

INTERVIEW WITH
FRANK BUTLER
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SHERWIN-WILLIAMS COMPANY

Cleveland Ohio

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INTERVIEW CONDUCTED BY

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For the benefit of the transcriber, we are here interviewing Frank Butler at Sherwin-Williams on January 3, 1991.

WG: OK, Mr. Butler would you start off and tell us how you first came to work at Sherwin-Williams and the various jobs you've had during your time here?

FB: The first contact I had with Sherwin-Williams was when I was a junior at Kansas State then College, now Kansas State University in Manhattan, Kansas. And I was interviewed by Bill Howard for a summer job. He was the personnel manager of Coffeyville, Kansas in the chemical plant there. And I took a summer job in Coffeyville between my junior and senior year in college, 1956, June of 1956. And I worked in the lab, worked on the zinc sulfates spread dryer.

WG: What was your major in college?

ama Chemical engineer.
FB: I was ~~an accounting major~~. And it was kind of an interesting job. ~~It followed the union plan,~~ *While it was a* The engineers and supervisors could do whatever kind of work you wanted to, so you could really pick up the wrench and take apart *a pump as long as you didn't* ~~the /unclear/~~ without disrupting the operation a lot. So in that respect it was kind of interesting work. It was short, three months, but ultimately, when I graduated

in August of '57, I went back there to Coffeyville, permanently.

WG: As?

FB: A process engineer. I was a process engineer working on various forms of the plants, the plant operations. ^{They} I made zinc oxide, both leaded zinc oxide and de-leaded zinc oxide. And they manufactured ~~black ash~~ which is from baryte, which is barium sulfide and they also manufactured zinc sulfate from the clear zinc oxide or the bottles or raw materials for the zinc oxide business and zinc sulfate and barium sulfide were used to combine and manufacture Lithop~~h~~one which was a white pigment for paint in the early days for interior paints where they didn't use the leaded zinc oxide. And then from the barium, they also made barium carbonate, which is an industrial chemical used in various forms of glass. It's used in television tubes. These glass beads are used for reflectors on the highways and expressways and stuff. The barium carbonate changes the refractive index so that you get a better light reflection. The company had gotten into those, well, de-leaded zinc oxide and the barium carbonating because the Lithop~~h~~one business and the leaded zinc oxide business was declining because of the technological change in paint.

WG: What was that change?

FB: Well, titanium dioxide had come along and was a more efficient white hiding pigment than Lithophone. And then there was concern about the leaded pigments, even in exterior paints, where we didn't use leaded pigments, I don't think the company did anywhere, in interior paints. The old standby paint in the old days was linseed oil and leaded zinc oxide, an excellent exterior paint because it had good weathering properties and good mildew^{-cide} properties and that was the work horse of the industry. As they went away from leaded zinc oxide they had to switch over to alkyds because the other paints didn't work very good with linseed oil and alkyds gave a better film.

WG: What's an alkyd?

FB: It's a ^ersin, like from soya oil or tall oil.

PAT: So it's a synthetic ^ersin?

FB: It's a synthetic ^ersin. We manufacture those ^ersins and have for years in Chicago. And they're also manufactured in Richmond, ~~where they have an oil paint business ...~~

↑ for the automotive

PAT: Today?

FB: Today. And we also manufacture them in Garland and Baltimore for house paints and for traffic paint.

WG: Now soya and tall oil have been around ...

FB: Yes, those oils have been around a long time. I don't know the origin of when they started making alkyds and ~~resins~~^e, it probably goes back some time. But you can see the transition ^{with} ~~on~~ the technology as these things come along. Alkyds were better than linseed oil. Titanium dioxide was better than the Lithophone and better, from a hiding point of view, than leaded zinc oxide. But it gave you some new problems. For example, titanium was a very abrasive pigment as far as to use and the fact that it erodes quickly, wears very quickly.

PAT: Oh, as far as manufacture.

FB: Right, and also, you have the surface reactive issues. They finally began to work out the surface coatings on titanium dioxide and you got better products. And so, while titanium dioxide has been around since the 30s, it didn't grow in prominence until the late 40s or early 50s. That's when these changes started to take place.

PAT: Explain to me again what changes were ... How did TiO₂ change?

FB: Well, they changed the coatings technology. They were using ^{We found} ~~[foundry-found]~~ ways ~~or the [coatings found] ways~~ to use titanium dioxide more effectively in coatings, so it began to replace things like Lithophone and leaded zinc oxide and at the same time, you had these other ^e ~~rosins~~ coming along, alkyd ^e ~~rosins~~. Linseed oil was fading away. Alkyds had come up during that time frame, and then, sometime in the late 40s, and there's a book on this that you can get from Dow.

PAT: I have that book. The Latex book.

^{styrene butadiene}
FB: The ~~starting view of the [molecule]~~ story with Sherwin-Williams and Dow were principals in working out that application in coatings in the Latex paints. Latex emulsifier ^{SION} ~~paints~~ began to come into the forefront. Those dates I'm sure will be in that book.

PAT: Was there a problem with the titanium dioxide pigment with the styrene butadiene ~~paints~~ or is it better?

FB: No, I don't think so.

PAT: It doesn't make any difference with those alkyds?

FB: No, the latex coatings were less expensive because they used water as the vehicle instead of solvent or oil. And, also, they're less detrimental to the environment. So over a period of 40-some

years, they've grown, more and more of it water-based products. And actually, styrene butadiene is no longer used in Latex paints because there's clearly some vinyl acrylics ^{that} /~~unclear~~/ they work better. And while I agree with Dow that they really got started in this industry, they're no longer really in the coatings business. They're in the Latex side of the business. They stuck with the styrene butadiene, which has application in other industries. But what happened in Coffeyville as a result of these changes, is they were, in the early days, it is my understanding that if you go back into the farther back ^{into the} ~~and~~ 40s, there should be some record about when the Lithophone ^{plant} ~~plant~~ was moved from Chicago to Coffeyville. I don't have a those dates off the top of my head. It had to be early 40s and sometime after, I would guess, right after the end of the war.

PAT: Does that mean it was moved because it was less significant?

FB: Well, I'm not sure why the move was made. You know, they made leaded zinc oxide and Litharge in Chicago. And all this happened before my time, so this is all secondary. So Sol Coolidge and a fellow from Bunker Hill, I think his name was Woody or Harold or Woody or something like that, I guess some technology was developed, and I think a lot of was developed by some George [Wiggdon] or George [Greulich]. I'm not sure if Wiggdon's name was George. But they were involved, and ~~there maybe some loops of data~~

~~around here~~ in lead mining out in New Mexico. I'm trying to think of the name of the mine.

PAT: You don't mean the ~~unclear~~ *Magdalena*.

FB: Yes. And they had been mining that lead. I think they made it. I don't know use where they using it. They were smelting in Coffeyville and then the stuff was flown to Chicago and they were making white lead and Litharge. I'm not sure about all that. But Sol Coolidge and the guy from Bunker Hill worked out a deal to get this waste fumed zinc and lead, zinc from the Bunker Hill Company *Also silver.* ~~Everything else~~ *which* was out in Kellogg, Idaho, where they made lead.

^ ~~we got from /unclear/~~ and the zinc was a waste to them. They didn't know what to do with it, so they fumed it and it contained anywhere from 8% to 20% lead and they, someone, I think it was Pruitt and [Waykel] and some other guys figured out how to calcine ~~calcine~~ this fume with white lead and make leaded zinc oxide products that they used to make but with big fuming ~~thermoses~~ *furnances*. And in fact, they still had one of the fuming ~~thermoses~~ *furnaces* running when I first went to Coffeyville. It took about 50 men to run all the furnaces in the trail, and they actually shoveled the ore and the products into the furnace by hand with a scoop shovel and then fumed it and collected it through these long tunnels right over these bag-houses where they collected the leaded zinc oxide by hand, manually, out of the bags. Guys wore big respirators and they had sponges on. They

wet the sponges to collect the dust so it wouldn't get on their clothes. They had these big push-carts and they'd go in and get about a ton of these bags and push them out and then calcite was put over them. When they worked out this sort of process and Coolidge and Harold or something like that, I'm not sure if his last name was Moody, from Bunker Hill kept this deal, for they learned how to make the change of leaded zinc oxide in a kiln, a rotary kiln. The ^{amount} ~~map~~ they made in one shift of 50 guys on the fuming ^{fumance} ~~unclear~~, they could do with 2 guys. And from a period ^{7 hrs} starting probably in the late 40s or early 50s until sometime in the mid 60s, they must have made a ton of money on this process. They just made a lot of money doing ...

PAT: And that was the pigment?

FB: That was the exterior pigment of the times.

WG: But now, Frank, didn't you say before that titanium dioxide was coming in to replace the leaded zinc oxide.

FB: Right. First replace ^L ~~Lithophone~~ in the interiors. The early products didn't last very well in the exteriors because they had to learn the surface coating issues, and it took a lot of development. This probably took 25 years from the time they started manufacturing titanium dioxide until they got products that worked real well in the exterior.

PAT: But outside was more difficult than interior?

FB: Interior was very easy serviced on the inside. And, some of the paint guys would probably know more about that if you could find someone around to talk to. Like if you could scrape up a Joe [Lanzotti] or somebody.

PAT: Maybe. But your perception is that pretty soon, on the interior, that Lithophone, I mean that ...

FB: Yes, titanium was ... In fact, we were the last domestic producer of Lithophone. Dupont had been in the business. They were about the first ones out of the business. I remember when SCM went out of the business, I was working ^{in Coffeyville} ~~the copper drill~~ then, so that had to be in '58 or '59.

WG: SCM is ...?

FB: Well it used to be Glidden. In fact, a funny story, we packaged Lithophone for SCM so that it filled in their bags. Their salesmen were still out selling it. Their product was down. We weren't doing it. And we would get complaints. Our sales people didn't know this, we would get complaints from our sales people that the SCM material was better than the Sherwin-Williams material and we'd look at it, and we'd discover it was all packaged on the

same day, same lots, and that they were comparing, which kind of ironic. And that's not to say there wasn't something wrong sometimes or legitimate complaints.

PAT: But weren't you saying Lithophone on the interior and an exterior paint as well.

FB: Well, it could be used as an exterior, but it was ultraviolet sensitive and ...

PAT: So mostly it was interior?

