

# Kattelle Oral History, Tape 10

August 27, 2003

Andrea MCCARTY: Today is Wednesday August 27<sup>th</sup>, 2003. This is an oral history with Alan Kattelle in his home, and this is the beginning of Tape 10. We're going to start the day talking about Kodacolor. Will you give me a little background about Kodacolor, Alan?

ALAN KATTELLE: Yes. First of all, it's important when we use the word Kodacolor, to know that there are two processes that were called Kodacolor. This one we're going to talk about now is from 1928, and it was a peculiar system to produce color movies. Many, many years later there was a Kodacolor for print film.

AM: This was a process also known as lenticular color?

AK: Yes. And it gets that name because one of the particular elements of the process was that the film itself had, on the base, a series of cylindrical lenses running the length of the film.

AM: Very tiny [lenses].

AK: Yes. I can't give you the [exact measure]—probably not more than a millimeter in width. That was one essential component. The second component was the tricolor filter that had to be attached or inserted on the taking lens of the camera. I'm afraid you won't be able to see the fact that there are...

AM: This is a pretty good camera. I can get the red and the green. And now, the more I zoom in I can kind of see the blue. So, yes, I can see it.

AK: The last element was the identical geometry of the three colors on the lens to be used in the projection.

AM: Great. And again you have the three colors.

AK: Yes. And you'll notice that it has some pins on it. This is to be sure that the three color lines are perfectly aligned to be in the same orientation as they were on the camera. That's very important.

AM: Right. So that if they're vertical on the camera, they've got to be vertical on the—

AK: In the projector. Exactly. Then one more curious element. Since every batch of film had a slightly different color sensitivity, film that was sold to be used in the Kodacolor process, each package included a special—I can't think of the word for it.

AM: Like a compensating element?

AK: Element. That would modify the amount of light that would go through each of these strips according to the color sensitivity of that particular batch or roll of film.

AM: So the little element that you got with the film would be different every time?

AK: Yes. And when you used it for that roll of film, then you would discard it, because the next roll would have a slightly different geometry.

AM: So there was a lot of testing at Eastman Kodak when they produced a batch of film?

AK: It certainly meant that each batch of film had to be tested for color sensitivity. Which they may have done as a matter of quality control anyway. Normally, they would just make sure the response fell within a certain limit, but in this case, they had to tell the camera what the limits were. Do you follow me?

AM: Yes I do. So, pretty complicated all around.

AK: Yes. And the last curious thing about the system was that the striated side of the film, which is the base side, contrary to ordinary practice, the base was put it in the camera facing the lens instead of being at the back as usual.

AM: Why is that?

AK: Those striations acted as lenses and they exposed the emulsion with an image of this three, tricolor filter actually. If that makes sense.

AM: Yes, it does. How was the processed received?

AK: Well, George Eastman was delighted. He held a party to celebrate this achievement. Naturally, he had it in the summertime when the rose garden on the side of the Eastman

house was in full bloom, and he invited all the famous people he could think of, including Thomas Edison and General Pershing of World War I fame. The story is that he gave several of his guests a camera to try shooting roses and other flowers in his garden. Then they all went in to lunch while the technicians hurriedly developed the film, and everybody was really delighted, including Eastman, at the results.

AM: They were treated to a screening after lunch?

AK: Yes. They screened it after lunch, exactly. I have screened [my own] Kodacolor film and I have to say it's not bad. It's really quite surprising. It's very tricky. The photos have to be lined up exactly right. And as you can imagine, this filter consumed a lot of light, so it had to be exposed in bright sunlight.

AM: Did it go over well with the general public?

AK: I can't tell you how well it was received.

AM: It was no longer in production when Kodachrome came out, right? They had stopped it.

AK: Right. I think that the general public wasn't as careful about lining up the [lenses], or using the compensating filter that came [with the film]. They may have tried to film in insufficient light. I don't believe that it lasted very long.

AM: Do you have any remarks to make about the Kodachrome process? I don't need you to tell me the facts about the development that are in your book, but what are your thoughts about Kodachrome?

