

INTERVIEW WITH
JOHN C. WEAVER (*third*)
SHERWIN-WILLIAMS COMPANY
Cleveland, Ohio

JANUARY 4, 1991

INTERVIEW CONDUCTED BY
KATHLEEN McDERMOTT
THE WINTHROP GROUP INC.

and
Patricia E. Hodge
SW Co

SW / 1ST Draft / 1/16/91

ambitions of media, polymer, varnish, rosin, all the relationships across all the laboratories and the production. By 1948, Arthur B. Holton, who had earlier succeeded George Menz as my boss, was named by Mike Courtier, who died too soon, the first corporate R&D director for the entire coatings group and by responsibility but no authority, the rest of the laboratories, which were chemical, linseed oil, tin cans, and so forth. By 1948, I was made, theoretically, out of the laboratories to become a part of the headquarters R&D management. I moved from the laboratories on [Tamala] Road in 1960 to Room 1135 in the [Litton] Building and began to coordinate even more. One of my responsibilities was theoretically to censor, as well as stimulate, all of the paperwork of a technical nature pertaining to Sherwin-Williams USA and the Louis Berger Company, started in 1739 in London, England, owned briefly by the Sherwin-Williams Company in the earlier decades of the century until that famous Walter Cottingham sold out in the early 20's his stake in Sherwin-Williams in exchange for his control of the Louis Berger Company. That caused me to do a lot of paperwork through the 1955's and thereafter with the Berger folks and then later on the [Dr. Kirsch Herbert] Company headquartered in [Lake] Wichita. Both of those were outbid by Hacht of Germany and control of both of those by Sherwin-Williams and the persons of [Lowell Hynes] and Colin Baldwin did not choose to bid high enough to buy either of those corporations, thereby leaving somewhat sentimentally the /unclear/

WG: That questions, though, the law. Should I wait til the end?

JW: No, let's do them now.

WG: When you said that came in 1936 and you knew nothing about paint.

JW: True. I had a PhD in chemistry. Analytical chemistry.

WG: So did they have you working on chemical questions?

JW: Do you want me to intersperse some of that?

WG: Well, I want to know what is somebody who didn't know anything about a paint but was a chemist, what kind of a job would they have had at a paint company.

JW: All right, I'll start another paragraph or section covering more detail. Coming in with a general knowledge of the several academic branches of chemistry, I had no real insight on the industry other than the dyes, of which I spoke earlier, but which I didn't really touch thereafter. Their need was for more varnish or polymer people. So rather soon after learning where are the telephones, the men's room, the lunch room, and so forth, I was made what we then called a "batch boy" for Mr. Harold G. Witcomb, who was in charge of a small varnish group. But may he

rest in peace, his outlook was not very broad. Meanwhile, alkyds, which are defined as combinations of polyacids and polyalcohols combined with varying oils -- linseed, soybean and so forth -- had grown by leaps and bounds from the development of /unclear/ by General Electric in 1920 so that they were sweeping the industry, and Sherwin-Williams had a very high stake. In 1937, Mr. Charles J. McWhirter, who was the son of a Sherwin-Williams industrial salesman who had earned a bachelor's degree at Case, came to Sherwin-Williams briefly before the depths of the '33 Depression, was laid off, joined General Electric in Schenectady, New York, and under the tutelage the world-famous Roy [Kingley] learned the all the theory and much practice on how to make practical alkyds. He was hired back in '37 and I again I became his batch boy. I got very dirty on a daily basis and I learned a vast amount about alkyds. So with that training and with internal Sherwin-Williams politics, Charlie McWhirter was moved to Chicago under the also late and great Dr. James Victor Hunn, who then headed rosin research in Chicago, separate from alkyd research, which is a long political story in itself, not for this paragraph. So I was then left on my own. In my alkyd tour of duty, wise Arthur Holton recognized that local laboratories were formulating their own alkyds willy-nilly to suit their local needs, and that some firm coordination was necessary. But I was then made chairman of what was humorously called circle simplification or vehicle coordination, a loose group of laboratory people from Chicago, Newark, Pittsburgh, and

may be Dallas. Our job was to try to persuade, with lots of responsibility and no authority, that this alkyd and that alkyd were enough alike to be compromised into one or the other or something in between. That was nearly impossible but necessary, and so I worked with that a lot, even after McWhirter had moved to Chicago, because he was not in a frame of mind to do all that. He was a very gentle person. He left Sherwin-Williams Chicago in the mid-40's to start up his own company, which is still intact today as a subsidiary of one of the biggies, perhaps General Mills, I don't remember that for sure. The next event in my personal life was that the linseed oil mill, which was on West 3rd Street over there by the bridge, now defunct, had hired a German named [Schoeke] who had a process for making dehydrated kerosine oil and which, according to vice president Walter Hain, who supervised the oil mill, would replace pound for pound scarce tall oil due to Japanese events and /unclear/ and so forth, and so we had a desperate need to use dehydrated kerosine oil. Any varnish can rust through with that pound for pound equivalent with soya oil. It was must job, therefore, to utilize the experimental glass-glass to small stainless steel and vessel and so forth, samples and see if we could make anything useful of it. It soon developed that [Schoeke] had a concept to promote product. So I was a perfect team, looking over his shoulder, at the linseed oil mill people, and "Say this is good, that's bad, and why don't we do something else". Out of that, we developed some limited uses for hydrated kerosine oil in various paints,

ceiling paints, floor paints and so forth, and especially in canned goods. At that time, we were not in a big factory making tin cans and we had a lot of residual for business from Continental Can. Hence, the emphasis was on that. That feature occupied a lot of my time until the early 1940's, 1942 or so. Then we came to realize that the management in about 1943 could have save a lot of money by laying off the amount of laboratory people, too many, of course. And that we had allowed the purchase specifications of the company to become very obsolete. I was charged for everything except fish nets, which was handled by the late John Johnson, to re-establish the company-wide set of purchase specifications for all the things that we put into paints, whether they be big ones, oils, solvents, or whatever. That was an immense task. Meanwhile, the war was going on, and one of our first /unclear/ incident arose because we were trying to make fast air-drying, not factory-baked, coatings for military tanks and other weapons systems and make them uniform in Newark, Cleveland, Chicago, Oakland and so forth. We came to the realization that they were all diluting by mineral spirits which, like [VM] and [foodmaster] and so forth, comes from a whole lot of petroleum sources and the public refineries and have a great influence on the consistency of the viscosity of the alkyd, even though the alkyd base is made uniformly at those several plants, which of course wasn't 100% true either. I strengthened our purchase specifications on spirits by about a dozen diverse suppliers, many of them but not all of them, parts of the old

