CHEMICAL HERITAGE FOUNDATION

J. ROGER HIRL

Transcript of an Interview
Conducted by

James G. Traynham

at

Dallas, Texas

on

29 January 1999

(With Subsequent Corrections and Additions)

ACKNOWLEDGEMENT

This oral history is one in a series initiated by the Chemical Heritage Foundation on behalf of the Society of Chemical Industry (American Section). The series documents the personal perspectives of Perkin and the Chemical Industry Award recipients and records the human dimensions of the growth of the chemical sciences and chemical process industries during the twentieth century.

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J. Roger Hirl

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Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

J. ROGER HIRL

1931 Born in Bettendorf, Iowa, on 1 April 1931

Education

1957 B.L.S., liberal arts, University of Iowa

Professional Experience

Olin Corporation

1960-1967 Field sales, Blockson Chemical Company (Olin-Matheison Chemical Corporation)
1967-1968 Assistant Product Manager
1968-1970 Product Manager, Organic Chemicals
1970-1973 Regional Manager, Sales, Houston Division
1973-1976 Sales Manager, Industrial Products
1976-1977 Director of Marketing, Industrial Products
1977-1978 Vice-president and General Manager, Industrial Chemicals Division
1978-1979 Vice-president of Administration
1980-1983 Senior Vice-president, Chemicals Group

Occidental Chemical Corporation

1983-1991 President
1991-present President and Chief Executive Officer

Honors

1991 Honorary Doctorate of humane letters, Canisius College
1992 Honorary Doctorate of commercial science, St. John's University
1994 Individual Award for Philanthropy, Susan G. Komen Breast Cancer Foundation
1996 Honorary Doctorate of commercial science, Niagara University
1997 Chemical Industry Award, Society of Chemical Industry

ABSTRACT

J. Roger Hirl begins the interview with a discussion of his early life and education. Hirl grew up in Iowa and Minnesota. After graduating from high school, Hirl attended the University of Iowa, earning his B.L.S. in liberal studies in 1957. While he was still in school, Hirl was drafted to serve in the Korean War, returning to the University of Iowa two years later. His early focus in college was pre-med, but he soon switched to business and liberal arts. Hirl worked for Skelly Oil Company both during school and after graduation. In 1961, he joined Olin Mathieson Chemical Corporation, working in field sales. Six years later, he became a temporary assistant product manager in New York; this experience confirmed his desire to move into management at Olin. He continued to rise in sales management, moving from New York to Connecticut to Texas. He eventually became senior vice president of Olin Chemicals, a position he held until 1983, when he accepted an offer from Occidental Chemical Corporation [OxyChem]. At Olin, Hirl was active in the litigation regarding DDT sediments and mercury emissions; as president of OxyChem, he became involved in the Love Canal situation. This interest in environmental concerns led him to become active in Responsible Care. Hirl also sought to improve OxyChem's safety record, and initiated special training programs. He discusses his view of chemical industry, his opinions on the future of chemical innovation, and OxyChem's involvement in the Asian market. Hirl concludes the interview with his reflections on winning the Chemical Industry Medal, a description of his family, his civic interests, and his views on attracting people to the chemical industry.

INTERVIEWER

James G. Traynham is a Professor of Chemistry at Louisiana State University, Baton Rouge. He holds a Ph.D. in organic chemistry from Northwestern University. He joined Louisiana State University in 1963 and served as chemistry department chairperson from 1968 to 1973. He was chairman of the American Chemical Society's Division of the History of Chemistry in 1988 and is currently councilor of the Baton Rouge section of the American Chemical Society. He was a member of the American Chemical Society's Joint-Board Council on Chemistry and Public Affairs, as well as a member of the Society's Committees on Science, Chemical Education, and Organic Chemistry Nomenclature. He has written over ninety publications, including a book on organic nomenclature and a book on the history of organic chemistry.

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INTERVIEWER: James G. Traynham

LOCATION: Dallas, Texas

DATE: 29 January 1999

TRAYNHAM: Mr. Hirl, I know from things I've read that you were born in 1931 in Iowa. Could you identify exactly where in Iowa you were born and tell me something about your parents and your early childhood?

HIRL: I was born in Bettendorf, Iowa, which is adjacent to a better known city, Davenport, Iowa, and part of the now quint cities area along the Mississippi River. My father was a postal employee. My mother was a housewife. She had been a teacher until she got married. My father left the post office and went into what I would call a small farming occupation where he raised cattle and had a trucking business—trucking the cattle. Both my mother's and my father's family were farming people in Scott County at little towns like Eldridge and McCausland and Long Grove, Iowa. Our family as a culture was a farming family.

Basically the area was, of course, a farming community. It remains that way. I think I would characterize my early childhood as, while living in the city, I grew up on the farm. Because I spent a lot of time when I was not in school and on weekends traveling out to the farm, working on the farm, just enjoying the kind of a very open, relaxed lifestyle that was relevant to that era and also to the farming lifestyle. So some of the basic lessons that I learned in my life came as a result of being a farmer.

TRAYNHAM: Did you live on the farm or were you living in town?

HIRL: Most of the time we lived in town. However, we did move from Scott County, Iowa to southern Minnesota to the town of Austin, as my father became a government meat inspector during World War II, beginning in late 1941. At that time we moved onto a farm. I and my younger brother, and older brother part of the time, along with my father operated a one hundred and twenty-acre farm in that area. During that period I actually did live on the farm. But that's the only period. It was for about six years.

TRAYNHAM: Did you have any siblings other than the brother you just mentioned?

HIRL: Two brothers. The younger brother and an older brother. My older brother has passed away and my younger brother is still living in eastern Iowa.

TRAYNHAM: Where did you attend high school? Was that in Minnesota where you moved?

HIRL: I attended three years of high school. Two of them were in Austin High School in Austin, Minnesota. Then I moved back to the Davenport area and finished high school at Davenport High School.

TRAYNHAM: My wife, who is from Iowa, commented that she recalled that Davenport High School always excelled in debate. Did you happen to be engaged in that activity?

HIRL: Well, I engaged in a lot of debating, but I was not on the debate team. I have had a love for debate and for philosophy and logic, but never got into the debate group.

TRAYNHAM: After graduating from Davenport High School, what did you do then?

HIRL: Well, I went directly to the University of Iowa, and spent almost four years there. I was, in my senior year, drafted into the military to serve in the Korean War, and spent a little more than two years in Korea. I then returned to the University of Iowa, where I finished my education in 1957.

TRAYNHAM: During the first section of your career at the University of Iowa, before being drafted, what was your major or particular interest?

HIRL: Well, I was trying at that time to follow, I guess, in my father's desire that I become a doctor. So I was actually entered into a pre-med curriculum. That's where I spent a lot of hours studying chemistry and the things that led me to, in some sense, the chemical industry. But it was a pre-med curriculum and regiment that I followed while I was there.

TRAYNHAM: When you returned from Korean service, did you choose a baccalaureate degree in liberal studies in order to finish quickly or had your interest changed?

