THE NATIONAL CABLE TELEVISION CENTER AND MUSEUM

at

THE PENNSYLVANIA STATE UNIVERSITY
University Park, Pennsylvania 16802

AN ORAL HISTORY INTERVIEW

ALBERT WARREN
Cable Television Pioneer

Interviewer: Max Paglin

Conducted in Washington, D.C.

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ORAL HISTORIES PROGRAM

of

THE NATIONAL CABLE TELEVISION CENTER AND MUSEUM

Objectives of the Program

An Oral History of a prominent individual in the cable television industry is presented in this volume. The recorded audio version of the interview is available for auditing at the National Center.

The Oral Histories Program at The National Cable Television Center and Museum is but one activity of the Center designed to develop a definitive archival record of the founding and evolution of the cable television industry for use by the industry, students and educators interested in the field. Initially the program focused on the early pioneers in the industry in order to preserve their recollections of the problems faced and how they were resolved by this unique and dynamic industry.

Of course, it was recognized at the beginning that the program could not be limited to the pioneering days because of the explosive growth of cable communications driven by the constantly advancing technology of the information and communications age. Accordingly, the program includes interviews with current leaders and innovators in the cable television industry. As appropriate, up-date interviews will be conducted and incorporated in the appropriate oral history binders. You may wish to consult a staff member to see if any such interviews are in progress or available.

Procedures

Interview candidates are recommended by state and regional cable associations as well as individuals within the industry to a committee which meets periodically to consider prospective interviewees. Once an interviewee is selected and agrees to the interview, an interviewer is assigned by the Cable Center and Museum. Usually by phone and correspondence they develop a general outline of material to be covered. A convenient date is set and the interviewer either visits the person in his or her home or office, or that person comes to the Penn State University Park Campus for the interview. Two or more sessions of three or more hours are usually required to conduct an adequate oral history interview.

A staff member of the Center and Museum then carefully transcribes each tape after which the interviewer does a preliminary edit to correct errors in transcription resulting from recording defects and lack of transcriber familiarity with terminology. An editor of the Cable Center next edits the materials for syntax, clarity, grammar and style. Every effort is made to retain the original "flavor" and mood of the audio tapes; however, clarity and accuracy are also important objectives of this program.

When this editing process is complete, the transcript is sent to the interviewee for a final review for accuracy and overall content. Any recommended changes are included in the final printed version.

Literary Rights and Copyright

When the transcript is approved by the interviewee that person is asked to sign a Deed of Oral History Interview Materials which includes a transfer of all literary and other rights, copyright, and renewals of the donor in the oral history interview to the

Pennsylvania State University. A copy of the Deed of Transfer is attached to this statement. Please check paragraph number one on the copy for any restrictions which the interviewee may have imposed on the use of this material. Any person making use of this material is responsible for compliance with all applicable provisions of the Deed and the copyright laws. See copyright notice immediately preceding the text of the oral history.

Additional Resources to this Oral History

Some of our oral history interviewees have given other materials and information to The National Cable Television Center and Museum.

These could include personal correspondence, original writings (published and unpublished), drawings and diagrams, photographs, manuals, charts, publications, books, equipment, visuals, video materials, and other items that could supplement and expand on the information provided in this oral history interview.

Please ask a Cable Center and Museum staff member about access to these other materials.

GLOSSARY

Some of the words and terms used in the development of the community antenna and cable television industry are new to readers of these oral history interviews.

If you find words and phrases that you do not understand, ask one of the Cable Center and Museum staff members for a cable television dictionary that you may use while reviewing materials in the Cable Center. The dictionaries do not circulate, and may not be checked out from the Center.

If there are words or phrases that you cannot find in the dictionary, ask a staff member for assistance.

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PAGLIN Good morning. Today is March 1, 1988 and I am in the offices of Television Digest with Albert Warren, its editor and publisher. This interview is part of an oral history of the cable television industry being conducted by The National Cable Television Center and Museum located at The Pennsylvania State University with the cooperation of the Golden Jubilee Commission on Telecommunications. Mr. Warren was probably the first journalist to report regularly on the beginnings and development of what, then, was known as the community antenna television industry, later to be known as the cable television industry.

Al, tell us something about your own early personal history, where were you born, the date, your parents, were there any siblings in the family, and generally where you have lived, your education, your adulthood, and so forth.

WARREN I was born May 18, 1920.

PAGLIN Where?

WARREN I was born in Warren, Ohio. I lived there for the first eleven years. My father operated a small hardware store.

PAGLIN What was your father's first name?

WARREN David.

PAGLIN And your mother's maiden name?

WARREN Clara Fersky.

PAGLIN Fersky. What was their national origin?

WARREN My parents came from Poland.

PAGLIN They came to this country, when?

WARREN My mother about 1890 and my father about 1906.

PAGLIN You lived in Warren, Ohio. What was it? A large city, a farm or what?

WARREN Warren, Ohio had a population of about 50,000. The major industry was steel and various types of manufacturing. Republic Steel and Youngstown Sheet and Tube and a few other large steel companies and other basic industries were located there. When I was eleven, the Depression had hit and wiped us out.

PAGLIN What was your father doing at the time?

WARREN He was running the hardware store in Warren. The Depression wiped out the business after that. He went back to his first love, which was farming. He had farmed when he first came to the United States in 1906.

PAGLIN Where was that?

WARREN In a place called Middlefield, Ohio. He had farmed

from 1906 until 1920. He persuaded his parents to acquire a farm and he persuaded them to migrate to the United States.

PAGLIN So he came with his parents.

WARREN He came with his parents and he was about twenty-two at the time. He yearned to become a farmer. He was the eldest of five children and he persuaded the family to come to the United States and to acquire a farm, which they did in Middlefield, Ohio. In 1920, they moved to Warren where he operated a hardware store until 1932. When the Depression wiped it out, he went back to farming, this time in an area called Gustavus, Ohio. It was a small dairy farm, ninety-five acres. We had from seven to ten cows.

PAGLIN Near where?

WARREN It was about twenty miles from Warren. I've often been amazed at my father undertaking this. He was in his late forties, maybe fifty when he went back to the farm. It was quite primitive farming. We had no electricity, running water or plumbing. We farmed pretty much the way they did for the preceding one hundred years. He worked brutally hard, as did my mother, from 4:00 a.m. until he fell into the bed at nine at night. But we did weather the Depression that way.

PAGLIN Did you have brothers and sisters?

WARREN I had two older sisters. At that time, my eldest sister, Harriet, was four and a half years older than I was, fifteen and a half. Mildred was two years younger than Harriet, making her about thirteen. We went to school there in Gustavus. It was a very small community. The entire school from kindergarten through grade twelve had about two hundred students. My class, for example, had seventeen kids.

PAGLIN Like a little, old, red schoolhouse.

WARREN Well. It wasn't quite that small, but it was small. As I said, seventeen in my class. I graduated in 1937.

PAGLIN That's from grade school.

WARREN No. I started in seventh grade there and went through high school graduation there.

PAGLIN You graduated from high school when?

WARREN In 1937 from Gustavus High School.

PAGLIN Where did you go from there?

WARREN I didn't have enough money to go to college that year. That's one thing we didn't have. We had food, clothing, shelter, but we didn't have much money. I put off trying to save enough money trying to get to school. I worked a few months in

Cleveland for an uncle who had a drugstore. Things got tight so he had to lay me off. What I did that year was help my father run the farm, as I did every summer earlier. Come 1938 we still didn't have much money but I said, "I've got to go to college, I just can't wait any longer." I wanted to become a journalist.

PAGLIN Even then. How old were you then?

WARREN I was seventeen.

PAGLIN Seventeen. You were only seventeen. What was it that inspired you to become a journalist?

WARREN In high school I was particularly interested in English. And enjoyed very much the writing for the English courses. I turned out a little school paper on my own called "The Weekly Whiz." What I did was, I wrote it, I typed up the ditto stencil, and I ran it off by hand on the ditto machine.

PAGLIN This was in high school.

WARREN I was fascinated with the idea of conveying things via the written word. I read an awful lot. I read about journalists. It sounded very exciting to me. Furthermore, I was interested in a vast number of things in school. Scholastically, I found it all fascinating. I couldn't make up my mind as to what occupation to go into. Suddenly, it struck me that here I can cover the whole world. I can get into

everything as a journalist. Possibility to write about anything. This sounded like the perfect answer to cover all of my various interests. I was fascinated by the sciences, physics, chemistry, English, Latin, all those things.

PAGLIN Did you have a particular teacher who saw your interest and encouraged you?

WARREN Yes. Our homeroom teacher. A woman, Lois Kemmis, was particularly encouraging in that respect. I was a good student. Valedictorian of the class. Scarcely a big deal among seventeen kids.

PAGLIN A big fish in a small pond is a big thing.

WARREN I never thought of going into any other school except a state school because they were so inexpensive. I was given a scholarship to Ohio University. However, they had no journalism school. Ohio State did have a journalism school. I did not take the scholarship and I went, instead, to Ohio State to the journalism school.

PAGLIN So you went into college at what age?

WARREN I was eighteen. It was the Fall of 1938. Again, having no money, I just asked my father to give me enough money to pay the first quarter tuition which was about thirty dollars. Tuition was thirty dollars a quarter. He gave me the thirty dollars and I paid my tuition. The first day I got to Ohio

State I got a room for ten dollars a month. I got a job for my meals washing dishes in a fraternity house. That gave me all three of my meals. In addition, I got an NYA job.

PAGLIN Oh, I remember that.

WARREN The National Youth Administration. It provided jobs at colleges for kids for a maximum of fifteen dollars a month at a rate of thirty to thirty-five cents an hour. I, fortunately, had a job working in the Journalism Library.

PAGLIN The NYA job.

WARREN So I was set. My room only cost me ten dollars a month. I had my meals taken care of and there I was with five dollars left over a month, and I bought books with that.

PAGLIN I was going to say, where did you get money for books?

WARREN That's what I did. That took care of all my financial needs. I'd send my clothes home to my mother to wash and iron my shirts.

PAGLIN How far was Ohio State from Warren?

WARREN About 150 miles. Well I was living in Gustavus then.

PAGLIN That's right.

WARREN About the same distance. I used to hitchhike to and from school. I thought that I was sailing through.

PAGLIN You didn't need any money for girls?

WARREN That was impossible. I'd go to a movie about once a month for a dime or a quarter or whatever it was. No, I just felt very fortunate to pay my own way. When I would work for my father I wouldn't expect or ask for any salary, just give me what I needed to get to school. However, the first year I went the fall and winter quarter and, come springtime, my father couldn't handle the farm by himself. It was just too much for one man. So I dropped out in the spring quarter.

PAGLIN How old was he at the time?

WARREN He was fifty.

PAGLIN It was what? Ninety-eight acres, you said.

WARREN It was ninety-five. There were so many things it would take two people to do. A minimum of two. So I would drop out in the spring and work in the spring and the summer, go to school six months, work six months on the farm. I did that two years and then it occurred to me that at that rate it would take me six years to get through school. I

finally informed my dad that I just couldn't do it. I wanted to get through in a reasonable amount of time and what I did was I took on extra courses and went three quarters a year for the last two years and finished up in four years anyway. So I took on the extra credits the last couple years and finished up in ten quarters instead of twelve.

PAGLIN You finished actually for your degree in 19 what?

WARREN 1942. Pearl Harbor had hit in December, 1941. I was all eager to enlist and get in there and all fired up. But I was news editor of the school paper by then and my advisor said, "Get a deferment for six months. You're learning more now with the hands-on as an editor of the paper."

PAGLIN Who was telling you this?

WARREN My faculty adviser. He said, "You're learning more now than you ever will any other way." He persuaded me. I did get the deferment.

PAGLIN On what grounds was that?

WARREN On the grounds that I was close to graduation, namely within six months. It was an important period for me. If they could defer me for six months it would be very helpful. You know I got all the endorsements from the faculty and it worked. They did give me the deferment for six months. I graduated in June of '42 and within a

week I was in the Navy.

PAGLIN In June of '42, with a BA.

WARREN A BA in Journalism. I was very fortunate in being named the outstanding graduating senior, and getting the Kappa Tau Alpha Award. That was considered the outstanding member of the class which I, of course, was very thrilled about.

PAGLIN Did you say within a week? Did you enlist or you went through the draft board?

WARREN No, I enlisted in the Navy. I wanted to go into the Navy. Like many mid-western kids, I was fascinated by the idea of the Navy because I did not know anything about it. I read a lot about it. It sounded more fascinating to me than the Army did.

PAGLIN You had seen plenty of land by that time.

WARREN I was fascinated by the idea and I enlisted with the thought that I would like to go up through the ranks. I expected to become an officer and I thought it would be more interesting to do it this way, to learn from an enlisted man going up. I could have gone into public relations and become an officer right off the bat. But public relations did not appeal to me. In those days that was considered a bad word among journalists. It's improved somewhat since then. I went to boot camp

at Great Lakes Naval Station near Chicago. Spent five weeks there and then went to radio school in Madison, Wisconsin at the University.

PAGLIN How did that come about?

WARREN You had a choice when you were in boot camp to elect what field you would like to get into, if you were qualified and showed any aptitude for it. Of all the specialties I could see there, the one that most appealed to me was a radioman, communications. The only other thing might have been as a yeoman, which was essentially stenographic/clerical type work. To most Navy people, a yeoman was considered a rather an effete sort of specialty. They would contemptuously call them Feather Merchants, the reason for the name being their symbol on the shirt arms was crossed quills. I didn't want any part of that. Rather, I wanted to be a "Sparks," which was the radio insignia. I was sent to radio school in Madison, Wisconsin to study communications.

PAGLIN Where were you then stationed?

WARREN I was sent to the Aleutians.

PAGLIN Oh, that's a great place.

WARREN I served a year on the island of Atka. It's quite a distance out the chain. Then about a month or two in Dutch Harbor, and then about six months at Kodiak.

PAGLIN What months of the year?

WARREN We went out in January of '43. Out to the Aleutians, it was miserable. There were six of us guys placed in a hut on top of a mountain and we operated homing equipment which was used for navigating aircraft. The weather was abominable, the horrible winds and so forth. We lost many, many planes out there because of weather; we didn't lose many to the Japanese. We sat on top of that mountain there for a year.

PAGLIN For a whole year.

WARREN Yes. The six of us. We were quite some miles from the main base on the island. So we seldom saw the other people on the island. It was incredibly boring but it's incredible how you can adjust to those things, if you have to. When I got to Dutch Harbor and Kodiak, those are big, bustling bases and there was some activity so it went much faster. Then we came back to the States.

PAGLIN When was that?

WARREN It was 1944. Whereupon we went aboard ship. They called that an attack transport--the MENIFEE. An attack transports job is to take troops in for landings.

PAGLIN Where was that berthed?

WARREN The ship was built in Bremerton or San Francisco. But we got aboard in Portland, Oregon. It was a brand new ship. Then I spent the rest of the time in the Pacific from then until I was discharged.

PAGLIN You were shipped out to where?

WARREN We went all over the Pacific. On our first trip, we took a load of Marines to Kauai, Hawaii. Then we came back and picked up another load and took took them to Guadalcanal. We came back and took another group to the Philippines and then went in for the invasion of Okinawa.

PAGLIN You were involved in the invasion of Okinawa?

WARREN Yes.

PAGLIN What was the role of your ship, yours in particular?

WARREN Our job was to deliver troops to the shore. The attack transport carries these landing craft.

PAGLIN Yes. I've seen them. They drop down.

WARREN Yes. LCVPs were the ones that carry men and the LCMs carry trucks and tanks. Our job was to get to shore, put the men in the boats, send them ashore and maintain contacts, radio and so forth, and get the guys ashore. We didn't get hit. We were missed a couple times by kamikazes. The miss was

as good as a mile.

PAGLIN It accounts for your still being here. How long were you there?

WARREN We were there for two-three days, that's all. Then they sent us down to the Philippines. Interestingly we went through a typhoon. Do you want detail?

PAGLIN Please. So you're going through a typhoon.

WARREN That happens to be the same typhoon that figured in the Caine Mutiny novel. Herman Wouk was also in that invasion and his ship went through that typhoon and that's why I understand he could write so well about it and put it in his book.

PAGLIN Now that's a small interesting detail. What other significant things while you were in the service? You were in the Philippines and this was around 1940s?

WARREN This is 1945.

PAGLIN So this is pretty close to the end of the war.

WARREN As you recall, it wasn't long after the invasion of Okinawa that we dropped the bomb. That wrapped up Japan. We went down to the Philippines. One other thing that happened of interest, that is quite important personally to me, was in Guadalcanal. We

went ashore when some captain figured it would be a good idea if we got some target practice. In target practice your ears ring and they semi-deafen you. When we got back to the ship my ears were still ringing and I could scarcely hear for several days. So I went to the ship's doctor and he said I'd have to just get over it. Well I never got over it. My ears have been ringing twenty-four hours a day ever since.

PAGLIN You've had this ringing all these years?

WARREN Since 1945. And my hearing was very substantially impaired. There's never been any hearing aid or any other device that could be used for that type of impairment. When I first got out of the service, my hearing began to diminish rather rapidly. In 1945, I was about resigned to becoming deaf. But it leveled off and it has stayed pretty level for all these forty some years.

PAGLIN Did you ever claim disability?

WARREN No, I didn't. The reason I didn't may sound foolishly quixotic. I had felt that I had a job to do, I did it. It was minor in terms of what happened to other guys in terms of their disabilities. I considered it minor.

PAGLIN Lucky to get away with what you did.

WARREN I didn't want to take any money. Never put in for

any disability. I felt very fortunate that the thing did level off. I have had difficulty in hearing situations ever since. I've found lots of guys who've had the same thing.

PAGLIN In the service. From noise impairment.

WARREN From the discharge of an explosive of one kind or another. Whether it was rifles or grenades or whatever. Some peoples' ears are much more sensitive. It sheared off those tiny nerve endings in the semicircular canal. Particularly the small ones which give you the highs. At any rate, I just feel fortunate that I have been able to do as well as I have.

Another thing of significance is that, when I was up in the Aleutians, I applied for OCS and after about six months of waiting it came back and said, "No, sorry." There was no explanation provided, so be it. It was very, very disappointing, of course.

PAGLIN Were you given a reason?

WARREN The reason was that they are not taking people in at that time. But I learned later that once you're an enlisted man in the Navy, that's it. You almost never go from the enlisted ranks to officers. Unlike the Army.

PAGLIN In other words you've got to go for your commission before you get in.

WARREN That's right. The only guy I ever knew who went from an enlisted man to an officer was a guy who became a pilot. They did want pilots. This kid had the right kind of reactions and so forth, so they sent him on as a pilot.

PAGLIN So from the Philippines, where did you serve?

WARREN Back to the U.S.

PAGLIN This was close to '45?

WARREN Summer of '45. August of '45.

PAGLIN Oh, you were down to the end already.

WARREN Right. And our ship needed some repairs. We put it in dry dock in Long Beach, California. I was on leave visiting a friend, a college classmate, who worked for United Press at the time. He was working nights. We went out that evening.

PAGLIN Was this in Long Beach?

WARREN No, in L.A. I had a hotel room. I said to him, "Gene," (this was after we dropped the bomb--any moment they were talking about ending the war) "you call me at any time if you get word about the end of the war. I'll be in my room." Then about 3:00 in the morning, he did.

PAGLIN He did!

WARREN I had hopped out of bed, tore down to his office and I saw people going to and from work, janitors or whatever at 3:00 a.m. and I kept yelling to them that the war is over and they looked at me like I was nuts. I guess I was one of the earliest to find out.

PAGLIN Because it was on the wire.

WARREN Gene was working there; it came through with the crew on the wire and he let me know right away. Well, that got to be one of the happiest days of my life.

PAGLIN I'll bet.

WARREN The next day I was in San Diego. They closed all the bars. They didn't want military people getting all drunk and tearing the town apart. One guy kept his bar open--The Silver Dollar.

PAGLIN This was August 8th?

WARREN I don't remember the date. Whenever the war ended. We went in. It was about ten deep and this guy was just pouring drinks for everybody. I picked up a gal there and we celebrated. It was marvelous.

PAGLIN Wonderful, wonderful.

WARREN Then we went out again and started bringing troops back. This time we went to the Philippines again.

Picked up troops and brought them back. They discharged people on the basis of how much time you put in the service and what campaigns you had been in. As a result I got out quite early because I had been overseas for three and a half years which is more than the average. As a result I got out in December '45.

PAGLIN So you were discharged in December '45. That was four months after the surrender. So then you came back to where?

WARREN I came back home to my parents, of course, and then I came to Washington because both of my sisters were working here. I came to visit them. I had not seen them for three or four years. While I was here I got to thinking, "Jeez, I'm going to have to get a job." I previously thought of taking six months off and spending the vast savings I had just having fun. I think I had maybe two hundred bucks.

PAGLIN I was going to say, a couple hundred dollars.

WARREN But then I thought, "Jeez, there's ten million other guys coming out after me. I better get a goddamn job before they come back." I was getting worried. So I went to all the newspapers here.

PAGLIN You actually then started plodding through.

WARREN I went through every one of them except the Times Herald, which I had no respect for. It was a rabid

right-winger type of outfit, as you well know.

PAGLIN There's a Hearst family member who was there?

WARREN Sissy McLean.

PAGLIN Yeah, it was McLean, but it was part of Patterson, that whole group. The Tribune ...

WARREN But there was no Hearst label on it.

PAGLIN No. The Tribune, The Daily News. That's interesting, let me ask you about it.

WARREN I didn't go to them.

PAGLIN By then, which is December '45, you were how old?

WARREN Twenty-five.

PAGLIN Twenty-five years old. How had you developed the antipathy to the right wing, if I may put it that way? What was it about your background, your reading?

WARREN My father was an ardent Democrat and an ardent supporter of F.D.R. I think I came very naturally by it to start with. Then working in the journalism school at that NYA job in the library, we got newspapers from all over the country and as a result I got very familiar with the Chicago Tribune, the Washington Times Herald, The New York

Daily News as well as a hundred others.

PAGLIN With their editorial policy.

WARREN I deliberately wanted to take that job so I could get familiar with the newspapers. I admired the Washington Post, particularly. They had no room at the inn at the Washington Daily News. They had no room at the Evening Star. They all said the same thing. "We have many veterans coming back, we have to hold jobs open for them." I had no professional experience because I had gone directly from school to the service. Then I went to the Post and I was talking to Ben Gilbert, the City Editor, in the newsroom where all the reporters were sitting at their desks and he told me the same story. He didn't know where he was going to put his veterans, but he had to give them preference. He had asked me what I did in the service. I told him I was a radioman. There was a reporter who overheard me mention it. He told me there was a guy starting a publication on television. He was looking for a cub reporter and he gave me Marty Codel's name.

PAGLIN You're kidding. You just happened to be at a certain place at a certain time.

WARREN Exactly. I went over to see Marty Codel. He started Television Digest on September 1st. Well, Marty had spread the word among the Press Club, among everybody he ran across, which is not difficult when you spread the word, "Hey, if you

know any person who looks like they can do such and such a job, let me know. I need a couple of reporters." I went to visit Marty and he promptly offered me a job. I said I didn't plan to come to work that soon. I wanted to take some time off and then he told me how much he would pay me. Well, I had to give that serious thought.

End of Tape 1, Side A

WARREN Because it was the kind of money I had never heard of before. When I was a journalism student, if you could get a job as a reporter it was about eighteen bucks a week. Marty said he paid by the month, "I'll give you $175 a month." That's like $40 a week.

PAGLIN That's like $40 a week.

WARREN Holy shit! I never heard of that much money!!

PAGLIN I know what you're talking about.

WARREN I said, "Well, I'll let you know. I have to go home and think about it." I went back to Warren.

PAGLIN You didn't pick it up right there?

WARREN No, I was thinking. Do I want to stay in Ohio? Do I want to work for a newspaper? Do I want to get into this kind of thing, the specialized thing? While I'm thinking about it, I get a phone call. Marty called me. Long distance yet!!! I was still awed by long distance.

PAGLIN Yes. Yes.

WARREN He wants me to come and he said, "Right away." Shit, if this man wants me that badly, how could I tell him no?

PAGLIN Right.

WARREN So I took the job.

PAGLIN Very good. Very good.

WARREN And I've been with this outfit ever since.

PAGLIN Actually you reported to duty when?

WARREN At the end of December.

PAGLIN In 1945?

WARREN 1945.

PAGLIN Where were they located at the time?

WARREN 1519 Connecticut. Between DuPont Circle and Q Street. There is now an art gallery there called Gallery 10.

PAGLIN So your first job was as a cub reporter, really. What did Marty have you cover at the time? What were your first assignments?

WARREN It was almost anything. It could be rewriting a press release; digesting a long article; calling somebody to cover a development; go over to the FCC and work up things we call supplements, such things as all the FM applications pending.

PAGLIN I remember that well.

WARREN I'd go over there and see Kitty Lunders and Fleta Dove.

PAGLIN I remember them!