AK: Well of course, I can't divorce my thoughts about Kodachrome from the two men that were the primary developers of it, [Leopold Mannes and Leopold Godowsky, Jr.]. Also that it was one very successful product. The results were beautiful color. And the Kodachrome process, I know it from own experience. I have a transparency of my daughter, of my oldest daughter, taken when she was about three or four years old in front of the fireplace, in Kodachrome transparency, and those colors today are just as marvelous and bright as they were. That was fifty years ago. So, that's my reaction. [Chuckles]

AM: Right. So it really was the leap forward that Eastman had been looking for in terms of color technology.

AK: Absolutely. And Ektachrome was a disappointment, at least in my experience. I find that my Ektachrome transparencies have changed color. They've turned orange. [Chuckles]

AM: Any other comments to make about color technology?

AK: I don't believe so.

[Tape paused]

AM: I'm going to do a pan of Alan's camera room now, and then we're going to move downstairs to talk about some of his other equipment.

[Tape turned off]

AM: We're outside now [on the porch], and Alan's going to talk to us a little bit about Polavision. Alan?

AK: Well, the Polavision system appeared before the world in April 1977, when Dr. Edwin Land convened a large group of the press and other interested visitors to a big hall in New Jersey, where he had set up a number of brightly colored mini-stages. There was a dancer in each stage, well-lit. Dr. Land appeared and said, “I’m about to introduce to you the latest product of the Polaroid Corporation.”

AM: Alan, can I ask you one question? Polaroid is based in Boston, right?

AK: In Cambridge, [Ma].

AM: In Cambridge. Why New Jersey, do you think?

AK: I don’t know. I may be inaccurate on that.

AM: I’m sure you’re correct. It was just something that popped to mind, so I thought I’d ask.

AK: I can tell you in a minute if you want me to check where it was. The date I’m sure of.

AM: No. I’m sorry. So [Land] was introducing the latest—

AK: Product of the Polaroid Corporation. And of course, Polaroid at that time, had a marvelous reputation. The instant cameras had been so successful, and his other products were really amazing. So Dr. Land took to the podium and said, “I’d like to show you the next product of the Polaroid Corporation.” And he took this camera and in his hand, and appeared to be filming one of the dancers. It looked like it could be a movie camera.

After a few minutes, he opened the camera, took out a cartridge, and dropped it into the top of a mysterious box.

AM: Which we can look at in a minute.

AK: Which we will look at in a minute. And lo and behold, within seconds, the image of the dancer appeared moving in full, beautiful color. And a great murmuring went up in the crowd, they were in amazement. The techies in the audience immediately recognized what a marvelous technical achievement it was. The fact that you could make instantaneous color reversal in that short space of a time and with such simple equipment. Not everyone in the audience was technologically-minded however, and some of the more financially-minded reporters were curious what impact this might have on Polaroid's future. Well that's another story which will come later. But the product was Polavision. The heart of the product perhaps, was this little cassette or cartridge that contained, within its miniature limits, what amounted to a film processing laboratory. When it was inserted in the player, it initiated a sequence of events which drew the exposed film through a squeegee and released the proper chemicals to develop the image. The next roller dried it, then the film passed before a mirror, a forty-five degree mirror.

AM: Where's the mirror?

AK: This is the mirror and lens, which caught a light beam from inside the projector, and threw the image on the screen.

AM: I have that cartridge in a very tight close-up. Can you maybe show me what you were saying? Where the squeegees are? Where the [chemicals were released]?

AK: Okay. It's rather difficult, but this would be the take-up spool over here. This is the film that's been exposed. It now passes around this pulley, over here, and this is the squeeze-processing mechanism right here. This is the lens and mirror, which projects the image onto the screen. Then it passes and is wound up on this spool.

AM: Can you turn the cartridge around so I can get a better idea of what the film looks like? It looks a lot like Super 8. Is it the same gauge?

AK: It is almost identical to Super 8. It is however, a very dense image, which is one of its problems.

AM: What do you mean by dense?

AK: It's like a dark negative. A dense negative.

AM: So it doesn't capture the grays very well?