HIRL: I would say it was a combination of both. I had clearly decided that I was not going to follow the discipline necessary to go through a medical education. I guess, quite frankly, I had

lost interest in becoming a doctor and had more interest in business, as such, and studied mostly marketing, and so forth, and liberal arts. So I basically went from a scientific discipline to a business discipline in college.

TRAYNHAM: Was the choice of the liberal studies degree one that was available instead of a degree in business?

HIRL: Well, it was—how should I describe it? It was the most expeditious way. By the time I came back from Korea, I had two children—living in university housing. By the time I finished, I had three children. So my interests were economic in nature, quite frankly. Times were different then. Yes, I chose to get out as soon as I could and get into an employment situation.

TRAYNHAM: Did you find employment very promptly after graduation?

HIRL: Well, I had what I will call an interesting entry into the work force. During college I obviously, with children, worked and actually had two jobs while I was there, one on the weekends and one during the week. I worked for Skelly Oil Company before leaving to go to Korea and then when I came back. They were beginning to build a cumine oxidation unit—phenol acetone facility down at their refinery and were interested in getting an organization together to market the chemicals. I was very interested in that.

By the time I graduated, they had decided to market the products through a different method. So they encouraged me to go to work in the retail gasoline side of the business, which I knew from my work with them after school hours, and so forth. So I did that. After spending about three years in that, I decided that there was no future in that at all and went back. I decided to get into the chemical industry, and in 1961 joined Blockson Chemical Company, which at that time was owned by Olin Mathieson Chemical Corporation. So that was sort of my introduction into the chemical business.

TRAYNHAM: What was your position with that new chemical company?

HIRL: At that point in time, and for a considerable part of my career, I was in field sales. They had a somewhat unique sales organization. They had a single plant operation at Joliet, Illinois, where they made industrial phosphates for detergent applications, and had five salespeople that traveled the United States with large regions. They all operated out of the office building at the plant. So I traveled a good bit. Part of my territory at that time was all of Texas. In about 1963, they decided that they would blend their sales organization into the Olin Mathieson Chemical sales force. I was assigned to move to Houston. That's where I began my Texas career.

TRAYNHAM: Where had you been living in that job before moving to Houston?

HIRL: I lived in Joliet. All of the people that worked there lived in the Joliet area. It was just a small company within a larger corporation, quite frankly.

TRAYNHAM: You moved to Houston with the company. In what way did your job responsibilities change?

HIRL: Well, really, the job responsibilities changed in that I had all of the chemicals that Olin Mathieson Chemical Corporation at the time produced. So I was selling all of the products in addition to phosphates, I would say. That covered a wide range of things from selling HTH [high test hypochlorite], which was and remains a premier product for swimming pool sanitizing, to soda ash, to sulfuric acid, and I guess the full range from what you might call consumer oriented products to very basic commodity chemicals.

TRAYNHAM: Was it about that time that you were developing an interest in management of the business, or did that come later? Or earlier? [laughter]

HIRL: Well, you know, it's seeking higher responsibilities and the desire to move up in an organization. I don't know when that happens. But I would also say that in my career of selling it was never my interest to spend my career being a traveling salesman. I don't mean that in a demeaning sense. It's just that that was not something that I wanted to do. So yes, I definitely had my eyes on the job of the man for whom I worked at Olin. I'll call it Olin Corporation because the Mathieson name dropped later on.

So in 1967 they asked me to come to New York, where their Chemical Division was headquartered, and spend some time as what they defined as Temporary Assistant Product Manager. I actually didn't move. I spent about four and a half months commuting back and forth in a job as an assistant product manager in at that time what you would call the industrial organics—the glycol ethers, glycols, surfactants, and so forth that Olin produced at Doe Run, Kentucky. That was, I guess, where I clearly decided that management was my interest as far as the chemical business or any other business. I felt some motivation and some sense of responsibility in dealing with that.

TRAYNHAM: Once you had really sensed that goal of moving into management, did your work pattern change to move you in that direction? Or was it just that you had been doing the right things all along? [laughter]

HIRL: Well, I'd like to say that I did a good job. Since this was a temporary assignment, I returned to Houston and spent about another year working in field sales doing some—I'll call it non-official managing of territory assignments and account assignments. Then I moved in 1968 to New York and on to Connecticut as the product manager for organic chemicals. I worked in that assignment for about eighteen months, and then was given an opportunity to return to Houston as the regional manager of the sales organization down there, which was, in a sense, the first real management responsibility I had where I was responsible for revenue generation, for people, for a sales office, and so forth.

That was the start of a career in real management. I would describe that as beyond just product area management. I enjoyed it very much. Again, I think I did a good job and then I eventually was asked to come to Connecticut, which is where Olin Corporation was headquartered, to become—I guess globally you'd call it, but at least nationally—a sales manager for industrial products for them. Then I became director of marketing in that field and later took the first real major step in my career, which was to become vice president and general manager of their industrial chemical division. So I had P&L [profit and loss] responsibility for a major segment of the company. That began the career that I have ended up in, I guess. But we can talk about the rest of it if you'd like.

TRAYNHAM: No, that's fine. Just go ahead.

HIRL: I have told stories about that, which I think are important, to the young people moving up in management. Because I very much enjoyed the position as the general manager of a large business. I have a little trouble remembering the revenue base, but at that time it was probably in the five hundred million-dollar range—a fairly significant business—and one that was very important to the company as one of our basic investments. I operated in that mode for about three years, and then was asked to take a position as vice president of administration with responsibility for human resources, for purchasing, for legal, and areas like that.

What I've said to young people—and I believed it at the time—is that sometimes you get sidetracked from your career in managing businesses and having the profit responsibility. You get asked to do something other than what you'd like and you say, "I don't really want to do this." But I was asked to do it by the chairman of Occidental [Petroleum Corporation], now, Dr. [Ray R.] Irani. For different reasons, I decided if that was what they wanted me to do, I would do it and do the best I could. I obviously did a pretty good job of it, and ended up learning a lot about law, about human resources in a broader way, and the purchasing field, and so forth. So it was a tremendous learning experience, not only from the standpoint of the content of the job, but the fact that sometimes when you see yourself taking a position that you don't want, that seems to be a step out of line, if you commit yourself to it and do the job well, then opportunities come along again.

Two years later, I was made senior vice president of Olin Chemicals and ran their chemical business. I was in that position until I left Olin in 1983 to join Occidental.

TRAYNHAM: Do you have a feeling that that assignment was, in effect, intended to be a learning experience for the grooming for broader responsibilities in the company?

HIRL: As I look back on it, yes, I think it was. At the time, I didn't consider it to be that.

TRAYNHAM: Yes.

HIRL: I was very apprehensive about running the biggest segment—business wise—of the corporation and then suddenly being asked to take what I considered a side step and less significant position. But again, this is one of those things that you look back and say, "What would have happened had I not done that?" But I'm not sure that I could say that my career would have moved the way it is now. Someone else would have been willing to take that on. At that time, there were a number of things in the legal department that were very active with Olin Corporation. One of them that I might mention was an ongoing EPA [Environmental Protection Agency] litigation against Olin and others, but specifically against Olin, on DDT [dichlorodiphenyltrichloroethane] sediments from their Alabama facility, where they produced DDT. We were engaged in a long, I'll call it negotiation, legal action with them over the DDE metabolites of DDT.

