of those pieces had to be done in "clean rooms." These rooms were cleaner than hospital operating rooms. That was a total change. Today the big demand is not for the combined temperature/vibration chambers, as it was during the last ten years. What is needed now is called "burn in systems" for proof-testing the bits and pieces that go into computers and electronic systems. All those little parts that are very inexpensive can be "kicked out" before they get into the final product. The final product will then work, when used in the world or in flight. The amazing accuracy of the NASA program (going to the moon and back so many times safely) is a tribute to the quality control, the "imagineering," and the development of products that are in use today. There's a different economy

today with the computers. This way of life with the computers, and the analytical systems didn't exist twenty years ago.

RH- What changes have you seen in the Holland business climate as it has grown and developed?

CC- Holland's business climate has been good and getting better all the time. I give a lot of credit, directly and indirectly, to Carl Frost, and the Scanlon philosophy, the Herman Millers, the Donnellys, Sligh Furniture, Transmatic, and others who have used this high quality, high integrity, system. It is known as a "work ethic" for the community. There may be a tendency to say, "that's typical of the Dutch." There are many other than Dutch employees contributing to this good work ethic. I view this as a result of Donnelly, Herman Miller with the Scanlon philosophy, for their ratings as among the hundred best places to work in the United States. This is the result of twenty, thirty, forty years implementing the Scanlon philosophy of "something for something." They empower the people to do what they can, do it well, and carry out the responsibility. One would expect the Holland Industrial Park with two-hundred and fifty or more industries, to have attracted many outside industries. It's not true. Only about twenty have come in. The balance are all home grown industries. That's a good tribute to quality of workmanship, and the dedication of the people believing that they can produce and efficiency. The Holland Area Industrial Park is

there for them to grow industry with "local roots."

RH- Has the business turned out the way you originally envisioned it?

CC- I thought when I started I would be a good refrigeration service mechanic. I thought it would be enough to be a better service repairman than the person I worked for in Grand Rapids. What has evolved in my lifetime was better than planned, a great pleasure, a good challenge, and totally different than I expected. It's difficult for me to reflect and believe I accomplished what I did with Conrad Inc., highly technical products, Thermotron, and is three dozen other businesses. This especially includes restoration of the car ferry business. Yes, it's surprising, but I know it took a lot of talented people.

RH- Are there any business decisions that you would change if you could?

CC- I'd try not to make as many mistakes. The other day my calendar read, "success obscures a multitude of mistakes." Another way of saying we become successful is because we learn from our mistakes. There is a lot of truth in that. Often the profit on a job is only what has been learned. How not to do it next time is most important.

RH- What course do you see Conrad Enterprises and Thermotron taking in the future?

CC- I haven't owned Thermotron for fourteen years. Thermotron is still on the leading edge of high technology for the "burn in systems" which sort out the good and bad elements of electronic computer parts. Thermotron also leads with special equipment for hospital refrigeration (storage of heart valves and other kinds of things) that is very critical, requires high quality, and safety devices. In other products related to new refrigerants, refrigerant recovery, Thermotron continues to lead the way. They invested funds in these developments that I could not have. If I hadn't sold Thermotron in 1980, it couldn't have become what it is today.

RH- Who did you sell the business to?

CC- It was originally called the Wehr Corporation. This is a hundred year old company in Milwaukee. They were in various businesses. Their key business was a foundry. They wanted to diversify into the electronics industries, control industries, and into some magnetic pick-up systems for iron. They also wanted to enter a high technology industry as their core business. That's how they became interested in Thermotron. Their President then was thirty-eight years old. I felt that it

would be a good company to sell it to. I had many chances to sell it to big conglomerates. They have a way of dissipating what they buy. I wanted to sell Thermotron and anchor it in Holland, Michigan. That's why I bought that 158,000 sq. ft. building just before I sold Thermotron. I wanted to sell it where executives were young enough that their career hinged on how well they'd ran Thermotron. I sold it in 1980. Brian Nahey then became the owner of Wehr Corporation, changed the company to Venturedyne, and has operated very well.

RH- What kinds of plans do you have for the businesses you are operating now?