AK: Right. And it takes a lot of light to bring up a good image. So some skeptics in the audience said, "We've been shown a dog walking on its hind legs, but we're not sure why." [Chuckles.] And they began to quiz Dr. Land rather sharply about how much did this cost the company and what its impact would be. And I don't know exactly what Dr. Land said in reply, but apparently he said—he just stood up and said, "Don't ask such questions. You know Polaroid is a vital company." And with that

the rest of the audience stood up and applauded him. [Laughs]  
The process, the procedure, the product, unfortunately had a very short and tragic life. Number one, it's so peculiar that Dr. Land somehow didn't recognize its shortcomings. For one thing, it was impossible to edit the film. And second was the very dense image. It required a lot of light for the exposures.

AM: So there was absolutely no way to shoot indoors?

AK: You had to have plenty of those big lights on. The other thing was that the projected image on the player was very directional. If you weren't looking at it exactly head-on, it fell off as soon as you moved to the side or anything.

AM: So screening the movies for a big crowd is almost impossible.

AK: Exactly. But he didn't intend it for that. He said that the idea was that mom could pick up the camera when she saw her little two-year-old doing something cute, and catch it. Which she could. But you couldn't splice that into a longer film. It wouldn't work in the projector. So it had its limitations. And ultimately, within a few months of its introduction, dealers were discounting it very heavily. Offering it at half-price.

AM: What was the marketing campaign like when it first came out?

AK: I can't repeat verbatim, but Dr. Land imagined lots of uses for it in medical or scientific research. The fact that you could get the results right away was interesting.

AM: Like a video camera.

AK: Right. But, the video you can edit, and the video you can put into longer segments, and this you could not. And the other

curious thing about this project was that Dr. Land was really the only one in the company who believed in it. His engineers and sales people had tried to tell him that it had some serious drawbacks, but he just wouldn't listen.

AM: Were some of the drawbacks you mentioned the same ones brought up by the engineers?

AK: Exactly. Well, I can only assume so, yes.

AM: Was he that optimistic about instant camera technology?

AK: Well, that's it. Most of his other products had been great successes, financially and technologically. But as it turns out, it was not only a tragedy and a money-loser for Polaroid, but as the equipment was manufactured, the contract had been given to Eumig in Austria. And this little machine says, "Made in Austria," when you turn over the projector. And when the product failed, Eumig went bankrupt.

AM: Wow. So it put Eumig out of business.

AK: It almost killed the company.

AM: Had they invested some money in the—?

AK: Absolutely. You can imagine the tooling they had to invest in to make these products.

AM: Because it's completely different the film technology they had been working with before.

AK: There isn't anything that would be useful. Well, I suppose you might make a camera that looks sort of like this, but—  
[chuckles].

AM: Can you hold up the camera so that I can do a close-up of it?  
And what about the front? The front of the camera. How did you load the cartridge?

AK: Very simply. Just like this [demonstrating loading the cartridge].

AM: Can you turn the camera around and just show me the inside?

AK: It would help if I'd put it in the right way. [Chuckles] Here we go.  
Did you get it?

AM: Actually, if you can turn the camera around.

AK: Okay, I'll do it again. You open the camera. Take the cartridge and make sure that the sprocket holes line up. And there you go.

AM: Oh, very easy to use.

AK: Yes. And you could attach a light, a floodlight. And it had a zoom lens. And perhaps it was good for the one thing that he demonstrated. One of his early ads showed a mother watching her three-year-old. She picks up the camera, and then the baby went over and put it in—supposedly put it in [chuckling]—

AM: Into the player. Tell me more about your fascination with Polavision. I know that you are pretty interested in it.

AK: Well, I first became aware of the company, the Polaroid Company, very shortly after his instant camera line [was introduced]. I was working in a foundry in Chicago at the time, and we had what could have been a very serious accident. A huge blower, which is an essential part of the foundry, had exploded. Fortunately, nobody was hurt. But we had to get approval from the New York office to buy a new blower or we'd

be shut down. And somebody said, “Hey, we’ll get one of those Polaroid cameras. We can take a picture of this blower, and mail it off to the New York office,” rather than waiting for somebody to come out and look at it. Which we did. And I remember how pleased the New York office was that we were able to document the damage with the Polaroid camera. And as I say, I think that stimulated my interest in the company. And then—there’s a wonderful biography of Dr. Land, which I would recommend to anyone. You’ve got to admire the man.

AM: How often do you come across Polavision cameras, or films, in your travels?

AK: I haven’t. I collected these years ago. Somehow you don’t see them or hear of them. I don’t know why.