I got very involved and I learned a lot about the products, learned a lot about what I'll call the chloro-organic synthesis, and so forth. It was really an interesting learning experience—and also got involved in a lawsuit filed against Olin in Niagara Falls for false reporting of mercury emissions from our mercury cell chlorine plant up there. So looking back on that, I learned a lot about the broader aspects of managing a business and the kind of actions you need to take, the kind of things that have an impact, that isn't necessarily selling and making products. This was perhaps something that probably led me to a greater appreciation of Responsible Care when it became a paradigm of our industry. But I've learned a lot.

TRAYNHAM: Well, I was about to ask if you thought that that was the experience that led to your well-recognized interest in Responsible Care and environmental concerns. Or had you had those concerns even before you had that particular exposure in those litigations?

HIRL: I think, actually, prior to that, I probably had less of a sense of responsibility to it at all. When you see the result of the things that happened, and so forth—and then obviously when I came to Occidental—I'd gotten very much embroiled in Love Canal. So it was very valuable

dealing with the things that I had to deal with when I joined Occidental and eventually got involved in the Love Canal litigation, and so forth. Tremendous learning experience.

TRAYNHAM: Well, you've taken us up to the time that you were about to leave Olin. Did you move from Olin to Occidental then?

HIRL: In 1983, yes. At that time, I had become senior vice president, running their chemicals businesses for the corporation, and given an opportunity to become president of Occidental Chemical. That was after twenty-three years of work for Olin, and actually for about twenty-four hours I had two positions laying in front of me. One of them was president of Olin Chemicals and the other was president of Occidental Chemical. In the case of Olin Chemicals, it's obviously the company I've worked for for twenty-three years. You wonder what the future might be when changing positions, particularly since the position I was offered at Occidental had three incumbents in five years. It was the Armand Hammer "revolving door situation" there. I guess in truth, I had a great deal of confidence in Dr. Irani, who I had worked for—directly—for five years in the administration role and then the senior vice president role. I felt that there was more opportunity for investment and growth in the chemical business in Occidental by far than there was in Olin. So I made the change. That was fifteen years ago. [laughter]

TRAYNHAM: That was the basis on which you made your selection between the two presidential offers.

HIRL: It was an opportunity, as I perceived it. It turned out to be an opportunity to grow a company as it has grown, one that certainly turned out to be the right thing to do for me personally.

TRAYNHAM: Well, certainly you appreciated, one might say, the negative aspects of the change with the Love Canal litigation and publicity going on about that time. Did that seem to deter you? Or did you sense that there was a challenge to correct the situation, or either?

HIRL: No, I think quite honestly—that was not the highest thing on my priority list in joining the company. I was more focused on business than that. But, in taking on the responsibility, one of the first connections I made was kind of interesting. The corporation's headquarters were in Houston. They had moved Hooker Chemical and the Hooker Oxy Group had moved back and forth between western New York and Houston a couple of times. But they happened to be headquartered in Houston at the time, and we subsequently moved them back to Connecticut.

I met John Riordan, who at that time was vice president of what they called Hooker Industrial and Specialty Chemicals. It was the industrial and special chemical division. I spent some time in the Niagara Falls/Buffalo area with him. John pleaded with me and said, "Look, the image that Occidental has in western New York is that they intentionally created Love Canal and intentionally exposed the environment and human beings to these terrible products, and so forth. It's absolutely not true." Somebody needed to get into this and stand up and be counted for what was done being the best practices at the time. I guess, admittedly, I took it on as a challenge and said, "Okay, we'll find a way to do this."

That became one of the most significant challenges I think I faced inside the company for at least the first few years that I was there. While we were growing and acquiring companies, and so forth, I never lost track of the value of resolving that issue. Because as a member of the chemical industry, which is such an integrated industry, your reputation does mean something to your peers, to your customers, and your suppliers. I guess I decided that resolving that in a positive way would be a great benefit to the corporation. So I took it on as one of my personal tasks, I guess, to resolve it.

TRAYNHAM: With that resolve as you went into the office of president, what first action did you take to meet that challenge and goal?

HIRL: Well, the first thing I did, quite frankly, was to spend a significant amount of time back in the legal department. I had a history of dealing with the DDT and mercury situations. I wanted to get myself knowledgeable about the history of this case, which was being handled partially by Occidental Petroleum's legal department in Los Angeles, by our own legal department in OxyChem, and my general counsel, who had been deeply involved in it when he was headquartered in New York and when he was headquartered in Houston.

So I guess I took at least a year to really get into the bowels of what had happened. I went back to the initial findings of problems of Love Canal, and all of the issues related to the property, what happened, the deeding of the property to the school board, and really got involved to the point where I could honestly say, based on the evidence that I had in my hands—the knowledge I had, that the best practices were followed when disposing of wastes in Love Canal, as well as others who were contractors to the government, as well as the city of Niagara Falls. It was a perfect solution to disposal of the wastes. I had irrevocably convinced myself that those actions were done with the best practices in mind and with the objective in mind of keeping those products away from the environment and the exposure to people.

So having once become convinced of that, then we got into the laborious details of the case and went on and on and on. The most critical part of that was the punitive damages trial that was underway. I guess that's where I finally concluded that I, personally, could take a major piece of that and do something about it. I pursued the subject of what in truth was done, the actions taken by management, by the corporation, and so forth, leading up to the closing of Love Canal and the eventual deeding of the property. I would say that I'll take as much credit

as I deserve for eventually winning that case and having the judge determine that we were not wanton and willful in doing harm and that punitive damages were not appropriate.

That was truly the turning point, insofar as Love Canal was concerned. Because at that point in time, whatever Superfund became, at least it removed the stigma that this was something that the corporation did wantonly and willfully. On several occasions before I joined Occidental, people had an arm's-length attitude toward Hooker Occidental. Because, to use their words, this is a company that brought us CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act], Superfund. You know, what kind of a company is this? So my story is, during my tenure, I perceived that Occidental moved from the company who brought you Love Canal to a leader in environmental health and safety activities in the chemical industry. I think that is a very valuable asset, as far as the company is concerned. That stands in my own personal judgment at the same height of achievement as building the company from a billion two to a six billion dollar company, even though it hasn't gone down as a result of some recent actions. But I consider that equally as important and equally as valuable as far as what I've done for the corporation.

TRAYNHAM: I'm certain that looking back on your career with that brief summary, that it is a very personally satisfying aspect of it that you were able to achieve such a turnaround in the image of the company.

HIRL: Well, there are a lot of things that I call creating positive employee attitudes. These kinds of motivations on the part of employees extend out into the way they do their work and the way they interface with others. The day that the Hooker retirees club in western New York let me know that they wanted me to come to their annual meeting because they wanted to tell me that they were now sufficiently proud of the company that they were going to change their name to the Occidental retirees company. They didn't want the Occidental name connected with them in the past. You know, that means a lot. People developed a sense of pride in working for the company. People who are proud of a company and are proud of their work will do things. It extends into business and their ability to run the corporation. So it was a real seminal event, although the other things are very important, too. You must understand that I'd started down a path here that you can tell was personally very rewarding to me and one that's important to me.