FB: I think it's probably used mostly on the interior product. I don't know that. But what happened then, all these transitions, well the company had, this was true of Coffeyville but it was also true of Chicago, the company used to manufacture a lot of their own raw materials. I know that ^{the azo dye business} ~~there really is a /unclear/~~ in Chicago which was eventually sold to Sun in probably the 70s, sometime in the 70s. But we made most of the, a large share of our own ^{raw} ~~room~~ materials. Because in fact, we started to ~~start~~ in Chicago, They started to develop the ^{process} ~~unclear~~ for phthalic, which is one of the other ingredients for alkyd ^e resins, phthalic, and the soya oil and the tall oil. They sold that technology to, I believe to ^{Koppers,} ~~[Copperidge]~~. And that was the plan ^{+ which} ~~when~~ Chicago was eventually converted to IPN, isophalanitrile to supply Diamond that are needed to make dacanyl.

PAT: OK. Right, the ^{azo}~~iso~~-dyes, we're ^{sold}~~told~~ are sold to Sun-Oil?
Sun-Chemical?

FB: Sun-Chemical. Sometime ^{1970s}~~Saturday~~, I believe it was early
^{1970s}~~Saturday~~.

PAT: Now phthalic anhydride, that ...

FB: The company developed that ^{process}~~unclear~~ and built it in Chicago.

PAT: And what was that used for?

FB: It's one of the major ingredients in alkyd ^{resins}. We also
happened to buy it from Cincinnati, ^{when we bought Mammee}~~unclear~~ the chemical. But by
then we had sold it to ~~unclear~~ ^{Loppers}.

PAT: Is it still used in alkyd resins?

FB: Yes. We buy a lot of it.

WG: Why did the company decide to divest itself ^{of its raw}
^{materials}

FB: Well, probably ^{over the years there were a # of reasons,} we ~~overly used it~~ ~~unclear~~ and what happened
was the technology was changing. There's a heavy investment in
chemicals. In capital terms, in the chemical industry, there's a

fixed cap on revenue /unclear/ half-times a year, whereas the cap from the paint ^{business} ~~base~~ is turned five or six times a year. And there's a different mentality. It takes ~~a~~ heavy asset, bigger investments, it's a different business. And as technology changed, the ^{raw materials} ~~remedies~~ ~~made~~ are now obsolete in regard to paint. So what we had to do, instead of using 90% of what we made, we were selling 90% of what we made in the merchant market. We were building our sales force and we were spreading out this way. Where we thought it was vertical integration, it became horizontal integration.

WG: That's interesting. When did this reach a critical mass that people started saying "Well, gee, we're going in the wrong direction here".

FB: Well it probably reached a critical mass before anybody noticed it or said anything. As I look back, I would say sometime in the mid or late 60s it probably had reached the critical mass and we had built a barium carbonate plant in the late 40s. We built a barium hydroxide plant in the late 50s. We built a leaded zinc oxide when we got into the rubber goods when we sold zinc oxide to rubber companies. The first one was built in the late 50s. ^{Added} I ~~had~~ another one in the 60s. And I'm trying to think of some other things. Oh, yes, and then we said "Well, we've got to do something ^{with} ~~about~~ this business". And they decided to replicate part of it in Ashtabula, Ohio in the early 70s. They built a black-ash plant, a barium carbonate plant, a barium hydrate, no not

a barium carbide, a black ash plant, a hydrate, yes, a barium carbonate plant and then found the market was deteriorating. It was getting very competitive for a couple of reasons. One, ~~trans~~ ^{out} touched on water treatment technology in Europe which ... they used to treat water in Europe in barium carbonate. The barium compound ~~was bringing~~ ^{would have} the sulfates down, the chromates down, but then the restrictions got to such that that wasn't good enough so they went to different a form of treatment. All of a sudden, West Germany had all this barium carbonate capacity that they didn't what to do with. And they started dumping barium carbonate into the U.S. at very low prices.

WG: We're talking 19 ...?

FB: 1973, '74. In fact, we went to court with Chemical Products and FMC, who were the other producers of barium carbonate and got a dumping action against the West Germans.

WG: Is that so? Is this the ASF?

FB: No. It was the Callie Company. And at the same time, though, we got this dumping action, the Chinese got into the barium carbonates. And they started bringing the stuff in at even lower prices than the East Germans.

PAT: What were you using barium carbonate for in the United States?

FB: It was primarily in glass and brick ceramic. Because usually in glass, there's a refractive indication. Usually in ceramics and brick, as the sulfite scatters, you've seen brick and brick buildings that have this white scum on the bricks? Well, that's because when they cooked it, the salt leaked out to the surface and you've got calcium and potassium and bicarbonates, that means calcium magnesium carbonates are on the surface. If you put barium carbonate into the mix, it fixes the sulfate and then covers the surface. You'll get good real quick. So that was quite a bit of the business. So FMC couldn't stand it any more. They went out of the business. And it just got worse and worse. Finally, Sherwin went out of the business. I think Chemical Products may still be in the business. It got to be a pretty rough business. We built this plant in Ashtabula to make more and we saw that wasn't going to work, so we converted the plant to ^{shontium for} ~~strengthen the~~ petroleum products. And we actually shut down the barium hydrate plant. We ran it for about 6 to 8 weeks and we never ran it again.

The reason we got ^{shontium} ~~such success in my~~ work is because ^{that was used in} ~~we would use~~ ^{it was a better} ~~we were in~~ ~~unclear~~ television tubes for color TV because ^{blockers} ~~unclear~~ of electron ~~marker~~ and that was very important. But at the same time, another company, I can't remember who, opened up a big ^{shontium} ~~unclear~~ business up in the provinces of Canada. And here we were, we had been the company that invested all this capital.

So Shontium turned out not to be a good

It's fixed, it's pretty rigid. Technology keeps changing. We have to think the light bulb started coming on. ~~I started saying~~
"Well, this is a mistake to be heavy in to the supply side here. I'd stick their millions in coating and ~~buy these unclear~~ and find other ways to get the ways we need and leverage the need ^{costs} across in different ways. And to be in business. So they sold the chemical ^{division} ~~unclear~~ and then once thing went sour. The company started having problems in '75, '74. I don't remember when the sale was. So we sold the titanium oxide plant to SCM. And ~~I'm~~ ^{and} ~~sure that's a real personal relationship.~~ But that's still operating.

PAT: But they didn't buy the whole site?

FB: They bought the whole site. The only thing operating there is ~~protecting~~... titanium dioxide.

WG: OK, so we were back in the sale of raw materials.

FB: Yes, they sold the chemicals business, and we actually had Forbes, New Jersey ...

PAT: Which was?

FB: That was /unclear/. We bought the BHT plant, and that's the anti-oxide, ~~plasticizer in foods~~ and also ~~the plant~~ manufactured tackifiers.

WG: Tackifiers?

FB: That's like this. It's another ~~rosin~~ ^{resin}. It's like this.

Sticky. And the Chicago chemical plants had had for a long time made ~~purified~~ ^{paracresol} oil which was a precursor of BHT. And the ~~idea of~~ ^{that was one reason why} alkali blue. ~~It used to have the Azo dye~~ ^{we got into paracresol}

PAT: Alkali blue is not alkaline blue.

FB: No, ma'am. That's entirely different. Then in Cincinnati, which is the plant that ~~Boston /unclear/~~ ^{Mahmud Chemical owned,} that's where ~~I started to~~ ^{anhydrides, were made,} ~~unclear~~ the triazoles, the ^{saccharine}

WG: OK.

FB: This is kind of interesting. ^{Monsanto was in the saccharin business.} ~~The people who developed~~ ^{carcinogen issue} ~~saccharine, we got into this hassle about the percentage on this~~ ^{I spent a year of my life in Washington on saccharin} ~~year, which is /unclear/ but lobbying in relation to the~~ ^{they have} ~~contractor. One of them was Ken Wilkinson. And he had~~ ^{75 years} of control documented human history, because it was widely used by diabetics and had all this medication. ^{at history} It had absolutely no ~~problems~~ ^{progress}. And then they did these rat tests up in Canada and found

second generation, in certain incidents^{of} second generation cancer, tumors. They ended up with not a ban, but more a ~~warning label~~^{a warning label} in the U.S. And then of course, you had the ~~sweeteners~~^{other} come along at the same time. And that caused a lot of problems. This is another case where the Chinese were third-party. And of course, there was a lot more pressure on us. At the same time ... In this case, the excursion was further horizontal differentiation. You actually, there was a period of time there when the company probably expanded the chemicals because we felt ~~the effects could be a distance from~~^{it would be a good business for} us. And that was essentially turned around with the ~~social~~^{recession of} movement ~~unclear~~⁸⁶⁻⁸⁷. Now there was a national recession in about '82 I guess. But ~~unclear~~^{chemicals} were really in the doldrums. We were over-capacitated. And so it was finally I think in '83 that the chemical division ^{was} sold. Everything except for Coffeyville.

WG: Why is that?

FB: There really wasn't much left there that was operating. The businesses were pretty much shut down, ~~and rather than a /unclear/~~^{they had been lead smelting} since 1986. So the environmental groups were there. It's all contained, all the rainwater is ~~contained~~^{capped} in checks. The groundwater is all contained. All the residue are ~~kept~~^{capped} and contained on 70 acres. The land is there. Who would know ...

WG: So, in your life story, how far have we gotten?

PAT: Up until he went to Coffeyville.

FB: I went to Coffeyville in '57 permanently and left in '61. I ~~went to the~~ ^{quit} ~~[Quickly]~~ ^{the} Company in '65. I came back to Coffeyville in '66. So I came back and at this time things were falling apart. ^{commuted to Ash-tubula,} I came ~~into~~, I never actually built any of those plants, but I started them up and I saw the conversion ^{to Shontum} I started up the hydroplant, did a conversion of the black ice and barium carbonate to ^{Shontum} /unclear/. I started those two plants up. And then came back to Coffeyville and then the last ~~the~~ /unclear/, I think the equipment is all still there. I think we ran ~~for~~ ^{that} quite a while. And then in '73, I went to ^{Chicago} ~~[Kabayaga]~~ into the chemicals lab and worked on that ... developed, worked with the guys who had developed the /unclear/ and developed the steering. Do you want to ask something?

WG: I don't.