Standard Oil /unclear/ and did so well that a Sun Oil Company marketing manager came to Sherwin-Williams V.P. of purchases, Bob Henning, and wanted John Weaver to get fired. That I consider one of milestones along with various antics that I did in various schools and so forth. That brings up to the post-war period when we had struggled through the war years with one shortage after another of things for either trade sales or military use. And that's as another section to your total history, you might cover the history of T1279 military specification for camouflage paint. That takes quite a while and I think should not be under this section. Or do you think so?

PAT: No, I think you ought to talk about that. I want you to say something about that.

JW: You've heard this before.

PAT: Yes, but I want to you say that right now.

JW: It came to pass that in the war in the Pacific by the Philippines and so forth that the Japanese infrared scopes were seeing right through our military camouflage, which was varied colored paints on either metals such as a tank or on [omnisburg] cloth, which is a flimsy kind of canvas, so that they saw right through our camouflage and they were doubly dangerous. This caused a special appeal from the military to the paint industry.

And the trade association's then good technical boss, Francis Scofield, organized between Du Pont, Glidden, Sherwin-Williams and a small manufacturer /unclear/ to produce a paint which would fool the Japs. By then the war was moving along and the legend has it that they would not start the Moroccan campaign until they had better camouflage paint. The requirements for this were that it be shipped around in the military establishment as a paste and could then be diluted or reduced as well call it by either sea water, fresh water, or military gasoline out of half-gallon cans and still be soluble either at the hot 130 degree F of the desert or the cold Alaska plain. We did all this and an integral part of this is still in the industry to this day called "AMP" /unclear/ as a co-lacerator between the [anhydriis] system, which we synchrosized and the water or gasoline which was going to be used. The military said "You've got to find a solution that we, the War Production Board, which parenthetically included Sherwin-Williams' vice president Sol Coolidge, so you'll some others". Well, that was quite a scramble. But the point to this whole legend in our story is that Sherwin-Williams, Du Pont and Glidden cooperated fully and wholly, no secrets barred in the patriotic sense. I can remember one Sunday afternoon when my home was cluttered by our own vice president, van Stone, and the good guys from Du Pont and so forth. So there was a big cooperation on that, and I hoped it helped, during the war. Is that enough of that one?

WG: Could you also just tell us briefly what were some of the shortages experienced and how did the company deal with those?

JW: There's no way of answering that briefly. It runs across all of the general categories of paint ingredients, especially thinners. I suppose somewhere else in your history this evening, you'll know that after World War I or during it, the Germans asked us to /unclear/

PAT: No, she hasn't.

JW: Well, then Dr. Irving van Stone, University of Michigan PhD, came to Chicago, and he led the charge of building up the synthesis of dyes, lakes, and pigments. And that was an important part of late World War I on through the subsequent decades.

WG: Why was that important?

JW: Well, would you have to come and get a lecture on how you make paints with various pigments. But as a generality, the old natural pigments -- supernatural white lead, brown /unclear/, yellow or red iron oxide -- are not very bright. And that the dye industry, which began in England and Germany around 1860, had built up tremendously over there but only less over here. So those bright colors, be they red, green, or whatever else, were

pretty much essential to all kinds of paints. So, you say why were there shortages in World War II. I would say "Well, look at the /unclear/". You never knew from one month to the next when you would have a new shortage. I was working under Nathan van Stone because I moved my wife and things from one house to another on March 31st. He required me to leave from Chicago on April 1 for one of these emergency strategy sessions, I don't remember what it was about, but I do remember that by the time I got back to Cleveland, looking for peace and quiet, I had already put away the furniture and so forth, everything that was decided in April was pretty much out of base. So that's the hectic aspect of World War II.

PAT: Could you just talk a little more about ... I had always heard the story that we had to re-invent the German technology for the pigment for the World War I situation. It seems inconceivable to me that that was a process that American chemists had no idea about.

JW: I think thousands of American chemists understood the chemistry of dyes and lakes, lakes means a combination of dye and certain metals such as aluminum, and there wasn't much financial incentive to set them up here, and I remind you that the new IG Farben Trust was real. The Germans and the English, who started to manufacture these dyes, weren't about to encourage, allow or whatever competition to set up over here. I would also remind

you, as sort of an open picture, that after World War I, we took apart world IF Farbens into its component parts and then we did the same thing after World War II and found out that some of those parts over there are used and BASF has come over here and bought up paint companies and Hertz has done the same thing. I would not intrude into these official minutes, but my lovely granddaughter of 19 months, who is descended from one of the founders of the Hertz group and is becoming bilineal. I'm "Grandpa" and by opposite member of German descent is "Oopa". You can write that off! Where do you want to me go now?

WG: We had gotten up to post-War. What were you doing at that point, was your job title?