[END OF TAPE, SIDE 1]

TRAYNHAM: Well, did you want to continue with that particular aspect, or did you want to switch?

HIRL: No, I think that's it. I might switch to one other thing. Then we can go down different paths, because they follow a bit the same kind of an orientation—what I call management and things that are important to managing peoples efforts, and so forth. That is safety, which is the other side of the environment, health, and safety.

The safety record of Occidental was not very good. I don't say, looking at OSHA [Occupational Safety and Health Administration] statistics or industry statistics, that they were the worst, but they were not really very good. It was my sense that if you're going to motivate people, if you demonstrate a concern for their safety and a willingness to invest in either management resources or capital resources in the plants, and so forth, to make them safer, they will tend to say, "Okay, here's a management that is interested in my safety." They'll have a greater respect for the management. Because, quite frankly, the respect for the management of Occidental was not very high at the time.

But I felt it would be a good strategy to work on the safety side of the company. It had its rewards because we developed a process, if you will, of improvement in safety and injury incident rates to the point where we are today—number two behind DuPont. I don't know if anybody will ever get to DuPont's level, because they are really the leader. But we have a number of OSHA Star facilities in our plants. Our building here is the only building in the U.S. ever to receive an OSHA star as a work site. It's truly amazing how motivated people can be to compete for these recognitions as the safest plant. Every single plant in this company whose injury incident rate has gone down, their productivity statistics and their marginal income statistics have gone up in direct proportion to those kinds of things. I found that to be a very good direction to take. It's gotten to the point where we don't put less emphasis as management on it. But it's become such a part of our culture that people just do these things as a result of it. So this is kind of the non-business side. But it's critically important to the business of the company among the culture that we have here.

TRAYNHAM: Did you initiate special training programs? How did you bring about this very successful emphasis on employee safety?

HIRL: Training programs, yes. Rather than leave the responsibility for safety solely to the plant management. They had plenty to do then and they have a lot more to do now. We put a safety organization in place where people professionally went out and did typical on the job analysis of work issues, of the activity issues, and so forth, and developed what I call an ingrained culture of looking at work issues. In other words, what people's work responsibilities are, examining the job—is there a safer way to do it, and looking at all of the safety knowledge existing in industry as to how to make this job or that job safer.

This safety organization really developed a direct responsibility to the plant management or the location management, plus a functional responsibility to a safety organization, and built in what's now popularly called "best practices in safety". You know, just all of the things that go into focusing employees on working safely. This worked pretty well. It's interesting that through these processes, including the environment and worker safety and process safety, that our insurance rates

have declined rapidly—workmen's compensation as well as the process and plant liability and casualty, and so forth. That was not the objective, but it did get the benefit in that regard.

Our executive vice president of manufacturing [John L. Hurst III] has been asked three times to come to a world congress in process safety and process engineering that is put on by the casualty insurance companies to describe what we do. Another recognition. But that's sort of one of those things that comes with success, I guess. It's financially rewarding. It is also a very positive employee motivation. It's worked very well for us. I think it's something that clearly, as we look at these new issues of maximum exposure in chemical process areas and risk management planning that's now inherent in the future of all of our industry, that we be way ahead of the curve in this kind of thing. Because if you have to catch up with what are now the requirements that are being imposed on the industry for these kind of things, that would be very difficult to do if you're not equal to or well ahead of the curve. We are well ahead of the curve in that regard.

TRAYNHAM: It sounds as though you are saying that the changing of industrial practices is not so costly as it is sometime claimed to be, in the sense of deterioration of the bottom line for the company.

HIRL: Well, hopefully I'm putting this in the right perspective here, Jim. It's kind of a case of pay me now or pay me later. You can either incrementally stay ahead of the requirements and stay ahead of the curve, or allow yourself to sit back and then have an event occur that costs you dearly insofar as the requirements imposed on you, as well as whatever the problem may be that develops as a result of it. You'd have to put in the capital and then do all of the things necessary, or you can maintain it at a very high level. That's more of a case of pay me now.

To take a sidetrack here, I've been asked several times internally in the company, "Why are you working toward achieving full compliance with the goals of management practice and Responsible Care?" My answer is simple. "Eventually I'm going to have to do this." Responsible Care is nothing more than a road map for what you're going to have to do in the future. You want to wait until the future is here and then do it all at one time? Well, that's one way. The other is to build in the whole system so that you're spending cheaper dollars today to get to the levels you need to eventually anyway. It's just your road map for what future lays.

TRAYNHAM: Also aborting a lot of unfavorable publicity.

HIRL: Amen. So we've digressed into a lot of other things, but very important things, you know. I'm sure you're aware of the things that are happening in the industry as far as the environmental agendas, anywhere from the activists that we know as Greenpeace to just regulatory issues that come as a result of being a highly regulated industry. If everything was done in the strictest interpretation of the things that we hear are going to happen, I'm not sure the industry could

survive in some cases. So we made a deal with them in a more proactive and positive way. I generally find myself preaching to the converted. [laughter]

TRAYNHAM: Well, it's good that your own employees in the various plants of Occidental are the converted.

HIRL: They are the converted.

TRAYNHAM: Well, you've spoken about your innovation in these company practices that led to our continuing compliance with Responsible Care. What kind of innovations have you initiated or encountered in chemistry or chemical engineering in the plant, aside from the environmental regulations and the safety practices?

HIRL: I need to answer that in a broader way than you might think. Occidental Chemical—OxyChem—in absolute frankness is not an innovator in either creating molecules or in what I will call new processes to either produce new products or to produce existing products in a more efficient way. We have tended to, in large part, buy the processes, license the processes, and so forth. Recognize that those kind of advanced processes are very important to what we do and, therefore, we at least monitor them consistently as to new processes.

There are a couple of areas we had to spend some time in. Being involved in one of them is the core of our company, which is electrochemical production of chlorine-caustic. We have had a venture for fifteen years now with Eltech Systems in membrane cell development of chlor alkaline cells. We have four plants around the world that are based on that technology. So we have been, I will say, creative in the technology. We have not done the research on the membranes. The membranes have been—well, basically they're DuPont membrane technology, and so forth. But the process technology and the cell development are patented by OxyTech, this joint venture of ours.

We have done some, I'll call it, continuous process research in our laboratories up in Grand Island on building molecular structures and chemical intermediates, particularly halogenated aromatics, where we aren't creating a new molecule, we're just creating a new process to get to the end molecule. So that has been, if you will, the innovation side of the company. Largely a commodity chemical producer licensing in technology, we have never attempted to patent our PVC [polyvinyl chloride] processes. But we do have a process for converting VCM [vinyl chloride monomer] to PVC that we think would be patentable and licensable.

But given the industry as it exists today, this is not something that is such new and remarkable science or earth-shattering science, and growth in the business is not something that would justify getting to the point of doing that. We'll call it proprietary technology, which everybody has a little bit of, as you well know. That, of all things, is the emphasis of our

technological efforts as proprietary process development of licensed technology. We think we're pretty good at it. I would largely say that many of our peers feel the same way. But that's been the technology thrust of the company.