^{in the _____'s interest}
GB: It's a pain ~~in the ass~~ to make them black. When you use carbon black, you get a brown print. When you put a blue with it, you get a black print. So they add up to a blue and appears to be the best one when you have a high density black /unclear/ high quality. ^{We were having cost problems. There was a lab in} So we were doing a lot of cutting back. ^{So we decided,} when I became a director of the chemicals lab in Chicago, ~~unclear~~ ¹⁹⁷⁵⁻ ^{To 6d.} like I said, back in '76, a year later decided to consolidate the ^{labs} two ~~layers~~. So I was involved in bringing the ^{To 6d do} material stuff home ^{part of} ^{Maume}

to Chicago and close down the ^{Tale do} ~~unclear~~ and we had two directors there for a while and that did not work. And I told Jim Mack, "Get me out of here". So I went back to Coffeyville in '78. No we're really into the ^{threes} ~~parameters~~ of this, of the financial problems ~~later~~ there.

WG: When you went to back to Coffeyville, what kind of job was it?

FB: I was the ^{site} ~~safe~~ manager. And this was the business ^I ~~room~~ ^{manager}. So they had three of us there. There was a business manager in Chicago. There was a businessman ^{ages} in Cincinnati. And there was some time after the ~~unclear~~ [^]

WG: When you say business, you mean chemicals? The chemicals division. OK.

FB: So, you're looking at the zinc oxide business. The Bunker Hill company ^{got shut down of lead problems.} because it ~~led from~~ ... so we ran out of raw materials. It was a real problem. We really didn't have any of that up here. We got up to the Operation [Bill's Grill] from the ~~unclear~~ . . .

PAT: From the Eagle Pitcher.

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FB: Right, from the Eagle Pitcher, there was an attempt to try to make raw material from secondary zincs for [carbogen] ^{Coffeyville. Didn't} that work. ^{we} So I have yet to be sold that. ^{to a company in} So that the third of New York, and

At the same time, well this is not working too good, so yes, this has maintained 7980 fuel fumes. We've got bayrites that ^{are} used in the drilling mud. And so we made an attempt here to alter the chemical business. And did that. We were getting pretty successful when '81, '82 rolled around and oil prices, we thought

we were going to go to \$50 dollars per barrel, we promptly went down to from \$12 to \$13 a barrel and the whole staff ^{Southwest collapsed.} ^{unclear/} another

attempt to diversity whereas ^{oil} we should have known ⁱⁿ this in 65, but it took us to the 1980s. I was the ^{oil} still in Coffeyville. In late 81, took over the coffin. WG: How did it get into such a shambles?

chemicals business. It was a shambles.

FB: ~~Well, I think it's fair to ask if one has diversified over the years ...~~

[end of Side A, tape 1]

[beginning of Side B, tape 2]

the external brand side of the business was not doing well.
FB: They've probably been struggling for over 30 or 40 years. ^{years.}

I don't know, you could go back. I wasn't dispatched here.

Probably a long time. They had ^{bought} Bob coming back. They had a lot of small ^{brands.} ~~pictures.~~ Martin-Senogr, Acme, Lowe Brothers, Robinson

~~Edwards.~~ And they picked up pieces. And sometimes ~~we~~ were working on ~~entirely~~, I think the automotive pieces were working pretty

well. The Martin-Senior and the Rogers and Acme. That works pretty good. Now from ~~that scene~~, we don't seem to get that. The dealer business, the trade centers *we never seemed able* in the external brands

WG: In the external branch

FB: Yes, in the external branch. And in 1980, they bought Dutch Boy and got the Baltimore plant and the Los Angeles plant and the time that I looked at it, they had just closed down Los Angeles and moved everything to Oakland. And Baltimore couldn't close it down because it's a big part of the business. But it was a disaster. That was a big problem. The plants that were working were ^{Garland Morrow CEP.} Gardner and Marlin and Chicago. They were doing well. I guess ^{Garland 1968)} Dryland was built in 1968, I forget which one was ^{first Morrow.} later. But they're pretty much duplicates of each other except that there's a ^e resin plant in Garland, ^{not in Morrow.} the ~~unclear~~ and those were the newer technologies. ^{old} The ~~newer technologies were newer~~ ^{technologies were Newark} in Oakland. In fact, the Baltimore technology was pretty much like, somewhat like Newark or Oakland except that this one was built on two stories. And then, in the 70s, in '78 or '79, they built CEP.

WG: What does that stand for?

Plant

FB: Chicago Emulsion ~~Point~~. And that was the newest technology around. If you look at the ^{plants,} ~~paintings~~ from ~~/unclear/~~ you see a whole lot of plants that are ^{are of} ~~our to~~ Newark ~~and~~ technology and of

the Garland technology and very few plants that look like the CEP technique. We've seen a few of ^{the newer} ~~limited~~ type technologies. So if ~~if~~ we had these problems in ^{architectural facilities} ~~unclear~~ size, the cylinders were old. There was a lot of capacity in the country. The business was very fragmented. At that point in time, ^{I think} it ~~took~~ ^{70% of the} seven or eight suppliers, manufacturers, they had ~~40/unclear~~ ^{markets}. There ^{in 1984,} were ~~probably between in age 4,000 or 600 or 700 manufacturer/s of~~ ^{coating} architectural cranes. The bottom 500 and some had 40% of the market. So all of those producers were dealing with less than 1/10th of a share point in the main. The sale of paint, 40% was then and for along time before that and is now, through paint stores. And a lot of those are ^{like a} ~~relying through~~ the Sherwin-Williams stores. And Sherwin-Williams is a very unusual one with 2,000 stores today. Whereas probably the average is 2-3 stores or maybe even one in some case. And they maybe making some of their own paint and may have a brand to buy from somebody. One of these small locals. It's a very ^{fragmented} ~~frightening~~ business. ^{No} ~~Very low~~ barrier to ^{entry.} ~~enter into.~~ I believe ~~An~~ indication of low level of technology ^{of} ~~and the~~ ~~everybody~~ making the same thing. I call it the business ~~and the~~ following the followers. It's sort of this crazy circle where you can go out and find some guy at a garage and guess where he got his knowledge. He used to work for the Sherwin-Williams Company, ^{and now he} ~~It's~~ ⁱⁿ ~~an amazing~~ ^{for himself.} business. He's probably making a pretty good ~~business~~ ^{living.} for himself. Everything is the same.

WG: You mentioned the external brands that just never got off the ground. Was that a problem of marketing? Why didn't they get off the ground?

FB: I think it was a marketing problem.

WG: Because they had SW paints already in there and those were given a subtle or not so subtle push or ...?

FB: Well, I think because of the things that happened, the ~~next~~ ^{other} ^{extra} ~~few~~ brands were kind of a hobby, ^{after} The Sherwin-Williams paints. They were kind of a fun thing. They never made any money, so they said "Why should the store brand support this ^{losing brand} ~~unclear~~?" And, good argument. ~~Maybe if we just tried not to do that.~~ ^{we should} Maybe ~~let~~ ^{put} Sherwin-Williams ~~do it~~ all over the country and just sell Sherwin-Williams paint".

PAT: That all changed, though, when we decided to sell Sherwin-Williams products only through our own stores.

FB: Well, no, it didn't change then. Even when I came back we said what we ought to do is just open ^{more} ~~one~~ stores. ~~That was one of the~~ ~~unclear~~. If we had 5,000 or 6,000 stores we could continue to grow over time. ^{this thing} But as we began to look at the market and saw the ^{outlets} ~~unclear~~, we said no, there are other outlets that are going to be successful. Certainly, Sears had been successful, and the

independent paint store guy -- the strong dealers in the rural
locals, ^{es,} and even in some of the cities -- we were never strong in
Manhattan, for example, but ^W we're doing fine. And then here comes
the ^{home centers} wholesalers growing out of the lumber yard and the hardware
stores, and they start growing a business selling a lot of paint.

Glidden was the first one to jump on the bandwagon. They were very
successful with their marketing programs. This argument went on
for a long time. We tried to get ^{Lucite,} ~~unclear~~. We've got to be able
to sell a brand outside, and ^{one group said} ~~unclear~~ we still should keep
Sherwin-Williams outside -- we should take it outside and well it
in all these markets like Glidden is doing. That's when -- as a
result of some of that -- that's when then we finally bought Dutch
Boy. But Dutch Boy was a dealer brand, and not a ^{mass merchant} ~~unclear~~ brand.

~~It's~~ It's well known in the dealer market. So when it tried to go in
the mass merchant market we ^{got into a big hassle with the dealer} ~~had to~~ ^{losing} ~~unclear~~ genius to do some
dealer business, the business went the wrong way, and when I saw
it in '84, the business lost \$12 or \$14 million. ~~unclear~~. So we
just cleaned it all up. We killed one brand. ~~unclear~~ Baltimore.

When we bought Baltimore Paint -- when we bought Dutch Boy we had
to buy Baltimore Paint and Dutch Boy through different people.
Dutch Boy had been National Lead but it got sold. The Harvey
Brothers bought it, and then Baltimore ^Q Paint had gotten a piece of
it from a franchise or the trademark somewhere, so they were
^{making it} banking ~~unclear~~. We bought Dutch Boy from the Harvey Brothers
and we bought Baltimore Paint ^{where it was being made,} ~~unclear~~ which was a separate
business ~~unclear~~ the highway business, the traffic business, and

we had this other contractor brand called [unclear] more than we
can manage. ^{So we had} ~~[unclear]~~ Dutch Boy, and Baltimore, so we ^{we can't put in MS,} ~~shot down~~
Baltimore which may have been a mistake, but at the time it seemed
-- well, anyway, we did then get to the point a year and a half,
two years later, where we [unclear] [^] were breaking even. Just
through cost cutting,

WG: ~~External brands?~~

FB: ~~[unclear]~~ . . . Just cleaned it up, the same thing had been
done with the chemical business . . .

WG: We're talking what year, roughly?