JW: My job title prior to 1948 was a non-capitalized descriptor of head of the writings lab and vehicle coordinator. And as an aside joke to that, we had one code of materials such as 18 dry was white lead. And the Henry Sherwin is reputed to have invented a second code of a liquid /unclear/ and his term for his two circle was called "linseed oil". And "circle" meant it's in a container, so when you write, you write it in parentheses, if not a complete oval. So that pervaded the company from his inception up into the 40's, and I'm going to talk about the 6-digit code. But the first thing that happened after World War I was the war production board fell apart. You could buy anything you wanted to. And so we began, against our competitors of

course, to produce huge amounts of paint for trade use. And at point, Arthur Holton, who in September of '47 made the first corporate move by hiring [Lee Ball], Arthur Holton went to van Stone and says "Yes, we are making an awful lot of paint and I do mean awful. We have got to do something about quality control". And so there was instituted a special laboratory, which was briefly located in Chicago, emphasize briefly, and then moved /unclear/ which could demand and receive 1/4, a rather small sample, of a delivery batch of trade sales made anywhere, transit it into Cleveland without knowing what we were going to do. Well, the failure was where you could never afford to run all the tests that were required on many products, but on every one we would do a few things. And our superficially trained technicians, high school graduates, I suppose, could open a can and "Yes, it's labeled red, so it's red". You'll do a weight per gallon, you can do that in seconds and it's one of the fingerprints for clarification. You will run a viscosity and then may be one other test. A total of 4 or 5. After that, they would put on a single number of quality. Five was very perfect, really better than it needs to be. You need to go all that trouble? Four is better than average, you're to be complimented. Three is average. Two is substandard, we'll pass it, but get your act together. Number one is awful, it's gelled or something. Get it back. So that was a very great effort and it was not well-coordinated. Another side issue is that Dr. van Stone, a wonderful, remarkable genius, had refuted some with Mr.

Steudel and others. You know the rest of that from somewhere else, I suppose.

PAT: Yes, but you can talk about that because nobody knows it as completely as you do.

JW: Well, it was rumored that Dr. van Stone probably had enough proxies to displace the current management of the company. He failed. Did he get fired? No.

WG: What year was that approximately?

JW: I'm guessing 1947, but I could be wrong. '46 or '48 or something like that.

JW: But van Stone had already, as an intimate part of the total coatings R&D, begun in 1938 or 1939 what became known as Kem-Products. First Kem-Tone which was not then a Latex and that's /unclear/ a description, which then van Stone decided it would not sell well unless we could teach the home do-it-yourself, you, you, or anybody else, could put in on easily. Out of that came the development of the hand-held roller which is with us today. That was a combination of the driving force of van Stone and certainly of other people. The compelling paradox then for that oil paints line was to somehow gloss trim paint that you would put on door frames and kitchen fixtures, etc. and that was Kem-

Glo. And van Stone in his wisdom had earlier picked the Lowe Brothers Company in Dayton, which had been bought and totally owned since about 1920 and had above average, confident chemists like Ed Fasig and others. Ed was memorialized across the paint community by a national election. So van Stone got Fasig and his people to develop Kem-Glo, which they did, under a medium [long pair of orchards]. I think John Weaver had many a lovely hue with Ed Fasig and Dr. Purdy on the integral /unclear/ of how you make those orchards. That could be a chapter in itself, which I will not get into now. But out of all this van Stone just kept on doing what he had been but was made in charge of something called "special products" which enabled other persons, such as John Sherman Prescott, Victor [Mills] and others to carry the main line products. This was not an unwise decision, because it gave van Stone more time to develop post-World War II products which hadn't existed. Along with the worst, the so-called 6% texurizer, which was a sticky mess, containing DDT, which was in society's view a bug-killer that came out of our biochemistry group in Chicago along with some others, and there was a brief, big spasm led by van Stone of selling a lot of insecticides, pesticides, herbicides, until it came that the insurer of all of this realized that if you compare plain dust to this cotton patch on a Tuesday morning in Arkansas and the wind drifts over to a patch of something else and kills it, you're in big trouble. Mr. Steudel suddenly backed out of that chemical so that it was reduced way down and the residual was sent to the subsidiary,

Acme, in Detroit. I don't know whether it remains '91. I don't know whether in 1991 in Sherwin-Williams still has any active brand of biochemicals or not. Do you?

PAT: No. We were trying to figure out when the company ceased manufacturing insecticides or herbicides.

JW: I guess 1949, but I could be wrong by a year or three. See, it didn't exist at all before World War II. Then it built up rapidly in World War II and in the later 40's.

PAT: When did we buy [Bounthrip]. In the Hemingway Company we did have some.

JW: Oh yes, with Acme and may be with S.W. Brown so that traces back to [Hirschmann] and lead counts and the side issue on John Weaver that in about 1923, outside of Cincinnati on the state agricultural experiment station, I was a high school boy during the summer dusting cabbage with either lead isocyanates or calcium isocyanates, which would fill our modern environmentalists with horror. I don't know where anybody died, but it's not really a good thing to do. That illustrates that Sherwin-Williams came about 1890 or 1900 and was an old-fashioned [bordeaux] solution or whatever or as a copper clampdown which kills fungi and so forth. So in the inorganic sense, Sherwin-Williams was very early, because this related to the inorganic

pigments. Paris Green, of course, contains arsenic and is also a greening pigment, not a good one, but it's part of the history. Have I said enough about that?

PAT: But you think that we ceased all that in 1949-1950 or something like that?

JW: No, I think Mr. Steudel shrunk it from 100% to down to 97%, but he didn't do it completely. What he wanted to do was get that part of the business back under some sensible insurance protection. I don't know how he accomplished that.

WG: Dr. Weaver, what does "Kem" stand for? Chemical?

JW: It was an acronym that means comes out of "CHEM", but the patent office's trademarks section did not like it all, anything like that, so we gave it a little bit of a push "KEM". But then [Prefix] was spread across a whole lot of products which were not the popularized home products, so then came Kem-this and Kem-that and our legal department is zealously protecting that even to this day. I say our legal department, that's false, I'm an alumnus.

WG: Can we go back just a little bit to Mr. van Stone? I guess I really don't really know that much about him, and you've indicated that he had a prominent place in the company. He was

in charge of R&D it sounds like, and developing new products for the company.