CC- I'm supposed to be retired. Recently, I stepped down from the ownership of the Lake Michigan Car Ferry Service that sails across the lake to Wisconsin from Ludington. Ownership is now with three key people. They are running LMC very well. I'm still supplying many loans that keep the boat going. At my age of seventy-seven banks aren't really interested in loaning a lot of money to somebody my age. They worry about how long will this guy live, and will the company succeed without him? My action answers that question. LMC will be fine. It doesn't need me, and LMC will do better than if I tried to run it because I'm not living in Ludington. I was not up there enough, and I wasn't effectively doing the job. Now this is being done well with the three executives with full ownership responsibility.

RH- What advice would you give to a young entrepreneur?

CC- I'd say persistence. If you believe you can do it, probably you can. If you say it can't be done, you'll have a self-fulfilling prophecy. You will be down in the dumps about something. If you lose an order, you go get a "live one." You will come back. Don't give up! Learn your limits. Hire the skills you may not personally have.

RH- What would you say is your personal mission statement?

CC- Personal mission. Well, I am not sure. I believe it is, put back into this world some of the things that were learned. Do the best possible to make it better for the people working with me. Do things for others that are more meaningful maybe to others than to myself. Accumulation of money for the sake of money is not necessary or a good goal. One does not intend to lose it all, but set a goal to put it to work. That's what I try to do. I don't always put it to work profitably. I don't think one has to make money on everything. A good example, probably are the boats, especially the little one here in Holland. It will probably be expensive pleasure, but we'll have fun providing a public service enjoyable by thousands.

RH- For the last question, could you describe some of the community service projects that you've been involved in?

CC- I'll have to look (takes paper) I don't know if you want to hear all of them.

RH- Maybe just the major ones.

CC- I think in the community service in the Holland area I donated the seventy-thousand square foot Sugar Beet plant. This has now been torn down. I was hoping at the time it could become a museum or a place for people to do the work they wanted to do. Evergreen Commons was promoted and sponsored by Ed Prince with a million dollars to start with. Probably that was the best thing that could have happened. I helped reinstate the Holland Community foundation. Today it has more than a million dollars of net worth benefit the community in an on-going basis with interest earned on donations, and challenge grants that have been funded via the Kellogg Foundation. I was fellow of the Institute of Environmental Sciences, and helped found that organization about thirty-five years ago. A member of the board of directors, I helped organize the Ludington Area Foundation. As a Holland Harbor Light House Historical Commissioner, we took over the big red lighthouse from the Coast Guard, restored it, spent about fifty-thousand dollars on it ,and collected another fifty-thousand to provide permanent care for. I helped a few people with financing some of the things they wanted to do in businesses or equipment. I've helped contribute some to Hope College, Western Theological Seminary. I helped induce Stanley Kresge to

be the major donor. I am a Rotaria Dame Haris Fellow, and part of the Paul Harris Polio Foundation. In Ludington we have a growth alliance plus they have the Ludington Economic Development Corporation. I helped bring a fixed mileage to the Technical Prep organization with seven school districts joining together. They now have a four-million dollar building as a result of community effort. I don't take credit for it, but the fixed millage is on-going, and it can't be canceled out. They were teaching how to operate obsolete machinery. Now they have the most advanced computer aided design equipment, and everything else, to be with the state of the art. I helped Matt Urban write his book, The Hero We Nearly Forgot. I donated a house to become a part of the home group, a non-profit group, and an office building to the Holland Community Foundation, which now has been taken down. A new building was erected for community action. Some property sale value went to the Heritage Homes group. I gave a school building to Zion Lutheran Church.

RH- Well, unless there's something you think I forgot, that is all of my questions.

CC- I've got an on going interest with the implementation of the Wynken, Blynken, and Nod as a ferry boat to take people from Kollen Park to the State Park for the afternoon, or just to go on a cruise three times during the day to the State Park, Lake Michigan, and back.



RH- Has that started up yet?

CC- We started it up at Tulip Time. We carried more than two thousand people at Tulip Time. Various church groups and service groups are going. Time will tell whether it's an economically good business. I know it's a fun business. It's a privately sponsored public service business at Kollen Park, the State Park, and Dunton Park.

RH- Does it run everyday?

CC- We sail at 1:30, 4:30, and 7:30 everyday except Monday. It's an hour and a half trip, long enough to reach into Lake Michigan, turn around and come back. We also sail from Holland State Park at 2:15, 5:15, and 8:15 p.m. for 30 minute circle cruise on Lake Michigan.

RH- Well, Thanks a lot.

CC- Okay.