Just to reach out a little bit here, we are finishing up a multi-product facility in Niagara Falls to produce a lot of different housing of organics like parachlorobenzaldehyde, parachlorobenzonitrile, a lot of intermediates that go into a lot of products and dyestuffs, agrichemicals, pharmaceuticals, and so forth. The chemistry is different, but we don't end up with a different molecule. The processes differ by our innovations, and so forth. But that's the way we work what I'll call the technology side of the industry of our businesses.

TRAYNHAM: Does Occidental Chemical have a substantial research department or force?

HIRL: I assume that you're a chemist.

TRAYNHAM: I am.

HIRL: Okay. In bench molecular work, we have about one hundred people involved in that kind of work in Grand Island, in western New York. The total expenditures are upwards of twenty million dollars—relatively small as a percent of sales or anything else. That kind of defines, in a pure sense, what I've just described as far as the way the company looks at technology. Some of that work, by the way, supports a very small environmental group that's in the bug-bank business of microbial reduction of waste. Of the total twenty million dollars, I would say that fifteen to sixteen of it goes into what you would call research, the 'R' of R&D. That's pure. When you get into these things, I know that companies tend to throw technical support. Most times, if you want to make the best bigger, you add a few things to it. But that's what I would call a pure research function for us.

I'll take a little aside here. When I was at Olin we were competing with Hooker for the business of producing parachlorobenzotridefluoride [PCBTF] for Eli Lilly for Treflan, which was one of the most prosperous herbicides for many, many years. Occidental developed a process where we lost the business when I was at Olin. I joined Occidental and found out why they gained the business—because their process had a much lower cost. I guess what I'm really getting around to is that there are some things that we have invented from a process standpoint. How do we get from toluene to PCBTF? That process is an Occidental process. It has a much lower cost than the other route. So it's chemical. Its route is chemistry, not necessarily the development of molecules.

TRAYNHAM: Chemistry is in the process—not just in the end product, of course. Well, would you venture a brief summary of what scientific innovation has come to mean to you as a result of your experiences in the company?

HIRL: Well, it was my experience in the company and in the industry, let's say, that as we branch out into biological chemistry—the routes that Monsanto was taking, and so forth. I guess if you wanted to extend it out into the real future, where everyone called the future twenty, thirty years from now, the processes that we now use to produce several products, let's say, are ones that clearly could be outmoded through biological processes. I'll define them as broadly as I can. But we are not taking a direction of that type. I mean, we just are not in a position or have an interest in doing that kind of thing.

Somebody asked me why I joined the chemical industry. Why did I go into chemicals? I believe, at the time that I joined the chemical industry it was a high-tech, high-growth industry, clearly classified in that regard, let's say, forty years ago. I believe it has matured as an industry. While innovation is still critical to it, it is a scientific industry.

In the world of today, I don't think you can take the total of creativity and science and say that the chemical industry is a leading edge of high-tech, high-growth industries. There are branches of it that are clearly interesting and rapidly growing. But rather than being <u>new</u> things that people use, they are different ways to get to an end product—with the exception of the pharmaceutical industry. Now, if you take chemistry into the pharmaceutical industry, which is certainly appropriate, then that's a whole different world. Many of these pharmaceuticals are incredibly interesting. We're getting to the point where we will keep people alive through the development of pharmaceuticals.

TRAYNHAM: Well, will they get to that point in time for us? [laughter]

HIRL: I remember thinking that once upon a time, I don't know how many years ago—not too many years ago, Jim—given that my father passed away when he was fifty-nine years old. But he fundamentally worked himself to death. I mean, he was one of these farmers and people who were working sixteen to eighteen hours a day. That was just the way things were. But I said to myself, "Boy, I hope I live long enough to see the millennium." Hey, I'm expecting to live long beyond that. I don't know what our life expectancy is today, but it's in the early eighties. So I think we're—I'm digressing a lot here. You find more and more things that the environmentalists and activists say are causing us problems. Sooner or later you're going to find things that impact our life. As we cure more and more things, then we're going to have to eventually find out that if we eliminate all of this, maybe there's nothing out there that shortens our life. As we improve the length and quality of life, which has been incredibly beneficial in the last four decades or so, sooner or later you're going to find something out there that is either a part of synthetic development, or in many cases natural processes, that is the real cause. More and more and more, and eliminate exposure to it.

TRAYNHAM: One of the topics that SCI [Society of Chemical Industry] is particularly interested in is your view on the future of chemical innovation. Perhaps that more or less states your view on that.

HIRL: Well, it does. In one way it does, Jim. I may be off a little here, but let me head down a road. If the inputs to chemical processes, if the chemistry that is used to input to chemical processes, can get to a point where there's zero out, that has an impact on human health and the environment. Through technology, through chemical innovation, I think that's the Holy Grail. Until we reach that time, people will always look at this industry as, "You make these wonderful things, but you also make these things that bio-accumulate and eventually kill us." If I were to say again that there's a Holy Grail out there, it's finding the chemistry and the process capabilities so that it's total sync.

That's where I think that this industry needs to focus a little bit more than they are now. I've just noticed that Dow is doing some things with NRDC [Natural Resources Defense Council] and is working on reducing emissions to the environment by raw material and process changes so that we don't have end of the pipe controls, and so forth. These are the kinds of things that I think are connected to the future of this industry, to find ways to create in the minds of the public the fact that we do these things, but in so doing we do not create harmful things along with it. It's a long way down that road. But that's where I think we would propose to go, not down to what you call two or three parts per billion. That is, we can beat those regulations with those three parts per billion. Somebody is saying it bio-accumulates and eventually is going to kill us.

TRAYNHAM: You have already identified management agendas that you have articulated since you've come to Occidental, such as the Responsible Care or the environmental concerns and the safety concerns. Are there other management agendas that have changed or emerged during your tenure that you would like to speak about?

HIRL: We could probably spend a lot of time talking about what I call the economic investment side of the business. Since we're talking in a scientific area here, I think it's something that obviously—of my day job, which is CEO of this company—I increasingly spend time dealing with economic issues facing the chemical industry, Occidental Chemical and Occidental Petroleum, as a director of the corporation.

Let's start with the statement I made at a meeting—I don't know if it was the SCI meeting or the petrochemical industry meeting in Europe—where we were debating what's different in Europe, U.S. industry/European industry, and that is the quarterly results orientation. As time goes on, increasing the value of companies is clearly based on our ability to attract capital to grow our business. Our industry—industry in total, but certainly our industry—is under heavy pressure to justify investment in this industry by shareholders or by any private persons or whatever you wish. We have developed, I think, an incredible capability to build and operate highly efficient facilities, the scale of which increases every time we find a new benchmark.

So that what was defined as a segment of industry with very cyclical products like petrochemicals, olefins, and far less-cyclical products as specialties, whatever you define them, the industry's ability to identify higher "value added products" and less-cyclical products has gotten to the point where there are a decreasing number of true specialty areas where investment is attracted not only in the capital but in investment in company. I think we have to face up to the fact that, as our products mature and as this industry becomes more subject to the economic cycles and investment cycles, we have to deal with it as an industry. I'm very much faced with that as a company. Investing and managing the investments we now have.