JW: His biography would have been 1969 or so, University of Michigan, to Sherwin-Williams Chicago laboratories, having to deal on the one hand with production of various pigments, with the other, organic dyes, German ancestry, and inorganic oils such as electro[nitrate], [pronate]. /unclear/onite was an important World War II /unclear/ like aluminum, which is still used to this day, I guess. So he was prominent in that. Another chapter in [Lowell Huntinge's] career were the guys of /unclear/ after World War I, Du Pont had so much nitrocellulose capacity that they wanted to make something out of it. From part of that came the concept of finishing out of mobiles, not by repainting it six times over six days or whatever, but getting it through the factory in minutes or hours by using nitrocellulose along with some alkyds, which I had part of, and other medium ingredients and the usual pigments. The choice of the solvent blends was a very sophisticated part. It was not science, even to this day even though we try. And van Stone was instrumental in setting up in Chicago the first lacquer laboratory and production that was later expanded in Pittsburgh. That was a big part of his life. That plus influencing the entire Chicago complex of paints, varnish, lacquers, tin cans, pigments, that kind of thing. It was a big operation. In about 1937 or 1938, George Martin, who died in 1943, brought van Stone to Cleveland headquarters and I

cannot remember the exact title, it has to be a director, but in general, he was in charge of all the paint. He was not in charge of tin cans or anything else. So he continued in that way, and he made a lot of progress. My first fond memory, he invited me up there on his arrival, and said "John, you and I will need to be acquainted", and he learned what I did and was quite in shock. He said "John, always remember, never let personalities get in the way". What he meant was always be attentive about the interests of the company whether you happen to like the person that you have to deal with. That's a good freeze-up any time. So I had a strong affection for him even when he was lazy. Many of my time was uncomfortable, but he was doing it for the company.

PAT: Did you work on the development on rosins, artificial rosins?

JW: Alkyds?

PAT: OK, is an alkyd a man-made rosin? Is that how we would describe it?

JW: I don't want to go into a lecture like I lecture the kids. What's new out of Copenhagen, I didn't realize how big a business is amber jewelry in Denmark. I already snow the kids by saying "In the ancient history of paint, the Western world used linseed

oil, and on the Eastern, China and so forth, tall oil which was nuts and trees and those were the two principal /unclear/ farmers along with the things commonly called rosin or gum which drips out of frankincense, myhr, and all those old things, but the classic hard rosin, which made these soft oils into sufficient for rosins which /unclear/ make a varnish desk", and then I sit down and make an impression with my brushes. Amber is millions of years old and it is in a sense it is a perfect rosin to expense. We have then that the semi-fossil things out of rosins in the Belgian Congo, carried from New Zealand and other places, and a strictly modern rosin out of pine trees. So those are three levels of excellence of hardeners for linseed oil. All of this was exact and untroubled until nitrocellulose began to come into the paint around the turn of the century and especially in the 40's and thereafter. And then alkyds began to take over, beginning with Sherwin-Williams in about 1928 and then General Electric a few years before that. But alkyds were the first so-called synthetic rosin. Now, other than nitrocellulose, which of course is a modification of natural cellulose, alkyds are a modification of the natural drying oils, linseed oils and so forth. Then along came some other chemical things, nominally, the predominant rosins were invented by the BAPCO's in 1906 whatever, but they didn't really become prominent until about 1930. So from about 1930 on, we had a great expansion and diversification of all sorts of synthetic rosins which has gone until 1991. In those 60 years, so much has happened that you'd

have to write several books on that. So I'm leaving out this young lady over here. How am I doing?

WG: Is acrylic also a rosin?

JW: Yes. Acrylic per se is the name of a particular organic acid which can polymerize in itself and has great variability in the form of methyl methacrylate, which is a hard rosin which is the central component for these transparent advertising signs that you see on gas stations and so forth. But it is kind of intractable in paint unless it was blended by softer acrylic rosins. So those acrylic rosins were first expanded in a small way in the 1930's, moved on in the 1930's, until in the late 50's, Rohm & Haas made it a big and very successful venture. To trace the history of house paint, it was straight linseed oil at first, then in World War II, the government first tried to economize and the preliminaries in the push of the linseed oil actually improved durability while using fewer pounds per gallon, pounds of linseed oil per gallon of paint and then they had the courage to try an outside house paint, which Sherwin-Williams has nothing to do as an industry leader /unclear/ and the amount did not change the foreign relation of any house paint within a /rest of sentence unclear/. So eventually we replaced partially polymerized linseed oil with alkyds and that is still true. But the water system paints had come along in about 1940 and had swept most of the interior walls, but until after World War II,

when the Germans brought out polyvinyl acetate exterior linseed and over here we fumbled around with that and some others until Rohm & Haas in the late 50's brought out their acrylate series. /sentence unclear/ and they are still to a certain extent. But I am not privy to know whether Sherwin-Williams is now buying from Rohm & Haas one paint can or ten paint cans per week or what. That's big business. The earlier house paints, as you might predict, were profitable. They applied to the house beautifully and Sherwin-Williams advertisers had a big splash of "One coat hiding /unclear". So we had some black and white painted houses, black with white vertical stripes, and then you had "One coat with these latex paints". But you needed a genius with a brush or a roller to get on a thick enough coat. Then after it had been on for days or weeks, it came off in sheets. Mr. Steudel ...

WG: What paint was that? What was the name of this paint? Do you know the name?

JW: It may come to me. It fits nicely into this ...

PAT: It was A-100 when we first came out with alkyds.

JW: That's one of them, but I'm not certain that's the one.

PAT: No, because A-100 is still ...

JW: Lucotex to me is the first one. Mr. Steudel, in his wisdom, says "I can see that this is coming, but we don't want to fall on our faces nationwide. Let's have the John Lucas Company, our holding-on subsidiary in mid-[Clarron], New Jersey, take it on and they can go and get in trouble". And they did. And we learned from mistakes. At one point, we had a problem of, how do you to formulate a house paint to be applied in Maine, in California, and in Florida? Because if you want to get out of one formulation, you're probably in trouble with reference to coding, packing, so forth. So while we were having with Lucotex, somebody, and that was probably Holton, signed Sherm Carlson, who was then head of the Cleveland lab, and Otto Sieplien who was head of the Dallas laboratory, to go out and look at houses and houses and houses. This meant that you got to talk to your Sherwin-Williams local store manager and so forth. What are the complaints? They went out and interviewed for the laboratories but became known not as the Mason-Dixon line but as the Carlson-Sieplien line, which ran from somewhere around San Antonio up through Arkansas and emerged around Northridge, Virginia. Below that line, you're in deeper trouble than you are northbound. So that helped to understand the problems of Lucotex coming off in heat and gradually we got to a Sherwin-Williams brand, acrylic latex. That was the first Sherwin-Williams name. What are do know is you are imposing on me without any water or coffee. I need a whistle of water.