FB: Around '84 it got started, so it's '85, '86. And then we
started to develop the multi-brand strategy which had been
developed but didn't have the right cost structure [unclear] which
says that there are multiple segments out there, market segments,
that you have to sell to and the ^{brand strategy says} ~~branch managers said~~ that you need
one brand identity in the segments or two different product line - ps

in the segment ^{the discount} ~~[unclear]~~ For example, this ~~[unclear]~~ segment had a very short
line in many of the stores ^{didn't} [unclear] tint, ^{only packaged colors,} ~~whereas a paint store~~
needed a big broad line for contractors and retailers, do it
yourselves. And the home center, which had more service, had
something in between that. A lot of brand identity ⁺ and some had
been tinting and sort of point of sale merchandising, ~~[unclear]~~
different product lines. So and then ^{Martin-Senay} [unclear] was kept strictly

as a dealer brand, just like Dutch Boy had been and I think all those others probably ^{Lowe Bros} [unclear] and Acme and so on, ^{may} [unclear] We began marketing, ^{My} and it looks like this is beginning to work. At the same time, it began to become apparent that even ^{with} the 5,000 Sherwin Williams stores we couldn't get the kind of market share we wanted, so we had to ^{get} ~~give~~ into these other segments and got to the point where the brands, ^{external brands} [unclear] would no longer look at ^{ed as} ~~as~~ [unclear] but as a viable part of the ^{coatings} ~~paints~~ business. That's about where we are today.

^{Pat:}
7: Except for Desoto. How is that fitting in?

FB: Well, as we looked at the capture of the business, and this is a personal issue, I say that two companies that we need to, it would be nice to have, one would ^{was De Soto} ~~be [unclear]~~ and the other

^{United Coatings} [unclear]. Desoto had a big hunk of business through Sears and I think Sears will turn out to be a very viable outlet, ^{as soon as they} [unclear] ^{straight} ^{out} ^{the} problems they created over the last ten years. And United Coating ^{supplies} ~~Supply~~ is probably forty percent of the ^{private label} [unclear] business out there ^{that's not attached to Sears & K-Mart} ~~[unclear]~~ and has some big ^{accounts} [unclear]. Well, as we focused that way we've been successful, obviously, to get -- it took us three and a half years but we got the Sears business. I can remember ^{King} ~~Scott Deane~~ and I riding down in the elevators in the Sears Tower the first time ^{them} ~~[unclear]~~ because they wanted a deal and we wouldn't sell. I said to Scott, "I wonder how many people have ^{they wouldn't sell to them} told Sears ~~[unclear]~~." That was about two years ago.

PAT:

?: You wouldn't sell -- ?

FB: Well, what we did, they were opening these paint and hardware stores and they wanted a contractor ^{brand} to ~~bring in~~, and we said,

"Okay, we'll ^{layout a contractor brand} [unclear] but the deal is that you've got to take

Dutch Boy into the Mall Store
[unclear] as well [unclear]."

They said, "Fine, set up the meeting." And we went in and did the presentation and when we got

through the contractor portion they said that's all they wanted to hear. So we said, "Well, I guess that's the end of the day!" and

left. Of course, they called back and ^{conversations went on & we} [unclear] find out what it ^{we} *final*

wanted!
was.

But that's part of the discipline of the strategy, in the segmentation, in the brands, this has got to go that way.

Otherwise,
[unclear]

'we're not [unclear] we're not going . . . the supplier, this isn't going to work.

WG: Right. Now, Frank, your exact title now is?

FB: President and General Manager of the Consumer Division.

PAT:

?: You have an interesting division because you were both the manufacturing and the marketing.

FB: Yes, except for the Sherwin Williams.

? : Except for the Sherwin Williams ^{brand} [unclear], but you manufacture for Sherwin Williams as well.

FB: Right, and sell for them.

? : Right. It's a very interesting setup.

FB: Yes, it is. It's a very interesting job. I told Jack that maybe you've finally given me a good job. Some of those others weren't ^{--that Chemical--} [unclear] was pretty exciting.

WG: We've got a question. We don't know if you're the right person to ask, but maybe you can lead us to the answer. I'm trying to get a fix of what the different parts of the business are relative to each other, so if you were going to like look at architectural coatings or you were going to look at things like -

FB: Size-wise, you mean?

WG: Yes, automotive or industrial, you know, whatever, paints or something --

FB: [unclear]

WG: Because we don't have a feel for the relative size of each part and their contribution to the whole and what perhaps are the areas of the company that are driving other parts at different times, or if there's any one that goes up and one goes down, or something.

FB: Well, I think if you look at market size ~~[unclear]~~. *You'd have to look... Lydia's got that data.*

WG: Alright, fine.

FB: The only business that really you can say we're really dominant in is the architectural, and the company doesn't publish the share ^{number} ~~[unclear]~~ don't want to, but the automotive business ^{were} ~~were~~ only in the aftermarket.

WG: That's right.

FB: So the after market's got to be smaller.

WG: Right, than the original.

FB: Than the original because ~~it's~~ not every car gets repainted. I doubt if any car gets repainted twice. You get your fender repainted once in awhile. So we've probably got, I'd guess, from thirty to thirty percent of the aftermarket. Maybe it's higher than that, but ~~it's~~ ~~[unclear]~~ because of the distribution that

the really lock hold is

we have. The chemical coatings ^{business} [unclear] through stores we ^{have} had a fair share in that.

?: A small ^{share} [word-unclear].

FB: A small share, very small share, not anywhere near dominance in that business. The industrial maintenance business, which we - was consumer also, that sells exclusively through stores, we are very close or are the largest supplier of industrial maintenance coating in the U.S. That has happened in the last five years.

WG: No kidding. Why is that?

FB: We were fifth or sixth until five or six years ago, [unclear] With the strategy we put together, ^{we put} [unclear] three pretty capable guys in the corporation and ~~thought of~~ and worked, [unclear] Names given:

?: And what happened? What's the strategy?

FB: Well, the strategy, ^{engineers,} they isolated the industrial maintenance market ^{they got} [unclear] in the medium and low end, ^{in a figured out what} [unclear] the marketing end ^{pushed} and with the distribution that we had, we ^{they} [unclear] ^{So that there was a channel to that} ^{dot it. It just happened} ^{work going on to} ^{just} They're sort of on a stymie right now, [unclear] trying to figure out how to push that into the high end and shove this a little further. But that was a remarkable effort. The architectural thing [unclear].

^{was, grew over a longer time frame.}

WG: Right.

we've
FB: And ~~it's~~ always been pretty much [unclear] got pretty close to us until recently, of course, with Desoto [unclear] that up, but we were far and away the largest [unclear] architectural. *the leader. Glidden*
but the acquisition banford
marketer of a Coatings.
One of the things that's been inherent in the Consumer Division strategy is focus. Our effort is to focus on architectural coatings. We're not looking away from industrial maintenance, but the corporate winner *coatings* has stated and Jack stated ~~this example~~, 25 percent share of the total business and that meant that thirty percent share of the architectural business. [unclear] and ~~he~~ said that to the analysts.

?: That this was going to happen?

our goal
FB: That that's [unclear]. And inherent in the Consumer Division strategy is a focus on architectural *coatings* [unclear]. We have spun out of there transportation, we've spun *Spray-on* and specialty products out of there, we spun the applicator business out of there, and in 1984 our profit was eight or nine million dollars with all that in there. *with all that out of there*
In 1990 our profit was a quarter of a million dollars *one focus.*
[unclear], just looking at the [unclear] Still in there is the highway, traffic thing, industrial maintenance, adhesives, and those things have to find homes eventually. *Adhesives:*
We do caulks and household type caulks. It's not really a true adhesive.

?: [unclear]

FB: We moved it to Baltimore; it's in Baltimore. In fact, we picked up some more when we got Desoto. We got a little bit more business. So we would like to spin that out here. It's going to take an acquisition of some kind in order to make that work. In fact, if we'd have got ~~other~~ ^{if chemical coatings had} deal, we would have spun highway ^{it, that didn't} out and made a separate business out of [unclear] ^{work got, keep} looking and something ^{we'll n} [will come our way]. The other thing that's ^{So then this deal,} missing in our business is we do not have a good stain brand.

WG: What do you mean?

FB: Stains. We have some good products but Sherwin Williams is paint. Dutch Boy is paint. And it doesn't sell like Olympic and Thompson, and so you need a brand. That's missing. ^{The track is...} [unclear].

WG: Oh, yes. Now, looking back over your years with the company, you mentioned the importance of the changeover from ^{Lithopone &} [unclear] Litharge to ditanium dioxide and discuss the fact that it was more efficient and there was a growing concern about lead in pigment. Then we talked in terms of another kind of major shift, which was the move on the part of the company to divest itself of many raw materials [unclear] develop them. What are some of the other, if you're looking back, big things that you would say changed the way

the company was doing business or whether it was an R&D process or whether it was a decision to divest a lot of materials? What would you say, looking back, were turning points for you where the company made a choice to do one thing as opposed to another? I mean, I mentioned two because we've gone over those, but things like that.

FB: Well, probably one of the biggest is when we took Sherwin-Williams brand out of the market, [unclear]. That was a tough thing to do, [unclear].

?: [unclear] the brands . . .

FB: I think the realization that we needed to revitalize the "Cover the Earth" logo and I think the attempt to change the logo was . . . Now I know when it happened, ^{there was} [unclear] fear of Communism and environmental issues and the red and you can see what P&G did and how they protected their logo against those things.

WG: What did they do? I haven't seen that. What is it?

FB: Well, ~~[unclear]~~ they have the problem of this evil, the devil symbol. The P&G logo is related to the devil symbol and they fought that and kept it. Then ^{well} while I think the choice in '79 ^{before Jack was} [unclear] ^{ICS} Green get back to the bases and saying that you have enough money in these businesses.

to make

WG: What had led the company to a different mentality? Was it because it had done so many things right for so long? Was it that the rest of the American business was just generally doing well and then hit the skids? What was it about the company that brought it to the pass that it found itself?

FB: I think it was a lot of complacency. There had been some good things done in the past and you could look back and see some entrepreneurial spirit. I could see that back in the fifties and sixties, but I'll tell ^{you} ~~ya~~, when I left Coffeyville in '61, ^{Sol Coolidge ran the} ~~[unclear] business~~, ^{an} ~~[unclear]~~. We had ~~[unclear]~~ administrator and a technical guy on the staff and a secretary, ^{Coolidge ran "auxiliary"} ~~[unclear]~~ that was the staff, ^{He came} ~~[unclear]~~ came to Coffeyville twice a year and we had sort of a board room meeting where we told him what we would do and  got some direction and we came out of that pretty fired up and went to get things done. I was participating in those meetings in '61 when I left, but when I came back in '66, I had been there just a month or so and we had one of these meetings, and it was like I'd never left. They still had the same topics. If I had kept good notes, I think I could have just --

WG: Substituted them!