WARREN Do you remember them? Tilly Iehl? And go through each application and digest it. I have copies, of course, of all that stuff--about a thousand FM applications.

PAGLIN In 1945 was the very first time when they changed the FM allocation, you remember? They expanded the allocation and then opened up the gates for new stations, right?

WARREN They went from the low band to the 88-108 megaHertz.

PAGLIN So there was a flood of applicants.

WARREN A flood.

PAGLIN Nobody believed in them at the time, but still and all.

WARREN It was a flood. Everybody was applying. It were over 1,000 applications.

PAGLIN Which was a lot at that time.

WARREN Damn right. There were only about 700 to 900 AM stations. The reason they wanted to apply was for

insurance. They wanted to make sure that if anyone got them, they got them. As you and I know, it took almost forty years before FM finally came into its own and, now AM is hurting. It's taken a long time. I don't know how many hundreds of applications granted that they just sent back. Same thing was true with television.

PAGLIN You remember I worked with Henry Geller in 1948 to '49 when I switched from common carrier and went to work for Harry Plotkin. He assigned me to Hilda Shea. You remember Hilda Shea?

WARREN I remember.

PAGLIN In the FM section with Henry Geller. This was '48, beginning of '49. No, excuse me. That would be '47 to '48.

WARREN I remember Cy Braum was in charge of it.

PAGLIN Right. Exactly. He was in charge.

WARREN ... when I started covering it. And Johnny McCoy was in charge of television.

PAGLIN That's right. We were next door to each other. Joe Nelson worked with McCoy. Anyway, in those days, as you say, if I may contribute something, FM was something new. It was given away as a bargain. They never charged for FM. The AM station never charged for FM broadcasting.

WARREN Right, there were no receivers out there.

PAGLIN Let me just digress a second, I say it to this day. At that time I never thought I'd live to see the day when there would be comparative hearings for an FM channel. Today there are hundreds of them. So, anyway, go ahead. That was the general kind of work.

WARREN I worked for a man who was brutally, brutally hardworking. Very harsh taskmaster. Marty Codel was a wild man.

PAGLIN I remember Marty.

WARREN Well, you probably didn't see much of that side of him. He exhibited to the general public congeniality, pleasant, but he was a son-of-a-bitch. Seven days, seven nights. His idea of getting something done was ... we used to put the Factbook together semi-annually. You do the paste down, putting it together physically, laying it out. The summer issue on the 4th of July, because the phones wouldn't be ringing and we could get some work done. That's the kind of guy he was. I was so stupid that I didn't leave because he kept raising me into heights of money that I never dreamed of. I never thought there was that kind of money around. Essentially, I was fascinated with television. You covered programming, engineering, legal, congressional, White House, whatever. It got such a variety, it was growing like crazy.

Television took off like ...

PAGLIN Before '48. In '48 they imposed the freeze; so before '48.

WARREN That's right. There were no sets made in '46. The manufacturers had not been able to convert to receiver manufacture. But in '47 they built a hundred and some thousand sets, in '48 maybe close to a million.

PAGLIN A million sets in '48.

WARREN We've got all those statistics in the Factbook. '49 maybe two or three million and it just grew like that. Very, very fascinating. I got caught up in the thing. That's how we got started in this business.

PAGLIN So you stayed on with him right on through. Now we're getting into the ... It's about this time, when the Commission began to hear the little, little rumblings of this thing called Community Antenna Television. Right?

WARREN It was 1949.

PAGLIN Is there anything else that you wanted to tell me about your early personal history and how you got into journalism? You're already a communication journalist. Right?

WARREN Right.

PAGLIN What about your relationship with Marty Codel?

WARREN It was my intention, as I mentioned earlier, that I wanted to become a journalist because it seemed to me that the whole world was open to me to cover. I had such broad interests. I was hesitant at going into this television thing. It was called Television Digest with FM Reports. These were two futuristic media. I was hesitant because my intention had been to go into general newspaper work. But I think I kind of chickened out because: (1) I felt that I was going to be up against all these people who had years of experience trying to get a job; (2) I was fascinated with the thought of television, which I had never seen, and FM, of which I had never heard; (3) working in Washington. Putting those all together, it sounded quite exciting to me. I do wish, to this day, that I had worked for a few years on the newspaper. But it's just one of those things. We were a very small organization.

PAGLIN How many people worked with you and Marty?

WARREN There were Marty, Earl Abrams and myself. You know Earl, of course.

PAGLIN Yes.

WARREN Earl started out with Marty right from the very

start.

PAGLIN Did he precede you?

WARREN Oh yeah. He had worked at the Signal Corps as a civilian during World War II. Marty got to know him. So Earl went to work for him even before they started the publication, preparing for it. So there were three of us reporters and a secretary. Marty was a very, very hardworking reporter. That's what we were until 1950. I guess it was 1950 before we hired another reporter--Dave Lachenbruch.

PAGLIN Really? Dave goes back that far?

WARREN 1950.

PAGLIN I had no idea.

WARREN He and I are the only real old timers, in that respect, from the original.

PAGLIN Dave is in New York?

WARREN He's in New York.

PAGLIN Does he head up the New York operation?

WARREN Yes. He is the world's dean of consumer electronics journalists. Absolutely the tops.

PAGLIN I remember when he was down here.

WARREN Very, very talented man. The best in the world.

PAGLIN That's fascinating. The only thing that I remember about Marty Codel, having met him a couple of times, was this business about you both having a kidney stone in the same week in 1953.

WARREN I don't know if it's that close together, but it was shortly after he had his that I got mine. And yours was not too much later.

PAGLIN May of '53, that's how I remember that. I had another one in October of '53. That's how I remember there's kind of a binding when you got yours.

WARREN Yes. It became quite a cadre. Marty and I had the same birthday; he was born on May 18th also. As was Harry Plotkin. We would call each other up on birthdays. The Pope also has the same birthday.

PAGLIN He did?

WARREN The current Pope. In fact, he and I were born on the same day.

PAGLIN Year and date?

WARREN Yes. 1920.

PAGLIN Kate Smith was born on my birthday, too. We'll stop here for today and we'll set up another date satisfactory to you.

End of Tape 1, Side B

PAGLIN Good morning, Al. This is now March 8, 1988 and we're about to start the second session of this oral history. What I'd like to do today is to pick up on your early involvement with the cable industry in terms of your contact with other cable pioneers and some of the cable industry leaders. Particularly what were the early cable "press relations" like. What were some of the early headlines and most interesting things, and how did things change during the early years. We were just beginning to discuss your assignments under Marty Codel with T.V. Digest.

WARREN I was given assignments of all kinds. Ranged through everything. I covered every kind of story, compiled every kind of special directory, supplements, we'd call them. I got a taste of a great deal of things. The FCC was one of the focal points of our coverage. We also covered station activity, network activity, things of an engineering nature, legal nature, programming, the whole ...

PAGLIN The whole gamut.

WARREN Little by little, I became more and more familiar with those things, but I had started out with no knowledge of any of it.

PAGLIN Who were some of the first people that you built up some kind of a relation with of the industry, the FCC, and perhaps on the Hill? Let's see, what

years are we talking about now?

WARREN Starting at the end of '45.

PAGLIN So, the end of '45. There wasn't really that much interest on the Hill. In fact, they probably didn't even know what it was about, did they?

WARREN Relatively little. Although they developed arguments and fights over different questions of standards, for example, the shift of FM from a lower band to a higher band which had occurred just before World War II. They were putting it into effect just after World War II. People who objected to that switch, figuring that it was slowing down FM growth, complained to everybody who might listen, including their congressman. There was that kind of conflict raised up on the Hill. If the broadcasters were unhappy with the FCC for one reason or another, they'd run to their congressmen, the committees and so forth, and try to lobby those things through.

There may not have been much activity in the industry in terms of actual television station broadcasting and set manufacture, at the time. There was a lot of preliminary fighting and legal and regulatory maneuvering. Since I knew nothing about those things, I was put into it gradually and began to learn something about them. I was very eager and excited about the whole thing and very young. I was 25 but in terms of experience, I was

where I would have been three years earlier, except for the war. Essentially, fresh out of school, excited to be in Washington. I was a very naive kid, actually, having spent my youth on a farm. I got a big kick out of meeting the people who made the news. Paul Porter was chairman of the FCC and he was a very witty fellow and it was a great deal of fun to report him in action. The other commissioners, the staff of the FCC, they mostly taught me about this business of which I knew nothing.

PAGLIN Harry Plotkin was there at the time?

WARREN Harry. But he would not have much contact with the press. He distrusted the press. Largely because, until we came along, I think, the dominant publication in the field was called Broadcasting Magazine which was violently anti-FCC. Harry, I think, tended to lump us, at first, with them. Later on, he became very friendly, because we were straightforward reporters. Among staff members, I don't think I met you until a few years later. In those days you were a common carrier lawyer, weren't you?

PAGLIN I started out in '45 with the Common Carrier Bureau, but then I came over to broadcasting in '47. In fact, I was with Harry first in the FM section at the time which you mentioned when the new allocation was first being implemented. Working with Hilda Shea, Gene Mallyck, Al Hall.

And the engineer was ...

WARREN Cy Braum. On television there was John McCoy. He was television.

PAGLIN Henry Geller worked with John McCoy. Joe Nelson did too.

WARREN I don't know when Henry came on the scene.

PAGLIN I think he came on in '49.

WARREN Joe Nelson was another one. Curt Plummer was in television at that time. He was a great teacher to me of the engineering science. What 525 lines meant, fields and frames, megaHertz versus kiloHertz--in those days called megacycles and kilocycles. The people were patient with me and I managed to learn.

PAGLIN Your relationship with the FCC personnel and staff was a fairly good one?

WARREN It was. I was very, very indebted to them. They took out time to teach. Really, they had to teach me when it came to talking about how the systems work. Allocations of channels, interference, contours, grade A, B, what have you. All of this was new to me and they steered me into documents, answered my questions. I particularly remember how patient Curt Plummer was in explaining these things to me. He later became, as you know, chief

engineer. From the engineering side, he did sort of the same thing you did on the legal side.

PAGLIN Every position there was.

WARREN The same was true for people such as John McCoy, Gene Mallyck and Cy Braum. I didn't do much on the AM side in those days. What we did was to encourage FM. Codel himself and Earl Abrams did most of AM largely because they had the experience in the field. AM was then the big business.

PAGLIN So you were growing up with FM and TV, in effect.

WARREN Right. We've always prided ourselves on what you might call futurism, trying to be on the frontier--technological and so forth--which we have done quite well through the years.

PAGLIN I'm trying to remember because, as you say, I was around at that time. Did T.V. Digest, at the time, have their technical section and manufacturing as they have now? Now that the sheet is divided up into two parts, so to speak.

WARREN It didn't start out that way. We mixed all the news on them throughout, but that wasn't for too many years. I don't remember when it was that we found that the manufacturing and distribution of hardware was a rather separate sort of thing and segregated the publication into those two basic parts.

PAGLIN Particularly since that (manufacturing and distribution of hardware) aspect was really not regulated by the FCC. Except for standards.

WARREN That's right. Standards. Which, of course, were ...

PAGLIN Critical.

WARREN Big, big battles over those.

PAGLIN Oh yes. In those days particularly.

WARREN We were really the only people who were terribly enthusiastic among publications about the future of television. As such, we covered the manufacturing and distribution of receivers which just about everybody else ignored. Fortunately, we became expert in it and maintained the leadership position ever since. It was good to get acquainted with all those people. Names that have disappeared and as young people today never have heard of, who were very, very important in those days. Such names as Ross Siragusa.

PAGLIN Oh, now you're bringing me back.

WARREN The president of Admiral Corporation. At one point I think he was the largest manufacturer of TV sets. A name such as Allen DuMont who was noted for his belief in large pictures. He considered large pictures the future.

PAGLIN Large screen.

WARREN Anything from twelve inches on up. Because the most dominant size was ten inches to start with. The second in numbers was the seven inch. He pooh-poohed all these tiny screens. He built the Rolls Royce of the industry. Quite a guy.

PAGLIN He was located, at the time, here in Washington.

WARREN No, in New Jersey.

PAGLIN Jersey. Did he not have the first experimental station up on Lee Highway? We lived near there, I remember in those years. Edison Street and Lee Highway was the first experimental tower.

WARREN I don't know where his tower was, but his studios were in the Harrington Hotel.

PAGLIN Old Channel 5, wasn't it?

WARREN That's right. Which it still is. Just for the fun of it, let me look and see if we designated the location of the tower at that time.

PAGLIN You're looking at the old edition of T.V. Digest.

WARREN I know where that is. I loaned it to Gene Edwards of my staff.

PAGLIN I remember it. We lived just two blocks away on

Lee Highway and Lee Road. It was right up the hill there on Edison Street and Lee Highway. In fact, the towers are still up there on various experimental projects, and I don't know who else has it. Those were the first experimental TV towers up there. Who else was selling?

WARREN Among the early manufacturers of receivers a man named Frank A.D. Andrea. He named the receiver after his own name, his initials--F.A.D.A. At one time there were between seventy-five and one hundred manufacturers of television sets. Now there's only one U. S. company that makes any sets. Zenith. ONE!! That's owned by an American. Just incredible. RCA is now owned by Thompson of France. Philco, Motorola, Magnavox--all foreign manufactured.

PAGLIN GE.

WARREN GE is still owned by GE but they don't make sets anymore. What they sell, they import. The consolidation, the mergers, the dropouts--incredible. The Pilot set is interesting. The Pilot claimed to be the first portable. And in a sense it was. It was a three-inch picture. They were all tube sets then, of course. There were no transistors. So, as a result, the set was maybe eighteen inches wide, five inches high, and about ten inches deep. It weighed perhaps, ten to fifteen pounds. That was considered portable. My New York City chief, Dave Lachenbruch, has got one

of those. It's a rare set. I find the whole business very fascinating.

PAGLIN Now I want to start bringing you down toward the years moving ahead. You run into 1948 when the Commission imposed the TV freeze. At that time they felt that the initial allocation scheme which had only seven channels was inadequate, right?

WARREN No, it had thirteen.

PAGLIN Thirteen channels, excuse me. Thirteen TV channels, right. Simply not enough. So they imposed a freeze from '48 to '52.

WARREN Right, well, the imposition of the TV freeze to start with, was not primarily because they didn't have enough channels. The reason for it was that the stations were put too close together. They were causing unacceptable interference with each other. The Commission concluded it had made a mistake and that the stations that were on the same channel had to be separated a greater distance. What's it called?

PAGLIN Co-channel interference.

WARREN Or on the next channel. Called adjacent-channel interference. They were producing interference so that the result was that the average station, in many situations, was not getting out very far. The people out on the fringes were getting such

interference they couldn't watch the picture. I believe that the first and most egregious difficulty that cropped up was between Detroit and Toledo. That's where the real difficulties became apparent. So they stopped everything and said, "Hey, let's not authorize any more stations while we find out what we should do about it." Well, while we're at it, let's provide for the UHF. That is where we'll get more channels, additional channels, where we allow for more stations. Then while they were doing that, they ran into the color television problem. Why? Because, in determining what kind of interference stations gave to each other, the question arose, "Well, what if they are broadcasting in color? Will the interference be different?" The question arose, "Well, depends on what kind of color system you can get." Then the whole thing was diverted into a battle between RCA and CBS, primarily, about whose color system should be adopted.

PAGLIN What was the thinking? Did they feel that the technical parameters, the characteristics of color would have some different effect like light in terms of contours, service boundaries?

WARREN Basically, it was this: We were not broadcasting in any color system. We made a big mistake when we put the channels down in black and white because we put some too close together. Now we have to go through this whole thing of determining how do we reshuffle.

PAGLIN This is the Commission speaking.

WARREN So they said, "Look, we're not going to make a mistake again. Let's find out. We'll pick a color system and see if actually the interference problems are different than they are with black and white. So we don't make the same mistake again." That's why color intruded into the freeze, because the freeze basically was an allocations issue. Allocations meaning, "Where do you put these channels? Do you put this channel in this city or because of the interference it may create to other cities?

PAGLIN I had always been under the impression that that would basically be the problem involved. My first training in broadcasting was in terms of allocation, but that's interesting that I had not heard it put that way before. That they were concerned whether color would act the same way as black and white, in effect.

WARREN They then said, "People are pushing color. We better find out which color system we choose here and what the interference problems are. Let's not duplicate the error we made in black and white."

PAGLIN This was already what year? Around '48?

WARREN 1948 is when they clamped down with the freeze. The color battle, of course, had been going on even before World War II.

PAGLIN It had been?

WARREN Even then CBS was pushing its system to most of the industry, which was against it. CBS resumed its battles to get its color system approved by the FCC. The rest of the industry, primarily led by RCA, claimed CBS was the wrong system. It's not good enough. Of course, it was "incompatible." Meaning that if you broadcast with the CBS color system, the existing black and white sets would get no picture.

PAGLIN CBS was the color wheel concept, right?

WARREN Right.

PAGLIN A high fidelity picture, right?

WARREN No.

PAGLIN It was not?

WARREN It was not high fidelity. It was fairly low fidelity. They used the color wheel in the system because it was the only device they had, at that time, that could make a decent color picture. But the system was not inherently mechanical. Mainly, as soon as the color tube was invented and developed, it could be used on the CBS system as well as any other system. So the industry that opposed the CBS system made a big play about how mechanical it was. But that was not inherently

necessary for the CBS system. It was the only way they could get a decent picture before the color tube was developed. The real problem was compatibility first. Then there were other questions of quality.

The CBS system had a low field rate, they call it, how many pictures per second. The fewer pictures per second you have, the more likely you are to have what is called "flicker." Say these fluorescent tubes light up here. They are going on and off, essentially, at the rate of sixty times a second, which is the rate of the electricity system in this country. If you reduce that down to fifty or forty, pretty soon you are going to see it flickering. The eye begins to ...

PAGLIN Detect it.

WARREN Right. That's why when you go to Europe, particularly Britain, where they have the fifty cycle power system, and the fifty cycle television system, I find the flicker, at first, just horrible. But I get used to it after a while. Also, that limits the brightness of your picture. The brighter you make it, the more prominent is that flicker. Furthermore, inherent in the CBS system was a much lower definition, detail, potential, as compared with a conventional television picture and the final television color system which was finally adopted. I covered that whole thing as closely as anyone has ever covered

anything in the FCC.

The Commission had many, many days of hearings and I sat through all of them. That was through four years. A battle. I covered that at times, exclusively--the color television problem--and got to know all of the players very well. Ranging through RCA's Chairman Sarnoff.

PAGLIN General David Sarnoff?

WARREN Right. And CBS's Bill Paley, although he left most of the work, not so much to Frank Stanton, the president of CBS, as to Peter Goldmark, the head of the TV technical group. My boss, Marty Codel, made no bones about the fact that he thought that industry side, the RCA-led side, was right. He would write stories that were biased. It could be seen. As a result, the CBS people were quite disgusted with him. Each Monday I used to bring a stack of the Digest to the FCC hearing room and pass them out to all of the parties. Peter Goldmark used to say, "Let's see what you have in Television Indigestion today."

PAGLIN Wayne Coy was the chairman through these hearings. Harry Plotkin was probably one of the principal actors on the staff.

WARREN He was the principal Commission counsel. He ran the hearing.

PAGLIN Who was the engineering guy?

WARREN Ed Allen was chief engineer.

PAGLIN Ed Allen was chief engineer at the time.

WARREN He was the principal there. The FCC lab also.

PAGLIN George Sterling, was it?

WARREN No. George was a commissioner then.

PAGLIN I should know that. I was his legal assistant.

WARREN Ed somebody else who was the ...

PAGLIN Turner?

WARREN No. Of the FCC lab and his assistant, they were pro-CBS. They did ... Ed Chapin. Ed Chapin and Bill Roberts. Chapin was the chief and Roberts the assistant and they were so pro-CBS that they even developed a device which they said would make the CBS system compatible. Well, it wouldn't quite do that. But they were definitely pro-CBS.

PAGLIN In the interest of future researchers who may not be familiar with the term "compatibility," please explain that problem.

WARREN That was the heart of it. Black and white sets were being produced at a very rapidly accelerating

rate, at that time, starting in 1946.

PAGLIN Right after the war, the hunger for TV sets.

WARREN That's right. I'll give you some of the numbers of how those receivers grew in those early years. If you want to hold the tape a moment I'll give you some of these figures which I think are quite pertinent.

Television set production. I'll give you some significant figures. These are not too well known outside of the industry. In 1946 when they started making sets again. I'll step back. Just before the war, the FCC approved the commercialization of television. About five or six thousand television sets were made.

PAGLIN This was in 1940, 1941.

WARREN Yes. I think it started about 1940. Until, of course, they stopped all set-making during the war. About five or six thousand were made and sold before World War II. The industry spent the end of 1945 trying to gear up and get ready and they built a few sets in 1946. About, as I recall it, it might have been under 10,000 sets. But 1947 was the first substantial year of set production. They built 178,000 sets in 1947. You'll see how these escalate. In 1948, 975,000 sets; in 1949, 3,000,000.

PAGLIN Three million in 1949?

WARREN Three million. In 1950, 7.5 million. In 1951 there was a cutback. Due to the impact of the Korean War, it went back to 5.3 million; in 1952, six million; in 1953, 7.2 million; in 1954, 7.3 million; in 1955, 7.7 million, and so forth.

PAGLIN Right after the Korean War was over, there was again this tremendous explosion in the production of sets. That was the time when the color television controversy came about.

WARREN The reason I bring these numbers in is because of the issue of compatibility. With every black and white set sold, that meant there was a home with a television set that would not be able to receive even a black and white picture from the station broadcasting the CBS color. Because the parameters, the standards, were different. It would just give you a bunch of meaningless jumble. The RCA color system was compatible. That is, if you had a black and white set, you'd get a black and white picture out of it, even if the station was broadcasting in color. If you had a color set, you'd get a color picture.

PAGLIN Even though the station was broadcasting in color.

WARREN That's correct. Compatible means, all right, you've got a black and white set. At least you continue to get black and white. If you want color

you buy a color set. It means that every one of those sets will continue to be useful. Even though color was broadcast. That was the issue that the industry, primarily manufacturers, was pushing. So CBS was very, very concerned because the sets were being made and there would be more and more out there that wouldn't be able to get a picture out of the CBS color system.

PAGLIN Those stations that adopted their system.

WARREN Yes. If they did that, then pretty soon it's clear that you will have ten, fifteen, twenty, twenty-five million sets out there. You can't tell the people owning those sets, I'm sorry, CBS color is on, you can't get anything. That, everybody agreed, would be impossible. So CBS had that terrible anxiety to get their system approved quickly before the flood of black and white sets rendered theirs impossible.

PAGLIN A little footnote. As I recall, the same situation took place in '45 when they expanded the FM band. Again, there were sets out there that could not receive it. The question is, "What should you do?" RCA, again, had a lot of sets out there at the time.

WARREN There weren't many FM sets built for the low band. I don't know the numbers but they were relatively few. What troubled the advocates of FM was that the Commission said, "We don't have enough room

down there in the forty-some megaHertz area. We're going to move it up into the 88-108 megaHertz." (Megacycles, as they called them then.) It will give you much more room and also they claimed better reception, better quality, etc. It was fought, very, very vigorously by Edward Armstrong, the inventor of FM. He claimed this set FM back because the few FM stations that were broadcasting would have to change their equipment. The few FM sets that were in existence wouldn't be useful. You couldn't receive these on a different frequency.

PAGLIN Wasn't there also a story that went around of Armstrong's antipathy and anger at General Sarnoff and his suspicion that Sarnoff had a role in this whole thing because it was not his system?

WARREN This was a thing he asserted and claimed. Sarnoff, as a matter of fact, had his people develop sets to receive FM without using the Armstrong patents. Armstrong called these "fake FM" and started a patent infringement suit. The thing that added a sort of personal aspect to it because Armstrong married Sarnoff's secretary.

PAGLIN (LAUGHTER) I didn't know that.

WARREN Yes. I don't remember the year but after years of struggling, Armstrong committed suicide. After that, Sarnoff ordered the suit be settled by giving Armstrong's widow a million dollars.

PAGLIN How much?

WARREN One million dollars.

PAGLIN Getting back to the color controversy expansion of television. The NTSC, National Television System Committee, had a role in there. Give me a little detail, for the record, on how the committee was formed. It was an intra-industry committee. Was it formed by the FCC? Was it encouraged by the FCC?

WARREN It was encouraged. The people who opposed, primarily the CBS system said, "Let's get together and, essentially, develop the right kind of system." RCA led that group because they were doing most of the work. They named this committee the National Television System Committee. Its purpose was to recommend to the Commission what it thought was the best color standards. Everybody was invited to participate, including CBS. The chairman of that was Walter Ransom George Baker. Baker was from GE.

PAGLIN Bell Labs or GE?