WG: I will go down and get you some coffee.

JW: Water's good enough.

WG: It's hard to keep up that pace without refreshment.

JW: I'm willing to do this to a point.

[Interruption]

JW: From about 1938, van Stone had been in headquarters for may be a year, may be two years. He recognized that ancient, and by ancient I mean Tom Sawyer whitewash, was the way to go. It was well established in history. But certain companies were changing that around. Probably the ancient historical whitewashings were ultimately mostly milk, especially sour milk which you can't drink, all bottled up. And some kind of whitened pigments of the local /unclear/, probably near what we get out of titanium. And it was a job to get the prints in one coat. It involved a lot of competition. So other people, there were two or three small companies, one of them was U.S. Gypsum /unclear/. van Stone saw that this was the way to go and that a water system paint would be saleable, but you didn't have to prepare a lathe, and you wouldn't have odor and all that. So at one point, he had invited John Weaver to talk about it. And then he said, "John, don't

bother". But by that time, I had gotten from Rohm & Haas a sample of probably Aqua Plex, and I was thrilled by it. One of my jobs was to formulate the varnishes which were then put on the barrelwood floors or on linoleum, which was the /rest of sentence inaudible/. And I wanted the water system from there. This looked beautiful on test strips of linoleum until it came off in sheets later. And that was a little episode. But, van Stone was politically astute, and he recognized that the [Hully]-Ivey church, which had been formed in about 1932, headed by Dr. C.D. [Hully] who was famous for earnings laurels from North [Tombstate] University to Acme was the place to do it. And in the meantime, Dr. James Victor Hunn, PhD, University of Michigan, 1928, came to Cleveland briefly to get the company into making alkyds. In the nine years before, orders had stopped. Jim Hunn was asked to move to Chicago and said in reply "I accept the offer but I'll for either Dr. [Hully] or Dr. L.S. Schneider, who was then head of the manufacturing operations of rosins. So out of that rosin research, was set up, in the same service building plant as '31 as Allied Research, and the technical service department. So van Stone wanted him to move in a big way in water-based interior flat paints. He chose as his team Dr. Hunn, who everybody recognized as very able and so forth. And then he picked [Don Hagor] out of Mr. Hully's Allied Research and set up a separate entity over in the next building called the "Emulsion Laboratory". Don Hagor and his brother Jim Hagor and their sons and D.A. Fuller, Senior, who was one of the early ...

END OF SIDE A, TAPE 1

BEGINNING OF SIDE B, TAPE 1

... So van Stone set up a nucleus of people which was comprised of Don [Core] as little more than a section supervisor in charge of a newly created lab unit independent of the other labs and [Core] would be the first to admit that he is not a good rosin and polymer chemist and that Jim Hunn was and although they could feud over coffee cups, they could get along time. So it was Jim Hunn's brain, I think, that decided that crude tall oil, which was a nuisance out of any papermill then and now, we could no longer /unclear/ long since, was the way to go to make a cheap enough binder to go with the pigment and the milk protein, followed by a soy protein, which seemed to come along, to form an acceptable binder. So the first tall oil as of may be 1939 was comprised of the usual pigments and tints, and a lot of polymerized tall oil which was done either in a holder with all of us chemists or in plain steel tanks which would corrode by buying tall oil, stirring it around in lacquer solvents and concentrated soybean [discs]. After it had been stirred for a while and it was a black mess, you let it settle and you blew off the top, the lighter polymerized tall oil, and you pulled out of the bottom and took with a drop, that is probably still there south of Champlain Avenue, as fill. So the original Kem-Tone would have been mainly polymerized tall oil which in turn is about half rosin and half fatty acids and amounts of protein thickener. We soon moved along to replacing crude tall oil,

certainly by competition with others, you could get a whiter white and then went over to long oil alkyds. First the linseed oil alkyds. There was a big difference in the difference between the virtues of linseed versus of soya oil in terms of performance, color and consistency.

PAT: This change was planned after the war ...

JW: No, in 1941. Everything they say in Kem-Tone drops dead in about 1949 when they to dialatex. So all of this in just a decade.

PAT: By the change between the polymerized tall oil and alkyds ...

JW: Would have been in the early 40's.

PAT: During the war then?

JW: Yes. That's part of the rationale. Everything was scarce and you didn't know from one month to another what would be the scarcest. You could make it out of junk, nobody would care. You could keep on getting it, which we did. It was all junk. What else do you want to know about Kem-Tone?

WG: I guess I'm curious to know, what is the water part? I understand the oil, the pigment ...

JW: The water part is simply the viscosity venue.

WG: So instead, of using oil, I guess I don't understand.

JW: I don't know how much of a chemist you are.

WG: Not much.

JW: But the watered oil is too loose to use. When I say fatty oil to encompass linseed and soya and the rest of them, that as a chemist is its own category. Then when we think about petroleum, for instance, you have a total crude oil which is first thing unfractionated into kerosine and VM and B92 minerals and spirits and all of those, but the paint industry is not totally oils. The oil industry /unclear/ Does that help any?

PAT: But then you added that the customer added water.

JW: Well, there was water in the paint as it came out of the factory and the customer was directed "Don't you mess around and dilute it". Kem-Tone was a complete formulation containing water and ammonia and later amines, but I don't know how much chemistry you want in this history.

WG: Let's pick up back, where are you?