But if we're going to grow as an industry, whether that's to attract research funds or investments funds and capital additions, we're going to have to attract investment capital to this industry. It's something that we don't spend a lot of time talking about because we are so obsessed with the environmental issues, and we are, of course, very dedicated to a scientific discipline. But in the real world that I live in, more of my time is spent dealing with funds that are invested in Occidental, security analysts who want to know why this and that, and so forth. Why we should recommend investment in Occidental and why it's very low in the industry, you know.

What is this industry becoming? Is it becoming an industry that can attract capital, can attract investment? I think that's something that most everyone is faced with as a company. But you can expand that a little bit and say is this an industry that can grow by attracting investment capital to it. How we will manage that borders all the way from collusion, which is illegal, not building multiple facilities of that size, to, let's say, a real recognition of what the demand is out there in the marketplace, what the real demand is, what the sustainability of that demand is, what the economic capability to sustain that demand. We have to get much further into that rather than say, "Oh, gee, it looks like there's going to be three years in which the supply/demand curve will reach maximum capacity. Let's five of us build a plant." Whatever it may be. Each product that has more value added in this chemical industry and the more we talk about it and the more visibility it gets, the more rapidly it attracts capital and we continue to add facilities.

I think it's just something that, as a CEO of a company, as senior leaders in an industry, we've got to think about these things and how you deal with them. Each individual company does it on their own, Jim. But until we learn that we do have to justify short and long term returns on investments and returns on equity to attract equity and capital, until we really recognize that that's a critically important thing, we're going to continue in this. If I've got money in my pocket, I'll go build something and then we'll worry about what the hell happens after we build it. Something that's very important.

TRAYNHAM: Are these concerns that you're expressing intensified in the industry since you became CEO? Or is it a continuation of the concerns that were always underlying the industry?

HIRL: I think it's intensified, Jim. I early on said that—and this is true—I think the ability to take a project from concept to operation has short significance, even though the processes are more

sophisticated. You know, the building-in continuous process operations and all those things seem to be more difficult. You can get a plant up and running that produces incrementally more than its previous predecessor in a relatively short period of time.

You know, I think it's a case of "Okay, when we decide to build a plant, let's decide whether, in real terms, that demand is out there or not." We haven't been very good in doing that. The Southeast Asian malaise is something that is either an unfair example of what's happening in the industry today, or it is exactly what I'm talking about. Who ever thought that growth could continue at double digit rates in any economic region of the world? Why did we think that was going to happen? It never has in the history of man. So why did we think that? Well, I don't know why we thought it. But we did. So everybody built a plant to support that demand, and that demand has gone to zero.

[END OF TAPE, SIDE 2]

HIRL: Well, I'm kind of circling the wagons each time I'm talking about this. We go from our ability to conform to regulation of the future, to the development of better science to create better products, to the ugly economic realities of how industry, within a broad array of industries, has the need to be a more stable, with a more higher return industry in total to attract capital and equity.

TRAYNHAM: Do you find that stockholders are more demanding for these types of changes in perspective than early on in your career?

HIRL: Oh, definitely. No question about it. You can take the array of shareholder groups from those that exert the regulatory pressure on us and say we shouldn't be making these products. There are a number of shareholder groups out there, from those with a religious emphasis, to environmentalists, to you name it, to people who are purely looking at the return to the shareholder of, let's say, economic value added in an industry. You're sitting there with an array of industries and you've got an investing public, and you say, "Which industry should I invest in?" Stay away from the chemical industry. It's too damn cyclical, and our returns are low, and, you know, our specific companies might look good today. But it's not an industry—if you're looking for deep value or long term growth, and so forth—to put your money in. It's not something we want. It's kind of like being the steel industry of the next millennium. We don't want to do that.

TRAYNHAM: You made reference just a moment ago to the financial crisis in Asia. Occidental Chemical has a number of Asian installations, doesn't it?

HIRL: We have an aggregate seven, of which only two are wholly owned. The others are joint ventures. They're generally in vinyl and chlor alkali. In the phenolic resins business we have a couple of investments in what we call phenolic resins and molding compounds. It's hard to describe what has happened, when I've talked to my peers to justify their investments. They've all read the papers and all read the reasons for lack of transparency in the investing between banks and companies and on and on and on. But it's hard to describe.

TRAYNHAM: Do you have any speculation about the future for Occidental's Asian investments in plants?

HIRL: Well, the plants that we have, we have no desire to get out of them. We put the investment on the ground. They're not returning anything of significance. Certainly they're returning investment on a cash basis but not on a full investment basis, just like many others aren't. Recently within the last six months I read—and you read forever—but I saw an analysis, a projection, by several agencies, including Deutsche Bank and a few others who are I think considered knowledgeable people in forecasting economics, as to the number of years that they perceived it would take for various countries within the Southeast Asian region to recover to a consumption level equal to their consumption in the fourth quarter of 1997. That ranged from two and a half to five years, with the average being about three and a half years. Some signs of recovery beginning in 2000, I guess, was generally the perception, which you really began to see something going from negative to positive.

Reading that in depth and taking that against other things I've read, I tend to feel that that probably is the most intelligent assessment that I've seen of what will happen over there. It was based on events that would have to occur in each of these countries in order for that to happen. As you read and hear about what is being done, it tends to follow with the actions being taken in those countries—social, political, cultural, economic, and so forth. But that's a long time.

TRAYNHAM: Are the Asian plants producing the same products that U.S. plants are producing, or are there productions that are unique to the Asian market?

HIRL: They are fundamentally the same products that are produced here. I want to make sure we understand landed cost, meaning their input cost may be higher. But if you eliminate the transportation cost, landing a product at a particular consuming point, their landed costs would be about the same but their efficiencies are higher, because we're talking about plants that are one to three years old. So they're using the most efficient technology, generally.

In an obscure way you're looking at what happened to Europe once they recovered. As they recovered from World War II, all of what is there in the way of capital investment is newer on average than those facilities that we compete with globally. We've had a rapid buildup of,

for example, the chlor alkali on the Gulf Coast for the first time in many years. Those plants on a cash-cost basis are very low cost because they're all the most modern, efficient technologies, and so forth. If you load in the return on investment, then we can compare with older facilities because we're depreciated as a facility. But the point is they can operate on a cash basis—cash on cash basis—at a lower cost than the U.S. producing facilities. If all you're interested in making in cash on cash return, they're very efficient and very competitive.

TRAYNHAM: Your activities in Occidental Chemical and the chemical industry in general led to your selection as the award recipient of the SCI Chemical Industry Medal in 1997. Could you discuss a little bit about the award, the citation, it's implications, and what the event meant to you.