WARREN GE. He was a Ph.D so he was known as Doc Baker. Walter Ransom and George Baker headed this industry group. RCA obviously saw the advantages in having a whole industry work with it, instead of saying, "We're the only one." They had torn feelings because they wanted the same kind of value for all

their patents--a very important element of income and profits to RCA. At the same time, they wanted to show the government, primarily the FCC, "Look, this is an all-industry affair; we're not doing this all alone!" As a matter of fact, there were developments offered and produced by other manufacturers and other laboratories that finally appeared in those standards and were finally adopted by the FCC--that RCA had agreed and accepted that they were valuable improvements on the system.

PAGLIN They took, of course, cross licenses on it, probably?

WARREN I guess so. Most notably among these were the Hazletine Labs. One particular inventor there at Hazletine was Barney Loughlin, who, if I'm not mistaken, developed what is known as the "mixed highs." Namely, it was a factor that decidedly improved the system. At any rate, there were contributions from others beside RCA. It should be pointed out that the RCA system was really scarcely out of the cocoon when this whole thing broke. It was not well developed at all. It was being pushed in a frantic effort by RCA to try to dominate the field. It suffered from horrible pictures early in the game.

One of the most terrible episodes, from RCA's standpoint, was a hearing demonstration the FCC had. It was in summer, on the top floor of the

Washington Hotel in D.C. The temperature was over a hundred in that room and the air conditioning was not working. RCA did not have the color tube developed yet and it did not use a wheel. What they did was use three picture tubes. One tube would provide a green picture; one would provide a blue; and the third was a red. Those three tubes were so set up in a huge cabinet with mirrors--they called them dichroic mirrors--that would let certain colors through and not let others through. All three of those would be precisely in line so all three would come together and give a full color picture. Well it was almost impossible to maintain the registration of those all together. There were some ghastly pictures. I had never seen a bunch of more elated people than the CBS people that day. Or more dejected and frantic than the RCA people.

PAGLIN When was that? Do you have any idea, approximately?

WARREN In the middle of things, maybe about '50 to '51. You'll find all of these things written, primarily from the RCA standpoint, in this book by George Brown who led RCA then. He was the one who had to carry this through. In this book, by the way, George, who just died a couple of months ago, borrowed my old issues of the Television Digest.

PAGLIN Recite for me the title, for the record, of the book.

WARREN Part of the quotation reads: "... and part of which I was." He autographed a copy for me.

End of Tape 2, Side A

WARREN He said that title comes from John Dryden's translation of the Second Book of the Aeneid.

PAGLIN Well that should please some of the scholars. He tells that whole story. This now brings us up to like '52 or so--right?

WARREN Somewhere in there. I could track it down, if you want.

PAGLIN No. We're talking in that ballpark, right? We're already beginning to impinge upon that period of time when, independently, cable television began in its infancy. Is that not correct?

WARREN That is correct.

PAGLIN Tell us about that. How that began to come in.

WARREN If you like I'll just give you a very quick conclusionary thing on the color battle.

PAGLIN Oh yes. Wrap that up.

WARREN The FCC concluded that the RCA system, the All Industry System wasn't right, ready, yet. It wasn't good enough yet. And that the CBS system was. The FCC approved the CBS system as the standard. RCA and others appealed that decision and it went as far as the Supreme Court. The Supreme Court endorsed the FCC decision. It would not unravel it. CBS had to face the problem of

trying to sell the system to the rest of the industry. It wasn't having much luck at it, really. It was really a pyrrhic victory. Then along comes the Korean War and, I think, through some adroit lobbying by the anti-CBS forces, they persuaded the Commerce Department which had control of materials to say, "You can't make any television sets because it takes vital materials needed in the war effort." Everybody breathed a sigh of relief, including CBS.

PAGLIN I was going to say that, too.

WARREN Yes. As a matter of fact they bought a set manufacturing company and started making what they call the CBS Columbia sets. Nothing happened. They were delighted to drop the whole thing. Bill Paley, in his biography and all the books that were written about him, never was happy with the results of his entry into the mechanics and manufacturing business. Never worked out for him--for every effort they did in those areas. He is alleged to have said something to the effect of, "If Peter Goldmark keeps winning these cases, then we'll go broke." However, Peter did later invent the long playing record for CBS which was a great success.

Enough of that. The industry came back later and said, "Here's the RCA system under the FCC and look at how good it is now." The single color picture tube was developed by then and it was producing a good picture and the FCC says, "Fine, go ahead."

And that was the end.

PAGLIN That was around the end of '52?

WARREN '53 or '54.

PAGLIN Now we are already in '53 to '54 so we're beginning to show some progress in the early days of cable television.

WARREN You've got to go a step back.

PAGLIN Right, to about '48 to '49.

WARREN Start back, essentially to '48. The FCC said, "Hey, we've got to stop construction of television stations here because of our faulty allocation plan." That's 1948. So the stations that had been approved before that hadn't been built yet, certain of them, the FCC let them go ahead and build them. They were in positions where they knew there couldn't be any problem regarding some of the allocation.

PAGLIN Out in the boondocks or areas where there was no interference.

WARREN As time went on, people began to clamor for television and many of them couldn't get any. All of their relatives and friends were coming back and they visited them, they'd see it here and ask, "Why can't we get it?" The Commission began to get very

embarrassed about this whole thing. Here they had predicted that the freeze analysis, the start in '48, the whole thing would be over in nine months, maximum. Nine months. As you see, it took four years. In that period, people began to ask, "How the hell can we get television with too few stations around?"

Some bright guys developed, essentially, what was cable and also little repeater type stations. Little things that would pick up distant stations and repeat them by rebroadcasting them. Many of these were completely unauthorized, illegal. The cable was much more attractive to people in the industry because you could make money on it. You couldn't make money on them taking a little station and just rebroadcasting this. How do you charge people for it? They can pick it up and say, "The hell with it. I'm not paying for it." Cable is just like a telephone. You've got to have a wire.

So, as far as I know, the first story I ever wrote on cable was in our August 13, 1949 issue. I had never heard of cable before and I had been covering the industry for four years so I'm satisfied this is the first cable system. [I have since learned that Parsons reported that he started the system on Thanksgiving 1948.] It's just one paragraph long and if you like, I'll read it to you to tell you the very first story that I think any trade paper carried also. It reads as follows:

"Soon to apply for uhf experimental, will be E. L. Parsons, owner of KAST, Astoria, Ore., who got lots of publicity in AP dispatch about his pickups of Seattle's KING-TV (formerly WRSC-TV), 125 mi. away, with high gain directional array--feeding via coaxial cable to 25 "subscribing" neighbors. It's really a sort of "satellite" operation, but FCC engineers aren't too sanguine about idea, wonder whether he's charging for service (if he is, must file tariff with Commission); also whether Channel 5 signal is ground wave or tropospheric. Parsons also runs marine radio service for Columbia River fishing boats."

WARREN That, to the best of my knowledge, is the first story ever written about cable television in the trade press. It satisfied me that this was the first cable system in the United States.

PAGLIN I've always described it as one of the few cases of simultaneous invention. You had somebody on the West Coast who knew nothing about what was going on, on the East Coast and vice versa. The people in Pottsville and places like that in Pennsylvania wanted to sell television sets and they'd come up with the idea of putting up an antenna and hooking up the houses as they went along. I'll let you tell the story of how you learned about the Pennsylvania operation. That is true, Ed Parsons, is certainly one of the first ones because there is a marker out there near Astoria which speaks in terms of 1948.

WARREN Well, Parsons doesn't claim it before 1949. He says it was '49. [I've since learned that he reported that he started on Thanksgiving 1948.]

Cox had that marker put up when they owned the system. I don't think they still own the system--Cox Broadcasting. The guy who claimed most vociferously that he is the first is John Walson. The company is called Service Electric.

I started putting together directories of cable systems in T.V. Digest in 1952. I wrote and sent questionnaires to everybody who I had heard might be operating a system or planning one, including John. They sent these questionnaires back and among the questions we asked were, "When did you start the system?" Walson's questionnaire said, "1950." Every year, I'd send him questionnaires like I'd sent everybody else and every year it would come back "1950."

From 1953 to 1966 his system, which is in Mahanoy City, Pennsylvania, every year the questionnaire came back indicating the date of beginning as December 1950. In 1967, his questionnaire came back listing "began in 1948." Ever since 1967. I think it speaks for itself.

PAGLIN For the record.

WARREN Further deponent sayeth not. I had a fascinating experience, oh maybe, five or seven years ago. Parsons, not too long after he ran his radio station and cable system, moved to Alaska. He, among other things, worked for the state of Alaska and built their entire communications system.

Apparently, he was a fantastic sort of guy. He never stayed in the cable industry. He never came to a cable convention. He had nothing to do with cable. Somebody invited him one year to come to the national convention. I had never met him in person. I had spoken to him on the phone. He'd been in his seventies and I was at the exhibit booth of the Jerrold company on the convention floor.

PAGLIN Do you remember where this was?

WARREN I don't recall where this was.

PAGLIN Do you know what year?

WARREN I don't recall that either. I could look it up but it would take some doing. Oh, it was in Dallas. I think, I'm not sure, but I think we were staying at the Loew's Anatole. At any rate, I was talking to somebody at the Jerrold exhibit and along comes this gentleman and I look at his tag and it said "Ed Parsons." I said, "You're Ed Parsons." I introduced myself and I said, "What a joy to meet you." I started reminiscing with him, what he had been doing, why he was at the convention (somebody had invited him). While he and I were chatting along comes John Walson. I said, "Hey, John, you guys have got to meet each other." I introduced them to each other. John Walson, who had a very brusque mannerism about him said, "You got any cable systems?" Parsons said, "No." I said,

"John, Parsons built the first system in Astoria, Oregon." "Huh, oh when you build your system?"

PAGLIN He had an accent, John Walson.

WARREN Sort of an accent. Clearly he was brought up by Polish parents.

PAGLIN His real name was John Walsonavich.

WARREN He cut it down many years ago. This is the way he spoke, "Oh you, you build a system, huh, when you build it?" Ed said, "I built it in 1949." "Oh, I built mine in 1948, so I was ahead of you." Parsons said, "I don't know when you built your system. All I know is when I built mine." "Well, I built mine first, 1948." A little more palavering broke out. A little later that day or the next day, I'm in front of the Anatole waiting for a cab and here's John out there and a bunch of us waiting for cabs. "Hey, Al, come on I want you to tell these guys here. We met this guy Parsons and he said he built his system in 1948 and he said since I built mine in 1948 I was first." I said, "John, he didn't say anything like that. All he said was he built his in '49, he said he didn't know when you built yours." [Re-reading the foregoing, I recognize there's confusion. As I recall it, Parsons said "1949" in his conversation with Walson. In light of the fact that his oral history for the Center reports 1948 as the date, I remain uncertain--Al Warren.]

PAGLIN There's still an ongoing fight among the Pennsylvania cable pioneers--among them Bob Tarlton and Marty Malarkey--about John Walson's claim. There's a group, I think, of four who built thereabouts.

WARREN Malarkey never claimed to be first. Bob Tarlton. I don't think he claimed his to be the first system. He claimed it to be the first of some kind of system.

PAGLIN He answered the questionnaire, in other words.

WARREN Now the company still does. I don't know whether he owns it anymore. Let's see. Tarlton was in Panther Valley.

PAGLIN East Panther Valley.

WARREN Is that the name of the town?

PAGLIN I think it was called Panther Valley Cable Systems.

WARREN That, I think, is true.

PAGLIN They gave Bob a dinner not so long ago. I remember I got an invitation and it was the Panther Valley Chamber of Commerce. Just like I think Penn State is located in Happy Valley, it's called.

WARREN The company name is Panther Valley. The name of the town is Lansford. We show the time when they

started according to their responses on the questionnaires.

End of Tape 2, Side B

PAGLIN You were telling me about the materials on Bob Tarlton's early system, where it was located.

WARREN Yes. That's in Lansford, Pennsylvania. It shows here it began October 1, 1950. So he did not claim first. But he did claim some kind of first, I forgot what it was.

PAGLIN That's an interesting story about John Walson. That's why whenever the subject is brought up to the Cable Pioneers there are always snickers about John Walson.

WARREN Let's face it. He has 200,000 subscribers. He personally owns them. The only single ownership, sole ownership. He owns all the stock and whatever in his company.

PAGLIN You mean 200,000 subscribers.

WARREN That's right, in his system. That is, undoubtedly, the largest owned by a single individual in a group of subscribers. He pays a very large amount of dues to the NCTA. You are scarcely going to find the NCTA saying, "No, you weren't first. This guy who has never paid a dime of dues, Mr. Parsons, who ain't even in the industry, he's the guy." You aren't going to find a trade association saying that.

PAGLIN That's right. Now we're into the early days and the early conventions that were held. I remember

being told by Marty Malarkey and Archer Taylor, Bill Daniels, and the first cable convention held had something like twelve industry people there. Something in that ballpark. What's your recollection of them since you were covering them at that time?

WARREN Well, Earl Abrams and I attended the first meeting of the NCTA and we were both the luncheon speakers.

PAGLIN You're kidding.

WARREN At that time I was working for Television Digest and Earl was working for Broadcasting Magazine.

PAGLIN Earl had already moved over?

WARREN He had left us in 1950.

PAGLIN I see.

WARREN January 16, 1952. I'll read you the story I wrote about it. It's a one paragraph thing that might be helpful.

PAGLIN Where was it held?

WARREN Pottsville, Pennsylvania.

PAGLIN Oh, it was in Pottsville.

WARREN That's correct. At the famous Necho Allen Hotel.

Here's how it reads:

"National Community Antenna Assn. was formed Jan. 16 when 19 operators of the systems for feeding distant TV signals to homes via wire met in Pottsville, Pa. Martin F. Malarkey Jr., president of new group and head of local Trans-Video Corp. (Vol. 7:21), reports membership of 28, with 104 inquiries on file." "

NPA being the National Production Authority or Administration. Its job was to allocate materials during the Korean War. They controlled what could be built. I may be wrong on the precise meaning of those three letters.

PAGLIN I think you are right.

WARREN "Organization's first jobs are to study NPA-materials situation, arrange technical information exchange, consider possible FCC and state utility commission regulations. Other officers: Claude Reinhard, Palmerton, Pa., v.p.; George Bright, Lansford, Pa., secy.; Elwood Boyer, Tamaqua, Pa., treas. Directors: J. Holland Rannells, Bluefield, W. Va.; Clyde R. Davis, Wilkes-Barre, Pa.; Bruckner Chase, Memphis, Tenn.; Harrold Griffith, Harrisburg, Pa.; Gerard B. Henderson, Carmel, Cal.; Kenneth Chapmann, Honesdale, Pa.; A. J. Malin, Rochester, NH.

End of Story.

That showed you who was there, or that is, who were the officers and directors. Here's another story, two months later on March 1, 1952, another quote:

"National Community Television Assn. members, in addition to officers and directors reported

(Vol.8:3): Hubert H. Strunk, Ashland Video Co., Ashland, Pa.; Philip D. Hamlin, Holbert's, Seattle; Frank Brophy, Shenandoah Heights TV Association, Shenandoah, Pa.; Anthony Berinas, St. Clair TV Co., St. Clair, Pa.; Oscar Kehler, TV Extension Corp., Shamokin, Pa.; Ralph J. Adams, Tyler TV, Tyler, Tex.; C. O. Fulgham, Video Independent Theatres, Oklahoma City; John M. Price, Pocono TV Relay, Stroudsburg, Pa."

This, I think, covers the first members of the NCTA. They called it the National Cable Television Association.

PAGLIN Community.

WARREN National Community Television Association. It was many years later that they changed it to cable. By the way, I was the one who first called the industry, Community Antenna Television. Namely, CATV. I was writing about it and no one seemed to have the right name for it and it seemed to me that it really was a community antenna. So I called it CATV, Community Antenna Television. That's my invention.

PAGLIN The interesting part about that, of course, is that it gives us, for the first time at least, a reading of where these systems were. For example, I did not know, that in '52 they had systems in California, Texas ... I'm just trying to recall some of the names of the people who were there. Carmel, California.

WARREN That was one of the most interesting. That was

owned by Gerry Henderson. Gerry Henderson was the guy who was Chairman of the Board of Avon Products. A very, very, multi-millionaire. Lived in Carmel and wanted television. Couldn't get any. Somewhere he got somebody to get him television. And that's how he got it.

PAGLIN His name was what?

WARREN Gerald Henderson. Let me make sure it's Gerald and not Gerard. I remember we had a convention here once and he brought his yacht from the West Coast down through the Panama Canal all the way around to Washington. I don't remember what year that was.

PAGLIN I hadn't heard that story.

WARREN Gerard. Gerard B. Henderson. He was then about seventy or so, so he's long passed away, I'm sure. Here is the first directory of cable systems--four pages. I put it out on May 10, 1952. It listed all the systems I could find.

PAGLIN First directory - May 10, '52.

WARREN That's right. It listed all the known operating systems or those that were planned. And there are quite a few communities that you weren't aware of. For example, there were operating systems in California; Carmel, Grass Valley, Hidden Valley, Laguna Beach, Orinda.

PAGLIN So they were getting from L.A. or San Francisco.

WARREN Presumably, because that's where all these stations were at the time. Ocala, Florida; Pikesville, Kentucky; Lake Charles, Louisiana; Biddeford, Maine. Sumner Sewell was the guy who had the Maine system. I believe he is the guy who had been a governor before of Maine. Cumberland, Maryland; Mount Clemens, Michigan; Fullerton, Nebraska; Keene, New Hampshire; Laconia, New Hampshire.

PAGLIN In one of the cases with which I was involved this story was told by one of the witnesses that in the farm country, for example, the farmers wanted this box, even though it was a snowy picture. They would put up a stick and the antenna was maybe 200 feet high. It would cost them a fortune. Why? This drive to get this new thing called television. What you're telling me--how prevalent it was that in these towns where some of these wealthy people resided or retired and said, "The hell with it. I want it and I don't care what it costs."

WARREN It was primarily promoted by the local appliance dealers who wanted to sell television sets.

PAGLIN Like a Marty Malarkey, for example.

WARREN Right. That's when John Walson started, too. Most of these guys, in fact, started that way. In Lansford, George Bright ran a department store--Bright's Department Store. Most of these people

had that kind of desire.

PAGLIN The only way to sell a television set was ...

WARREN You've got to produce a picture. Pennsylvania, by far, had the most systems by 1952.

PAGLIN The reason, of course, was because of its geographic ... not demography, but its mountainous terrain.

WARREN Even more importantly, it was being promoted by a manufacturer of cable equipment, namely Mr. Milton J. Shapp. He sold it. They, in those early years, had perhaps 90 to 95 percent of all equipment sales.

PAGLIN Really.

WARREN As a matter of fact, he once had to sign a consent decree, monopolistic consent. These cable people were very, very tight. They brought suit and he signed a consent decree--tie-ins and so forth.

PAGLIN You'll have to tell that story to me in the next session.

WARREN I don't remember all the details.

PAGLIN Just generally.

WARREN He did sign a consent decree.

PAGLIN With the federal government?

WARREN Yes.

PAGLIN That's not known these days.

WARREN He used to advertise in our Factbook. "We have 85 to 90 percent of all the systems furnished by Jerrold equipment." Apparently, he had really tough contracts with these people.

PAGLIN You mean tie-in type things?

WARREN The kind of things that were definitely antitrust type of violations.

PAGLIN With the systems themselves?

WARREN Yes.

PAGLIN In terms of furnishing equipment.

WARREN Yes, selling equipment to them.

PAGLIN That's interesting. I didn't know that before.

WARREN Milt was a very remarkable guy. We became close friends. When he came to Washington, he used to stay with us. I can remember one day, particularly. He and I sat up until about five in the morning talking. It was just fascinating. I got up about noon and Peg tells me the next morning

that my youngest son then, Dan, who is managing editor of our "Communications Daily" right now ... he was two years old then. He climbed into the bed and he sits on Milt's chest and says, "Hey, Mister, who are you?" Milt, Peg tells me, was all laughs, smiles and so forth with only two hours of sleep. I wouldn't have been friendly to anybody on two hours of sleep.

PAGLIN Not even a cat.

WARREN No! Here's Milt, pleasant and agreeable. What a guy!

PAGLIN Oh, I see. After your staying up all night talking and you had gone to sleep, Dan then comes into his bed.

WARREN At 7:00!! And wakes him up, sits on his chest and says, "Who are you?" And he took that in good humor. That speaks a lot of him because I wouldn't have the patience to do that. There are a million of these stories.

PAGLIN Would you tell us again about the fascinating story--but untold, in most instances, by anybody as close to Milt as you were--of how he began his desire for political office. We should get into that story later on.

WARREN Very ambitious man.

PAGLIN Because you've got to go, it's now almost a quarter of.

WARREN I'll throw something in while I think of it--why were Earl Abrams and I were invited to speak at the NCTA convention?

PAGLIN Oh, yeah. You started to tell us.

WARREN Malarkey had two questions he wanted each of us to answer as well as we could. (1) When the freeze is over, and new stations start to be built all over, will there be any need for cable systems or will they die out? (2) FCC does not regulate us now. Do you think that they ever will? My answers were as follows: "I think that there will always be pockets of our country that can use cable systems. But, if anyone had asked me did I think there would be cable systems in New York City or Washington, I might have said, "My God, no. What do you need them for?" But,I thought there would always be these pockets.

To answer the second, "Would the FCC ever regulate us?" I said, "I think the FCC is so glad that you guys are bringing some television to people who couldn't get it otherwise during this long freeze of four years in which they are not adding any more television stations. They're grateful that you're doing this and there are so few of you, they are just happy to let the damn thing alone and not do anything about it." I certainly didn't visualize

the way the Commission was going to clamp down on them later on. For the present, that is the way the FCC felt about it for a good many years--thank God for anything that brings television to these people.

PAGLIN That's interesting.

WARREN That was my answer.

PAGLIN All right. Well that's good. I think this is a point we can stop, particularly since you have an appointment. Let's stop at this point and in our next session we will, perhaps, explore some of the early situations which you covered in terms of the development of cable and also how the thing changed in the early years. Thank you again. This is going to be fascinating.

One more point, a lot of this early stuff that you told me about this morning, was that included in the stuff you sent up to Penn State?

WARREN Yes. These stories I read you I've given copies of--plus quite a few others--to Ben Conroy. As we go along, I'll read some excerpts from some of those others and you'll find, for example, in 1951, here's a story entitled "Are Community Antennas a Sleeper?" "The future of community antennas is provoking a lot of hot speculation. Both bullish and bearish. But there's no denying the fact such installations are today bringing TV to communities

which would otherwise get little or no service."

PAGLIN I'll tell you. As we go along, again, for the record, so they know they have copies of these materials. When you read the excerpt, you can say, "I've sent copies of this particular issue up to Penn State." So they know when they go through the tape, they also have hard copy there of the issue that you are referring to. That's great.

WARREN Here's another one. "Keep Your Eye on Community Antenna." This is March '51. "Don't kiss off the Community Antenna idea as a mere flash in the pan novelty. Not yet, at any rate. This 'antidote to the freeze' is getting plenty of quiet scrutiny lately, in addition to all-out promotion by marketeer Philco and manufacturer Jerrold Electronics."

PAGLIN That is neat.

WARREN We're talking about thirty-seven years ago.

PAGLIN That's right. It's always better when you have it down in print so you can refer to it. Thank you.

WARREN That's swell. Thank you. It's a lot of fun.

PAGLIN I know this is going to be invaluable.

WARREN Here is a pure coincidence. Here's my cable bill. Now after writing about cable all these years, it

is the first time I have cable in my home.

PAGLIN In your district?

WARREN Montgomery County.

PAGLIN Maryland.

WARREN Chevy Chase Village.

PAGLIN So now you know what it's like to be a subscriber.

WARREN It's a lot of money.

PAGLIN What do they charge?

WARREN I got a couple of premium channels and I'm paying $55.80 a month. The average system used to be $5 a month.

PAGLIN "Tempus fugits."

WARREN $14.75. I'll try to remember what Milt Shapp said about how they set the price of what to charge per month. How the system operators charged. It was completely arbitrary. The figure was arbitrary.

PAGLIN We'll have to go into that next time. Very good. Thanks again.

WARREN Thank you.

End of Tape 3, Side A

PAGLIN Good morning. We are, again, in the offices of Al Warren, the publisher of T.V. Digest. It is March 31, 1988, and we're about to start session number three of Al Warren's oral history. It is being conducted by myself, Max Paglin, on behalf of the Golden Jubilee Commission on Telecommunications and Penn State and The National Cable Television Center and Museum. Before I forget, last weekend I was up at Penn State at a meeting of the Board of Directors of the Cable Television Center. Ben Conroy and Marlowe Froke from Penn State sent their regards to you.

WARREN Thank you.

PAGLIN They took me to see the present quarters of the Museum. They're just beginning and there were all the materials that you had sent them. The Factbooks and everything else and the past issues and they also have all the old equipment that a lot of the Pioneers have sent them. Going back to year one, my goodness. I hadn't seen that stuff since World War II, practically.