JW: In my own career? I was lifted out in 1948 and I /unclear/ the general lab, because that the laboratory down there is no longer in business in '91, was a headquarters lab administratively as well as local /unclear/. So then I became, and my business card said literally "Vehicle and Research Coordinator" and I showed someone that business card and he said "John, what does that mean?" And I said "I'm Arthur Holton's office boy to do as I please". Fine. And that's without all the amenities. They didn't give me the title of director of research until may be two people had retired or died. They were [Edwin von Ruegel], director of paint research and Dr. James A. Arvin, director of rosin research. Only then could they give me a title, even though, I think I can say without too blatant an ego, I was well respected out there in the paint community long before that. So my title as director of research of rosins ran from only from '60 something, '66 was it, to my '73 retirement. I had a fancy, four-corner, four-window office right over there in 1206. Now I'm vested by personnel people. I'd like to say that whether you like it or not, in 1949, I started an innovation and it took five years to accomplish it. Up til that time, we had mostly had a series of unrelated code numbers here for everything we used. The original dry series, and in turn the circle series, local series /unclear/ in Newark and on our volition, it was then

/unclear/ doubly on an experimental number. Once you got to Cleveland, it was AW, in Chicago it was CW, and so forth. And then we had a series of intermediate numbers, some general and some local where the vehicles were made and used for the pigment concentrates for the various color bases, tint bases and so forth. I could see that was a whole mess. I was not alone. I had a couple of helpers, but I led the charge. I said "I think we can do it with two digits /inaudible/ out of my office and local letters such as "A" for Cleveland, "N" for Newark and so forth. And then about three more digits. We began in '49, when I came along unwrangling while others were trying not to do that, starting with the new ones and the small ones, leaving to the very end the big numbers such as mineral spirits, with a common venue for everything and so 348's are /unclear/ and everybody knew that. In conversation, they would say "Pat, I'm going to use 348's". They wouldn't say "mineral spirits" or a whole lot of detail. This was a code, a part of the language. Well then the accounting department, which was then still limping along with old-fashioned IBM-type punch cards said "Mr. Holton, we cannot tolerate those letters. It gives the computer indigestion. It lacks a straight binary code". Holton's answer was "Good thing. No, you have to prepare starting in the laboratory with a number and a specification and all that. Why don't you do it". Holton was adamant. He went over there and he said "Do it yourself". Well, I typed up an order and said "I think I can do it with six digits, may be seven, if you want.

You have more important things to do". He said "Well, if you are willing to do this paperwork". So we started then what was now the six-digit code and it's still in place and it hasn't changed since. This is a numeric code where up to 99, actually 70 some general numbers, 66 is titanium and so forth. Then the middle two numbers of the six-digit code are the subheadings for the individual. It's titanium, well, you have the first two, was it's [anatase] or [rheutele] and then whether it's coated in silver. The last two were general descriptors. If this fifth number was odd, it was a liquid. If it was even, it was solid. The sixth digit was 1-5 was the product division. I was very amused when in my office just a few years ago, I left for the first time Gary [Ruthel] who is still in Chicago, and he came on campus. So I invited him into my office at the end of the day and we were having difficulty in /unclear/ and so forth. And I sat him down, and we got acquainted and we talked about his biography and mine and he says "If I could find the guy who invented the six-digit code, I would jam this beer bottle right through his face". I said "Gary, you better finish, you better drink it first, because I'm the guy". What he meant by that was, he was a new and very confident chemist coming into a strange society. It's like going to a foreign company and trying to learn their language. And he discovered by sitting around at lunch tables or anywhere else, if you didn't know the code, you didn't know how to sell. So it is a part of the Sherwin-Williams family. /sentence unclear/

WG: Now, if you were going to look back and tell what you thought was the most significant thing that happened, either from a research point of view, a technology point of view, or the overall company's point of view, what would be some of the things that you would say were the turning points for Sherwin-Williams that made a huge difference in the company? How would you answer that?

JW: I woke up a little curious this morning wondering what you would ask me and I dreamed up one. If Jack Breen /unclear/ would understand. Through all of those decades to 1966, Henry Sherwin was one of the most respected persons in the industry. Even competitors admired him. I think Sherwin-Williams was the flagship of the paint industry up until the recent decades before Walter Spencer and so forth. It had a civic consciousness and was the first to sell the camouflage paint. Who were the widely known and respected companies? Sherwin-Williams certainly was the biggest in volume. Glidden wasn't so big but they were able. Du Pont certainly had its part. Now, I don't want to say that Jack is not civic minded, but when he pulled the company twice out of the Management Building's Association, I think that's a big mistake. I'm must as critical as he is of some of those stockers down there who I think are terribly stupid, but you ought to stay in it and try to improve it. /unclear/ But's an

ego matter with Jack. Incidentally, anything I say can be quoted by the author. You can quote me.

PAT: When you were in charge of research, we haven't gotten to that era until 1973. Is there something ...

JW: Well, it's a little hard for me to answer either on the /unclear/ because I told you that I had not been given that title until two people left. And Al [Ulnard] retired and I respect him for that. But I had a lot of influence through the 50's and 60's and the city restricted what I did, and Suzy, who is my daughter, "What does daddy do"? "Oh, he's a /unclear/ secretary". I think I did a whole of coordinating, not only overseas but locally. And I guess to answer some of your questions, I think a big milestone in Sherwin-Williams was the original Kem-Tone and then, we didn't cover this, but during the war years independent of the paint industry, and the Federal Reserve Corporation cited in both Case Western and Akron, had the big job of creating and redesigning styrene and synthetic rubber to get ahead of the Germans. Well that involved the several rubber companies in Akron and of course the Dow Chemical Company, who, before the war was over, was looking ahead. What are we going to do with all this stuff once the war is over and you've got national rubber again? /unclear/ said paint should be made out of it. So beginning in '45, probably no later than '47, he tried to enter his first Sherwin-Williams and then the Glidden Company. And

they had pleasant lunch table arguments about political events. And a made a major change from old-fashioned Kem-Tone which contained no latex or the Glidden counterpart of Spred-Satin and their cute parenthetic joke about Cleveland street cars. This lady and that lady were sitting next to each other. And I heard them say "I'm going to go home and Kem-Tone this spread". See how the names got messed around? [Zigg Ridersohn] had a hard sell. This was covered in a book by Dow's Jim Thompson.