FB: Photocopied them if we'd had photocopiers then. I can remember trying to buy a calculator for the lab down there when ~~[unclear]~~

Monroe

had just come out with these programmable calculators, and I think the price I had on this thing was like \$2,000 ^{dollars.} [unclear] you program

in 128 steps and you can save the lab technicians a lot of time

when you program, ^{plus your data in, do your calculations.} [unclear] whereas they were using the old

^{things where} [unclear] you had to roll the carriage. Do you remember seeing

those? ^{you did division & they'd} [unclear] and crank all this stuff out, each step

^{you had to punch in.} [unclear]. So in order to buy one of those you had to get approval

from purchasing in Cleveland. So I ^{got all this stuff together & sent it in} [unclear] and I got this very

sarcastic letter back saying we couldn't buy one of these for

\$2,000. It said, "If we could, we'd like to have six of them."

Well, I already had the price; I could get them six in a minute.

The company was very centralistic and had gotten complacent and

bureaucratic. If you came to Cleveland you wore a dark suit and

a dark tie and kind of walked in the quiet halls. I don't think

^{the power to} [unclear] could see out of the door. ^{it's hard to.} [unclear] If you're not

careful, ^{it's hard to.} you began to think you're invincible and nothing can go

wrong. Then by trying to do some other things and other people

coming in and wanting to try to make some things happen, money gets

spent and things don't happen and then there's this degrading and

I think it had really gotten to that level. When I came back to

the company in '66, that was the 100th birthday of the company. I

remember the article in Business Week talking about "crusty old

Sherwin Williams." It might be interesting to look that up. It

had to be in July or August of '66. It was pretty typical. They'd

always say, "Sherwin Williams better get their act together

^{powerful}
[unclear]." But they never got their act together. If you don't go up, you go down.

?: But we did have that period of buying a whole lot of things like ^{Maumee} [unclear] and Osborn.

FB: You see, but in my mind that wasn't the mind of the company. That was the mind of a few strong people working in a complacent bureaucracy. That can happen. Even if they were good deals, they didn't get supported, and they might have been just fine but it wasn't part of a strategy. The mentality, the strategic mentality was "we're just fine like we are." And yet things were crumbling. The can business was crumbling.

?: The can business was crumbling?

FB: It was not making money and they couldn't sell outside because the prices were too high.

?: Because our plant was too obsolete?

FB: We weren't efficient, yes. In fact, it's just now getting fixed after how many years? Their biggest supplier, it took a lot of work to get them right.

WG: You sold it to someone and they supply it all to you back?
That's interesting.

FB: And now we're better off.

WG: That's interesting. Looking back on the technical side, being in the chemical side for so long, other than this change to titanium dioxide, were there other innovations in the chemical side that contributed either to creating new products or some substantial changes in the business or industry that you can think of in this time?

FB: I think that's an interesting thing about this business. I've said this to my guys, to my people, that in my mind there's only, there were two innovations in the whole industry that made any impact, that made much impact in the last four years, and that was latex and high-speed dispersion. The ^{TiO2} ~~TR-2~~ was simply a replacement. But latex changed the industry.

WG: Will you talk to us about that?

FB: Well, latex allowed you to go to totally new technology, a totally different pricing structure. Acrylic latex exterior paint is way better than anything they ever made before from a durability point of view, and used appropriately and when made right, used appropriately, is way better. In addition to that, the ability to

make paint from latex changed the process and it's much easier to make the paint. It's not flammable. An oil-based plant costs you two or three dollars a gallon to do a capacity. Latex is 75 cents to ^{build}~~go~~ to capacity.

WG: And latex we're talking 1950s?

FB: Yes. It began to come in late forties. It was starting to [unclear], whenever that -- but acrylics, I'm not sure when acrylics came along, but it had to be fifties sometime, and they've just now began to get really good.

WG: Who pioneered putting latex in paints?

FB: ~~Roman Hoss.~~ *Bohm & Haas*

WG: Roman Hoss? The Germans.

FB: That's an American company.

WG: It is?

PAT: It's an American company, but ^{*styrene butadiene*} [unclear] you don't consider latex? [^]

FB: Oh, yes.

?: So then that was Dow.

FB: Dow and Sherwin Williams, in my mind, if you go back and look at the history, ^{for styrene butadiene Rohm & Haas} [unclear] but it was Roman ~~Hoss~~ who came with the acrylic technology that really cranked the industry around, and they're still very powerful, to some extent our biggest competitor but also our biggest supplier. They really changed the industry. You know, I think latex. Then the other one was high speed dispersion which followed from latex. ^{Weld always made} [unclear] paint in ^{mills} [unclear] and sand mills and take days to make a batch of paint, where now you can make a batch of paint in four hours with high-speed dispersion, which is simply a food blender.

WG: Because you have these different materials now?

FB: Right, the different materials and because of that we can slurry all these things up rapidly and make latex paint just like that. It gives us the capacity. That's what drove the cost of the capacity down.

WG: Well, why wouldn't this new innovation mean that all paint plants are obsolete except for the ones that --

FB: They are very obsolete, but the new technologies haven't been optimized yet into -- so we built the plant, the ⁷CEP in '78 and

then we built a plant in Baltimore, the Baltimore plant, in '86 that we called ~~FMS~~^{FMS}, flexible manufacturing, which is the first try at really streamlining the process. The development of that is still going on. The next plant will be another generation.

WG: So actually what you're saying is that the paint business is undergoing -- would you call it like a revolutionary thing *or* *evolutionary?*

FB: Well, it's almost revolutionary but we're not fast enough, I guess, to call it a revolution, but if you look at the changes that were made in the past compared with what could happen in the next ten years, you probably could say a revolution.

WG: That's interesting.

PAT
7 *5*
19 *9* *5*
: High-speed diversion would have come at about *9* *5* what time?

FB: In the sixties.

?: In the sixties, too?

FB: *BM* [unclear] Those are the only two advancements in the industry in 45 years. What are you going to do? And you didn't invent them. Well, maybe one. I give you half-credit for one of them.

WG: What you're suggesting is it's an industry that doesn't depend so much on technological innovation, has not.

FB: So-called "low tech," low tech paint. Well, it doesn't have to be.

WG: Right, right. That's what we're --

FB: That's all in the mind of the industry. In fact, that's the "follow the followers" ^{I was talking about,} [unclear]. There's no barrier to entry. Anybody can go buy a ^{pot & a paddle & a} [word-unclear] high speed disperser and buy the ^{formulas} [unclear] and get the formulas from ^{Rohm & Haas} Roman Hess and make paint.

WG: Right, but nobody's sitting up in the lab trying to figure out, well, gee.

FB: Well, we've got someone sitting there --

WG: No, I know at Sherwin Williams is what you're saying, but I mean, that's not what the guy in the garage can do.

FB: Right. I said we're going to spend twelve or fifteen million dollars a year on R&D, let's spend it on R&D. Let's quit maintaining what we've got here, following the followers, and let's change it. Now, that's a hard transition in this culture. You go back to Sherwin Williams and you ask what was the problem with

Sherwin Williams in 1975? Well, that was the problem, but it was a management mentality then. Now it's kind of broken through but it hasn't broken through all this technological ~~[unclear]~~ ^{mentality} yet.

WG: That's interesting. So then let's just say technology, innovations in technology weren't causing the breakthrough. Was it a marketing-driven company in that way? I mean, why would people continue -- there were new products always coming out. Were those derivatives of things that people had made already or --

FB: Well, the company was probably comfortable in what they were doing and they tend to be followers and not get into trouble, the way IBM was a follower. But in my mind the strength of the company in the time frame was the sixties and seventies was in their distribution, the ability to get product out ^{to customers,} have a store out there, have our own warehouses, we had our own trucks. The strength, ^{-- HS} ~~once [unclear]~~ what keeps the automotive division strong is nobody can break into that after-market because we own the distribution. That will keep you in the business, will keep you going but it doesn't give you product differentiation and doesn't give you good margins. It makes it hard for other people to -- you can start up a paint plant in your garage but you can only sell within about twenty miles.

WG: Right. I understand.

FB: Once they try to break out of that mold, ^{few} [unclear] been able to do it. Even Ben Moore is not a national company. ^{Tyatt & Lambert} [unclear] was not a national company.

WG: So are you saying that the distribution which historically was a great strength of Sherwin Williams is something that ^{the} company in its new thinking about how it's going to operate will relinquish or add to?

FB: Add to. Distribution is critical.

WG: Okay, within more technological, R&D, more --

FB: We would say that what we owe the customer is a good product that works better than anybody else and gives them the finished job that they want every time.

WG: The quality.

FB: The product is available to buy conveniently. It's there at a good value and the customer is aware of it. The brand has been communicated to the customer with those qualities so when a customer says, thinks paint, all those things can happen for him. You've got to get close to the customer. So the distribution is critical, but you've got to have a brand, you've got to enhance the brands, and ~~you~~ we have to ^{we haven't done yet,} [unclear] is differentiate the product.

WG: How is Sherwin Williams going to address, though, what you think might be a revolution in making paint, and how is the industry addressing it? I mean, making the plants, if you're right and it's going to change the way paint is made and the business is run, why wouldn't it be something that everyone's kind of addressing in a direct way or that maybe they or maybe they're not?

FB: Well, we spend more of R&D money on the business than anyone else on architectural coatings, ^{probably in the world, but at least} ~~in the world~~ in this country and over half the market spends no money on R&D, zero. They just, they've got enough to run the plant and cover their service problems. In fact, probably most of the so-called R&D money spent in the industry is done on maintenance. That was true of Sherwin Williams, and I would say today seventy percent of what we spend is done on maintenance. We moved that from 99 percent to seventy percent, ^{started} ~~tried~~ to do research. None was done.

WG: I see.

?: But the revolution is going to be in the way it is manufactured and not in the products themselves.

FB: Both.

?: In both? What do you see coming up in different paint products? Anything?

FB: Well, I have some visions of things. When you go in to buy paint, you find what you want and it's usually a custom color so you've got to have it mixed and you got to go back, you've got to find a clerk, you've got to get the color guy to open the can, put the color in, put it on the shaker, then they've got to check it maybe if it's right. All of that takes a fair amount of time. In fact, if you were to ask an assistant manager or a store manager running the store, ^{they tell you} if they spend a long time on it just matching colors ^{making paint.} [unclear] Well, technologically we're pretty close to having the capability of doing that automatically, maybe even to the point of having the customer do it himself so it's self-serve.