Just to refresh your recollection, in session number two--our last session--we dealt with your early involvement with the cable industry. You told us about your coverage as a journalist of the FCC from 1945 on. You related about the 1948 freeze of AM/FM TV after World War II and the color television battle between CBS and RCA. You also gave us some statistics about the growth of

television receivers in the home between '45 and '55, as documented by Television Digest. You also gave us some wonderful quotes from the early editions of T.V. Digest and the early pioneers in TV and cable.

Then you showed me the first story on cable in T.V. Digest which was in August 1949. Then you told us about the first CATV convention in January 1952 in Pottsville and what went on there was fascinating. You also showed me the first directory of CATV systems in May of '52. The last point we were talking about was the early systems and how rates were set and the early subscribers. You said you wanted me to remind you of a conversation you had with Milt Shapp on the system that they used for setting rates in the old days as contrasted to what you're paying now as a subscriber in Montgomery County.

Today at session number three I want to go into the items that we have on the outline which we gave you. Particularly, what I would like to develop are your recollections and your experiences as a journalist in the early federal regulatory activities as the cable industry began to develop. Such as the early FCC cable regulatory policy, some of the congressional hearings that started as a result of the opposition of the broadcasters. Perhaps some of the early CATV litigation and the general direction of the early development of the industry. With that as a background if you'd like

to start wherever you want. The early days of the FCC and how it began to become aware of this new animal called cable.

WARREN Just as a background, again, during the freeze on construction of new television stations, the Commission was very happy to see cable systems develop because they brought television to people who otherwise were not getting it because there were no stations around. The Commission was just not authorizing them. They encouraged cable and they didn't see much in the way of problems developing with it, so they kept hands off. When broadcasters began to get concerned about cable as a competitive device--primarily that smaller stations and smaller communities found cable bringing in the signals from large stations in large cities and these provided additional signals of competition to the local station. The station, naturally, didn't want any of its audience to watch anything except it.

There were beginnings and growing complaints to the FCC and to Congress about this new system which was eating into their earnings. The Commission, of course, began to get concerned, eventually, that maybe this is a problem to these small stations and the Commission felt that the stations should have priority because they could provide local coverage of local activities.

PAGLIN And free service.

WARREN And free service. There was continually growing concern about that. I don't remember the various proceedings by which the FCC gathered information to determine how they should regulate cable.

PAGLIN You remember, do you not, the earliest efforts by Ed Craney in Montana?

WARREN Yes. He was active, as I recall. Very much so. Bill Grove of Cheyenne or Casper, Wyoming, I think it was Cheyenne, who was a very, very vociferous opponent to cable because cable was growing very nicely in his city. He lobbied like mad at the FCC with considerable success in eventually getting stricter technical rules adopted.

PAGLIN Describe, if you would, the situation in these one-station towns. How many networks, for example, could they bring in?

WARREN You mean through the cable system?

PAGLIN No. I'm talking about broadcast TV stations in the local town.

WARREN What it amounted to is to cherry pick the best from each of the networks. There were some that were affiliated with all three of the major networks and I think most were affiliated with at least two. Their practice was to get the best they could from each of the three networks. I don't recall how many stations had programs from three networks, but

certainly a lot of them had two.

PAGLIN Then, of course, the cable systems, even in the early days, had at least three channels.

WARREN That's correct.

PAGLIN So they could bring in, say, three networks.

WARREN That's right.

PAGLIN That was the basis for the concern of the local stations.

WARREN Correct. The fact is, of course, that cable could offer those three networks simultaneously whereas the station, even if it had access to three network programs could only offer one at a time. Hence, any competition would detract from viewers.

PAGLIN It's clear that the station would be concerned about its audience viewership but how did it impact itself in terms of advertisers--national or regional?

WARREN I think it was pretty much a straightforward matter of numbers. If you show that your programs at 7:00 were attracting an audience, say, in a small town of 12,000 people, the ratings would indicate 12,000 people for that show. If you could show that before cable came in you had the whole audience in town, virtually, let's say it was 18,000 viewers.

So their rates and their revenues were direct and very, very closely proportional to the size of the audience. It was pretty much a simple numbers calculation. The larger the audience the more money you could get per commercial per hour, whatever the rates. It's pretty straightforward. That was it.

PAGLIN When the cable systems came in and it turned out the advertiser found out the broadcaster did not, in fact, have the same circulation because it was being syphoned off by the cable system, his revenue from the particular advertiser would necessarily go down.

WARREN Absolutely. It was a straightforward sort of thing. It was just that the station was at a big disadvantage. It could have only one program at a time. Here's cable offering at least three. In fact, it was early, early in the business that they went from three to five so it was very, very soon that they had at least five channels. Here a station operator with one signal and you might have the audience watching you or one of the other four signals. You just were losing audience.

PAGLIN Also, was it not a fact that when there was only a single television station on the market that, as you said, they had to cherry-pick. Some of the popular network television programs had to be shown at times that were not prime. Whereas, when the cable system came in, they could show a direct time

and time from the originating station whenever that happened to be. Is that correct?

WARREN That's correct. What I don't recall is when the videotape became sufficiently effective so that a station could record and have available those programs to put on whenever they could.

PAGLIN Would that have been kinescopes or tape?

WARREN I'm talking about tape. The kinescope was not a very effective device for recording. I think smaller stations weren't even equipped to do that themselves. I think they would get them bicycled in, mailed, from the network.

PAGLIN Bicycling in, I remember that now.

WARREN Or they'd get it from the network if they couldn't do it very well themselves. The kinescope recording meant that it would take any film right off the face of the picture tube which was very low quality.

PAGLIN Very poor.

WARREN But you know, people will watch anything if the subject matter is of interest. The technical quality--it is astonishing how poor technical quality people will watch if they are interested in the action.

PAGLIN The original opposition by broadcasters in the early days, Bill Grove, Ed Craney and so on arose in the small towns.

WARREN Yes. Because there wasn't much cable at all in the big towns anyway, at that time. Very few people thought that the big city would ever support cable.

PAGLIN I can remember that.

WARREN When they had a plethora of television stations, who would want to watch cable? That was the point.

PAGLIN At that time, you didn't even have cable in the two-station market.

WARREN Not much of that. Furthermore, you did not have the satellite distribution which started a whole new era for cable allowing the rapid and huge nationwide distribution, principally of movies.

PAGLIN We'll get to that as we move along. But the opposition first came from the smaller towns who would have felt the economic impact of cable much greater than any others. Can you remember, Al, whether they were supported in any way by, let's say, NAB--the National Association of Broadcasters? Did they have a hand in supporting the smaller broadcasters?

WARREN Yes. The NAB, in general, did.

PAGLIN In the early days?

WARREN That's right. It did support the broadcasters because very, very few broadcasters were in the cable business.

PAGLIN In those days.

WARREN In those days, so it was a very natural thing for the National Association of Broadcasters to support the broadcast position. It was just simply us against them.

PAGLIN What years were those? That would have been the early '50s?

WARREN I would say throughout the '50s, at least.

PAGLIN Then, do you recall the first recognition, when the first congressional hearings were held?

WARREN I don't recall when the first ones were held. I know there were hearings held when Ed Johnson was Chairman of the Senate Commerce Committee, the Senator from Colorado. He was quite active. The broadcasters of Colorado and other western states. [Editor's Note: The hearings took place in 1955.]

PAGLIN Montana.

WARREN Yes. I covered him and he felt quite strong about those. Then, when Senator John Pastore became

chairman of the same committee he, too, held hearings and he was not quite as strongly opposed to cable as Ed Johnson was, but still the way he spoke generally leaned on the side of the broadcaster, too.

PAGLIN Can you recall in terms of the congressional hearings? You remember the famous hearings that Ken Cox conducted with Senator Magnusson who was the overall head on the whole development of UHF policy. They were like '54 - '55.

WARREN I don't remember the years.

PAGLIN I believe those were the years, because that already was the business of UHF and the problems that UHF was having. Do you recall whether there was any talk about cable at that time?

WARREN Undoubtedly there was. Certainly it was a broadcaster vs. cable thing. The UHF stations--the new type of station--were having enough problems without cable competition; namely, getting sufficient television receivers to receive UHF. There wasn't high power available for the stations; it was difficult for them to get out substantial distances, very few receivers had UHF in them and those that did, didn't have the sensitivity to pick up distant UHF stations or weak signals in valleys in their normal areas. UHF was a very strong opponent of cable.

PAGLIN Of course, the All Channel Receiver Act didn't come until '62. Going back to the FCC, having been there at that time, particularly, as a legal assistant to Commissioner Bartley. I remember that the issue began to arise--and I'm doing this to refresh your recollection--with the Commission in terms of a staff conflict, if you would, between broadcast staff and common carrier staff. This was taking place about 1952, if you remember that. I remember there were stories that you wrote at the time where Arthur Gladstone and Strat Smith were then in the Common Carrier Bureau and I forget who was the head of the Broadcast Bureau at the time. The staff was having difficulty advising the Commission with one unified recommendation on what the hell cable was all about; whether the Commission should take jurisdiction; whether they shouldn't; was it common carrier; was it broadcasting. Do you remember that?

WARREN Sure.

PAGLIN What's your recollection as a journalist reporting that at the time?

WARREN I think it was a big thing. The common carrier staff members were not very enthusiastic about taking over and regulating cable. It was peanuts, I believe. The broadcast staff leaned more toward regulation. I don't know when Ken Cox became chief of the Broadcast Bureau.

PAGLIN That was much later. That was '61 or '62--'61. When I became General Counsel and he was appointed Chief of the Broadcast Bureau.

WARREN At that time, Ken was a very ardent follower. He added a lot to the opposition to cable from the Commission. He continued that when he became a commissioner also. The details of the staff activity there don't stick very much in my mind, because it seems to me, the Commission was not anxious to get into this thing, regulate it. It was small, and it was still bringing pictures to people who otherwise couldn't get them because of the long freeze. I think they dragged themselves, at first, rather reluctantly into it. But that was tougher and tougher as they went along. I don't recall when they first came out with rules, the first rules. They were restrictive and I guess they just kept adding more restrictive rules.

PAGLIN The First Report and Order I think, was around '64. Is that it? [Editor's Note: The First Report and Order was in Docket No. 12443 (1959) in which the FCC held it had no jurisdiction over community antenna television. The second First Report and Order in which the FCC asserted jurisdiction over microwave-fed community antennas was issued in 1965 in Dockets 14895 and 15233. The Second Report and Order came down in 1966.]

WARREN No. The big, final cable television decision adopted by the Commission on February 2, 1972.

PAGLIN That was later on. That was afterwards. But the first one, that was around '62, '64 because the Second Report and Order was in '65. That was the one that really had the restrictive regulations having to do with non-duplication, twenty-four hour, and that whole bit. That was in the Second Report and Order.

WARREN I just don't recall the specific things and the provision of each of those specific orders. All I do recall of that, they went along while the restrictions grew more and more. They became very, very complex rules. Of course, the cable people were terribly unhappy about it, and I guess they were kind of difficult to enforce, too.

PAGLIN That's when they started getting the first court challenges. If you remember the first, to refresh your recollection - the Carter Mountain case and the microwave application. The question was, "Did the Commission have authority over an intrastate activity, like cable?" As such, the answer would be no. Then the question came, "What about microwave bringing in a signal, does this now make it an interstate activity?" And the famous case, of course, was the Carter Mountain case where they brought in the signals by microwave and that established the Commission's jurisdiction. That had to be also in the mid '50s, I forget the date.

WARREN Those specifics just don't stick in my mind.

PAGLIN That was the first case, the highlight case, that started the whole business of Commission jurisdiction over cable. Carter Mountain is the one. I think Strat Smith was involved in that. He had gone out into the industry by that time.

WARREN He was already representing the industry, at that time?

PAGLIN Yes. Of course, a lot of this was reported in your journal.

WARREN Yes. I reported all of it.

PAGLIN The early CATV litigation such as Carter Mountain.

WARREN I followed all of it, but the question of details do not stick with me. There were so many stages there.

PAGLIN Let's go to a more general thing. In your recollections of the cable industry and broadcast industry and the Commission, you mentioned Ken Cox. Who were some of the principal actors, at that time, that you can recall in the cable industry?

WARREN A very strong one was Milton Shapp, who was the head of the Jerrold Corporation, which was the primary manufacturer of cable equipment. He was extremely active in that, had a great deal of influence in the industry. Strat Smith was the executive director and general counsel of the NCTA

and he was virtually the whole staff there in those early years.

PAGLIN At NCTA?

WARREN Yes. He was very important in all those developments. Then you had individual cable operators of some substantial influence. The one broadcaster who was active pro-cable in those early years was Cox Broadcasting.

PAGLIN Leonard Reinsch?

WARREN Leonard Reinsch, the head of Cox Broadcasting, thought cable was going to amount to something and he got the company into it. They had bought and built systems. In fact, he was one of the first to build a system in a big city, namely, Cleveland.

PAGLIN Really?

WARREN And it went belly up. It did not make it. It was before the days of the satellite. Leonard Reinsch was very much resented by many other broadcasters. They felt he was a traitor to broadcasting.

PAGLIN What period of time was this? Can you remember?

WARREN I'm guessing late '50s, early '60s. I remember Leonard telling me, "I lost quite a few of what I thought were friends in those days because I thought cable was inevitable. I thought it was

important and we got into it and a lot of broadcasters began to shun me." He stuck by it and Cox did very well in cable. He was an important figure. Ken Cox was on the regulatory side. [Editor's Note: Ken Cox is in no way related to Cox Broadcasting.]

PAGLIN On the industry side, Marty Malarkey.

WARREN Malarkey, of course, was active. He was the founder of the cable association.

PAGLIN One of the founders, right.

WARREN He was the moving force in it and he was the president of it for the first five years. Then there came other presidents of the association of various degrees of activity. Bill Daniels was the second one.

PAGLIN Was George Barco ever?

WARREN Barco was the third president.

PAGLIN Bob Tarlton of Pennsylvania.

WARREN I don't think Bob was ever president. In the early years there was Ned Cogswell, who was the operator of a system in Oil City, Pennsylvania. He was never an owner, he was a manager, and he never became a huge owner so that's why the name doesn't stick with you probably.

PAGLIN The T.V. Digest Factbook also contains, somewhere in the NCTA section, a list of all the presidents from the very beginning.

WARREN Fred Stevenson from Arkansas. Tubby Flinn from Tyler, Texas, who just died.

PAGLIN Two years ago, was it?

WARREN I think it was last week.

PAGLIN Last week!!

WARREN Or a few weeks ago.

PAGLIN Really?

WARREN If I'm not mistaken, I think so. Sandy Randolph from West Virginia.

PAGLIN Sandford Randolph. Incidentally, he also said to say hello to you. He was down at the Penn State meeting.

WARREN He was an early president. Then, the man who was from Jerrold.

PAGLIN Beisswenger?

WARREN Bob Beisswenger who, unfortunately, drowned in a boat accident.

PAGLIN Yes. That was a crazy thing.

WARREN He was a very vigorous president. Bruce Merrill, from Arizona.

PAGLIN Bruce Merrill, of course. He was chairman at the time when I was personal counsel to Fred Ford when he retired as a commissioner and came on as president of the NCTA. Bruce Merrill was then, like you say, chairman and he was followed by Ben Conroy. That was the year '65 around there. The NCTA was formed--I remember the last time you told me at the first convention there were maybe twelve or twenty-one people there--by the early builders of these systems.

WARREN Well, Marty Malarkey called the convention together. He was the operator of the cable system in Pottsville, Pennsylvania. He was the guiding force, at that time.

PAGLIN We've taken his oral history and he has some interesting things to say.

WARREN You have it?

PAGLIN Oh, yeah. We've done a lot. The first two were Bill Daniels. I did Bill Daniels. Kathy Hom, of our staff, did Marty Malarkey. Was Archer Taylor ever head of the NCTA? No, he was head of the engineering committee.

WARREN I'm sure he was of that. He was never head of the Association.

PAGLIN So these are the people who gave it its first start, in other words.

WARREN Another guy with one of the early general counsel, maybe Strat Smith, was Bob L'Heureux. He came from the Senate Commerce Committee. He'd been an assistant to Senator Tobey of New Hampshire. L'Heureux was a vigorous opponent in those days. An interesting character was Gerry Henderson--we mentioned him earlier in one of these interviews, he was head of the Avon Products company.

PAGLIN Oh yes.

WARREN He operated the system in Carmel, California. He was not a president but he was an active board member and with great wealth. He managed to get around pretty well. Paramount Pictures had a Carl Leserman who operated the system in Palm Springs, California.

PAGLIN Paramount Pictures?

WARREN I believe it was Paramount or Twentieth Century that owned the system.

PAGLIN Where was this?

WARREN Palm Springs, California.

PAGLIN Could this have been the beginning of the interest of Irving Kahn in cable? Because Irving Kahn came out of Twentieth Century Fox.

WARREN He came out of Fox, yes, but he did not get involved with Palm Springs. I may be wrong on that but Carl Leserman was head of the activity of one of the major picture companies. His name you won't hear much of and you probably don't remember it at all. Carl was active.

PAGLIN Palm Springs, of course, was an area which was remote and separated by mountains from L.A.

WARREN It had great wealth there and showbiz people who wanted to watch television and they got it.

PAGLIN I guess those systems were carried by microwave, were they?

WARREN I presume, although there was a good signal reaching from Mount Wilson where the television stations in Los Angeles were.

PAGLIN How far is Palm Springs?

WARREN I don't know. I think they were able to get it off the air. The system is Coachella Valley Television. It's still there. Another interesting guy was Hank Diambra.

PAGLIN Hank Diambra. These names I haven't run across

yet.

WARREN He headed a company called ENTRON. It was a major manufacturer of equipment in the very earliest days. You can see these manufacturers had considerable influence--like Jerrold, Bruce Merrill, and such like that.

PAGLIN Bruce Merrill's company was AMECO.

WARREN Yes. Another manufacturer, at the time, was Spencer-Kennedy Laboratories out of a town in Massachusetts. They were the first to offer the twelve channel system. I'm not sure but I think so. [Editor's Note: Mr. Warren is correct. See oral history of Robert Brooks.]

PAGLIN Was it called Spencer-Kennedy Labs (SKL)?

WARREN Yes, I think so. They produced a high quality system. They were one of the first to produce a broadband channel system. There were some other biggies in those days--Polly Dunn from Mississippi ... Can you remember?

PAGLIN The woman? I know who you mean.

WARREN Very charming lady.

PAGLIN Charming, handsome lady.

WARREN She was always on the NCTA Board, quite an

effective lobbyist, familiar with congressmen and so forth.

PAGLIN She's also a system operator.

WARREN Yes.

End of Tape 3, Side B

PAGLIN Another prominent woman who was effective in the early lobbying efforts was Charlotte Brader of Havre, Montana.

WARREN I'm taking a look at a Factbook to see if any big names pop out at me. This was before the time, for example, of the satellite, of Jerry Levin. Jerry Levin of Home Box Office was the guiding force there. That was around '75.

PAGLIN That's after satellite.

WARREN He was very powerful. Going back to the '50s and '60s, Dan Aaron was quite early in this.

PAGLIN Al Stern.

WARREN Al Stern, right. Dan Aaron represented the Comcast Company of Philadelphia. [Editor's Note: Aaron started his career in cable with Milt Shapp at Jerrold.] And Al Stern, represented TV Communications Company. He came from the Sears Roebuck money. He was a chairman of the Association, Alfred Stern.

PAGLIN He's still kind of active.

WARREN Yes, the company in New York which, among other things, a few years ago bought the newsletter "Telecommunications Reports," the one on the common carrier field.

PAGLIN Fred Henck's. Who bought that?

WARREN Al Stern's outfit. He bought it.

PAGLIN There was another one. You would remember him. When you mentioned New York State, I'm sure you met him many times. Tony Ceracche. You know who I mean?

WARREN I know who you mean.

PAGLIN He had one of those systems in up-state New York.

WARREN He had a system in Ithaca. Ceracche. I know there's another guy you're thinking of, but I can't remember where he operated. Ceracche had a good size system in Ithaca. There's Warren Fribley from Corning [Painted Post], New York and his wife Dawn, who were very active, too. An intriguing thing about these pioneers was many of them were real entrepreneurs in many ways. They were characters, a lot of them. You take Malarkey. Right after the war, he bought himself a fighter plane.

PAGLIN Surplus.

WARREN Yes. A fighter plane. I remember asking him, "How are you doing with your fighter plane?" He said, "I got rid of it before I killed myself." He also had a Jaguar.

INTERRUPTION FOR TELEPHONE CALL

PAGLIN You were talking about some of the exploits of the early pioneers with their general adventuresome character.

WARREN That's right. Bill Daniels was always doing something in sports. He tried to get a basketball team going. He tried to get involved with boxing.

PAGLIN Managing a boxer.

WARREN Yes. Or putting together a boxing association team.

PAGLIN He was a Golden Glover.

WARREN That's what I understand. He started out in the insurance business where he first made some money.

PAGLIN His father was in the oil insurance business. The interesting part to add to this story. How did he come to be in this field? He was passing through. He was working, then, for his father, as I remember. This was right after World War II. He had been in the Navy. He was passing through on his way from wherever. Texas, maybe. Back to Casper, Wyoming. He stopped in Denver overnight; sat in a bar; and he saw a prize fight on television. He had never seen television before. This was like '51, something like that.

WARREN I think it was earlier than that.

PAGLIN Well, maybe a little earlier. He said, "What's that? How do you guys get that?" Basically, he went to Casper and asked, "Why can't we have TV in Casper?" He then asked around and found out about a guy called Marty Malarkey in Pottsville, Pennsylvania. He went to see him. Talk about how Marty Malarkey charged him for his advice.

WARREN Did he?

PAGLIN Yes. That's how they started a system in Casper. He got money together.

WARREN I think the fascinating thing about Bill was he was the first to get the phone company to furnish the microwave. All the others had been building their own. But he got the phone company. I remember the phone company charged him an arm and a leg to bring that signal. The result was Bill wanted to charge the highest rate. In Casper, the rate for a subscriber was seven or eight bucks, which was huge, at that time. These guys were entrepreneurs.

Warren Fribley in Corning, New York, flew his own plane. Lots of these guys flew their own planes. His cracked up once and he cracked up I don't know how many bones. How he survived it I don't know.

I think I mentioned to you that Gerry Henderson, from Carmel, California, had a huge yacht. One year they had the national convention in Washington. He took his yacht, went down the west

coast through the Panama Canal, all the way up here to anchor it in the Potomac and they had a big, big party on it that night. I was there and it was a lot of fun. It had three or four television sets. He always had a new woman too.

PAGLIN That must have been an early convention in Washington. When was that?

WARREN Late '50s or early '60s.

PAGLIN What is your feeling about the situation that developed between the broadcasters and cable? If you look at the history and you read about it, you find that the cable operators were basically entrepreneurs, as you say, but these guys felt that, "We made it. It's ours and we don't want anybody to be nosing in and taking away and restricting us and so on."

WARREN Naturally.

PAGLIN Most of them were businessmen that started this business and built it up and said, "This is something I built." Is that right?

WARREN Oh, sure. They were terrified, not only of getting regulated out of business but, technologically, getting obsolete. They were concerned that the growth of television stations would be such that it would obviate the need for cable systems. This was one hell of a good business. You recall that when

they built the systems they usually charged the subscriber the cost of bringing the system to them. Like $150 as an installation fee. So you paid for the system as fast as you built it. It was a sensational business. You'd often give them a monthly fee. Just incredible.

PAGLIN I know I've had others tell me. The cash flow in this business was absolutely unheard of in other businesses.

WARREN It was phenomenal. The tax breaks, too. I don't remember how the hell it worked but it was a fabulous business. Still is. When you can sell a system for two or three thousand dollars per subscriber, you're talking a lot of money. I remember people in those early days saying, "Al, why don't you get into the cable business?" I said, "I want to be a publisher, an editor. I don't want to be in the cable business." I said, "I couldn't do it because of the conflict of interest anyway. I don't invest in anything in the businesses we cover. I don't have any stock in those things. None of them." Talk about wealth. You would have to be awfully agile to get out of the way of tons of money coming your way.

There were many, many huge multi-millionaires made out of this business. I mentioned to you the obvious one was John Walson who personally controls several hundred thousand subscribers. You're talking 200,000 subscribers, maybe a half billion

dollars, one person! A half billion dollars.

PAGLIN He's individual. He doesn't have a corporation or stock.

WARREN I think he has a company and he's the sole stock owner. Or he was as long as I knew him.

PAGLIN His health, as you know, has gone down considerably. In fact, let me digress just for a second. John Walsonavich is on the list as one of the Pennsylvania pioneers.

WARREN He should be. I'm sure you knew him quite well when Fred Ford became his counsel after Fred left the association.

PAGLIN Service Electric Company and all the trouble they got into.

WARREN That's his company, Service Electric.

PAGLIN I'm trying to think of a word. The Republicans use it most, not entrepreneurs, not businessmen, it just doesn't come to my mind, where someone builds up the business by himself. Private enterprise. They are perfect examples of private enterprise. They bring this business out of nothing and I can remember people like George Morrell. Do you remember George Morrell?