/sentence inaudible/ But anyhow, that really started Latex paint a big way, led by Sherwin-Williams and Glidden, even though the German polyvinyl acetate was being nibbled at by various paint companies. We had big arguments. This didn't come easy, and why did Sherwin-Williams stay with Glidden's styrene all through the 50's and into the 60's even though we had seen some handwriting on the wall. There was a competition for polyvinyl acetate and its brothers and sisters and the onset, not very apt, of the acrylics, so there was a lot of competition. But life goes on, and I can remember, it would be about 1960, that we recognized that van Stone, who was born on May 18, 1890, same as my mother's birthday, was aging. By 1960, he would have been 70 years old. He was still around I think. I could be wrong by a few years. So now they can be buttering up other people, including Arthur Holton and John [Purdy]. And I can still remember hearing Dow's Fred Quigley. Fred Quigley was not a paint laboratory guy or a lot of other things. He was a special agent. There he was in Holton's office preaching to my office behind his long desk,

"Making latex is a job for chemical people, it is not for paint people". Of course, I find that a pleasant insult. But, I came to realize that Dow had in a business venture sense very shrewdly manipulated Sherwin-Williams so that it didn't get away from this semi-obsolete latex for quite a while. Meanwhile, I had been having one thing after another in trying to get us to make latex. And I had only minor successes. Politics, see. Poker politics. And I didn't say that Dow did anything unethical. They were doing their job and doing it very well. And that is part of a team. I was technical administrator, having realized that van Stone was mortal, and they set up a restrict contract between Dow Research in Midland, Michigan and Sherwin-Williams Paint Research in Chicago, which was separate from the emulsion laboratory headed then by Don [Ford]. And it was frustrating, amusing, hilarious and so on. The general conditions were "We'll send you a full /unclear/ on lab return samples on numbers one through whatever. You evaluate them in a preliminary way. If you like any one or a few of them, we'll make you larger amounts. We'll build that up to drum quantities so that you can try them out on customers and this will be both for interior and exterior, and if you're really dead serious about one, you have the legal right to come into our Freeport, Texas Dow body-ship and learn how to make it". We did all of that. We sent in our team of /unclear/ and somebody else to go down there and watch them do it. Suddenly, there were bombshells. The Feds in Washington said "You have to transfer your acrylic polymer production costs from body-ship to defense

to your latex manufacturing at market". They pulled the whole thing out. It collapsed. That's some of the stuff I did from a Sherwin-Williams standpoint.

PAT: John, you mentioned the Allied group, explain that.

JW: Allied? SW under Walter Cottingham. Sherwin died in 1916. As you already know, I guess, Walter Cottingham was a Canadian hardware clerk who built up his company. He was brought to Cleveland in 1890 and by 1908 was the recognized successor of Henry Sherwin. So after Henry Sherwin faded out in black, Sherwin-Williams began to buy, do I have the order right, first Acme in Detroit, and thereby among other things, /inaudible/. Then probably Martin Senior in Chicago and then Lowe Brothers in Dayton. And John Lucas in Gainesborough, and Little W.W. Lawrence in Pittsburgh. Each of those in turn had their tendrils, such as Little Cleveland Varnish belonged to Lucas and Lincoln Paint and Coatings in Lincoln, Nebraska belonged to Martin Senior. Acme also owned Rogers, and I don't know where they came from. So you see, between 1920-1930, the company had, and Glidden the same thing later, incidentally Glidden was formed by buying out the old Little Glidden by Adrian Joyce was a Sherwin-Williams official who didn't like reliable Walter Cottingham and so he left. Well, whenever anybody buys up anything, even now, we won't change the management. But, until Art Holton was made R&D boss, everyone of those locals, Martin

Senor and so forth, had their own president, various vice presidents of sales and so forth and their own managers. And it was understood that those laboratories should stay independent. And I think that's partly right. There were only two exceptions. Allied Research was set up in Chicago openly by bringing one of the buy-outs, Doug [Holley], who was already famous throughout the paint community. He was an irascible old guy and he irritated various people and everybody didn't want to work for him. But one of his jobs was to create a general meeting at which the heads of all these laboratories would come in and understand the research being done by Sherwin-Williams for them. And I can recall any number of amusing anecdotes or whether that did or did not work. But, as I said, Jim Hunn began, I suppose Allied Research was set up in '31 and rosin research in '33 or I could be a wrong a little bit by a year or so. So that's where Allied came from. The Allies are those outlying companies.

WG: Dr. Weaver, if you were going to write the history of Sherwin-Williams, how would you think about it? How would you begin to conceive an outline of the issue? What would be the things that you would want to make sure that people knew about?

JW: Well, I told you, civic responsibility would be right at the top of my list. Then I suppose it would be the interrelationship between the primary materials and the paint polymers. Then whatever else they are good for. One of the earliest of course

is the Paris Green. /unclear/ and Allied business, in that case /unclear/ What I was certainly told in '38, I guess, "You are going to find something good out of tall oil". I knew then that our separate sales department and so wouldn't our competitors in the paints and varnishes and so forth, these same paints and materials would want to know. That was the first question for salesmen "Is Sherwin-Williams using it"? Yes, so they would order whatever it was. That influenced them. Because if Sherwin-Williams was using that pigment or varnish or whatever, that was a plus. It was a recognized leader in quality. So may be that's my memory to a point, that Sherwin-Williams was not an island to itself in the paint business, but it was a part of a total in the paint community in a variety of ways. Does that answer your question?

WG: Yes. Anything else?

JW: Give me a second.

WG: Well another way to ask it, is there anything that I haven't asked you today or that you haven't covered that you think we should know about it in terms of looking at the history over 125 years?

JW: My cop-out is that I don't who else you've interviewed and how much of what you want the rest of your background is and you don't have time to tell it.

WG: Yes, I guess that's true, but I'm asking you sort of a broad overview question to see if I can get from you, of all the things that happened to you in your years, what are the things that are important to you? You have mentioned the civic ...

JW: Well some things are important, like not getting tired.

PAT: But for the company, you mentioned Kem-Tone was a big turning point.

WG: And using Paris Green out, how that eventually turned into an agricultural problem. Any other product-related innovation that think you could ...