HIRL: Well, several people have said to me—I may or may not leave this in the interview—"Why in the hell didn't you retire?" [laughter] While 1997 wasn't the most sparkling year we've had as a company, if you take 1995, 1996, and 1997, averaging those three years—very, very good years economically—everything was going well. Here you have a medal recognizing you, the SCI. I guess what I'm really saying is that it was a unique honor, of which I am very proud. I guess it meant to me that the investment that I've made in industry associations and working within the industry to honestly try to improve its credibility and its posture and stature in the U.S. and the world and as an industry was recognized. I felt like it was something that I was very proud of, and I appreciated the recognition. One of the things that I looked at was who preceded me with those medals, and that's a rather awesome group of people who have received that, as well as the Perkin Medal. So it is something that I will consider the highest honor I've received in the time I've been associated with the industry. I am deeply proud of it and, let's say, humble to the extent of knowing there were others equally as deserving of the award. But I very much appreciated it.

TRAYNHAM: On the occasion of your receipt of the medal, what was the emphasis in your award address?

HIRL: Well, I tried to do it differently than Keith [Robert] McKennon. I used Keith's comment—when Keith McKennon was Dow Corning's chairman at the time—and I've kept the analysis that was done in, I think, *Chemical and Engineering News*. We related his speech, and I think it was something like, "I'm probably a member of an industry that has done more good for more people in the world than any other, period." I knew Keith well at the time, and I very much admired him. But it was an attempt to say, "Let's focus on the things we've done well. Let's concern ourselves with the things that we need to do, but let's think about the things we've done well and take as much pride as possible in the industry, as such. While we think in terms of what we have to do and the things we need to do, Responsible Care and all these regulatory areas, let's also think about what good this industry has done for the public environs, and so forth. Try to get some more positive balance in what we have accomplished versus what people

think we are doing that's bad. I think I did, at that time, relate to the Love Canal era and how I felt about the people who were involved in Love Canal and why they were people who were doing the right thing in the best way they knew how at the time, and we still are. That was my intent. Focus on the positive, recognizing our responsibilities and dealing with the detractors.

TRAYNHAM: I recall, just thinking back over what you've said—what prompted the move from Houston to Dallas?

HIRL: Well, we moved from Houston to Connecticut, Jim, and then back to Dallas. What prompted the move to Dallas was Occidental's acquisition of Diamond Shamrock Chemicals, which was headquartered here. We had a very small staff in Connecticut because the core of management was diverse. We had three operating units in Tampa and Philadelphia, and one up in Niagara Falls. So we were really a true, core kind of a holding company in the situation. Diamond Shamrock, with all of their plants located on the Gulf Coast, and their headquarters here, had about three hundred fifty people here that managed the operation in depth. It was clear that the logical place to be, from the standpoint of where our asset mix was, was in Texas. With Diamond Shamrock, the logical place to be was here. So we moved here in short order.

I'll give you my favorite Dallas story. The people that worked for me in Connecticut, if they were to go to Houston, Texas, they would get up at five o'clock in the morning and fight the traffic to go into La Guardia Airport, go through all the machinations of dealing with a typical New York crowd, and all that kind of thing, and end up in Houston for lunch. [laughter] If you live in Dallas, you leave the office at ten-thirty, get on a plane at 11 o'clock, and you're at lunch. Now, that's an appraisal of what reality is insofar as productivity is concerned. It just so happens that Dallas is here. [laughter] But it's a much, much better headquarters location than the East Coast, for a company like ours in particular. Let me put it another way. If Diamond Shamrock were not in Dallas, we would have moved to Houston because Houston is truly the center of the chemical industry, geographically and asset-wise. Nearly 70 percent, maybe even a little bit more, of our capital investment is on the Gulf Coast, from Louisiana down through Texas, and that implies a lot. It's a very logical place to be. It was no small value to me, personally, since my family lives in Dallas and Houston, and I have ten grandchildren. We are a very close family.

TRAYNHAM: The SCI Medal was one award you indicated as significant to you, but I've noted from reading that you've gotten at least a couple of honorary degrees from institutions, Canisius College and St. John's. How did you happen to be recognized by those institutions particularly?

HIRL: In the case of Canisius, Occidental supported a lot of activities at Canisius in Buffalo. A number of employees were graduates of Canisius; we supported a lot of educational activities at Canisius College. I will say that the Canisius College award was more a case of what I did for

western New York in dealing with the issue of Love Canal. Because there was a stigma attached to western New York, also, as a result of this. I think that by burying, if you will, the stigma of Love Canal, Canisius chose to recognize me as somebody who put the environment and people and things like that ahead of a bottom-line profitability, which is true. I won't say ahead of it, but on equal footing with it. That was that. The other one was, somewhat, for the same reason, quite frankly. The president of St. John's University was, for a number of years, the president of Niagara University in the western New York area. We had some very involved dealings with Niagara University on the same basis, but even more in-depth because some of the environmental areas that Occidental was involved in were adjacent to the Niagara University campus. So, again, I think it's a case of solving the dilemma of the stigmas that were attached to that region, and even to the colleges themselves, was pretty much at the bottom of it. But it came from St. John's because the president, with whom I became very good friends, chose to give me the honor when he moved to St. John's. I still, personally, as well as the corporation, provide some funds to St. John's. It's a great college. It has the largest pharmacology college in the United States. I never knew that until I found out a little bit more about it.

I'm a Roman Catholic; I'd call myself a religious man—maybe this need not go on the tape, but—my life principles are very much on the line of family and moral life, and so forth. You want to talk about [President] Bill [William Jefferson] Clinton, we can talk the rest of the day about that. But we'll leave that alone. [laughter] But a friendship and a relationship and wanting to see a region that, I think, unfairly had been stigmatized, see the stigma, basically, removed, really.

TRAYNHAM: You have made reference to your family members along the way as we've talked this morning. I invite you to focus on it right now, to give a rundown on your family, your children, and so forth.

HIRL: Well, I have four children. My oldest son, who recruited me at Oxy [Occidental]. We have a family joke about that because he had worked for Oxy, by the time I joined them, for about eleven years in their transportation and energy marketing, what they called Oxy Crude Sales, in Houston. He left them about three years ago; went into business for himself. He, along with some investors, is making a couple of products that are in electronic areas. I can't think of the name of it. It's something that you can set up your television set to that allows only certain channels to be watched. He's also a consultant to the energy industry with the Bankers Trust and a couple of others.

My daughter, who is the second one, lives in Dallas. Her husband is with Texas Instruments, and he's involved in materials management and information technology development with them. Implementing the SAP information process, he does work on that as well as materials management. Number three is a son who works for OxyChem. He's in the engineering group. He works with the engineering in multiple plants in information processing in Information Technology section. My youngest son is living here in Dallas. He's actually, now, not working. He has a disease of the eyes called retinitis pigmentosa and is legally blind.

So he's doing some work—with the computer access—doing some things with Nations Bank, which they've allowed him to do because he was working for them at the time. But he lives here. That's the family. As I say, we have ten grandchildren, so it's a very active life. Everybody's healthy, and everybody's doing well. So I'm a happy father and grandfather. Put it that way.

TRAYNHAM: Ten grandchildren?

HIRL: Yes. I've given my children all the admonitions that anyone does as the family develops that rapidly, but [laughing] that's sort of the way it is. Eight granddaughters and two grandsons.

TRAYNHAM: Are you and your wife experiencing any of the empty-nest syndrome, since you had four children to rear, and they've departed for their own family situations?