AM: So Polaroid lost a lot of money with Polavision. Did they recover from it in the 1980s?

AK: Oh yes. They recovered. This was in 1977 that it happened. They still had some good products. I think the SX-70 came after that, and that was a marvelous camera. A still camera.

AM: And did this compromise Dr. Land’s position at the company and his stewardship at all?

AK: No, not at all.

AM: People just recognized his experience, and—?

AK: Exactly.

AM: Do you want to show me the special edition you have there?

[Tape paused]

AM: Okay. What do we have? The [Polavision] Special Edition Camera Outfit.

AK: A three-year camera warranty.

AM: And when did you come across that?

AK: This was given to me about ten years ago. It was just a marvelous gift. They certainly did a nice job of marketing.

AM: Let's see. We've got the camera, the camera case—

AK: Here's the case with the special eye-cup. This is the—

AM: Wrist strap?

AK: Oh yeah. I couldn't read it. This is the remote control to rewind. And this nice wooden box can hold up to ten cartridges.

AM: Okay, I'm going to do a close-up on that. Hold on a minute.

AK: Incidentally, Dr. Land, for some reason, insisted on calling the film tape, not film [Chuckles]. I don't know why, but they'd always refer to it as tape, at least when he was within earshot.

AM: I find it interesting that he insisted on calling it tape. Was he— do you think he was following the development of videotape and foresaw the end of film? Or—?

AK: I can't answer that, Andrea.

AM: I don't know. It's kind of a strange intermediary step [between film and video].

AK: I'd have to ask you, when did video--?

AM: Videotape was being developed early on. I think [research at Ampex] began in the late '50s, early '60s.

AK: Oh, that early.

AM: But the path from two-inch [video] to smaller cassettes that

would be available in the consumer's home, I think that path took a long time. I don't think video even started to penetrate the consumer home until the 1970s. Okay, let's pause and talk about the player.

[End of Tape 10, Side 1]

AM: Now we are talking about the Polavision player. I see that the screen, like you said, isn't all that big. So it would be hard to watch movies with a crowd.

AK: Right. It's a peculiar screen. I can't think of a technical word for it, but the image was, I'm told, satisfactory, as long as you were sitting absolutely at right in front of it, but the image quality dropped off severely when you were off to an angle.

AM: Could you turn it around so we can see the back, Alan?

AK: Surely. [Turning projector.] There aren't any controls except to replace the lamp. Did you see the top, or do you want to see the top?

AM: Yes. You showed me the top when you put the cassette in. It's an interesting idea.

AK: Yes. And as I said, Dr. Land had great hopes for it, because he obviously spent millions of dollars on the development. Did I tell you about Eumig?

AM: Yes, that Eumig went [bankrupt] as a result.

AK: Right. Of course, Polaroid has since all but disappeared. However, in the the past year, [I've discovered] that Polaroid film is still popular with experimental photographic artists, because they can get such unusual and weird effects with it.

AM: Especially the really, really [large-format] ones.

AK: Yes. You can buy great sheets of it apparently.

AM: So it's still hanging on, maybe a little bit.

AK: A little bit.

AM: I think it's interesting that people in the audience at the first introduction could see immediately what Dr. Land didn't.

AK: Isn't that amazing? Yes.

AM: And it's amazing that he couldn't see it. Did he expect people to take the players places with them? Did he think that you would take it with you and watch the movies on the spot? Or do you think—?

AK: No. I think he was clever enough not to show them taking it to the beach. Mostly in the living room, or perhaps the scientist in his laboratory, but nobody taking it to the beach.

AM: Were you able to speak to anybody at Polaroid about the Polavision?

AK: Yes. I've since lost track of them, but they didn't really like to talk about it.

AM: Even later on?

AK: Even later, right.

[Tape turned off]

AM: Alan, I wanted to ask you about a conversation we had a couple of weeks ago where you told me about a theory you had developed while looking through the old trade magazines.

AK: Yes. I started the search actually looking for ads for a specific camera, thinking that I might add an image to our FileMaker Pro Database. I thought it would be nice to have a thumbnail picture. And of course, somebody else suggested, “Why don’t you just take a picture with your digital camera?” [Laughs.] But anyway, in looking through the ads, it struck me that this is would be an interesting vein to explore.