JW: How about a failure, and we'll have to be careful here. The ultraviolet curing of liquid paint into draft film is still a limited success. Art Holton and I asked Alexander Keyl, he may be still alive, I don't know, who was a case graduate, he went to Dow and then to Sherwin-Williams and then through the wars and then came here and was van Stone's office boy, which was an experience for anybody. Then he left and went to [Stoughten-Rider] in Chicago. Then he decided to get himself a PhD in

pharmacology at Northwestern and that became his later in life career. He was retained as a consultant when me and Art Holton were brainstorming about what to do differently. Alex reminded Art that when you land in an airport and you see those blinking lights, those are very high intensity lamps. Along with that, in the plant's laboratories, flash-photolysis was a language term for studying very fast breaks of reactions to light. He conceived that we ought to be able to cure films to ultraviolet light. He was not necessarily the first. The Germans might have been first, I don't know. But the idea of flash-photolysis was probably originated by Alex for our purposes. We found a genius /sentence inaudible/ who was hired as a nearly full-time consultant for Chicago laboratories to work with Mary Brodie, now there's a sensitive name, she's been and out. And [Whitehill], her boss, who died in 1969, and they worked up and I rechecked somebody and the Ruth Goldberg contraption that Earl [Anarchie] constructed is still sitting in a back hall someplace. That was a failure. I would still liked to have seen it happen, but it needed somebody and it should not have been Mary Brodie. It needed a Jim Hunn, hands-on planning person to carry this on and still be a success. I don't know if you should put any of that into this, but it illustrates some of my memories of what didn't go right.

WG: One last thing we'd like to you ask you is we are collecting pictures to use to illustrate the book and what we're looking are not pictures of people's heads but pictures of doing something, in the labs, in the plants, on employee picnics, something that will show us what life was like working at Sherwin-Williams, and we wondered if you had any pictures that might be good for us.

JW: Well, I didn't know that they had a picture collection. I have a picture collection in my home, but my wife says /unclear/ But I need some parameters. Is this going to be more pictures and not much text?

PAT: It's not going to be more pictures than text.

JW: Although this is the public book, and may be she's talking about ...

WG: Well, the illustrations would be for the public book, and we would like illustrations of people in action, showing what they were doing at work.

JW: Well, you could track [Landers]. She started about the same time I did and moved to Newark and Oakland and eventually died. I have a picture of him someplace at lunch hour. He's in his white overalls in the back trying to sleep. So I'm teasing you a little, that's not what you want.

WG: Not exactly, but we are interested in if you have anything ... I don't think anyone's giving us any pictures of labs. We're a little slim on pictures.

PAT: Very old lab pictures.

JW: Well, let's think in practical print terms. It's going to 8-1/2" x 11" I suppose?

PAT: Yes.

JW: How big should the picture be?

WG: It doesn't matter, just whatever you've got, we can fix it and fiddle with it.

JW: Incidentally, I assume that it's going to be color-coded.

WG: No, the book is going to be in color, but if the pictures are black and white, we'll reproduce them in black and white.

JW: You may have, but you may not realize it, a recruiting brochure which had a lot of lab pictures in it. It would be 8-1/2" x 11", a little more than 32 pages, may be less.

PAT: 8-1/2" x 11"?

JW: Yes, the objective was to give this to the /unclear/ PhD "If you'd like to join Sherwin-Williams and have a lab career instead of going to Du Pont". That was the objective.

WG: What year was it put out?

JW: Later than '60. May be later than '70. I don't know. I don't even know which stack, in my case office or at home, it is.

PAT: Yes, that would be good.

JW: They already would have been well-evaluated by persons like you.

PAT: Exactly, that would be great.

WG: What about pictures of people having fun together, picnics, parties, anything like that?

JW: Part of your serious history would be that over the rise of the labor unions, there were various bodies /unclear/ that was primarily an uptown organization, Pittsburgh. They did a bunch of things like having a choir and they made Christmas things to give to school children and so forth. In the factory in '36, was both the junior club and the, what was the name of the other club? There were intended to be social things with may be

monthly meetings in order to have something to eat and have a speech and so on. There would be pictures of those around.

PAT: Yes, I have back that far. We don't have things like that later. I have up to 1940. I have a lot of those.

JW: I wonder if I could find a picture related to Alcoholics Anonymous, no Alcoholics Unanimous. In the Chicago huge complex under the varying influences, Wyatt Miller, a top boss who was a Quaker and a very devout one, and he brought in a do-gooder like Dale Carnegie and some others. And this sickened van Lew, who was from Holland, Michigan. And he had his own perspectives. So E. van Lew led the charge on creating another organization that was rather simple. "We don't any officers except somebody's got to convene every meeting or words to that effect. We'll meet off company premises. We'll meet at [Forisi's] which was a little Italian restaurant just past the railroad tracks and in rotation we'll have somebody talk about something". And the further rules are, "We will meet at the bar on the south side of the street at 5:00 and then we'll stagger to the restaurant side on the north side and we'll eat too much, of course, then for our sobriety, we'll listen respectfully or disrespectfully to whatever the man has to say". And one of the very best presentations was Shirley Williams talking about automotive covers in a very artistic way. I got suckered into making a speech after my first 1960 trip overseas to see the Louis Berger Company and my travelogue, and

somebody laughed. And so there various kinds of organizations and that to my was one of the most precious. Alcoholics Unanimous.

WG: That was here?

JW: No, in Chicago. How much Chicago plant geography do you know? Do you know where the main office was? If you go west, 115-1/2th, I guess its called Champlain, that would go under the IC railroad tracks. You pass just through that on the west side of the tracks and you would see Farisi's on both sides of the street.

WG: Well would you get a chance to look at that and may be get in touch with Pat after you check through your files?

JW: The pictures? Most generally and specifically recruiting. When I get a card from you or anybody else, I try to remember to write the date and then something about why. So I'll understand. Pictures, groups and individuals. I assume that I'll transmit them to you.

WG: Yes, I will talk to Pat, because Pat knows best about what photos she already has.

PAT: Great.

WG: Well, I think we've come to an end. Thanks very much. We appreciate it.