?: You mean through computers and things?

FB: Yes --

END OF TAPE SIDE 2

BEGINNING OF TAPE SIDE 3

FB: Computerized color matcher and a computerized tinting system, [unclear] ~~and~~ that would be an example of the things that you could do with the product technologically. You're going to have to have a better color system. You're going to have to have better ways

of measuring color and better ways of characterizing [unclear] and the tint bases in order to be accurate ~~Wally~~ . . . so that you always know it's the same. Well, technologically that's a process control issue that needs to be developed, the characterization of the product and materials development product. The industry said, "Well, that's as good as we can do" ~~Wally~~, "That's it. We've got it. We've come as far as we can come." Well, we all know that's not true. So that would be an example of a product [unclear]. We have some other products. We're testing a product now -- it's actually ² ~~in~~ stain -- that if you look at the stain business, you stain your house, you really have to do it every two or three years. That's about the longevity of it, of a good stain. And even then, ^{I looked} [unclear] down the street from me in Colorado [unclear] one guy stained his house last summer and already it's [unclear] summer before [unclear] it's already all blotched up and different colors, [unclear] ^A and we're testing a product today that we'll probably commercialize next year that would give you uniform product, at least a three-year durability, look good at the end of three years, you could maintain that three year, the original wood luster --

?: A transparent stain?

FB: Semi-transparent stain, where the current ones, every time you re-stain you get a little darker in order to cover up the differences in color, and ^{always} ~~by~~ the third time you're up to a solid

color stain. We're working on this product which we think we can keep semi-transparent stain on your house or your building forever and it will look just like it did when you built it. There's lots of room ^{here for improvement.} [unclear]. You paint your house. Can you say that in five years it looks as good as the day they finished the job? It doesn't last five years. They have all these claims out there — ~~ten~~ ten or twelve years, fifteen years, lifetime. It's crazy. It lasts three or four years and then it doesn't look so good. Well, the capability is there to make it look good. You paint your house it costs you \$2,000, \$300 ^{of that's for} ~~for extra~~ paint. Well, I think you could do it for \$500 on a \$200 ~~job~~ ² you could get someone [unclear]. When you paint your house and it peels off and you go complain to the painters or the manufacturer they'll say, "Well, you didn't prep it right." Well, how about a paint that you don't have to worry about prepping it? It sticks good ^{enough} [unclear] with whatever you put it ^{over} ~~on~~ and it stays up.

WG: Well, those are all interesting ideas.

FB: And I don't think too far-fetched.

WG: No, no. They're improvements on the current situation.

FB: Yes, and they're pretty, you know, they're things I think that the industry, the user would like to see. You go back and say, well, what was wrong with the company when ^{we were sitting in the} [unclear] ^{hall} ~~halls~~ a long

hallways

way from the customer thinking we were invincible. Well, all we've got to do is turn that around. We've got to get bright people out next to the customer and see what they really want in products and build ^{those} products, and ^W what they really want in service ^{5 + give them the} [unclear], so ^{service} there's a lot of organizational change here that has to happen and then if we have the research and development to back that up, we can do that.

WG: So the difference between now and then is that it sounds like you're suggesting that in the older period people were just sort of perfecting what they had already. Is that a fair characterization, or no?

FB: Also we knew more about paint than the customer did.

WG: Oh, okay, so where you weren't learning from the customer, you were telling the customer.

FB: Right, this is what you do and this is how you do it, and if you did it wrong, that's your problem, whereas I think that ^{the} when ^{has} ^{there was a tendency} ^{then} ^{for} ^{mentality of} ^{to} ^{unclear} the consumer today ^{it's} changed, too. ^{unclear} the consumers to look to them to tell them. The consumer [unclear] something different.

WG: Now, if you were writing a history, is there anything that you feel I haven't covered that you feel like it's important to get out

as part of the story? Have I missed things or is there something from your perspective you'd like to tell us about?

FB: I don't know.

WG: If you were writing the history, how would you --

FB: *How in the world are* ~~you~~ *you* going to write this history. I was never a very good history student.

WG: Well, that's okay. I'm just -- I don't mean to put pressure on you. Actually, if you think of things ~~[unclear]~~ *later.*

FB: I don't know.

WG: Well, I think you've given us some good turning points and some important milestones in terms of technological and that kind of thing.

PAT: Somebody suggested that one of the reasons they went out and bought some of these companies in the sixties was that we were cash-heavy and ~~they~~ *we* needed some debt, and that there was a takeover threat. You have no idea about all of this? From your point of view, the reason why we bought ~~[word unclear]~~ *Maumee* was simply because the chemicals division felt that it was a way of expanding and utilizing things they already had?

Yes.
FB: [unclear] the reason we bought the titanium plant was we
bought [unclear] so people who wanted to expand [unclear]. George
Shlaudecker and ~~Bob~~ Baldwin and a couple other people. They were
proponents of the chemical. They came from Dupont.

business.

?: So it was their impetus that was pushing along the expansion,
the horizontal expansion of the chemicals division?

FB: Yes, I think, and we got into the [unclear] business,
[unclear] remember?

WG: They must have been extraordinarily influential to --

FB: See, that's [unclear] part of that complacency, and here's
some aggressive people.

WG: Interesting, very interesting. So it's this infusion of new
blood from ~~Memmy~~ ^{Maumee} that kind of really pressed for these changes?

FB: Yes, and who's to say if that's good or bad.

WG: No, it's but important.

FB: We went through that period and it didn't all work but out of that came a stronger company later on. Sometimes it takes a bomb

[unclear] ^{that!}. My personnel guy hates [unclear].

or grenade
to cause
thing to
change.

WG: I bet he does! He just sees the bodies laying around.

FB: I think I'll just roll a grenade out on the table and see who salutes when it goes off.

WG: Oh, gosh! One last thing we need to ask you is whether you have any pictures from your tenure at Sherwin Williams going back, stuff, say about picnics or people at work in the various plants or like action pictures.

?: Yes, not portraits of people or anything.

WG: That people do and stuff, that if you were looking at it you get a feel for, "Oh, yes, this is what it was like in the sixties," or "this is what people did when they were having fun with other people at the office," or customers using products or . . .

FB: I doubt if I do. I didn't take many pictures.

WG: Anything off any materials or I don't know if people circulated things. Whatever you can -- just take a look. Because we're trying to get away from those head shots that don't give you

any feel for what people were like or what the business was like, and we're just trying to get a real strong sense of that through old pictures.

?: Sort of like are there any pictures of manufacture of Azo dyes or -- I've got those very old ones that I showed you and went through with you at the Lithophone thing.

WG: Oh, we have Lithophone.

FB: Well, there might be some pictures around but I don't know where they are.

?: I have to ask you about two things, too. *phthalocyanine blue* ~~[unclear]~~ glue, we made that in Chicago. ¹

FB: Did we?

?: Yes. Okay, obviously then you don't know what happened to it.

Phthalo *alkali blue*
FB: No. ~~[unclear]~~ glue is a higher quality pigment than ~~[unclear]~~.
More expensive, *works a lot better.* ~~[unclear]~~.

?: Yes, and *phthalo?* glue was used in paints as well.

alkali blue in
FB: Yes, probably. You couldn't use ~~[unclear]~~ paints, ~~[unclear]~~. ¹

It was unstable.

?: Do you know anything? I'm looking for when we stopped making insecticides and herbicides. Do you have any idea?

FB: Well, we have some data, some drawings and stuff about that out in Oakland.

?: Someone down in Oakland asked me.

FB: Dave Gustavson's got some of the old drawings of the plant.

?: Drawings of the plant? Which would show what manufacturing was going on where and stuff?

it shows
FB: Yes, ~~and serve~~ some locations. I don't know, they should have dates on them so it will ~~serve~~ *show* something out of ~~them~~ *that*. Then we had the plant in ~~[Bownbrook?]~~ *Bound brook*.

?: Right, ~~[unclear]~~ *I know when we sold that.*

FB: That's where they made a lot of the arsenic products, ~~the~~ *once for* ~~[unclear]~~. I went out there four or five months, ~~[unclear]~~. That had to be like '67 or '68. ~~[unclear]~~.

?: I know when we sold it.

FB: Who was the plant manager? [unclear] What else did we make in '67? Did we make them in Chicago?

?: Oakland.

Bound brook
FB: We made them in Oakland and in ~~Dumbrook~~, but did we make them in Chicago?

Bound Brook
?: Once long ago but it all got -- and we made it in Cleveland once, too, but a long, long time ago. I mean, we're talking beginning of the ~~twentieth~~ century. So probably after we sold ~~Dumbrook~~, if Oakland wasn't making it we were out of it.

FB: Yes, I would say so. I don't think we made anything -- we didn't make anything in Coffeyville.

WG: Well, thank you very much. It's been very helpful. We've learned a lot.

FB: Are you sure?!

WG: Oh, positive. We've learned an enormous amount. Thank you.

INTERVIEW WITH
FRANK BUTLER
PRESIDENT AND GENERAL MANAGER, CONSUMER DIVISION
SHERWIN-WILLIAMS COMPANY
CLEVELAND, OHIO

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WG: As?

FB: A process engineer. I was a process engineer working on various forms of the plants, the plant operations. They made zinc oxide, both leaded zinc oxide and de-leaded zinc oxide. And they manufactured black ash ~~which is~~ from baryte, which is barium sulfide and they also manufactured zinc sulfate from ~~the clear zinc oxide or the bottles or raw materials for the zinc oxide business~~ and zinc sulfate and barium sulfide were ~~used to~~ combined ^{to} and manufacture Lithopone, ~~which was~~ a white pigment for paint in the early days for interior paints where they didn't use the leaded zinc oxide. And then from the barium, they also made barium carbonate, which is an industrial chemical used in various forms of glass. It's used in television tubes. ~~These~~ glass beads are used for reflectors on the highways and expressways and ^{other roads & signs} ~~stuff~~. The barium carbonate changes the refractive index so that you get a better light reflection. The company had gotten into those, well, de-leaded zinc oxide and the barium carbonat^eing because the Lithopone business and the leaded zinc oxide business was declining because of the technological change in paint.

WG: What was that change?

FB: Well, titanium dioxide had come along and was a more efficient white hiding pigment than Lithopone. And then there was concern about the leaded pigments, even in exterior paints.