WARREN Sure.

PAGLIN Midwest Video.

WARREN There was another pioneer with enormous political leverage with Lyndon Johnson. He had some big names on his board like Winthrop Rockefeller.

PAGLIN Firestone was on his board. He had Senator McClellan's son-in-law, too. I was his counsel in the Midwest Video case. I remember that very well. Oren Harris had his headquarters in Little Rock, Arkansas. I represented George from the time I left the Commission as general counsel to the time when Bill Henry asked me to come back as executive director in '66. I then turned him over to Harry Plotkin. That's how Harry got into cable. The same with Art Scheiner. I turned my cable clients over to Art. I wasn't going to leave them with the firm I was with. But George was really something else.

WARREN Yes, he was. He ran that thing out of his own hat, didn't he? One elderly lady and he did the whole thing. Just he and she.

PAGLIN The secretary.

WARREN I forget her name but she was a gem. She'd tell me he was not there. He was a very political guy; he was always bugging me with a position that they're going to take. He was a clever operator.

PAGLIN Do you remember the situation, one of the first

cases I know I handled for him on this whole situation you were describing about the competition with the single station in the community. It was Rapid City, South Dakota. He had the cable system there and Mrs. Duhamel, I forget her first name. She owned the station, which was it--VHF or UHF?

WARREN I'm pretty sure it was V.

PAGLIN In Rapid City and, of course, the air base was nearby there. That was the excuse for bringing the cable system in. Oh boy, did he hate Duhamel, man. But she was fighting for the survival of her station. One of the early cases that I had against Strat Smith involved the microwave to Rapid City from Denver. Those were in the days when the people, as you say, were pioneers in the true sense of the word. They had built this business and had no idea, in the beginning, that it was going to turn out to be a gold mine.

WARREN I know. They didn't know. It's astonishing. I think many of them sold out when they thought, well maybe the bloom is off of it with new stations coming along, and they sold out at $300 a subscriber. Sure, many of them wish they had hung on to them. They may well have taken their money and done a lot of good, prosperous things with it when they got out.

PAGLIN Of course, a lot of them have since been bought up by the big companies.

WARREN It's happening more and more. Of course, if you want to talk about pioneers, we haven't even mentioned Bob Magness.

PAGLIN Oh God, yes.

WARREN Who built and controls TCI, which is far and away the largest operation.

PAGLIN He worked, originally, for Bill Daniels. [Editor's Note: Magness never worked for Bill Daniels.]

WARREN I didn't recall that.

PAGLIN A lot of these original guys did, I remember Bill telling me. I call him "the Godfather" because so many of these big operators started with him. Bob was one of them.

WARREN I remember Bob built the systems himself in Oklahoma in tiny towns but I didn't recall that he had ever worked for Daniels. Anyway, he's a deal maker. Like the pioneers, he has his interests. He doesn't do detailed day-to-day work now but he is a rancher, with these Arabian horses. He's personally worth hundreds of millions, hundreds of millions.

PAGLIN Wasn't there another characteristic of this industry in its early days where, in a lot of instances, the wives worked with them from the very, very beginning? Betsy Magness, who died

recently. She was a key figure in that company, was she not?

WARREN Oh yes, indeed. I remember how I first got to know her. In 1965, Jerrold had a junket for its major customers. They took a plane load of major customers to Europe--to Rome and to Paris. They invited Peg and me along. They did it up right. They put us up in the Cavalieri Hilton in Rome; it was brand new then, and at the George V in Paris. Took us only to the most expensive restaurants and so forth. It was fun. I remember we went to night clubs and whatever and there was dancing. Betsy was a charmer.

PAGLIN Yes. I remember meeting her.

WARREN She was just a delightful person. We all went to Les Halles for onion soup in Paris. I remember I was the only one in the group who spoke any French. I had taken one year of college French. So I was elected to help with the ordering the dinner. It was very, very funny. I had one year of college French in 1938 and here it is thirty years later and I'm in a restaurant. There were about ten of us with John Walson. I'm relaying the orders from the menu to the waiter. Finally, he looked over and said, "Monsieur, would you please speak English? Your French is not very good!"

PAGLIN That's cute!

WARREN Oh, we had a ball. It was my first trip to Europe. We just got back from Greece and Turkey last week. We've done a lot of traveling since then. It's a good trip by the way, a Grecian/Turkey trip.

PAGLIN You mentioned Milt Shapp. I don't recall. Did Milt own systems or was it just Jerrold, the manufacturing end, before he sold out?

WARREN I don't recall them ever owning systems. [Editor's Note: Jerrold owned several systems throughout the country.] As far as I know, he owned the Jerrold Corp. and, at one point, he bought up the Harman Kardon Company. Harman Kardon is a maker of hi-fi equipment. He bought it from Sid Harman and operated that. But he sold it back--or someone sold it back--to Sid Harman. Harman operates in Washington now. He is a very, very able entrepreneur himself. Another guy of substantial importance in those early days was Larry DeGeorge. Does that name sound familiar to you?

PAGLIN No.

WARREN He established a company called Times Wire.

PAGLIN Oh yes. Times Wire I know. Is that in Texas?

WARREN No. It was in New England, I think, Connecticut. Anyway, he furnished most of the cable to Milt Shapp when Milt Shapp was building the systems.

PAGLIN On a turnkey basis.

WARREN Yes. He and Milt worked very closely together. Larry built up a very, very substantial company making cable for cable systems and working very closely with Milt. Larry later sold out to International Silver. He rose to become the CEO of International Silver. He became Chairman of International Silver, eventually, and then he bought back Times-Wire from International Silver. There's a very bright guy with an engineering background. Very articulate, unlike most engineers.

PAGLIN While I have you on this, you mentioned last time two things: (1) You were going to tell me some of the stories about Milt Shapp and the so-called turnkey operations, that is to say, using his equipment position, and (2) You were going to tell me how Milt set rates for some of the systems of his turnkey operations.

WARREN Well, briefly, he was the dominant manufacturer of equipment. His ads, as a matter of fact, used to trumpet the fact that 85 to 90 percent of all systems were using Jerrold equipment. He drove very hard bargains in his deals with the cable operators buying his equipment. Now precisely the terms of them, I don't know. But I know that they were quite restrictive, quite burdensome. Somebody brought an anti-trust suit against Jerrold and, in fact, Jerrold signed a consent decree regarding the

way it contracted to build or furnish the equipment.

PAGLIN Do you have any idea of what the nature of the restrictions were?

WARREN I don't know. I think they were probably tie-ins, they probably were contract-repair things, I don't know.

PAGLIN What period of time was this? It had to be in the late '50s.

WARREN I would say that or early '60s. Now, as to how they set rates, I once asked Milt, "How were rates set in those old days?"

PAGLIN That's subscriber rates.

WARREN Yes. To the individual--you and me to begin cable service. The answer, in a nutshell, was it was arbitrary and capricious that they picked the figure out of the air at what the hell they thought the people would pay.

PAGLIN Whatever the market would bear.

WARREN Exactly. The figure came out about five bucks.

PAGLIN That was the going rate.

WARREN Milt freely admitted it could have been much lower

or much higher. But that they thought was fair, what they could get. Evidently, it worked pretty well.

PAGLIN As you said, the subscriber paid for the installation, right, paid for the service. So where were the costs? Except for carrying the program.

WARREN I don't remember the technical term but there was a big to-do about return of capital. That is the payment of the subscriber for the installation. Paying that $150 to the operator was called "contributions-in-aid-of-construction" and, I guess, non-taxable. No income tax on that hundred and fifty bucks. How about a sweet deal! There was money coming in all over the place.

PAGLIN You had to be a real jerk not to make a fortune.

WARREN I remember just recently a friend of mine who is an active cable lawyer. He knows so many of his clients, other people in the cable business, who have made so many millions of dollars, and these are very ordinary people. They had no real, extraordinary skills. They got the right thing at the right time and hung in there.

PAGLIN People out of the hills. Mom and Pop operations.

WARREN Right. Lots of them. They had the guts to start it, risk it and worked it off the kitchen table--

mom and pop.

PAGLIN They had a product which was really in demand, particularly television. There's something crazy about people's desire for that box, for that picture in the box, right?

WARREN Which is so often the case. The entrepreneur makes out well because his tastes are so much like his customers'. He does understand what the customer wants. He loves television. Just like you and me. As you mentioned about Bill Daniels. They love what television can do. They know what the public wants. This is Bill Paley, the chairman of CBS. He loves the "Beverly Hillbillies." He had the same taste. He didn't insist on ballet or the symphony. He wanted what the people wanted. Lots of people wanted. That's the essence of so many of these entrepreneurs. They know what the public wants. They have the same tastes. Others learn through research and whatever; they had it from the gut. "Beverly Hillbillies" was one of the great, great shows as far as Bill Paley is concerned. And it was to the audience.

INTERRUPTION FOR TELEPHONE CALL

PAGLIN I never heard that. I never realized where it came from.

WARREN Such is true with the cable operators. So many of them just love cable. You won't find many of those

people saying, "I never watch the damn stuff." You'll find quite a few broadcasters who will say that.

PAGLIN That's interesting. Well, we've come to the end of that section now. Again, it's been most fascinating. So what I'd like to do is, at your convenience, set up another date.

End of Tape 4, Side A

PAGLIN Good morning, Al.

WARREN Good morning.

PAGLIN We're in the offices of Al Warren, the publisher of T.V. Digest, and it is April 14, 1988. We're about to start session number four of Al Warren's oral history of the early days of cable television. These oral histories of the cable television pioneers are part of the oral histories program of The National Cable Television Center and Museum at Penn State and are being done in conjunction with the Golden Jubilee Commission's project. I am Max Paglin, the executive director of Golden Jubilee.

During this session I want to develop your recollections of the early years of the local government regulatory policies and municipalities. Particularly, how they went about developing their criteria for franchising. What were some of the problems with the telephone and the utility companies regarding pole-line attachments and right-of-way? What were some of the experiences in the competition for franchises in the early days? If there was competition. What the Commission's early role was in terms of the relationship with the municipalities and some of the problems in constructing and managing and marketing the early systems.

So we start now with your recollection of what some of the early problems with the local municipalities

and the telephone companies and the utility companies in terms of pole attachments. First, with the municipalities.

WARREN As regards the municipalities. In the early days, you heard almost nothing about problems. They seemed to be virtually nonexistent. It didn't arise much--or at least it didn't filter back to here. Rarely did you ever hear of any problems with the city or community. All I ever heard was that they were glad in these small communities to get television. They fell all over themselves to welcome the entrepreneurs who wanted to come in and build a cable system. That, by and large, was the status most of the time.

In the early days, you seldom heard of a problem. Undoubtedly there were problems; poor service, the whole schmeer. As for competition for franchises, they were unheard of, too. People would walk in there and usually get themselves some local friends if they needed them and let them come in on a little piece of action, get a local lawyer, and bang! They took care of the mayor who frequently had friends in the law business and so forth. That was it.

PAGLIN These were in the smaller markets, of course.

WARREN That's right. They were all smaller markets in those days. There just wasn't any big city interest in cable.

PAGLIN You mean in the early '50s.

WARREN Late '40s, early '50s.

PAGLIN In other words, it was wide open.

WARREN It was just about wide open. The people were just dying to get television and this is one way of getting it. That was the sort of thing that all I heard about from the municipalities. From the telephone company, you did hear complaints from time to time. The phone company didn't want to be bothered by this, they wanted to get as much money as possible out of these cable operators to use their poles. It was a nuisance. Occasionally, they would have to do something to their poles, move wires around, make room for cable. That was a nuisance. It was small potatoes in those small towns, you know. But you didn't hear that this was a massive, huge problem nationwide. It popped up from time to time. The only place where I heard a continual complaint about the phone company was in Manhattan when Irving Kahn was trying to build.

PAGLIN This is later on.

WARREN Oh, much later. I don't know when Manhattan first built their system. That was a fairly early system.

PAGLIN Now that you speak of that, I think you are right because, I wonder if that is when I was with

Commissioner Bartley as legal assistant that we first heard of Irving Kahn in Manhattan.

WARREN Let's take a look at the Factbook and see when Manhattan started. He [Kahn] had many a bitter fight with the phone company.

PAGLIN Didn't that ultimately lead to his idea about the microwaves up there in Riverdale? Can you remember?

WARREN I remember A.M.L. A.M. Link, which his colleague Hub Schlafly worked on and it's still going. Let's see here.

PAGLIN This operated first under Manhattan Cable, right.

WARREN The northern portion in Manhattan shows a start in June 1, 1966. I didn't realize it was that late. I thought that was maybe late '50s. Well, that is somewhat later than what I had in mind.

PAGLIN Was there, in your knowledge as a journalist in the field, any thought at the time by the telephone companies about cable being something that perhaps they should get into? Because of it being a drop into the home.

WARREN Some people, yes. And the phone company did. They figured this is something they ought to be doing. But on the other hand, they also thought it was a nuisance and I guess they would have rather done it

in their own time. At their own pace and their own way. Naturally, in some cases they would not be too cooperative with a cable operator. I think Manhattan was a typical case of that, because they had to go into underground ducts which was even more complex, I think, in terms of space. I think the ducts could, at the time, accommodate only so much cable and wires and they constantly were talking about limited space. They couldn't spare it, and blah, blah, blah. So there were constant battles there. But that, as you say, is later. In most of the small communities, I think, it was a diminimus thing to most phone companies. I think they also realized they couldn't be too obstructive because the people wanted television and this was the only way most of them knew how to get it.

PAGLIN So the things that developed later on, with regard to all the conflicts and disputes about pole attachments, had to do with the mere economic aspect of it, is that correct?

WARREN I think primarily, yes.

PAGLIN When they started raising their rates for attaching to the poles.

WARREN They surely wanted more money, they wanted not only the per pole rate but the cost of preparing the pole. Moving their own wires around to make room for it to accommodate the cable, things like that. I guess it's only natural for businessmen to take

those positions.

PAGLIN As you say, there was no thought, or shall we say, no foresight at the time that the telephone company thought of the fact that this is a connection into the home--that's our bailiwick.

WARREN Undoubtedly, there was a certain amount of that going on. But it wasn't the big national bruhahah that the phone company was complaining to us. The cable people weren't complaining a whole hell-of-a-lot, in those very early days, about that rigid resistance. It was not that serious a thing. I think that most of the phone companies considered this small potatoes. Small potatoes that they didn't get too worked up about it. They may have very well thought that, when the television freeze was over and more stations started across the country, the cable thing would fade out.

PAGLIN That it would go away.

WARREN Cable television would be something to forget. And it would just be a temporary phenomenon as even many cable people thought it might. They thought they'd get all of the money they could while it lasted. Many of them thought that the business wouldn't last.

PAGLIN Can you recall, in the early days, when this problem began, as you say, surfaced in even only isolated matters? Do you recall whether the

Commission, the FCC, had any particular role in the franchising policy, vis-a-vis the criteria for the municipalities? Or was it something, again, that had not yet grown?

WARREN My recollection is that the Commission didn't and wasn't vitally concerned about that, at that time. Their overall position was, "If people want to build these systems to get some television in these little towns and keep these people off our backs (the public) who complained, "Where's television? We want television. We'd like to watch Milton Berle and Bishop Sheen and wrestling and roller derby."

PAGLIN You go back a long way.

WARREN Absolutely. Morey Amsterdam.

PAGLIN Oh my God.

WARREN That goes back all right. People wanted to watch it. They started reading about it; their big city friends would tell them about what was on television. They'd go visiting around the country and say, "We want some of this." There wasn't a big problem with franchises in the earliest days. The Commission was just not too concerned about that.

PAGLIN Of course, later on, it became quite a problem. The criteria that the Commission had to set up to

make sure that the cities, at least, handled the matter on a more or less fair basis. To the extent that you want to talk about it on the record, you know things happened later on with regard to the municipal franchises as you say. The entrepreneur, the CATV operator going into a small town and enlisting the assistance of the local counsel or local lawyers and so on. Were there any incidents that you can remember in the early days that--for lack of a more discreet term I'll say--hanky panky was going on? In those days were there any such instances, I'm not talking about Johnstown, that came later.

WARREN Very, very little of that came to my attention. Occasionally, you'd hear some kind of rumor, but very rarely. It doesn't mean it wasn't going on, but very little of it was brought to my attention. I don't recall anything that became public, in terms of a legal action, until the Johnstown case.

PAGLIN What is your recollection? Tell the story of Johnstown as you knew it and as you reported it. It took place around the early '60s, wasn't it.

WARREN I don't recall the timing of it. It sounds right. Simply, my understanding of it was that TelePrompTer, which was run by Irving Kahn, owned a franchise and had been running a system in Johnstown for quite some years. The time for renewal of a franchise came up and charges were brought against TelePrompTer that he bribed members

of the city council, including the mayor, to renew the franchise.

PAGLIN Who made the accusations, do you remember?

WARREN I don't recall who leveled the accusations, but it came to trial. Kahn was found guilty and spent a year and a half in prison. His argument was that he was, essentially, forced into it. At any rate, the decision was that he was guilty. That was it. And he served his time. (See Irving B. Kahn oral history)

PAGLIN They bought him out of the TelePrompTer company. Who took over the company?

WARREN The company was bought, I don't remember the timing of it, by Jack Kent Cooke. He bought the TelePrompTer company. He was a stockholder, I believe at the time, when Irving was convicted. Cooke later acquired control of the company.

PAGLIN Who were some of the people that were working with Irving in TelePrompTer? Bob Beisswenger, was he in it?

WARREN He was not involved with TelePrompTer. He was president of the Jerrold Corporation after Milt Shapp. Milton Shapp brought Bob in--I think, when Milt moved up to chairman--as president. I don't recall any connection that Bob ever had with TelePrompTer.

PAGLIN I'm trying to remember who it was that was working with Irving Kahn and TelePrompTer, at that time.

WARREN He had a bunch of top level people. Hank Simons was one of his top people. His P.R. man was Sel Kremer. Before that it was Dan Aaron, one of the early P.R. men for Milt Shapp of Jerrold.

PAGLIN Was this for Jerrold or Kahn?

WARREN I'm talking about Jerrold. Excuse me, you were asking about who was with Kahn. I shifted back and forth there. Hank Simons was with Kahn at TelePrompTer. Hub Schlafly (Hubert Schlafly) was with Kahn. In fact, the two of them formed the original TelePrompTer company, built around the teleprompter device, which Schlafly largely developed.

PAGLIN He developed the TelePrompTer?

WARREN The device which is still used today, very successfully. Schlafly was Irving Kahn's top-most partner at that time. I remember Gloria Coe back at the FCC. She had been a confidential assistant to Chairman Minow. She later left the Commission and went to work for TelePrompTer. She was a very able woman and she did a grand job.

PAGLIN She married a ...

WARREN A fellow named Klein, a labor lawyer. They later

divorced. She retained stock, like all of the top people at TelePrompTer, and when the company was sold to Cooke, she got a very, very substantial amount of money. Kahn used to be very proud to tell us that he made about a dozen millionaires like that. They bought their stock at a very, very low price and sold it at a very substantial one. She, unfortunately, died of cancer.

PAGLIN I remember that. In fact, I also remember an incident, as you say, when the stock was very, very low. Well, I won't interpose my own recollection on it, but when I left the Commission as general counsel and went out in practice, I had known Irv for some time and he wanted to retain me to do some things for him. We met in New York. This is Irving Kahn. There was a restaurant in an old hotel ...

WARREN The Algonquin?

PAGLIN Yes.

WARREN That was a favorite of his. It was right next to his office.

PAGLIN We went there and the old Italian maitre d' said, "Good Morning, Mr. Kahn." Then he started complaining to Irving, "You tellin' me to buy you stock, I buy yours like two and a half, now its three, it's not going anywhere. Why you tellin' me to buy you stock?" Irving says, "I didn't tell you

to buy the stock." I then told the story to some friends who had a rich dentist brother-in-law in Long Island, I didn't buy the stock while I was free then to do it. This guy bought it and it went to a hundred and sixty. He always used to tell our friend, "Tell your friend I appreciate hearing about that."

WARREN A lot of people made a lot of money on that.

PAGLIN Irving Kahn is still in the forefront of technology in this business.

WARREN I think he made the most remarkable recovery after conviction and serving a prison sentence of anyone I have ever heard of. I remember several years ago Fortune Magazine had an article on people who had served time, businessmen.

PAGLIN I heard of it, but I never saw it.

WARREN They devoted quite a long space to Irving and in fact, there was a full page picture of him. He, I would say, made one of the most remarkable recoveries from such a blow of anyone I had ever heard of.

PAGLIN Our late dear friend, Fred Ford, loved to tell the story about Irving Kahn. It's not apocryphal, it's true. The first industry gathering to which he was invited to make a luncheon speech--you may know this story--after his coming out of prison, started

out this way. Irving said, "As I was saying before I was so rudely interrupted." And it brought the house down.

WARREN He was quite candid about the event and he would frequently speak about, "Well, this happened when I was the guest of the government."

PAGLIN Yes. I remember when we were all called upon to write letters on his behalf, you know, character letters, at the time. We did. Those of us who had known him for a long time. But it didn't help much.

Do you recall some of the problems the early people had managing and marketing these early systems? For example, subscription television was coming on at about this time, the early '50s.

WARREN It was being promoted largely by Zenith.

PAGLIN And later, Pat Weaver?

WARREN Yes. RKO did some promotions, too. But the connection was fairly minor except, I guess, that Pat Weaver did it by cable in Los Angeles to the extent that he could, against the opposition of the movie industry which pretty well strangled him.

PAGLIN He couldn't get the programming.

WARREN That's right. There was also an experiment by a

movie theatre owner in Bartlesville, Oklahoma. The results, as I recall it, were not particularly favorable for pay TV. This was via cable also. Other than that, what the pay TV people promoted was largely talking about over the air. Zenith was the principal of that. As matter of fact, Zenith didn't even want to build television sets for several years after the war, and did not build any because the guy who ran it, Commander Gene McDonald, said that advertising will not support television. It has to go through subscription, pay TV. As a result, he lost untold sales to everybody else in the industry who was making sets like mad, and he wasn't even making sets.

When he finally did, he came up with a novelty that was rather amusing. He claimed a much bigger picture for the simple reason of not masking off the round picture tube and leaving the picture fill the total round frame of the set. You've got a bigger picture, yes, but you lost the picture in the corners. The results were that you lost maybe 30 percent of what was transmitted. And yet, you had a bigger picture that filled the whole tube. This was called the Bendix. It looked like the Bendix washer which had this porthole in it, at that time.

PAGLIN I remember going up with the commissioners to see the first pay TV demonstration. Zenith/UHF operation in Hartford, wasn't it?

WARREN That was done by RKO.

PAGLIN But it was a Zenith patent system?

WARREN He called it Phonevision, at the time. The reason he called it Phonevision is that the original version had to work in connection with your telephone and the station. To get it, you would have to telephone and I think the signal was attached; the descrambler or whatever, so that unless you got this tieup through the telephone, you couldn't get it. That's why he called it Phonevision. Naturally, his opposition called it "phony vision." The big opposition was between him and David Sarnoff of RCA. They had a bitter, bitter enmity that went on for years.

PAGLIN Isn't that funny. You're talking about, you know French, deja vu?

WARREN Oui!!!

PAGLIN The early days of David Sarnoff's opposition to Armstrong on FM as you told us about, remember? The general didn't want anybody to get ahead of him.

WARREN No. He considered this his turf. He fought like mad. He was clever at it, too.

PAGLIN That's interesting. When the systems started getting into markets where there was more than one

television station. Let's say two-market stations. Do you recall whether there was difficulty then in obtaining programming and actually selling the system to subscribers?

WARREN Are you talking about cable?

PAGLIN Cable. I'm talking about cable.

WARREN In those days, before the advent of the satellite, it still was, largely, just the distant signals. Did they have trouble getting the distant signals? Not generally, they just did it until the FCC began to get into the act of controlling the kind of signals that they could carry.

PAGLIN In two-station markets, in the early days, was there still the same hunger for variety in television that made a cable system in a two-station market of economic viability?

WARREN Vastly less viable than it was in the no-station market or the one station market. I don't know the proportions or percentages but I would say that if a cable system had a 100 percent chance in a no-station market, it would have a 50 to 75 percent chance in a one-station market or maybe better than that.

PAGLIN When the cable systems got into two-station market systems contrasted to markets where there was either no station or one station, what were you

saying when we had to change tapes?

WARREN I would guess that the prospects of a cable system, in those days, of becoming successful was something well below 25 percent. Maybe as low as 10 percent or less because two stations gave you a fair amount of television. The cable system would bring in a third network and an independent or two which generally meant bringing in some extra sports and extra old movies. Those alone, I think would drop the prospects down into the level of 25 percent or less. I may be wrong, but that's my guess. As a result, there weren't a lot of cable systems in communities with stations like that.

PAGLIN Until, of course, as you said before, when the satellites came. That was a different story.