I had several approaches. One that struck me almost instantly was, how did camera advertising vary over the seasons? In other words, I suspected that the Christmas market would get some emphasis, and that the manufacturers would tend to advertise more in the pre-Christmas issues. So I was in the process of making a count of ad pages per manufacturer and per month. A typical page would be, an analysis of *Popular Photography*, January—that’s not before Christmas, but—[chuckles]. Anyway, I would note the page number, the manufacturer—in this case X-acta Camera—and I would note how much page, in other words a quarter-page, half-page, two pages or whatever, and then a single line trying to get the essential point of the ad. For instance the X-acta Camera advertised itself as “The World’s Finest 8mm, fully automatic, electric eye. That sort of thing.

There were other things that came to me later. I wanted to see if I could determine when zoom lenses started to get emphasized as a selling point, and other technological advances. Once one company advertised a zoom lens, I suspect that most of the others tended to follow the leader. But all of that is a work in progress.

AM: But there was one interesting point that you told me about, and it had less to do with seasons than with years. And you were thinking that you saw a decline in the number of ads starting in the late '60s, early '70s.

AK: So, what you're saying is, you mean that we might graph advertising space against year to determine—what?

AM: Just to foreshadow the decline.

AK: Oh. I see what you mean. Yes.

AM: The decline of 8mm and Super 8.

AK: Right. Absolutely. That would be a very interesting thing to do because home movies essentially died in— well, they were starting to die in the 1980s, or before that. But that's a good point.

AM: And I thought that you had said that you were surprised by the fact that there was a decline so early on. I think you said it was in the early '70s, not the late '70s.

AK: I may have. I've forgotten, and unfortunately I've mislaid my papers, so—[chuckles].

AM: That's okay. You'll find it again. But I want to keep up with you on that, because I think it's an interesting theory. We were also going to talk about some of the books that were put out by the

camera manufacturers and others to try to help the consumers with their moviemaking. And I see you have a whole pile there.

AK: Right. I guess we should start the story chronologically. This is an English volume, a handbook of amateur cinematography. There are a couple of things that I find very interesting about this book. It was printed in Great Britain and first published in 1950. It contains a very interesting catalog, so to speak, a table of popular movie cameras and their principle features. [Note: Alan is referring to *The Handbook of Amateur Cinematography*, ed. R.H. Bomback, London: Fountain Press, 1953.]

AM: I'm going to zoom in on that. I see that we have a lot of [references to] Kodak in this [book]. Okay, I see it. And that was 1926 you say?

AK: No. 1950.

AM: Well, that would make sense. I guess there weren't that many cameras around in 1926. [Chuckles.]

AK: This book was certainly directed at the well-heeled amateur, because some of the cameras that they show are really—most people would not consider [them] amateur cameras. Of course, I can't find them right now.

AM: That's okay. Let's just do an overview of the books that you have.

AK: An overview. Okay.

AM: What else do you have?

AK: I've sorted them. I found out that they fall into some categories. This pile almost all have the same title.

AM: Why don't you show me each one and tell me a little bit about it?

AK: Alright. Not the granddaddy, but the most renowned book on how to make movies, aimed at the amateur, was Kodak's classic *How to Make Good Movies*.

AM: Aren't there several editions of that?

AK: Oh, there were many editions. It sold millions of copies. A professional cameraman, William Shannon, came out with this book. [Note: Shannon, William J., *Moviemaking Made Easy*, 1934.]

Here's an interesting variation on the subject.

AM: Earning money. So that gets away from home movies into somewhat more professional stuff. [Note: Barleben, Karl A., *Earning Money with your 8/16mm Movie Camera*, 1960.]

AK: Right. And Kodak's *How to Make Good Movies* went through a number of editions.

AM: This is great. Yes, each one has a different feel, doesn't it? Each cover.

AK: I'm afraid that I was a little bit cynical in the book because I thought some of the writing was so simplistic. They always show the husband. The [couple] will be sitting around, talking about home movies, and he's got a jacket and tie on. Does he go around the house like that all the time? [Chuckles.] And the wife says, "But dear, I thought only an expert could take color movies." That's the type of—

AM: Very scripted. I can kind of imagine it.