~~there~~ we didn't use leaded pigments, I don't think the company did anywhere, in interior paints. The old standby paint in the old days was linseed oil and leaded zinc oxide, an excellent exterior paint because it had good weathering properties and good mildew-cide properties and that was the work horse of the industry. As they went away from leaded zinc oxide they had to switch over to alkyds because the other ^{pigments} ~~paints~~ didn't work very good with linseed oil and alkyds gave a better film.

WG: What's an alkyd?

FB: It's a resin, like from soya oil or tall oil.

PAT: So it's a synthetic resin?

FB: It's a synthetic resin. We manufacture those resins and have for years in Chicago. And they're also manufactured in Richmond, for the automotive business ...

PAT: Today?

FB: Today. And we also manufacture them in Garland and Baltimore for house paints and for traffic paint.

WG: Now soya and tall oil have been around ...

FB: Yes, those oils have been around a long time. I don't know the origin of when they started making alkyds and resins, it probably goes back some time. But you can see the transition with the technology as these things come along. Alkyds were better than linseed oil. Titanium dioxide was better than the Lithopone and better, from a hiding point of view, than leaded zinc oxide. But it gave you some new problems. For example, titanium was a very abrasive pigment as far as to use and the fact that it erodes quickly, wears very quickly.

PAT: Oh, as far as manufacture.

FB: Right, and also, you have the surface reactive issues. They finally began to work out the surface coatings on titanium dioxide and you got better products. And so, while titanium dioxide has been around since the 30s, it didn't grow in prominence until the late 40s or early 50s. That's when these changes started to take place.

PAT: Explain to me again what changes were ... How did TiO₂ change?

FB: Well, they changed the coatings technology. They were using-- We found ways to use titanium dioxide more effectively in coatings, so it began to replace things like Lithopone and leaded zinc oxide and at the same time, you had these other resins

coming along, alkyd resins. Linseed oil was fading away. Alkyds had come up during that time frame, and then, sometime in the late 40s, and there's a book on this that you can get from Dow.

PAT: I have that book. The Latex book.

FB: The styrene butadiene story with Sherwin-Williams and Dow were principals in working out that application in coatings in the Latex paints. Latex emulsion paints began to come into the forefront. Those dates I'm sure will be in that book.

PAT: Was there a problem with the titanium dioxide pigment with the styrene butadiene or is it better?

FB: No, I don't think so.

PAT: It doesn't make any difference with those alkyds?

FB: No, the latex coatings were less expensive because they used water as the vehicle instead of solvent or oil. And, also, they're less detrimental to the environment. So over a period of 40-some years, they've grown, more and more of it water-based products. And actually, styrene butadiene is no longer used in Latex paints because there's clearly some vinyl acrylics that work better. And while I agree with Dow that they really got started in this industry, they're no longer really in the

coatings business. They're in the Latex side of the business. They stuck with the styrene butadiene, which has application in other industries. But what happened in Coffeyville as a result of these changes, is they were, in the early days, it is my understanding that if you go back into the farther back into the 40s, there should be some record about when the Lithopone plant was moved from Chicago to Coffeyville. I don't have a those dates off the top of my head. It had to be early 40s and sometime after, I would guess, right after the end of the war.

PAT: Does that mean it was moved because it was less significant?

FB: Well, I'm not sure why the move was made. You know, they made leaded zinc oxide and Litharge in Chicago. And all this happened before my time, so this is all ^{second hand} ~~secondary~~. So Sol Coolidge and a fellow from Bunker Hill, I think his name was ^{Harold Lee (2)} ~~Woody~~ or Harold or ~~Woody~~ or something like that, I guess some technology was developed, and I think a lot of was developed by some George [Wiggdon] or George ^{Ruitt} ~~[Grawich]~~. I'm not sure if Wiggdon's name was George. But they were involved, in lead mining out in New Mexico. I'm trying to think of the name of the mine.

PAT: You don't mean the Magdalena.

FB: Yes. And they had been mining that lead. I think they made it. I don't know use where they using it. They were smelting in Coffeyville and then the stuff was flown to Chicago and they were making white lead and Litharge. I'm not sure about all that. But Sol Coolidge and the guy from Bunker Hill worked out a deal to get this waste fumed zinc and lead, zinc from the Bunker Hill Company which was out in Kellogg, Idaho, where they made lead. Also silver. The zinc was a waste to them. They didn't know what to do with it, so they fumed it and it contained anywhere from 8% to 20% lead and they, someone, I think it was Pruitt and ^{Wigdon} [Wigdon] and some other guys figured out how to calcine this fume with white lead and make leaded zinc oxide products that they used to make ^{in the past} but with big fuming furnaces. And in fact, they still had one of the fuming furnaces running when I first went to Coffeyville. It took about 50 men to run all the furnaces in the trail, and they actually shoveled the ore and the products into the furnace by hand with a scoop shovel and then fumed it and collected it through ~~these~~ long tunnels right over these bag-houses where they collected the leaded zinc oxide by hand, manually, out of the bags. Guys wore big respirators ^{with wet} and they had sponges ~~on~~. They wet the sponges to collect the dust so it wouldn't get ^{in their lungs} ~~on their clothes~~. They had these big push-carts and they'd go in and get about a ton of ^{this material out of the} ~~these~~ bags and push them out and then ^{heat treat the product to finish it} ~~calcite was put over them~~. When they worked out this sort of process and Coolidge and Harold ^{had} ~~or something like that~~, I'm not sure if his last name was Moody, from Bunker Hill kept

this deal, for they learned how to make the change of leaded zinc oxide in a kiln, a rotary kiln. The amount they made in one shift of 50 guys on the fuming furnace, they could do with 2 guys. And from a period of time starting probably in the late 40s or early 50s until sometime in the mid 60s, they must have made a ton of money on this process. They just made a lot of money doing ...

PAT: And that was the pigment?

FB: That was the exterior pigment of the times.

WG: But now, Frank, didn't you say before that titanium dioxide was coming in to replace the leaded zinc oxide.

FB: Right. First replaced Lithopone in the interiors. The early products didn't last very well in the exteriors because they had to learn the surface coating issues, and it took a lot of development. This probably took 25 years from the time they started manufacturing titanium dioxide until they got products that worked real well in the exterior.

PAT: But outside was more difficult than interior?

FB: Interior was ^{relatively} ~~very~~ easy serviced ~~on the inside~~. And, some of the paint guys would probably know more about that if you could

find someone around to talk to. Like if you could scrape up a
Jim ^{Lanzotti}
Joe [Lanzotti] or somebody.

PAT: Maybe. But your perception is that pretty soon, on the
interior, that Lithopone, I mean that ...

FB: Yes, titanium was ... In fact, we were the last domestic
producer of Lithopone. Dupont had been in the business. They
were about the first ones out of the business. I remember when
SCM went out of the business, I was working in Coffeyville then,
so that had to be in '58 or '59.

WG: SCM is ...?

FB: Well it used to be Glidden. In fact, a funny story, we
packaged Lithopone for SCM. ^{Our material} ~~so that it filled~~ in their bags.
Their salesmen were still out selling it. Their ^{operation} ~~product~~ was
down. ~~We weren't doing it.~~ And we would get complaints. Our
sales people didn't know this, we would get complaints from our
sales people that the SCM material was better than the Sherwin-
Williams material and we'd look at it, and we'd discover it was
all packaged on the same day, same lots, and that they were
comparing, which kind of ironic. And that's not to say there
wasn't something wrong sometimes or legitimate complaints.

PAT: But weren't you ^{using} saying Lithopone on the interior and an exterior paint as well.

FB: Well, it could be used as an exterior, but it was ultraviolet sensitive and ...

PAT: So mostly it was interior?

FB: I think it's probably used mostly on the interior product. I don't know that. But what happened then, all these transitions, well the company had, this was true of Coffeyville but it was also true of Chicago, the company used to manufacture a lot of their own raw materials. I know that the azo dye ^{Chemical} business in Chicago which was eventually sold to Sun ⁱⁿ probably the 70s, sometime in the 70s. But we made most of the, a large share of our own raw materials. Because in fact, we started in Chicago, they started to develop the process for phthalic, which is one of the other ingredients for alkyd resins, phthalic, and the soya oil and the tall oil. They sold that technology to, I believe to Koppers. And that was the plant ⁱⁿ ~~which~~ ^{that} Chicago, was eventually converted to IPN, isophalanitrile to supply Diamond that are needed to make dacanyl. *daconil. This spelling is incorrect.*

PAT: OK. Right, the azo-dyes, we sold, are sold to Sun-Oil? Sun-Chemical?

FB: Sun-Chemical. Sometime 1970s. I believe it was early 1970s.

PAT: Now phthalic anhydride, that ...

FB: The company developed that process and built it in Chicago.

PAT: And what was that used for?

FB: It's one of the major ingredients in alkyd resins. We also happened to buy it ^{for} ~~from~~ Cincinnati, when we bought Maumee chemical. But by then we had sold ^{the phthalic process} ~~it~~ to Koppers.

PAT: Is it still used in alkyd resins?

FB: Yes. We buy a lot of it.

WG: Why did the company decide to divest itself of it's raw materials?

FB: Well, probably over the years there were a number of reasons. What happened was the technology was changing. There's a heavy investment in chemicals. ^{turns} ~~In capital terms, in the~~ chemical industry, ~~there's a fixed cap on revenue / unclear / half-~~

The chemical Industry revenue ^{to} ~~fixed~~ asset ratio is about 1.5.

times a year, whereas ⁱⁿ the cap ~~from~~ ^{capital} the paint business is turned five or six times a year. And there's a different mentality. It takes heavy assets, bigger investments, it's a different business. And as technology changed, the raw materials are now obsolete in regard to paint. So what we had to do, instead of using 90% of what we made, we were selling 90% of what we made in the merchant market. We were building our sales force and we were spreading out this way. ^{What started out to be} ~~Where we thought it was~~ vertical integration, ~~it~~ became horizontal integration.

WG: That's interesting. When did this reach a critical mass that people started saying "Well, gee, we're going in the wrong direction here".