WARREN That was, indeed. Really, the movies were the big deal that the satellite produced.

PAGLIN Let me then move over into another subject while we still have more time. I want to put your hat on for a prognosticator. Nostradamus. There was something on television the other day about the old actor who created the big stir about the "War of the Worlds."

WARREN Orson Welles.

PAGLIN He was talking the other night about Nostradamus who predicted that on May 8, 1988, there would be a

terrible earthquake on the eastern coast and that it would destroy the eastern coast. Anyway, put on your hat as Nostradamus. What I'd like is your overall assessment of the early years of cable television and what their impact was on the opportunities and problems of the industry are today. In other words, what was there in the early years of cable which seemed to direct the development of the industry in the latter years and as it is today? Entrepreneurialism and things of that nature.

WARREN One thing that is pretty obvious is that people, the public, wanted more and more television programs. There seemed to be almost no limit to the choices people wanted. The first systems started out with three channels. Then they expanded to five. These were technological developments. And then twelve and then twenty. From there on it went into the thirties and forties and fifties and up. I think that most of us in the early days wondered, "Who in the world would want more than, say, twelve channels?" But the fact is that in those early days, before the advent of cable networks which were made possible by satellite distribution--that, as the number of channels increased, it really was much of a duplication. That is, instead of just receiving three network stations it could get up to, in some cases, a dozen stations of three networks each. You could get NBC over three different stations, CBS over three stations.

PAGLIN Duplication.

WARREN Much of it was duplicated programming so you really weren't getting that much more programming. What you did get was, during the hours when the networks weren't on, perhaps different movies or different sports.

PAGLIN Not prime time.

WARREN Usually not prime time. We used to ask each other, much of this is just duplicating what they've got so why would anybody want more channels of the same thing? Again, we did not foresee the rapid development of the satellite, once it came into being. Once that happened, the whole ballgame changed. As for the basic entrepreneurial business, you've seen as happened in most businesses. The pioneer, the risk-taker, who stepped out there in this new field, largely sold out sometime sooner or later. You'd see more and more concentration and more on the advent of the managerial rather than the entrepreneurial person.

The MBAs come into the picture and the financial men come into the picture. The people who primarily handle paper, whereas you previously had people who handled the hardware and programming. This is what you've seen in business, generally, in the United States. I think it is very unfortunate that business has become one of buying and selling of companies, rather than producing products.

That's what I think is one of the biggest things this country has to worry about.

PAGLIN If I may just ask or suggest, one of the things about cable that was recognized in the early days and even later on, was the contact with your subscribers; that is to say, almost like a day-to-day contact. Because you were furnishing programming, were you not, house by house? You were collecting month-by-month, you were hearing complaints in terms of what the public wanted and what they did not want as contrasted to, as you say, entrepreneurs, big MSOs, where it's just a balance sheet, profit and loss. The concept of the community was gone. Am I correct in that?

WARREN Well, the emphasis diminished and more and more decisions were made at a headquarters rather than locally, as has happened in so many businesses. It's unfortunate, in my judgment. But, I don't know if there is a great deal that can be done about it.

PAGLIN What do you see changed the--in addition to what you were saying--complexion of the industry as it was known to the people who had hands-on, early experience?

WARREN It became big enough to attract big money and big business. I think that is essentially what it amounts to. It was no longer a mom and pop business and hence it attracted big business. I

think you could almost compare it with the corner grocery versus the supermarket kind of thing and there was enough money there with the big folks. For those pioneers who grew with it and stayed with it, they brought in managerial types to help them run those because many of the original entrepreneurs who did not have those managerial skills that were needed and the experience to run large organizations.

PAGLIN As their systems expanded.

WARREN As their businesses expanded and the wiser of them hired managerial folks of their own.

PAGLIN That would be the Bill Daniels, Bob Magnesses, people like that.

WARREN That's right. I think Magness has done that, he has been one of the most successful. He is by far the largest cable operator in the country. But to this day, very few people know Bob Magness. They know John Malone. John Malone has a Ph.D in financing and Bob wisely hired him when it came to expanding his empire. He got a guy who was really, Malone, a genius at raising money, moving properties around and now Magness is older and enjoying his Arabian horses.

PAGLIN So what you're saying, Al, is that there is a very interesting close parallel between the development of other kinds of industries in America in the

early days starting out with the local entrepreneur, the small mom and pop, as you say, and growing into a large business and the experience with cable.

WARREN I would think they are very, very similar, particularly in comparison with the utilities, which cable resembles in so many ways. Telephone, gas, water, electricity, I would say that most of those utilities developed long before our time. I have not studied in any detail the development of those various utilities in industry, but the little I do know about them sounds like they are quite parallel. There was a small telephone operator out there but when it became big business, big business took over and ran them.

PAGLIN I want to probe your thoughts on this. When you have been dealing with cable, there were two elements, at least, that were different than a business of home construction, building office buildings. That was that there was a direct connection with the people in terms of day to day entertainment, information, and the window on the world that were being provided, as contrasted with telephone companies, which were very necessary, it's true. The people who went in realized they were providing a service, in the early days, which wasn't a necessity, was it? It was what we would call a luxury, almost. It was something, as you indicated, that the public demanded. They wanted this.

WARREN Well, right. The big difference, of course, of cable from these other businesses we are talking about is it is a medium and as such, it is a totally different animal. The government has to keep its hands off, in many ways, which the government doesn't have to do in many other industries.

End of Tape 4, Side B

WARREN But the industry is affected with the First Amendment. I would say this: 99 percent of the people who first built cable systems didn't give a good God damn about the First Amendment.

PAGLIN Or even if they recognized this.

WARREN They didn't know about it, they didn't care about it. It was a business to them. Most of them were stores that sold to consumers like us. They sold radio sets and they wanted to sell television sets. The thing that was surprising to me was the movie people that stayed out of the business. So many of the theater owners and movie producers stayed out of this. They were stupid. They were stupid in regard to radio, to television, and then to cable. It's incredible how these guys would concentrate, have their noses buried into one medium and they couldn't look around and see something else. All that happened to television broadcasters, too. They had very few who had a lot of vision to look around and say, "Hey, we better find out what this thing is. If this is a competitor, why, join them." As we mentioned earlier, Cox was probably the most successful major broadcaster to foresee that. Leonard Reinsch deserved the credit for doing that for the company.

PAGLIN Then, as you say, as the systems grew, as the rest of the financial and business world became aware of what was, in business terms, a gold mine, that is, a cash flow in these systems was absolutely

tremendous, right? The payback was incredible. As Bill Daniels has once said in the course of his interview that the bankers had never heard of anything like this. What do you mean, a payback in three years? They suddenly began to discover, "Wait a minute, this is something we ought to look into."

WARREN It was incredible. Like anything else, if the money is there, it is going to attract more people.

PAGLIN I've always felt that Bill Daniels and, perhaps, Marty Malarkey, were among the first that were able to introduce the big boys of finance into this industry, thus permitting the infusion of a great amount of capital that was not there before.

WARREN They did a great deal to bring in the big money. Who else may have contributed that way in the early days? Well, I would say that Irving Kahn brought in big, big investment bankers into the business.

PAGLIN What did that permit? Spell it out.

WARREN Well, it permitted people to buy up the systems, to build more systems and to grow that much more rapidly. Those businessmen had the vision of this business and were able to expand that more rapidly. Irving Kahn went around the country buying up systems, offering people money so large they couldn't refuse. Daniels was doing the same sort of thing in attracting money into the business. He

had great skills at that. I'm sure I'm neglecting others who made similar contributions in bringing in money. I'm thinking in terms of the very earliest people.

PAGLIN Yes, of course, that's what we're dealing with, the very early years. That foresight on the part of some of the earliest pioneers that we've been talking about had a tremendous impact on the growth of cable, did it not?

WARREN Indeed, it did. When you could bring in large money like that you would expand that much more rapidly. Some guys expanded fairly well by just building their own, gradually self-financing of minor, modest things. They did reasonably well. For a real explosive development, it took large money to get in that.

PAGLIN To get into the large markets, in other words.

WARREN Well, that too. But, even to buy up, as Irving did, a hundred cable systems, in those early days, took quite a bit of money. I think his first one he bought was Silver City, Nevada, or was that New Mexico?

PAGLIN Somewhere in New Mexico.

WARREN He told the story--I have forgotten which it was--of how he bought his first system.

PAGLIN What was that?

WARREN The details escape me.

PAGLIN I hope that Marlowe Froke got it because he is doing Irving Kahn's history.

WARREN Is he? Well, Irving will undoubtedly tell him about that first one because it was quite exciting for him to acquire it.

PAGLIN I think it was somewhere in New Mexico.

WARREN I believe it was.

PAGLIN All right. We're coming to the point where you have to stop. I thank you again.

End of Tape 5, Side A

PAGLIN Good morning. This is session number five of the oral history of Al Warren, publisher of T.V. Digest, now renamed as of May 10, Warren Publishing, Inc. We are now in a new location. It is May 24, 1988. This is another session in the series of oral histories of the cable television Pioneers by The National Cable Television Center and Museum at Penn State University with the Golden Jubilee Commission. I am Max Paglin, the executive director of the Golden Jubilee Commission.

Today, what we'd like to do is to cover your predictions for the future role of cable in the development of telecommunications. The overall complex and what your views are on the future course of cable technology, the need, if any, for federal or local regulation of the cable industry and some of the problems that are going on now. What you see in the future, e.g., must-carry, copyright, DBS, and some of the problems that are going on now.

WARREN Very briefly, I think it is quite well known that the cable systems obviously thought of expanding the kind of material that they could offer. One of the more obvious ways was to bring signals from longer distances. At that time, the way of doing it was by microwave. Several operators did build microwave systems and also independent people built microwave systems to serve cable.

PAGLIN There were independent companies that built as

common carriers.

WARREN I recall that most of these were done by non-telephone company organizations. That's why it sticks out so strongly in my memory. Bill Daniels was the first to get the telephone company to furnish a microwave system to bring signals from Denver to Casper.

PAGLIN Yes. I think he had a system in Casper.

WARREN I recall that the price was very expensive. As a result, Bill charged more per subscriber in that system than just about anybody else was charging. As I recall, it was in the seven to eight dollar range.

PAGLIN That was a lot in those days.

WARREN Seven or eight dollars compared to the average of five something throughout the industry. Evidently it worked out well for them, as far as I know. This was an obvious way of expanding. You may recall, too, that in the east, Home Box Office utilized the microwave system--I guess it was Eastern Microwave. So it could expand its service of its movies to more and more systems and to do it simultaneously for microwaves.

PAGLIN Was HBO feeding hotels and motels at the time?

WARREN I don't recall. So this was the beginning of

networking for HBO. It pursued this with the satellite, which changed everything in the distribution to systems. It reminded me, a little, of the expansion of networking for television broadcasting itself in years earlier than that. We used to track every piece of coaxial cable that AT&T put in and every microwave it built to add cities to it so the main broadcast networks could add cities. We used to put out a map.

PAGLIN T.V. Digest, did?

WARREN We used to put out a map every once in a while to show the expansion of the AT&T network and then projections by AT&T when they would add city X or Y or Z. It was followed with absolute avid anticipation by broadcasters all over the country who said, "When will we get the network?"

PAGLIN This was around when, Al?

WARREN I would say the late '40s, early '50s. It was exciting to watch it march across the country. Then when they finally did get it coast to coast, that was very exciting.

PAGLIN It's like the building of the railroad.

WARREN Exactly. I do think that everybody was aware of that parallel and somebody put in a golden switch or something to emulate the golden spike. Those were exciting times. Those are the things I wanted

to call primary attention to.

PAGLIN Networking by microwave really continued for quite a long time in terms of the expansion and development of cable systems and programming.

WARREN Yes, it did. I can't give you a number of years; it continued until the satellite took over.

PAGLIN That's my point. Satellites then came in '75.

WARREN '75, right.

PAGLIN Who was the first to use it, was it HBO?

WARREN Right. They demonstrated it with the reception of the "Thrilla from Manila", the boxing match of Mohammed Ali in Manila. I forget who he was fighting. Anyway, it was in Manila and it was transmitted via satellite to two cities. One was Vero Beach, Florida--where there was a cable system--and the other one, I think, was in Jackson, Mississippi.

PAGLIN Those were the first.

WARREN Those were the first two. This was an experiment. I went down to Vero Beach to watch this and it was quite exciting. After the fight, I went around the next day quizzing people in the street--man in the street interviews--and about nineteen people out of twenty didn't know what I was talking about. They

hadn't read the papers. They didn't see it.

PAGLIN Did they have sets? Did they have cable?

WARREN Many of them did and didn't really know what the hell had happened. It was astonishing how oblivious they were.

PAGLIN Was it because they just saw the fight and didn't realize the technicalities of how it arrived?

WARREN Right. That didn't sink in with most of the people.

PAGLIN But they did watch it, and that was great.

WARREN They did watch it. A few were aware of the satellites and the contributions of that. But it's amazing how oblivious most people were.

PAGLIN I was thinking about this when you were talking about boxing matches. You may have gone up that day to Hartford when the Zenith station up there in New Haven had the first demonstration, also a prize fight by subscription television.

WARREN I don't think I attended that.

PAGLIN That was around 1955 or something.

WARREN I don't think I went up for that.

PAGLIN They had the box there so a lot of people knew it had to be something. In your estimation, would you say that the arrival and utilization of satellites was probably the most important development in the development of cable television's diversity of programming?

WARREN It certainly was very important. One of the most important. With one sweep, they were able to serve an entire country and distribute it to the remotest communities and, with just one snap, they suddenly could serve the entire country with the same program, simultaneously. The entire nation, which was quite a powerful thing.

PAGLIN Did HBO have its own up-link earth stations or were they using RCA, American, or any one of the other carriers?

WARREN I don't recall, but I would lean to assume that they didn't operate their own up-link because, as a very first thing, I would think it was logical to let the people who were working with the technology do the whole thing, at least at the start.

PAGLIN Which, most of all, was the carriers.

WARREN RCA was an early active.

PAGLIN AT&T.

WARREN Right. Hughes has always been very big on

satellite business.

PAGLIN Who was the first programmer who established his own uplink?

WARREN I don't know.

PAGLIN Then, just generically speaking, after a while as the satellite programming began to develop, the programmers, themselves, sought licenses from the Commission to do transmitting by their own uplinks.

WARREN Of course, along came entrepreneurs who established services like Bob Wold did to provide the facilities to the programmers. The programmer would rent space or whatever, instead of operating a whole farm of satellite dishes. Why not let somebody operate them and pay them for them?

PAGLIN The arrangements would be between the programmer like HBO or whoever and the cable system itself. There was a contract between the programmer and the cable system.

WARREN I assume so. I didn't know those details.

PAGLIN What else would you say there was in the early days other than the stage of satellite development which was an epoch-marking thing or which represents a great advance in cable television and the delivery of programs to the home? Not only to the home but to hotels, motels, and the like.

WARREN Your question is what else?

PAGLIN What else besides the use of satellites?

WARREN I would say the development of greater and greater capacity of the technical systems. Jumping from original three channels to five channels to twelve channels to twenty channels, thirty, thirty-five and up. Those jumps were quite important.

PAGLIN For the cable system.

WARREN That's right. When the cable system, instead of furnishing only the three networks, could jump to add a couple more independent stations, then when you go to as many as a dozen channels, it opened up much more, then the jump to twenty. Those were, I think, very key points in the development of cable. The great distinguishing feature of cable, of course, is its multiple channel capacity.

PAGLIN The diversity of cable.

WARREN That's what cable is all about. That's the whole reason for cable. Its ability to furnish multiple channels. As that multiplicity grew, the influence of cable followed.

PAGLIN At what point, did the so-called super station that Ted Turner had--maybe we better describe the superstation--come in as a market development?

WARREN There is sort of an amusing background to it. The cable systems, naturally, wanted to pick up whichever stations offered the most attractive programs. Very frequently this was sports; it was baseball, primarily. I believe it was WPIX New York, WOR TV New York, WGN TV Chicago, and KTLA Los Angeles. Those were in great demand out in the hinterlands, and cable operators made strong efforts to get those signals. The amusing thing about it was that broadcasters officially and unofficially hated the cable operators except that those stations who were picked up and distributed that way. They picked up an awful lot of audience, but they didn't want to claim it publicly. They made a great point of saying, "Look, we're not doing this distribution. We haven't asked for it. We're not trying to tell our colleagues who operate stations around those cable systems. We didn't want to take your audience away. We're not doing that."

PAGLIN This is what the broadcaster would say?

WARREN Yes, the WGNs in Chicago and so forth. They protested, "Look, we're not doing this." You can bet darn well that their salesmen didn't hesitate to mention it occasionally, "We've got 500,000 extra homes out there watching this." So it was amusing in that sense. To my memory, the first to come out and make a big, positive deal out of how great it was, was Ted Turner. He said, "I am distributing my signal everywhere possible because

it's wonderful," and because, of course, he could get people to pay for it. I believe the cable system and the advertiser paid him. I think he is the first to use the expression, "superstation."

PAGLIN He was, for example, at that time, carrying what?

WARREN He had a fair amount of Atlanta sports and a lot of movies. I think that's what appealed to the people around the country. He positively tried to expand its availability to cable systems all over and, of course, once you have the satellite it is marvelous to be able to distribute it to anyone who wanted it in the country. To this day, most of the other superstations still do not make a big, positive deal out of all the pickups they get out there. They play it kind of cool.

PAGLIN Because it would appear to their colleagues in the industry that they were "traitors."

WARREN Yes, and stealing their audience. If you are a broadcaster in Kalamazoo and there's a cable system or a bunch of them in and around Kalamazoo picking up WGN-TV Chicago with the Sox games.

PAGLIN Both the air or microwave.

WARREN Either one. Anybody who is watching those games isn't watching the Kalamazoo station.

PAGLIN Watching it by cable, you mean.

WARREN Watching it on cable.

PAGLIN It might be a better picture, for example.

WARREN Or it is a program that maybe the Kalamazoo [station] couldn't get. Maybe he couldn't get the team at the price he wanted or maybe he thought he'd make more money by putting on a movie or something else. So the broadcasters--the involuntary superstation people--played it cool about that saying, "We're not doing this."

PAGLIN That's funny. The old enmity between broadcaster and cable from the very beginning, except now some broadcasters are affiliated.

WARREN Lots of them.

PAGLIN This is why you are expressing it. By this time already superstations, a number of broadcasters had already come in as owners of cable systems, is that so?

WARREN They were beginning to come in.

PAGLIN I remember you telling us in an earlier session that one of the first broadcasters who saw the importance of cable in terms of the distribution of diversity of programming was Leonard Reinsch of Cox Cable.

WARREN Right. He was all out for it in the days when that

was very unpopular among broadcasters and, as I mentioned, he says he lost what he thought were a lot of friends because of that.

PAGLIN Who about this time, to your recollection, were some of the big, multiple owners who had already begun to get into cable by the time the Super Stations arose?

WARREN Well ...

PAGLIN Westinghouse?

WARREN Westinghouse, at one point, was a substantial cable operator. CBS was, before the government kicked them out.

PAGLIN I think that's right, in the early days.

WARREN It was one of the biggest.

PAGLIN Before the government said what?

WARREN Networks could not own cable systems. There was, of course, Cox. I don't believe TCI was very big yet, still small in those very early days. Also, ATC and Time Inc. It was one of the largest.

PAGLIN That was Times Mirror.

WARREN No, that was Time Inc., the magazine. I'll pick out a few more major groups.

[For the record, Al is now going to the T.V. Factbook to look for the early broadcasters who began to get into cable as major operators.]

WARREN ATC was big. United Cable, that was Gene Schneider's outfit, that was a good size.

PAGLIN They were broadcasters?

WARREN Oh, you want those who were broadcasters?

PAGLIN At this stage, it was broadcasters who had begun to get into cable.

WARREN Let me see here. Broadcasters and cable.

PAGLIN Now, if the researcher wanted to look at this, go back to a full reference, you are referring to what?

WARREN Television Factbook, The Cable and Services Volume, this is the 1987 edition, page B - 1,264. It shows who is now a broadcaster and in cable.

PAGLIN Some of the major ones ...

WARREN Let's see. DonRey Media, with Don Reynolds in Booth America. The San Francisco Chronicle--Western Communications. It was substantial and it was early. Knight-Ridder?

PAGLIN These were, historically, major newspaper chains.

They already had radio stations, right?

WARREN Yes, but some of them may not have had very heavy cable interest. Wometco had cable.

PAGLIN Wometco was principally a theater chain at the beginning, weren't they?

WARREN Used to be. It was at the beginning and then it got into ...

PAGLIN That's the Wolfson family.

WARREN Wometco stood for Wolfson-Myer Theater.

PAGLIN I never knew what the other one stood for.

WARREN The Times Mirror of Los Angeles. These are among those that are current. There may have been some that have dropped out.

PAGLIN By selling off.

WARREN There is the Palmer outfit out of Des Moines.

PAGLIN Palmer?

WARREN Yes, Palmer Broadcasting.

PAGLIN I'm not familiar with that.

WARREN Then there was Lyndon Johnson himself.

PAGLIN In Austin. Yes! What did they call the system, not L.B.J.? I know, because, when I represented George Morrell who had the cable system in Austin, Texas, that was the time when L.B.J. suggested, "How nice it would be for George to make him a partner." You remember that old story.

WARREN Oh huh.

PAGLIN He put his son-in-law in charge.

WARREN It's now an ex-son-in-law, isn't he?

PAGLIN Yes. They had owned the Austin television station at the time.

WARREN Right. I don't recall the name of the company, at that time.

PAGLIN The Austin's name. It's not important. Summarizing, broadcasters were already well into cable ownership by this time.

WARREN Put Storer in there too.

PAGLIN Storer, my goodness. He was one of the first.

WARREN Scripps Howard was, too.

PAGLIN That's right. Again, you see except for Storer, a good number of these were the traditional newspaper owners who, when radio came along, correct, they

got in. When television came along, they got in, and when cable came along, they got in. In other words, these were the farsighted ones. How about the Richmond Times family? What was that name again? You know who I mean? They're in a big court fight now on a takeover. They own the Norfolk and Richmond Stations.

It's an old newspaper family that had owned newspapers in Virginia--Norfolk and Roanoke, the capital. In any event, it's enough of identification. [Editor's Note: Mr. Paglin was probably referring to Landmark.] I just read something about the takeover business just the other day. While you are looking at it, I saw in your journal just this week--if not last week--that Irving Kahn is going back into cable ownership. The Cherry Hill System, isn't that correct?

WARREN Well, he had been back into it.

PAGLIN Oh, he had before then?

WARREN Oh, yeah.

PAGLIN I knew he was in fiber optics and microband and all of that, but I wasn't aware that he had actually come back into cable ownership.

WARREN When he came out of prison, he immediately began building systems in New Jersey and he built those up. About seven years ago, he sold them to The New

York Times for around a hundred and some million dollars. He and The New York Times have gotten into a fight since then, so Irving is now overbuilding.

PAGLIN It's an overbuilder in Cherry Hill, New Jersey.

WARREN Which he had sold to The New York Times. He is now planning to overbuild them. He got into a battle with them and he is now past his non-compete time and is now seeking to overbuild them.

PAGLIN Overbuild, in this sense, means no longer a "monopoly" of the only system in town. Now, current policy permits you to seek another franchise in the same town.

WARREN Depends, I guess, on the city involved. Whether the city will allow you to.

PAGLIN Whether it is economically worth it.

WARREN Whether they will grant you a franchise. Most of them will.

PAGLIN That's what he is doing now. Very interesting. Now if we may get to the concluding section. You've got to put on your Nostradamus hat and this is to be headed, "Albert Warren's Predictions For the Future Role of Cable in the Development of Telecommunications." Let your fancy fly.

WARREN I think you are beginning to see a bit of a change in the pendulum. That is, cable was sort of the fair-haired boy as far as governments were concerned--federal and local--for a long time. In the courts, they seemed to win everything. They never seemed to lose. They were riding high, growing like mad. I think you're going to see the FCC reimposing the syndicated exclusivity, syndex thing.

PAGLIN Just last week.

WARREN Last week. I think you are beginning to see the actual slowing down of that pendulum which had been swinging the cable's way all these years. They are serving over half the homes in the nation. That's a pretty large number of people. I think that you're gradually seeing governments and Congress questioning whether cable may be getting a little bit too strong for the public interest. I would suspect that if the Democrats get in power, you're going to see that attitude increase.

PAGLIN Pulling in the reins, so to speak.

WARREN Somewhat restricting to cable people who have had unprecedented freedom of growth.

PAGLIN Do we have a situation now where cable is in the position of being not only the owner and distributor of a great portion of the nation's television viewing, but are they also now

programmers?

WARREN There is a continuing growth and continuing strength of owning more and more. The whole thing, like the movie people once did.

PAGLIN That's exactly what I was about to get to. The parallel of vertical integration of the motion picture industry in the twenties and thirties and early forties that got them into such trouble, which made the anti-trust suits and made them break up the producer from the distributor and the exhibitor.