HIRL: Let me put it this way, Jim. Let's say, the two weeks of the Christmas holidays, we had something between fifteen and twenty people in our house, so the empty-nest syndrome [laughter] is not a problem. We have the three grandchildren and a daughter and son who live here, so we spend as much time with the family as is appropriate. We're a very close family, and our children in Houston come up with some regularity. So no empty-nest syndrome.

TRAYNHAM: I've noticed from some accounts of your activities that you are associated with some volunteer activities in Dallas. Will you speak about your involvement there?

HIRL: Well, I've been on the board of the Chamber, which is a broad activity on the board and the executive committee of the Dallas Citizens Council, which is a more focused, pro-active organization dealing with what I would call more macro issues in the city, including public education and public utilities. Developing various and sundry areas, low-income areas, and so forth. The Dallas Together Forum, which is a branch of that, dealing with diversity and those kind of things. I've been very involved in what is technically called the Southwestern Museum of Science and Technology, or the Science Place. That ties together my very strong dedication to science education, as well as just education in general. I've been, personally, very active; been on the board, vice chairman of that, and while my day job has caused problems in being able to spend as much time as I used to in it, I'm still very actively involved on the board of the Science Place. I'm on the board here. That's hardly considered a civic activity. We involve ourselves as a company in, basically, educational areas. One of the things that I'm somewhat proud of is that we have, for seven years, provided housing and furniture and everything for the Susan G. Komen Foundation—the Breast Cancer Foundation. Somebody said, "Why are you interested in that?" I said, "Well, I have eight granddaughters, a daughter, a wife, and two

daughters-in-law." I'm very interested in research in that. I'm trying to think of other things. Off and on, there have been a number of other civic activities.

TRAYNHAM: The Breast Cancer Foundation has given you an award, I believe.

HIRL: Yes. Humanitarian award. My wife is very involved in it, and we, personally, support it, as well as the company. I try not to take advantage of the corporation's involvement for personal benefit, but we do a lot of it, personally, with the organization, as she does and I do to some extent. But education, foremost; and science and health, I guess, would be secondary but very important.

TRAYNHAM: Your own career in the industry was immediately preceded by a liberal studies degree.

HIRL: Yes.

TRAYNHAM: This is not the usual preparation for a chemical-industry executive.

HIRL: No.

TRAYNHAM: Have you had the feeling that that unusual preparation advantaged you or disadvantaged you or was more neutral?

HIRL: That's a little hard to answer, Jim. Let me answer that in two ways. One, I think it gave me a broader interest as I looked at my future than to focus solely on, I'll say, chemical engineering or bench chemistry. While I respect the fact that these are very vital functions to focus on, I probably wasn't prepared to, I'll say, be more narrow in my view of what my future was. For that reason, I think it was a benefit to broaden the horizons and get involved in many other activities, including all the things I talked about with legal and things like that. On the other hand, there are times when I wonder whether I'm able to direct resources adequately without that fundamental knowledge of chemistry that, sometimes, is helpful in making decisions. When you get to the place where I am, and have been prior to this on a couple of occasions, you pretty much rely on the resources of other people. Maybe two or three times in my career here, people have asked the question, "How do you get the management of an oil company to understand the chemical industry?" I say, "Well, let's take the chairman, who is a Ph.D. chemist, who has a hundred and fifty patents, worldwide; and the president, who is a Ph.D. chemical engineer"—it's not hard to explain to them [laughter] the chemical business.

But I said, "We are not a scientifically, technology-research-oriented company in our businesses, I don't consider it a detriment." The gentleman [Les Story] who is leading our specialty chemical development, chemical intermediates development—let's say, half of a staff of ten people have chemical education backgrounds; the other half have virtually none. So, starting back about a year and a half ago, at every other monthly management meeting, I had him do a chemistry lesson for us in the products that we make and the technology and process behind it. I know, several times, he'd be sitting there, talking about something, and I would answer a question he posed. "How'd you know that?" Well, perhaps the lack of that education has caused me to dig deeper into what's going on here than, maybe, the average person was because I don't want to be in a position where I don't understand what's going on. So, if we're going to make parachlorobenzaldehyde, I want to know how the hell we make it. [laughter] What the molecules look like, and so forth. I do understand chemistry; I studied a lot of it. To the extent that it's possible, I always try to get a little bit behind it and understand what's going on out there. It sometimes surprises people, but maybe it's a case of, "I'm not going to get caught not knowing anything at all that's going on."

TRAYNHAM: As you think back over our conversation, do you think of anything else that you would like to add or expand on for completeness of the story?

HIRL: Jim, without being able to, obviously, recount everything I've said, perhaps not. But if I could emphasize one thing over the other in my view of where the future of this industry—where we need to put more intellectual investment, more practical investment, and so forth—it goes back to the attraction of capital, the attraction of equity, the attraction of intellectual capital. I have ten grandchildren. Would I recommend to them that they pursue chemistry, chemical engineering, a career in the chemical industry? I don't know the answer to that, and I should. I should be able to say, "This is a great field, young people." That has a little bit of a distraction from what I've talked about in attracting capital and attracting investment. I think we should focus on attracting intellectual capital, getting the hearts and minds of young people. It's a little bit, in a silly way, like, "Why don't we have enough priests out there?" We can't attract young people to get into the religious life. What are we doing about attracting people to join the chemical industry and the scientific disciplines of chemistry and chemical engineering? We need to really give some very serious thought to how we portray ourselves as companies and as industries to attract the hearts and minds of young people into this profession. We are the number-two producer in the world of chlorine and caustic. To attract even a person <u>already</u> in the chemical engineering field to this particular business is not easy. As we lose those who have an in-depth knowledge of this business and industry, increasingly, we find ourselves short of the talent we need in the future. So, along with attracting dollars of capital, we need to work pretty hard to create or develop or continue an environment that attracts young people to this industry. Recruiting on campuses is competing with Amazon.com. It isn't easy.

[END OF TAPE, SIDE 3]

HIRL: I can circle a lot of what we've said here and say that, when we were growing and developing as a company, and where there was a perceived, growing future, we never recruited anybody. We just went to college campuses and recruited. We had people in lines at the doors. In today's world, given a high employment level, it's increasingly difficult to attract talent. I'll separate the scientific discipline—all other areas to this industry and to this company. Not a good thing for the future.

TRAYNHAM: Anything more?

HIRL: No. This is a great place to conduct an interview. [laughter]

TRAYNHAM: Well, we are grateful to you for making time for the interview in your schedule. I know it's been difficult to find a time when you didn't have more immediate obligations to the company, and I'm grateful for your arranging such a pleasant place for the interview and for adding significantly to the bank of interviews that are part of the Chemical Heritage Foundation (CHF).

HIRL: Well, there are times when Arnold [Thackray] calls, and I say, "Arnold, I've done my bit." But I also know that if the industry is going to have a future, it's got to have a present and a past. The past has to be recorded. I'm kind of proud to be a part of that.

TRAYNHAM: We're glad that you are, and I think you've given some perspectives on the tapes today that have not been on previous tapes. So it'll be genuine asset.

HIRL: All right.

TRAYNHAM: Thank you.

[END OF TAPE, SIDE 4]

[END OF INTERVIEW]

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