FB: Well it probably reached a critical mass before anybody noticed it or said anything. As I look back, I would say sometime in the mid or late 60s it probably had reached the critical mass and we had built a barium carbonate plant in the late 40s. We built a barium hydroxide plant in the late 50s. We built a ^{deladed} ~~leaded~~ zinc oxide when we got into the rubber goods when we sold zinc oxide to rubber companies. The first one was built in the late 50s. Added another one in the 60s. And I'm trying to think of some other things. Oh, yes, and then we said "Well, we've got to do something with this business". And they decided to replicate part of it in Ashtabula, Ohio in the early 70s. They built a black-ash plant, a barium carbonate plant, a barium

hydrate, ~~no not a barium carbide, a black ash plant, a hydrate,~~
yes, ~~a barium carbonate plant~~ and then found the market was
deteriorating. It was getting very competitive for a couple of
reasons. One, turns out water treatment technology in Europe
which ... they used to treat water in Europe ^{with} ~~in~~ barium carbonate.
The barium compound would ^{precipitate} ~~bring the~~ sulfates ^{and} ~~down, the~~ chromates
^{as the regulation became more strict} ~~down, but then the restrictions got to such~~ that that wasn't good
enough so they went to different a form of treatment. All of a
sudden, West Germany had all this barium carbonate capacity that
they didn't ^{know} ~~what~~ to do with. And they started dumping barium
carbonate into the U.S. at very low prices.

WG: We're talking 19 ...?

FB: 1973, '74. In fact, we went to court with Chemical Products
and FMC, who were the other producers of barium carbonate and got
a dumping action against the West Germans.

WG: Is that so? Is this the ASF? ^{BASF maybe.}

FB: No. It was the ^{Kali's Chemi} Callie Company. And at the same time,
though, we got this dumping action, the Chinese got into the
barium carbonates. And they started bringing the stuff in at
even lower prices than the ~~East~~ ^{West} Germans.

PAT: What were you using barium carbonate for in the United States?

FB: It was primarily in glass and brick ceramic. Because ~~usually~~ ^{it's used to modify the index} in glass, ~~there's a refractive indication~~. Usually in ceramics and brick, ~~as the sulfate scatters~~ ^{it's used sulfate scavenger}, you've seen brick and brick buildings that have this white scum on the bricks? Well, that's because when they cooked it, the salt leaked out to the surface and you've got calcium and ~~potassium~~ ^{magnesium} and salts bicarbonates, ~~that means calcium magnesium carbonates are on the surface~~. If you put barium carbonate into the mix, it fixes the sulfate and ~~then covers~~ ^{they don't migrate to} the surface. You'll get good real quick.

~~So that was quite a bit of the business. So FMC couldn't stand it any more.~~ ^{FMC} ~~They went out of the business.~~ ^{because of the pricing things} And ~~it~~ just got worse and worse. Finally, Sherwin went out of the business. I think Chemical Products may still be in the business. It got to be a pretty rough business. We built this plant in Ashtabula to make more and we saw that wasn't going to work, so we converted the plant to strontium for petroleum products. And we actually shut down the barium hydrate plant. We ran it for about 6 to 8 weeks and we never ran it again. The reason we ~~got~~ ^{became interested in} strontium ~~work~~ ^{it} is because ~~that was used in television tubes for color TV~~ ^{color} ~~because~~ ^{It} ~~was~~ ^{is} a better electron blocker and that was very important. But at the same time, another company, I can't remember who, opened up a big strontium business up in the provinces of Canada. So strontium turned out not to be a good

investment either. And here we were, we had been the company that invested all this capital. It's fixed, it's pretty rigid. Technology keeps changing. ~~Then~~ ^{The situation began to become clear to us.} ~~We have to think the light bulb started coming on.~~ "Well, this is a mistake to be heavy in to the supply side here. I'd stick their millions in coating and find other ways to get ^{what} ~~the ways~~ we need and leverage the costs in different ways. ~~And to be in business.~~ So they sold the ~~former Ashland location~~ ^{chemical division}. The company started having problems in '75, '74. I don't remember when the sale was. So we sold the titanium oxide plant to SCM and that's still operating.

PAT: But they didn't buy the whole site?

FB: They bought the whole site. The only thing operating there is titanium dioxide.

WG: OK, so we were back in the sale of raw materials.

FB: Yes, they sold the chemicals business, and we actually had ^{Forbes} ~~Forbes~~, New Jersey ...

PAT: Which was?

FB: That was /unclear/. We bought the BHT plant, and that's the
oxidant used in plastics and
anti-oxide, plasheizer in foods and also the plant manufactured
Rubber
^ tackifiers.

WG: Tackifiers?

FB: ~~That's like this.~~ It's another resin. ~~It's like this~~
~~Sticky.~~ And the Chicago chemical plants had for a long time made
paracresol which was a precursor of BHT. That was one reason why
we got into paracresol. And alkali blue. We used to have the
Azo dyes.

phallo
~~phallo~~

PAT: Alkali blue is not alkaline blue.

FB: No, ma'am. That's entirely different. Then in Cincinnati,
which is the plant that Mahmee Chemical owned, that's where
Isotokanhydride and
~~anhydride~~, the triazoles, ~~the~~ saccharine were made.

WG: OK.

FB: This is kind of interesting. Monsanto ^{was also} ~~is~~ in the saccharine
business. We got into this hassle about the carcinogen issue. I
spent a year of my life lobbying in Washington on saccharin.
Contractor. ^{We} ~~One of them was Ken Wilkinson.~~ They have 75 years
of control documented human history, because it was widely used
by diabetics and had all this medical history. It had absolutely

no problems. And then they did these rat tests up in Canada and found second generation, ^a ~~in~~ certain incidence of second ^{in Canada} generation cancer, tumors. They ended up with ~~not~~ a ban, but warning label in the U.S. And then of course, you had these other sweeteners come along at the same time. And that caused a lot of problems. ^{for saccharin} This is another case where the Chinese were third-party. And of course, there was a lot more pressure on us. At the same time ... In this case, the Maumee excursion was further horizontal differentiation. You actually, there was a period of time there when the company probably expanded the chemicals because we felt it would be a good business for us. And that was essentially turned around with the recession of 81-82. Now there was a national recession in about '82 I guess. But chemicals were really in the doldrums. We were over-capacitied. And so it was finally I think in '83 that the chemical division was sold. Everything except ~~the~~ Coffeyville.

WG: Why is that?

FB: There really wasn't much left there that was operating. The businesses were pretty much shut down. They had been lead smelting since 1906. So the environmental groups were there. It's all contained, all the rainwater is contained in ^{ponds} ~~checks~~. The groundwater is all contained. All the residue ^{files} are capped and contained, ^{we own 70 acres of} ~~on 70 acres~~. ~~The~~ land ~~is~~ there. Who would know ...

WG: So, in your life story, how far have we gotten?

PAT: Up until he went to Coffeyville.

FB: I went to Coffeyville in '57 permanently and left in '61. I quit the Company in '65. I came back to Coffeyville in '66. So I came back and at this time things were falling apart. I commuted to Ashtabula. ^{was not involved in design & construction} I ~~never actually built~~ any of those plants, but I ^{help} started them up and I saw the conversion to stontium. I started up the hydroplant, did ^{Barium Hydrate} a conversion of the black ^{ash} ice and barium carbonate to stontium. I started those two plants up. And then came back to Coffeyville and then the last ^{lead the project to build the last new plant in Coffeyville.} ~~unclear~~, I think the equipment is all still there. I think we ran that quite a while. And then in '73, I went to Chicago into the chemicals lab and worked on that ... developed, worked with the guys who had developed ^{a dry alkali blue} the ~~unclear~~ and developed the steering. Do you want to ask something?

WG: I don't.

^{used printing inks to}
GB: It's in the ~~is interest to~~ make them black. When you use carbon black, you get a brown print. When you put a blue with it, you get a black print. So they add ^{alkali} ~~up to a~~ blue and it appears to be the best one when you have a ~~high density black~~ ^{black ink.} ~~unclear~~ high quality. We were having cost problems. So we were doing a lot of cutting back. There was a lab in Toledo,

part of Maumee. So we decided, when I became a director of the chemicals lab in Chicago, 1975- like I said, back in '76, a year later decided to consolidate the two labs. So I was involved in bringing the Toledo ^{operating} ~~stuff~~ home to Chicago and close down the Toledo ^{lab.} ~~and~~ we had two directors there for a while and that did not work. And I told Jim Mack, "Get me out of here". So I went back to Coffeyville in '78. ^{At this time} ~~No~~ we're really into the throes of ~~the~~ of the financial problems there.

WG: When you went back to Coffeyville, what kind of job was it?

FB: I was the site manager. And I was the business manager. ^{The} ~~Se-~~ ^{division had three business managers then.} ~~they had three of us there.~~ There was a business manager in Chicago. There was a business manager in Cincinnati. ~~And there was some time after the~~

WG: When you say business, you mean chemicals? The chemicals division. OK.

FB: So, you're looking at the zinc oxide business. The Bunker Hill company got shut down ^{because contamination} of lead ^{This cut off} problems because ... so we ran ^{our raw material supply} ~~out of raw materials.~~ It was a real problem. (We really didn't have any of that up here. We got up to the Operation [Bill's Grill] from the) ^{I don't recall this.}

To help us obtain raw material for Coffeyville we purchased Hillsboro.

PAT: From Eagle Pitcher.

FB: Right, from Eagle Pitcher, in an attempt to try to make raw material from secondary zincs for Coffeyville. Didn't work. We sold that to a company in New York. At the same time, ~~well this is not working too good~~. This is 1979, 80 oil boom. We've got bayrites that are used in the drilling mud. And so we made an attempt here to enter the oil chemical business. ^{to supplement our business} And did that. We were getting pretty successful when '81, '82 rolled around and oil prices, we thought we were going to go to \$50 dollars per barrel, went down to \$12 to \$13 a barrel and the whole Southwest ~~area~~ collapsed. Another nail in the coffin. Another attempt to diversity, ~~whereas~~ we should have known this in 65, but it took us to the 1980s. I was still in Coffeyville. In late 81, took over this chemicals business. It was a shambles.

WG: How did it get into such a shambles?

We must have skip something here.

[end of Side A, tape 1]

[beginning of Side B, tape 2]

This is now late 1983:

FB: The external brand side of the business was not doing well. They've probably been struggling for over 30 years. I don't know, you could go back. I wasn't dispatched here. Probably a long time. They had ^{bought} brought back a lot of small brands. Martin-Senour, Acme, Lowe Brothers. And they picked up pieces. And