[Tape paused]

AM: So you were telling me that some of the [how-to] books were pretty scripted, with the men in suits and jackets, and—

AK: Yeah. These are interesting I think, because they're very early for one thing. This one was published in 1924 by Herbert C. McKay. [Note: McKay, Herbert, *Motion Picture Photography for the Amateur*, 1924.]

AM: And what's that one? Can I do a close-up of the title page?

AK: Yeah. I think the title page is—I'll get it.

AM: Now tell me a bit about that one.

AK: Well, McKay was a very well-known writer on the subject in those days, and he was affiliated with the New York Institute of Photography. I was curious about some of the cameras he displayed, such as this, which is a Bell & Howell 2709—

AM: Which we're going to talk about in a little while, right?

AK: [Chuckles] Right. Hardly what you'd call an amateur camera today.

AM: That looks like 35mm, hand-cranked, for the amateur. Well, I guess technically these cameras were [marketed] for the amateur who had enough money to buy them, and the interest.

AK: Of course, 1924, there was—oh, this is interesting, to me anyway. Recognize that projector? We have a picture of it upstairs. That's the Ernemann.

AM: You have that on the shelf, don't you? I noticed in [one] section [McKay] talks about the Pathé projector. And there's probably a

little section on 28mm. Do you think there is a section devoted to 28mm?

AK: On 28mm? Yes. I also have that projector [referencing the McKay book]. Quite a recent acquisition.

AM: The Optica?

AK: Yes. You'll see it [later on]. And then there were books that were marketed to a specific segment of the amateurs. In other words, this book focused on just Super 8. This one was sound.

AM: That was a Kodak book, actually.

AK: Yes. This goes back to regular 8mm, and then this one is directed at the amateur going into color. So that's what I have to say on books.

AM: Okay. Aside from books, there were a lot of other accessories too. I remember that you have splicing kits upstairs. You have light meters. You have—

AK: Titlers. I don't think we talked about titlers, but most of these books urged the amateurs to make titles for their movies, and they show different ways of building a title, as well as buying them.

AM: Right. What are some of the other recommendations they would make about using the accessories?

AK: Well McKay says that you should pay attention to the makeup. If you have people in your movies, they should probably be

made up, and he suggests a makeup kit. Isn't that interesting?  
[Chuckles]

AM: Yes. That seems very advanced. And were a lot of those—we had talked earlier about scenarios, and encouraging the amateur to produce home theatricals. Do some of those books talk about that?

AK: They certainly do. McKay's book has, as the next to the last item, a script.

AM: Wow. There's not much in McKay's book about just taking out the camera and shooting the birthday parties.

AK: That's right.

AM: And did you find that earlier on, [people approached home movies in a more organized fashion]?

AK: I found an interesting thing. I think I mention it in the book. The advice to the amateur, as given in the magazines like *Popular* and *Modern Photography*, year after year, it was the same thing. Don't swish pans. Plan your movie. Have a script. And so on. They seemingly ignored spur of the moment home movies.

AM: How did the spur of the moment home movie—I like that—how did that fit in with the Amateur Cinema League, the ACL? Seems like a lot of the ACL movies that I've seen are wonderful. Great, but also seemingly very professional. I've seen some amateur theatricals, although I have also seen some family movies by ACL members.

AK: Yes. I would have thought that ninety percent of the prize-winning, award-winning ACL movies were carefully scripted. Well, that sort of stands to reason that—

AM: The prize-winners are going to go to the people who made the effort.

AK: Yes. Nobody's going to give a prize to Andrea's fifth birthday party. [Laughter]

AM: That kind of fits in with what I've seen anyway, although I haven't seen a whole lot. And did the ACL push these books? These accessories?

AK: I don't recall *Movie Makers*—I don't know. It doesn't seem to me that *Movie Makers*—they seem to assume a higher level in their membership than the general photography magazine. Do you know what I'm saying?

AM: I do. It seems like there's a certain level of—

AK: Competence.

AM: Yes competence, but also, a lot of the photographers that I know have a lot of gadgets. People like to have them. They like to have all the stuff that helps them to be a better photographer, a better moviemaker. Whether that's the light meter, whether that's the lens, or three lenses, or a zoom lens and all that stuff.

[End of Tape 10]