WARREN That's the attitude developing in government circles today. Maybe they are getting a little too strong. Of course, all of these cable system operators--they see it coming. They are buying up everything they can so that when they are forced to divest, they say, "Okay, we divest. So we only get three times or five times what we paid for it." I recall one very powerful broadcaster, twenty years or so ago, who was buying up everything he could in every front in the entertainment business. His counsel advised him, "Aren't you going a little far here? You're going to have the government on your ass, man." The guy says, "So, what will happen is we'll sell out for several times what we paid for it and cry all the way to the bank." That's what I think is going on now. That's one of the reasons that cable systems are selling for as high as it sells because everybody is ... "Let's grab them

before they make us quit."

PAGLIN They're selling now some of the systems at the rate per subscriber of what?

WARREN About $2,000, roughly.

PAGLIN In the early '60s, early '70s, you were talking about what two, three hundred per subscriber?

WARREN I guess two, three hundred. We'd have to go back into the fifties. In the sixties, they'd gone up to five hundred or more. Some incredible fortunes have been made in this business. I see where Alan Gerry is just buying Wometco. I don't know how many subscribers it is, but it is a 750 million dollar deal. Hundreds of millions, billions going into these things. It's just staggering.

PAGLIN As the years have gone on, in the last dozen years, there's been greater and greater concentration in multiple system owners.

WARREN That is correct. It's still concentration nothing comparable to that of the automobile industry, where you have three or four of them running the whole thing. Here, you're getting so the top half dozen cable ...

End of Tape 5, Side B

PAGLIN Al, you were talking about the concentration now of big owners in cable television.

WARREN Well, it's growing so that the top half dozen or so operators have a pretty substantial chunk of the business. I would assume it is going to continue growing that way, until and unless, there is action by the government to slow it down or stop it. I guess it is only normal that things will develop that way. Whether or not they are too concentrated now is beyond me to say, but I think Congress is going to get their hands into this. Depending on who wins the election, will determine whether or not the Federal Communications Commission or the Justice Department, Federal Trade Commission or those folks will get into it.

PAGLIN Do you see cable developing a role in non-entertainment programming?

WARREN I don't see why not. It seems to me that if they are going to put more and more capacity into the systems and it's inevitable that if permitted to do so by government they will add services for which people were willing to pay. It has happened much more slowly than most people thought. Many, many years ago, even the early '50s, people were talking about the potential for all kinds of services.

PAGLIN Blue sky they used to call it.

WARREN That's right. That means the meter reading and the

security devices and the home shopping and all that.

PAGLIN Home shopping is pretty big now, isn't it?

WARREN Yes, that one suddenly blossomed. I think it overblosssomed, but I don't know what it will settle down to. It's gone overboard and it will settle down to something less than everything.

PAGLIN I should have used a term other than non-entertainment programming because, in the multiplicity of channels, they have all kinds of stuff. Stock quotations, weather information, medical information, all kinds of stuff which are non-entertainment. I'm asking about things like meter reading and paging, of which, cable is technologically capable, right?

WARREN Technically, they can do an awful lot of things. Will they be allowed to offer telephone? Will telephone companies be allowed to offer cable television?

PAGLIN What about it? Is that not a current issue? Telephone companies coming into cable.

WARREN It is a current issue and it seems to me that the phone companies, as business gets more competitive, will look around for more and more kinds of revenue sources. Also, they are broken up into more groups. You have the seven "Baby Bells." Some of

those are more adventurous than others and they're going to try to expand these things. I would expect it.

PAGLIN In fact, in these small towns, the FCC has permitted telephone companies to operate cable systems. Have they not?

WARREN There are some and they are very small usually, because the actual cable system operators apparently thought them too small or too scattered or too sparse to a non-concentrated population-wise to justify the building of systems. Whereas the telephone wire has got to be there anyway, why not add television? Of course, the FCC does allow telephone companies to build cable systems in areas where they do not have telephone companies or where they do not serve with telephone. Like, Pacific Bell built a cable system here. To me, it is interesting how they really don't want to get into areas other than their own backyards. Very little.

PAGLIN Hasn't that really been a philosophy of the telephone company since the beginning of time?

WARREN I guess so. Apparently, each doesn't want to step out of his own territory from that standpoint. I think that is going to diminish, that reluctance, and, I think, you are going to see more and more telephone companies getting into cable. Particularly, as they begin to furnish more and more fiber optics which has enormous capacity.

Again, you are going to see it sitting out there wasted. You have the capacity to do a thousand times more than it's getting now. It's just as if you built a highway with twenty lanes on it and you're only using one of them. We've got all this capacity, let trucks on it.

PAGLIN There are some systems, if I understand correctly, like the District of Columbia. Is it not true that District Cablevision is having the phone company build a system?

WARREN They're having the phone company build it.

PAGLIN That's all, just build it.

WARREN It will not program it or operate it. I think there have been a few others like this in the country. The phone company can build a nice system. They've got the technology and the know-how, they can do it. Why the cable operator chose to have the phone company do it here, I don't know. Because it is quite rare that they do that; they usually want to build it themselves or hire construction organizations that do build systems. Usually, the telephone company will charge more to build them. They build very, very fine gold-plated stuff. But, I don't know why they've chosen to ask the phone company to do it there.

PAGLIN In cases like that, Al, is that similar to what they used to have in the old days, at Jerrold

particularly, what they call turnkey operation? Where a Jerrold built the system and then just turned it over to the cable operator to own and operate?

WARREN Yes. That's a turnkey, but the telephone company wanted to build and lease the system to the operator. They called that a "lease back."

PAGLIN That hasn't spread, has it?

WARREN It isn't very wide. There aren't many systems built by phone companies for operators. I think it is largely a price matter. I think that the telephone company charges, generally, a good deal more than it costs the cable operators to build it themselves.

PAGLIN You see that cable, as you've described it, "is here to stay." It's obvious that it will have an ever increasing role as it spreads.

WARREN I would say that broadcasters are going to get more and more into it, many aspects of cable. I think cable is cutting into their audiences and, again, it is going to be, "Join 'em if you can't lick 'em". I think there are going to be more and more efforts to get the government to permit broadcasters to get further and further into cable. Because the audiences have eroded from networks, for example, about 10 percent in just the last few years, of which a fair chunk of it is caused by

cable. Some of it by videocassettes, some of it by independent broadcasters. If you have something with fifty channels on it and you are a broadcaster and all you have is one, no matter how tiny the audience of each of those fifty is, it's going to add up to a fair amount of erosion of your audience of your single channel. So, I think the government will be more and more inclined to listen to a broadcaster say, "Hey, this guy is killing me here. Why can't I get in the business?" It's a technological development. You've let AMs go into FM, broadcast radio go into television, and so forth. They, too, prefer to operate in their own communities. They are now permitted to operate almost anywhere where they do not have a broadcast station. Again, people prefer to work their own backyards.

PAGLIN This is our last item in the outline which we've been working through, and, that is, your views on the future course of cable technology and, accordingly, in view of the increase in the number of systems, numerically rather than the ownership. The need for additional federal and/or local regulation of the cable industry in the years ahead. What do you see, for example, the existing situation with regard to the conflicts on must-carry, on copyrights, on the future use of DBS (Direct Broadcast Systems) or high-definition television? How do you see that affecting cable? Will cable adopt it or will cable leave it to the broadcasters, in terms of the advance of

technology?

WARREN I think the cable people will grasp whatever they can that sounds promising. High definition television, at the moment, is, in my judgment, a much over-rated thing. We recently did a story about facts and fallacies about high-definition television. It has brought more favorable comment than anything we've written in a long time. When we point out that the public just doesn't care that much about high-definition television. In fact, they can't even see it. You and I have been watching television, technically and professionally, for a long time. If you get a normal viewing distance from two television sets, one has NTSC and one has high-definition television, you are going ask, "Which is which?" Honestly, you have to get close to see it. In very large pictures like, projections on the wall type thing with five, eight feet, you get into something where the high definition helps. For the average size picture, "the emperor has no clothes."

PAGLIN Can you recall, off-hand, when that TV Digest story was? I'd like to send it along with the transcript. That's the big thing today. As you say, if there was a special story issue on it.

WARREN That is our May 9, 1988 edition. The article is entitled "Fact, Fancy, and Fallacy about HDTV." The largest people in the industry have written to us and said, "Finally, somebody has told us the

truth about this business."

PAGLIN Will you permit me to make a copy?

WARREN I'll give you a copy.

PAGLIN That'll be fine. I'll send it along with the transcript.

WARREN It was startling to see. You take a guy like Andy Inglis who retired--he once headed up RCA satellite operations. He wrote me a letter just the other day saying, "Boy, I couldn't agree with you more. I'm glad to see it." In fact, he's writing a book and he said he'd like to reprint it in his book. I said, "Go right ahead." For example, we've got seven items in the story: "Number 1 - Americans Desperately Want Better Pictures and Public Opinion is Forcing Industry to go to Advanced TV Systems."

Here's our response to that: "Recent MIT studies augmented by opinion research of HBO and CBC begins to put the situation in perspective. While Americans may be most demanding about program material, they are notoriously passive in their acceptance of technological picture deficiency. There is no question that Americans, or any viewers, have to be educated to the advantages of good pictures. Large screen TV sets, particularly, will cry out for pictures that could be viewed from closer distances. All available information indicates American demand for HDTV may arise from

national pride, threat of competition, or visions of future markets. But not from any spontaneous demand by the viewing public, contentedly watching "Knots Landing" on maladjusted sets with twenty five year old antennas, worn out lead-in wires and horizontal lines of resolution." Things like that.

PAGLIN Read with emphasis too.

WARREN Dave Lachenbruch and I talked about this a few weeks ago and I said, "The emperor has no clothes." I look at these pictures there and they show them off at the NAB convention and the NCTA convention. If you look at them side-by-side when you get over seven, eight feet away from them, you're going to say, "Which is which?" It's just that people are accustomed to watching crummy pictures. They don't demand high quality. The average person, I'd say, gets about one-third out of his set, its capacity.

PAGLIN It's an interesting parallel how it goes back. If you recall, FM radio, it's problem in the beginning is exactly what you're saying, the public has got a tin ear, they don't need hi-fi. Finally, it developed.

WARREN It came along with rock music.

PAGLIN That's right. And the availability of many stations, but not because of the high fidelity.

WARREN But the high fidelity in rock gives you all of that

noise, the bang - bang of the drums and the guitar. That sort of stuff. It wasn't really until rock got hot that FM came in.

PAGLIN You remember what difficulty they had selling it as high fidelity radio? People didn't care.

WARREN Also, they had freedom from interference and so forth. To tell the truth, when I first came into the business, we had called our journal "Television Digest with FM Reports." We stressed FM because there were thousands of applications. People were hot after it and they were scared of going after television. Too expensive and no audience. We used to carry on about how marvelous FM was ourselves. I used to listen to it and say, to myself, "No interference?" I heard quite a bit of interference. The average set was incapable of providing all that it could provide. I thought it wasn't what I thought it was.

PAGLIN You remember what they finally discovered. The story was you produced a high fidelity signal in the studio but then the line that they rented from the phone company was a class B line. By the time it got to the transmitter, it was no longer high fidelity. Or when you got it in your set, isn't that right?

WARREN Right. They were using 8 to 10 kilocycle lines when the system provided 15,000, 15 kc. There's a lot of that. There's no comparison in the switch

from black and white to color than there is from NTSC standards to high definition standards. The average person can't see it. And they are not going to pay for it.

PAGLIN NTSC being what we have today.

WARREN That's our standard today.

PAGLIN What do you see in the future, in terms of regulation, if there is going to be any. We know about the must-carry situation that the Commission just came with. Syndex. There's still the ongoing conflict between the broadcasters and the cable people with regard to compulsory license, must-carry (that is to say, the cable systems must carry certain stations), the copyright fight. That is still going on.

WARREN I think, eventually, the courts--the Congress--are going to be tougher on the cable people, with respect to those items, must-carry and compulsory licenses. I think that they are going to feel that the cable operator has become so important to the viewer that there are certain things they are going to have to get tougher about.

PAGLIN They won't tolerate viewer blackouts that may result.

WARREN I don't think there will be much of that. Of course, the public wouldn't tolerate it, nor would

the Congress, if the cable people try to play it cute." Look at what the government is doing, taking this away from you. We have a blank screen in." I don't think they'd get away with much of that. "Don't tell me your troubles there, buddy. I want pictures."

PAGLIN Do you, in the same vein, Al, see any real future for what five, eight years ago was blue sky? Any future vis-a-vis, cable and/or broadcaster of direct broadcast satellite to the home?

WARREN I cannot get excited about DBS. One, it will never get as many channels as cable can provide.

PAGLIN That is, its capacity.

WARREN Capacity. Because it has to come from a radio spectrum which always has more people demanding than there is spectrum available. Whereas with cable, there is, theoretically, no limit.

PAGLIN Because it goes strictly over a wire.

WARREN It goes over wire and if the people are willing to pay for more programming, you just put in wire that will handle more or you put in another cable. You can have it there indefinitely. Whereas there is always a limit to the amount which can go over the air. DBS will have a question, how much spectrum will be allocated to that? I think it will be very hard for the DBS to shoehorn in and shove the cable

people aside. For example, what can DBS offer that cable won't? Is somebody going to take and buy up all of the favorite programming material--the latest movies, the top sports events and put it on DBS? Anything they can do, why the cable people can afford to pay more for. Who on DBS is going to put in the billions for DBS that cable couldn't do, if it had to? I cannot see much of a future in DBS. I don't know if it has any. Abortive so far.

PAGLIN With the expansion of the backyard dish for direct reception of cable programming from the satellite, almost, programming, will that have an effect?

WARREN That, to me, is a minor thing. Backyard dish.

PAGLIN We're talking about satellite dish.

WARREN We'll get a million or two million of those. Beyond that, I don't see much demand for it. Are you going to put a dish like that in your backyard? Not when you can get stations out of the air plus all the cable channels you could possibly watch. I'm not going to put a dish in my backyard. That type of satellite reception is different from DBS. What that amounts to is receiving everything that the cable system operator could receive. I don't see that as a big business. It won't be cutting a lot of ice. A million, two, three million homes like that where they are out in the country where you can't get much in the way of cable, maybe no cable.

PAGLIN Remote areas where there is no cable.

WARREN It's marvelous for that. And for the few fans who enjoy counting the number of channels they can receive. "I can receive 150 channels out of the air here on my satellite dish." People who enjoy that sort of thing are in the same class with the people who used to tune across the radio dial and pick up Nairobi. Just to show what they could pick it up.

PAGLIN There is a group of satellite owners who represent these so-called backyard dish owners.

WARREN That, in the scheme of the whole broadcasting/cable picture, I think, will always be a minor item.

PAGLIN How about scrambling the program for the satellite? That is only a protective device against the backyard dish?

WARREN That's right. The backyard dish became popular because people could put it up and receive the same stuff, even more than the cable operator would, for free. The cable operator and the program supplier, like HBO, said "My God, these programs are costing us a lot of money and these people are getting it free. They should be paying us something. So we'll scramble it and we'll charge them to unscramble it." That's what it's all about. Seems to me that's a fair thing to do.

PAGLIN That's been proceeding pretty successfully, where they want it.

WARREN I think so. Of course, many dish owners bought it but under the supposition they'd never have to pay anything to watch all the channels offered.

PAGLIN Well, the representation ...

WARREN The salesmen told them that. Now, they're unhappy, to find they've got to pay something. It's almost like saying, "I'll sell you a car and you can get the gas free." "Yeah, where?" "There it is, just go over and pump it yourself. There's people pumping it right there and they ain't paying it." "Oh, that's not a bad idea."

PAGLIN Then they come to find out ...

WARREN Somebody says, "Hey, we're going to put a lock on that."

PAGLIN What kind of fees do HBO and the other programmers charge when they scramble? For example, Joe Bosh out in a small town in Iowa, he's put a dish in his backyard because there is no cable there. Like you say, the salesman sold him the dish for two or three thousand dollars and now he finds he has to pay a fee to HBO. I've never seen mention of how much.

WARREN We have reported those and I don't remember them

off hand. They're in numbers that aren't outrageous. I don't know, maybe a couple bucks a month. Of course, if you want to get ten of those different programs, you would have to pay.

PAGLIN The scrambling fee is by program. Each channel?

WARREN Maybe there are some joint operations. My understanding is that you pay separately. Maybe I'm wrong. We have reported it and I don't recall. It isn't such that you have to pay a hundred bucks a month.

PAGLIN It's not a blackmail fee.

WARREN No. Because Congress has been very, very strongly lobbied by the dish owners. The programmers like HBO, Showtime and so forth, are fully aware that if they try to gouge these people they would have the Congress down on them.

PAGLIN Down their necks.

WARREN They are rather gingerly about it. I think it is tolerable price levels.

PAGLIN I think we've about covered most of what we intended to cover. Are there any other "pearls of wisdom" that Mr. Warren would like to put down for posterity? Your general view about how things are going?

WARREN I think that the cable people are going gradually to get more and more aware of public service responsibilities. That is, they'll put on some material that really doesn't pay very well but they feel is a social responsibility from a standpoint of news, documentaries, children's programs and maybe a few others, which broadcasters, by and large, have done over the years. Of course, broadcasters have had government breathing down their neck, pushing them on that front, but I think broadcasters, generally, have developed and retained some conscience there. I think you are going to see a development of more of that in the cable industry. There are already people who do that. There should be, and will be, more.

PAGLIN They become more conscious that they are really a close part of the community.

WARREN And that they are a medium of expression and not merely a business.

PAGLIN Since they are now making such a big thing about the First Amendment.

WARREN That's why I feel the broadcasters are not bad people to get into cable because they bring some more experience in dealing with the community, from a programming standpoint, which the cable people don't have much of. They've been mostly a passive receiver, a relay. I think that is all to the good. It's an incredible kind of money they make.

I think you are seeing the Pioneers are selling out gradually and dying off and more and more of the MBAs managing systems on behalf of them. I think a bad trend is developing in the cable industry, as in every business in the United States, is the trend of the raider, the hostile people who buy them up and squeeze them dry.

INTERRUPTION FOR TELEPHONE CALL

PAGLIN As you were intimating early in the game, a lot of broadcasters realized that cable was just an extension of what they were doing.

WARREN Well, some of them have. Cable has done a lot more than what was expected many years ago. I may have told you that I was a luncheon speaker at the first convention of the NCTA in Pottsville, Pennsylvania. That formation meeting I was invited to speak at lunch. Marty Malarkey was there. He asked me to comment on two questions. One, will the FCC ever take over and regulate cable? Two, will there be a future for cable when the freeze ended and the FCC started authorizing new TV stations?

My answer to the first was the Commission has its hands full with a lot more pressing things right now and it's delighted you're bringing any programs to anybody who couldn't get them before, so they are not anxious to regulate you. That's 1951.

As for when the new stations come on the air, will

there be any room for cable? I said I think there will always be towns hidden behind mountains and distant from television stations so that there will be need for cable in small communities. But if someone asked me what do you think of it coming to New York City or to Los Angeles? What do you think of someday serving over 50 percent of the homes of the nation?

PAGLIN Somebody had asked that question then?

WARREN No, I said if somebody had asked me that then, I would have said, "Relax, boys. It won't happen." I couldn't dream of such a thing.

PAGLIN Nobody did.

WARREN I think all they wanted was some assurance that they could continue the businesses they had in Pottsville, Pennsylvania; Mahanoy City, Pennsylvania; Carmel, California.

PAGLIN Astoria, Oregon.

WARREN Right. Corning, New York. Such things as they had. As for expanding as it has, nobody had really dreamed of it then. I can't recall anyone talking about such. There may have been some people who saw it growing as much as 10 percent of the nation. There's probably a lot of people who would smile at that. Some visionaries probably said that.

PAGLIN So the closing phrase is, "What hath cable wrought?" in this day.

WARREN I now, for the first time since covering cable which I started with the first system in 1949, have cable in my home--since December--which I think is disgusting. But they don't detract from the other fifty.

PAGLIN That is really interesting--virtually forty years. You said in 1949 you first began to cover cable and now you are finally a cable viewer, thirty-nine years later.

WARREN Their customer service is as lousy as ever. It takes them a half dozen times to get out there and install it right. A half dozen calls and complaints over the phone to get them to bill you right. On and on and on. See that envelope there. That is full of all kinds of correspondence and bills and so forth that I am trying to get straightened out.

PAGLIN It sounds like the early telephone service.

WARREN That's before my time. We had a telephone on the farm when we first moved out there in 1932 with a party line, I don't know how many people on it. My father had the phone put in. It was a windup phone and he never could get what he wanted out of it. Once he got so angry he ripped it right off the wall.

PAGLIN We go back the same way in the late '20s, when I lived in New York in the flats. Not cold water flats but the five-story flats with no elevator. It was in the Bronx. There was one pay phone in each building located in the middle--say, the second or third floor--and whoever happened to be on that floor had the duty because the phone was right outside their door. They had the duty of calling whoever was being called on that telephone. They would yell, "Mr. Giovano, you have a telephone call." "Mrs. Shapiro, you have a telephone call." You would come running up to the telephone. That's the way it was, I'm talking about '28, '29, '30s. That's how the phone systems were in New York City in those days. Of course, the corner grocer, the corner candy store or drug store had a telephone. Not much of a difference, although they were miles and miles away from each other.

It looks like we have now concluded our outline, unless there is something else that came to your mind that you would want to put on the tape.

WARREN As an overall thing, it is a very refreshing thing to have dealt and grown up with an industry that came from nothing. I've been through two of them; television, itself, cable television with the satellites. Radio started before my time. Telephone business started before my time.

PAGLIN I should hope so.

WARREN I have grown up with television, FM, cable, satellites, and it has been a great pleasure and excitement to be acquainted with the pioneers and the entrepreneurs who built these things. They are a unique gang of people. They are fascinating, they're risk takers, they're shrewd. They may be crude, at times they are, their personal lives may be erratic, but they are fascinating folks. Particularly, in the cable business because we were covering the cable industry when nobody else was interested. It went like that for years. I forgot who it was who was recently saying that, "I remember when we talked about the press in covering cable, what we're talking about was Al Warren." I was the only person interested in covering it. Nobody else was interested in it. I thought it was a fascinating field.

As I may have started out to tell you how I got fascinated with it, it's because I grew up on a farm where we did not have radio because we didn't have electricity and the battery radio would last about two days before the battery ran dead. I so yearned to hear radio that I sympathized with people who couldn't get television. That gave me my interest in cable television. It was not a big business, but it was a fascinating business. Being a country boy, I felt for the folks who yearned for television. Particularly the kids. That's how I got into it.

PAGLIN That's fascinating. When you speak like that, the

elder statesman, it makes me feel old because I think I started before you did. I started in 1942 when I came to work for the Commission. As you said, I agree a thousand percent and I tell this to kids when I'm lecturing or anything like that is, how wonderful it is to have been able to be on the inside of seeing an entire complex of industries, which I say had this tremendous impact on every man, woman, and child, everyday. You and I have been lucky enough to be there, as the expression goes. Fascinating. I'm sure you would agree to this very day.

WARREN I got into this business really accidentally. My original intention was to be on newspapers. But this job opened up and it sounded kind of exciting. So here I am.

End of Tape 6, Side A

PAGLIN And I'm sure you enjoyed it.

WARREN Most of it.

PAGLIN There were times when it got rough.

WARREN I worked for a very harsh boss.

PAGLIN Marty Codel.

WARREN Harsh guy.

PAGLIN I remember him. You learn lessons that way. I think we are at the end of our session. I want to thank you on behalf of the Golden Jubilee Commission and the Cable Television Pioneers and the National Cable Television Center and Museum at Penn State and for your contribution, which I know will be really significant in the collection.

End of Tape 6, Side B

This is a lecture entitled "The Growth of the Cable Phenomenon" by Al Warren sponsored by the School of Communications and The National Cable Television Center and Museum. The lecture was delivered at The Pennsylvania State University, University Park, Pennsylvania, April 17, 1989 in the Hetzel Union Building Auditorium.

Patrick Parsons of the School of Communications gave the introductory remarks.

PARSONS Good afternoon. Thank you for deciding to forego the lovely spring weather and come here to hear about cable instead. We deeply appreciate that. We know what a temptation it is today.

My name is Patrick Parsons, I want to welcome you and thank you for coming to the third annual cable telecommunications lecture which is sponsored jointly by The National Cable Television Center and Museum and the School of Communications. Our thanks to Marlowe Froke, the Director of the Center and Dean Brian Winston of the School for sponsoring this.

It is my pleasure to introduce our speaker today with a couple of opening remarks.

Cable television is about forty years old now. It has grown from a very simple length of copper wire, dropped through a hotel lobby in Oregon, to a multi-million dollar--even a billion dollar--industry bringing a wide variety of news,

entertainment and information, to over half of the television viewers in the United States. A lot of people have played a role in the development of cable television, coming in and out of the picture, working on the business, technology, and regulation. There are very few, however, who were working in media at the very beginning of cable television and remain working in media as a full-time observer and participant today. It is our pleasure that we are lucky enough to have one of those with us today.

His name is Albert Warren. He is a publisher and editor of a number of telecommunications industry periodicals, including Television Factbook, Television Digest, Communications Daily, Satellite Weekly, and others.

Al started his career in this business well before there was cable television, and continues in it today. He is here to share with us some of his observations about the growth and development of the cable industry.

Please join me in welcoming Albert Warren to be with us today.

(Applause)

WARREN Thank you very much. I am very pleased to be invited up here to talk to you. I am pleased for a variety of reasons. The first perhaps is the fact

that my eldest daughter is a graduate of Penn State. Second is, two of my very dear and oldest friends in the cable industry, live up here, and are in the audience today, Mr. and Mrs. James Palmer who have made very substantial gifts to the university and I am proud to say that I have known them ever since they were in the cable business.

Another dear friend who is here who has just joined the Cable Center is Stratford Smith who was in communications before I was. I got into it in December of '45. I believe Strat was on the scene working for the Federal Communications Commission as an attorney even before that. Am I right, Strat?

SMITH Right.

WARREN So Strat has had an enormous amount of experience in the cable industry and it has been my pleasure to work with him and cover his activities ever since cable started.

So I will plunge into my personal talk.

I'm going to give you the bottom line of my talk right now--then tell you how I got there. It's this: cable television is very likely to become the dominant television within the next ten years, perhaps less.

I have had the rare privilege of covering virtually

the entire history of several major developments in the media in the United States, working in this area since December 1945. This spans, essentially, the commercial development of TV itself. In December 1945, there were some 6,000 TV receivers in existence in the entire United States, built before the war. There were seven stations operating a few hours per day or even just a few hours per week. In fact, there were so few stations operating, they were so new that we were able to list all of their sponsors for each of them, and I think about two or three of them had a half a dozen sponsors. FM had a handful of experimental stations and a few thousand receivers at the time.

Our Television Digest carried what I believe is the first trade press report on the first cable system in the United States--in our issue of August 13, 1949. This was the system in Astoria, Oregon, built by Ed Parsons, an engineer. Naturally Parson's "first" is disputed, notably by some system operators in Pennsylvania. However, reporting the development of cable since its start has satisfied me that this was the first. I always warn my young reporters to be very skeptical of anyone's claim of a "first" in anything, because such claims are always disputed and seldom accurate. For example, Paul Nipkow, studying in Berlin, in 1884 received a patent for a TV system using whirling discs--but there is no evidence he actually produced a working model. I have never

learned who was the first to make the disc system work.

Whatever happened to Ed Parsons? He never built another cable system. He migrated to Alaska and had a major hand in building the state's communication network. He had never attended a cable convention until a few years ago, and, as far as I know, that's the only one he attended. When I wrote this the other day, I was unaware that he has been to several conventions since. I happened to be chatting with people in the exhibit of the Jerrold Corporation, a major manufacturer of cable equipment, during a convention and I spotted this elderly gentleman's name tag--Ed Parsons. I had never met him and I rushed to meet him and to talk about his Astoria system. Remarkably, along came John Walson, who claims to have built the nation's first cable system--in Mahanoy City, Pennsylvania. I introduced the two and John immediately sought to get Parsons to agree that he, Walson, had built the first system in the United States. If you know John, he's a very vigorous and feisty guy. Said Parsons, "I don't know when you built your system. Mine began on Thanksgiving 1949." I don't think Walson persuaded him--and I don't think Parsons much cared. Walson is quite close to a billionaire--made in cable. Many years ago, perhaps twenty, John urged me to get into the cable business. I told him I was interested in journalism and publishing; operating cable systems sounded pretty dull to me. However, a few million

dollars tend to brighten things, don't they? Some of my friends think I'm nuts--but our policy prohibits any reporters from any ownership in any of the industries we cover. I consider it a conflict of interest. To some people that's quaint--but I'm not complaining, the publishing business has been good to me and my colleagues.

Actually, the first cable system wasn't in the United States. It was in England. For years, many there got their radio via wire. Outfits such as the one called Rediffusion rented what was known as "gutless wonder" radios to the public and fed programs to them through wires--charging a fee. This was well before World War II. This became popular because the listener didn't have to lay out a substantial sum to buy a radio. Right after the war, they started doing this with television, but it never became a big deal. Maybe they even played around with it even before the war. They're building conventional cable systems in the United Kingdom now.

The next time you visit London, drop in on Bianchi's Restaurant on Frith Street, near Picadilly Circus, and you'll find a plaque on the second floor stating that John Logie Baird demonstrated television to the Royal Institution there on January 26, 1926. I happened on the plaque by chance in 1970. My wife and I had been told the Italian restaurant was excellent so we went there. There were no tables available on the

first floor, so we were seated on the second--right next to the plaque. Curiously, the late George Brown had exactly the same experience, also in 1970. Dr. Brown who had been executive vice president of RCA and headed the development of the color TV system we use today, recounts the episode in his remarkable autobiography titled "... and part of which I was" (a title taken from the Aeneid). He explored the beginnings of many developments in electronics, and it makes very fascinating reading.

On a personal note, you may find it of interest as to why I have had a long-time interest in cable. As you know, cable was really an insignificant novelty in TV for many years. Even now, it's only one of the many facets of the industry we cover. However, I grew up on a farm in northeastern Ohio and, like most kids, was intensely interested in radio. We tried a battery radio, because we didn't have electricity, but the batteries ran down in a few days. We couldn't afford to keep replacing them every few days. Thus, I missed all those wonderful programs--comedy, music, sports, news. When I began covering television, I had a great sympathy with those who couldn't get it, and I appreciated the function of cable in bringing television to them.

Cable television was little more than a novelty for many years. It got started because of what became known as "The Great TV Freeze." This refers to the

fact that the Federal Communications Commission, in 1948, discovered that it had authorized the placement of television stations too close together--and they produced intolerable interference with each other. So the Commission stopped authorizing stations and began pondering what to do. It estimated that it would take nine months to find the answer. It took four years. That's about par for the course for government.

Meanwhile, there were only a few dozen stations on the air--therefore vast areas of the country received little or no television. People knew that a receiving antenna on a mountain or tall tower could pick up distant signals--and people with a business sense figured out that these signals could be fed via cable to people who were willing to pay to receive them. Prominent among the entrepreneurs were the owners of appliance stores envious of their big-city colleagues who were selling TV sets as fast as they could get them. And the profits for the television sales were phenomenal. My first TV set, a 10-inch black and white Admiral receiver, cost me $444 in 1946--a black and white 10-inch, $444. That was more than two months pay; at that time. Today you can get a much better black and white set for $60 to $80. What other product has shown such a development? If Cadillac had followed the same trend, you could buy one today for a hundred bucks.

I would be less than candid if I said, "I told you

so" when I look at the astonishing growth of cable in these forty years. I was a speaker at the first convention at the National Community Antenna Association in Pottsville, Pennsylvania, June 9, 1952. The president of the Association asked me to try to answer two questions: (1) Will cable TV (it was called CATV then) exist after the FCC starts authorizing new stations again? and (2) Will the FCC ever regulate cable? My responses were: (1) There will always be some need for cable systems, but cable's growth will be quite limited. (2) The FCC is so embarrassed by the long "freeze," halting the spread of TV stations, that it's delighted with anything that brings TV to people who could not otherwise get it--so it has no desire to bother the pipsqueak cable business with regulations. Eventually, I was substantially wrong on both counts. Since I was not alone in these conclusions, I don't feel particularly bad about it. Older and wiser heads than mine had similar views. In fact, few in the industry were even aware of cable. If anyone had asked me then how many homes would ever be served by cable I would have guessed one or two million--max.

The National Community Antenna Association (now the National Cable Television Association) was formed in Pottsville six months earlier, January 16, 1952. It's fascinating to look at the names of the nineteen people who were there at the founding--some of them still active in the industry. Martin Malarkey sparked the formation of the association

and was its president for the first several years. He operated the system in Pottsville. I could give you the names of other officers but it may not make too much sense to you. Copies of this will be published and made available. You can look at them up if you wish. I list all of the founders in there. And nowadays it appears that the hotel was like the Mayflower, apparently two or three thousand people feel that they were there.

There are several reasons why Pennsylvania was so heavily represented. Most of those people present were from Pennsylvania. First, of the sixty-five operating systems in the nation, listed in the directory we published May 10, 1952, thirty-eight were in Pennsylvania. The concentration stemmed largely from the fact that the state is so hilly and because the major manufacturer of equipment, the Jerrold Corporation, was headquartered in Philadelphia--and, more importantly, was headed by a very talented engineer, salesman, and politician, namely Milton Jerrold Shapp. I think Pennsylvanians recognize the name.

I got a big kick out of knowing most of the pioneers--because they were adventuresome entrepreneurs in many ways. Malarkey bought a war surplus fighter plane, but soon sold it because as he told me, "I got rid of it before I killed myself." He also owned a flashy Jaguar, which he let me drive at ninety miles and hour. This was rather heady stuff for a kid reporter from an Ohio

farm. After Marty moved to Washington, he owned two Rolls Royces, two at the same time, including a convertible. My daughter Ellen, the graduate of Penn State, who was 16 and had just received her driver's license, got the same thrill out of driving the Rolls that I got out of the Jaguar years before. Shapp used to stay with us in Washington when he was in town. His energy was astounding. We stayed up one night talking until 5:00 a.m. At 7:00 a.m., my son Dan, who was about two years old, climbed into bed with him and asked, "Who are you?" Milt played with him good-naturedly. Good-naturedly? Good Lord, if someone woke me up after two hours sleep I would not be good-natured, to say the least. Another unusual pioneer was Bill Daniels, who built his first system in, I believe, Casper, Wyoming, and was first to buy microwave service from the phone company. The microwave brought Denver stations to Casper. Bill had been a Navy fighter pilot during the war. Lots of operators flew and fly their own planes. Gerry Henderson, of Carmel, California who headed the big door-to-door company, Avon Products, built his system because he wanted to watch television, not because he needed the money. He came to an NCTA convention in Washington one year in his typical style, sailing his huge yacht from Carmel through the Panama Canal and up to Washington. I forget how many television sets he had on the boat.

The growth of cable was quite slow for many years.

A major reason, I believe, is that potential operators retained their fear that the proliferation of stations across the country would render systems obsolete. We have tracked the growth every year since 1952. Our first directory found only some seventy systems serving about 14,000 homes. In 1953, 30,000 subscribers; 1954, 65,000; 1955, 150,000; 1956, 300,000. The figure didn't hit 1 million until 1964. It exceeded 5 million in 1971. It hit 10 million in 1976. It reached 25 million in 1983.

As of January 1 of this year, we figured the total at 45 million--served by 9,000 systems. This is half the nation's 90 million television homes.

Probably the biggest thing that happened to cable was technical--the use of the satellite. In 1975, Time In first employed the satellite to deliver "The Thrilla from Manila"-- the Ali-Frazier fight from the Philippines. At one stroke, cable was able to deliver its programs to every cable system in the nation without use of AT&Ts cables or microwave. That meant the saving of billions of dollars and years of time. Credit for developing this goes largely to Gerald Levin of Time Inc. I covered the event in Vero Beach, Florida. After the show, I did a man-in-the-street interview stint, asking people what they thought of this remarkable scientific development. Almost no one knew what I was talking about.

Another factor slowing the development of cable in its early years was the opposition of broadcasters, who found allies in the FCC. Television broadcasting was no bonanza in its early days. Many operators lost money, station operators, lots of it. And those in small markets were terrified of cable. This was understandable. A small-market telecaster, with his single signal, found it tough to compete with a cable system that brought in a half dozen big-city stations. Some called cable operator "parasites." A majority of the FCC commissioners tended to agree, and it bound cable with a series of restrictions that hampered its growth. The Commission prized "localism"--local news, use of talent, discussion of local issues. And early cable systems provided none of this. They still don't do a lot of that, although they're doing more and more. They would get a lot more sympathy on Capitol Hill today if they did.

However, some broadcasters--though not many--saw cable as the writing on the wall and they jumped into the field. One of these was Cox Broadcasting, a major pioneer radio and TV broadcaster. It was headed by Leonard Reinsch. He was a pretty good politician--who, among other things, headed TV and radio campaigns for Democratic presidential candidates for many elections, starting in 1944. Reinsch plowed into the cable field, and reaped cries of "traitor" from some broadcasters. Some years ago, he told me, "I lost the friendship of a lot of people who I thought were my friends."

Frank Stanton, the former CBS president, got CBS into cable, and the network became one of the largest cable operators--before the FCC ruled the networks had to get out of cable because that gave them too much power. NBC and ABC never did much in cable. It's worth noting that Reinsch and Stanton today personally hold interests in a West Palm Beach, Florida, cable system, probably worth eight figures. When Stanton retired from CBS a good many years ago, he told me, off the record, "Cable is going to be it. Everything's going to cable." Stanton is now 80 and much more vigorous than most people half his age. I asked him how he does it. He laughed, "I live in a 747"--eighty years old.

In cable, as in virtually all human endeavors, technology has been and is a powerful driving force--sometimes the decisive driving force. The historians among you well appreciate the impact of technology in war--the long bow, the rifle, the machine gun, the tank, the airplane, the atomic bomb. And so it is in industry. The rise of cable can be attributed to one simple physical fact--multiple channel capacity. A TV station has only one channel. A cable system, for all practical purposes, has an unlimited number of channels. A cable system can add channels as long as the subscribers are willing to pay for them. A station has one crack at the audience--then it's gone. A cable system can keep adding channels until it has something for everyone. You don't like what's going on this channel? Okay, try this one.

Doesn't fit? All right, here's some more. You can't watch it now? That's all right, we'll repeat it as long as anyone wants to see it. We've got a plethora of space to do it in.

Cable started out by providing three channels, probably because there were three national networks. Then it moved to five, then to twelve, then twenty, then thirty some, then fifty--and more. Some claimed as many as one hundred channels. It's instructive to look at the figures on channel capacity today. Our data base, as of April 11, shows that systems with fifty-four channels or more serve about 9.5 million subscribers--20 percent of the total subscribers. Systems with thirty to fifty-three channels serve 30 million homes--65 percent of all cable homes and that takes care of the bulk of them. I found seven antique systems with fewer than five channels--and they serve 1,333 homes. It would be intriguing to interview those operators.

And all this is with conventional cable--not fiber optics. When demand is large enough, fiber optics will be used, providing thousands of channels if needed. Systems are now experimenting with and using fiber optics in various portions of their systems. It will give all the channels, I think, anyone could dream of today.

Contrast today's channel capacity with that of twenty years ago. In 1969 only twenty-nine systems

(1 percent of the total) had more than twelve channels--I looked it up. Sixty-seven percent had six to twelve; 22 percent had only 5 percent.

For the broadcaster, it's a losing battle. The audience for broadcast networks and stations is eroding. I see nothing to stop this erosion. Cable hits broadcasting two ways. It takes away audience and it has begun to take away advertising. At one time, cable operators got all of their money from subscriber fees, because the size of their audience was too small to attract advertisers and because they originated no programming that could carry advertising. These audiences are growing, becoming attractive to advertisers. Furthermore, advertising is just gravy to cable--they're already profitable without it.

Cable brought in about $1.4 billion in advertising last year. Bob Alter, president of the Cable TV Advertising Bureau, told me the other day he expects it to reach $2 billion this year. And he sees it reaching $10 billion within five to ten years. Last year, some $9 billion was spent on network TV, $7 billion was spent on spot TV advertising.

Here's, I think, a relevant quote from the April 13 Wall Street Journal: "Many advertisers could reach larger audiences by increasing their cable TV ad budgets, according to a study by the ad agency DDB Needham Chicago. For example, of women 18 to 49

years old watching TV in a given daytime period, an advertiser can reach 43 percent with a modest-sized broadcast network campaign. But by moving about a third of the budget to cable and keeping the rest on broadcast TV, the advertiser could reach 46 percent of the women in that group." I think this sort of thing is very significant.

The cable pay-TV networks, such as Home Box Office, still shun advertising, saying that the public would resent the intrusion of commercials in programs for which they paid extra, in addition to their regular fees for basic cable service. But the growth of cable advertising is inevitable. The fact is the public will tolerate commercials. Even video cassettes have begun to include commercials.

And the size of the individual systems is becoming something to reckon with from an advertising standpoint. The largest system in the nation is in San Diego. It has more than 300,000 subscribers. Here are some fresh figures on the size of systems, from our data base. As of April 11, there are 168 systems with 50,000 or more subscribers each. They serve a total of 15,751,321 subscribers--34.6 percent of the nation's total. Systems with 20,000 to 49,999 subscribers total 379 and they serve 11,712,860 subscribers--25.73 percent of the total. Systems with 10,000 to 19,999 each total 494, serving serve 6,946,910--15.26 percent of the total. Surprisingly, of the 9,000 cable systems there are 2,222 that serve fewer than 249 homes

each. That's a quarter of them that are very tiny.

Another development that has got to be troubling to broadcasters is the public's perception of the relative quality of cable and TV broadcasting. A recent survey of viewers, released two weeks ago, conducted for the broadcasters own TV information office by the distinguished Roper organization--the 16th such annual survey for TIO--found viewers with a continuing strong regard for telecasting, broadcasting. But, and this is the first time that I've ever seen the following conclusion, viewers believe cable offers better service in the areas of "quality programs," children's shows, education, program variety, entertainment, culture and sports.

Cable does that better than broadcasting according to the viewers. In fact, the only area in which viewers consider broadcast television better than cable is in news, particularly in local news. I find this perception absolutely astonishing, almost incredible. Maybe the reason is quite simple. Cable carries all the networks and all local stations--and gets credited with their quality--while getting brownie points for also carrying purely cable network material and distant stations. The Roper survey also found that viewers say cable has vastly more violence, profanity and sex than telecasting. I find this conclusion neither astonishing nor incredible. Just catch a George Carlin or a Whoopi Goldberg monologue.

What can broadcasters do about this? In addition to fighting in the courts, Commission and Congress, it's the age-old-story--"Join 'em if you can't lick 'em." CBS, showing real vision, was doing very well at this--until the FCC kicked it out of cable. ABC never was much interested in cable. NBC dabbled a bit years ago. Now, however, NBC is headed by a former cable operator--Bob Wright--who once ran the cable systems for the Cox organization. GE bought RCA, which includes NBC, and put Wright in charge. And he has just started CNBC, today. In fact, that's the Consumer News and Business Channel to be distributed via cable. It started today. The networks must find a way to share cable's very substantial wealth. They can buy systems--at perhaps ten times the cost of ten to fifteen years ago--and they can produce programs that cable will buy.

The movie industry is already profiting very nicely out of cable, thank you. For a very small investment in skilled legal and lobbying work, they're getting 75 percent of the $200 million per year that cable pays in copyright royalties. And the total goes up very rapidly every year. It's one of the largest sources of profit to Hollywood today. Of course, that sum would have been small potatoes to a movie producer if the movie producers had gone into the ownership of cable. With the exception of Warner, no producer owns much in cable. And what has cable ownership done for Warner? Aside from handsome yearly operating

profits from its 1,500,000 subscribers, Warner has a property worth three to five billion dollars. That makes a very nice dowry to bring to Warner's pending marriage to Time Inc.--giving it 59.3 percent of Time Warner Inc. Incidentally, most movie producers also missed the boat in television station ownership. Those buying TV stations now are paying dearly. MCA just paid recently some $300 million for WOR-TV New York. They could have acquired stations forty years ago by filling out application forms and sending them to the FCC. Other people did.

The wealth of cable is enormous and becoming even more so. With systems selling at $2,000 to $3,000 per subscriber, even small operators are multi-millionaires. And take a man such as Bob Magness, the chairman of TeleCommunications Inc., known as TCI. TCI owns systems with some 6 million subscribers plus minority holdings in some 5 million more. Even with substantial debt outstanding, you're talking many billions of dollars and Bob holds a nice piece of that pie. I first talked to Bob when he was operating a little system in Oklahoma--charming guy with a marvelous skill at wheeling and dealing. Nowadays, he leaves most of the heavy work to president John Malone who has a doctorate in operations research and is no slouch himself at making deals.

I find it interesting and a little amusing that the cable industry is schizophrenic about the concept

of allowing telephone companies unlimited entry into cable ownership. Current FCC rules prohibit such companies from owning cable systems in the same markets they operate phone companies. And most phone companies have shown little interest in operating outside their current markets. By the way, there is the same restriction on broadcasters; they can't own cable systems and TV stations in the same area. Some cable operators fear that the phone companies--which are a lot bigger than cable--would build competing systems and drive them out of business. Other operators look upon phone companies as potential system buyers with very deep pockets indeed--who might start buying systems up for $4,000 to $5,000 per subscriber, if allowed to do so.

To me, one of the disturbing developments in recent years is the entry into cable ownership--and station ownership--of people who have absolutely no interest in the business except to buy and sell systems at a profit. They don't build systems. They don't experiment with programs. They only buy and sell paper. Some cable operators and station owners aren't angels--but most of them have some concept of serving the public. Not so for some of the recent entrants. An old friend of mine, who has made several fortunes in cable and other electronics fields, lamented the other day, "These guys pay these big prices for systems, then they jack up the rates to the subscribers and squeeze the hell out of them. I think it's backfiring."

Actually, it is backfiring here and there, as the city fathers complain about rates and service. More and more municipalities are talking about building their own systems--overbuilding the existing systems.

Unless Congress does something about it, the hostile raiders are bound to increase their preying on the media, including cable. Look what it has done to the broadcast networks. ABC rushed into the arms of Capital Cities Broadcasting, fearful of the pirates. That was a friendly merger. Ted Turner shook up CBS, made a pretty good run at taking it over with junk bonds, he didn't succeed. Even the huge RCA parent of NBC, was taken over by a "white knight," the even more huge General Electric. Most folks at RCA appear reasonably comfortable about the takeover by GE. At NBC, particularly, they feel rather safe after having risen in the network ratings rat race from number three to number one.

CBS put out almost a billion dollars buying up enough of its own stock to make a hostile takeover more difficult. This weakened the company so that it began a sharp cost-cutting program--dismissing or retiring people, many of them in news. News is the crowning achievement of the networks--and recognized as such.

End of Lecture Tape 1, Side A

WARREN Hostile takeovers or attempted takeovers infect the television and radio organisms with a great debt, and if you're worried about surviving you're not going to spend much money on innovative risks.

So what's the future of cable? History is repeating itself. The once puny weakling, bitterly attacking the media fat cats besieged by the somewhat skinnier old fat cats--and by some new kittens. After years of winning every significant court and congressional battle, cable is now under attack as a "rapacious monopolist." Broadcasters complain that systems often refuse to carry their stations; that they relegate stations to hard-to-find channels, and so forth. Some stations report that they even have to pay cable systems to carry them. Movie producers charge that some cable operators employ clever and illegal gimmicks to reduce their copyright royalty payments. The Motion Picture Association of America, attacking such operators in court, has been quite successful--picking up millions in back royalties. "Wireless cable" operators charge that cable operators who also own cable networks refuse to sell them such programs--or quote impossible rates. "Wireless cable" is the strangely contradictory new name for the service. These are really small television stations that beam their signals to special antennas on homes and charge a monthly fee. Their president is someone intimately familiar with cable--Bob Schmidt, one-time president of the

National Cable TV Association--as investor himself in wireless cable.

Is there new competition on the horizon? Nothing substantial. Actually, aside from broadcasting, cable has only one major competitor, in my judgment, but it doesn't hurt much. It's the videocassette recorder, the VCR. The VCR has the advantage of allowing the viewer to watch what he wants when he wants it. But I think the day isn't far off when any cable subscriber will be able to dial up any tape he could rent from a store--and more cheaply. Again, there's technology dictating economics and sociology.

The direct broadcast satellite, DBS, will become only a minor competitor to cable, I believe. First, it can offer only a few channels, because it uses the radio spectrum, which is always in scarce supply. Second, every viewer must have a special receiving antenna which is a bit of a nuisance. Third, and perhaps most important--because of PBS's limited channel capacity--it may never have the program-buying and production clout of cable.

The telephone companies? They could overbuild existing systems, duplicate them, but that's really wasteful. The telephone companies went through that exercise generations ago, when there were competing phone systems going down the same streets. It makes more sense for them to buy

systems--so telephone companies are more likely to become suitors rather than competitors.

The big problems looming for cable are legislative and regulatory. I believe that the pendulum is swinging back. Cable, which in recent years has won every legislative and legal battle in sight, I think, is likely to start losing some. The big operators have been expanding, buying, merging, buying. But some restrictions may not be so terribly painful. Someone asked: "Aren't you concerned about anti-trust problems in cable?" The answer by the cable operator, "The concentration in cable is nowhere near what it is in other industries, but if we have to divest something, we'll sell for several times what we paid and cry all the way to the bank."

I thank you.

End of Lecture Tape 1, Side B

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