

Tom Whitehead: We got to the Telecom Act of 1996. One of the big issues during OTP was: do we push for a rewrite of the Telecommunications Act or do we make the necessary changes -- what we thought were the necessary changes -- in telecom policy incrementally? And as I recall, there were two schools of thought within OTP as to which we should do. I decided that I didn't want to get into a rewrite of the act and that we would, as I talked about earlier, we would try to make incremental changes in the way these things were done, finally ending up with the ATT antitrust case, which was not particularly incremental.

So, we did not propose a rewrite of the act. With the breakup of AT&T, which proved to be more time-consuming and more complex operationally than I think we thought, eventually the telecom business sort of settled down into a pattern -- oh, not a pattern, but into a structure - - but it was out of sync with the act, the '34 act, and the competition paradigm was so widely accepted that a rewrite of the act made sense, and, in fact, there were some people saying we needed to have a rewrite. So, we had the rewrite of the '34 act, which took the form of the Telecom Act of '96. A lot of things didn't change; some things did change.

And I confess that I don't know very many of the details about what that act did. It's something we need to research to educate me. I think -- People just love to come down here and watch. People walk in. Families walk in. So we need to educate me about that act. The two things that I -- well, actually, the major thing that I remember -- not remember; the major thing I focused on was the provision about competition with the RBOCs. That's R-B-O-C. When Bell was broken up, the local service was broken up into seven companies with seven service areas, and Verizon was one of them, and they've since been consolidated so there are only three or four -- only three, I guess.

But the question of competition, going back to OTP and the antitrust case, we really didn't anticipate competition in the local telephone service business. We thought it would eventually come, but in the regulatory scheme that we came up with, it was going to stay a monopoly. But the technology kept improving and the economics of competition locally kept improving, particularly with fiber going to businesses. So, the competition paradigm included local telephone service. The question then was: what kind of interface with the local companies? What were the rules about the local companies competing, using their own facilities to compete, and what were the rules about them allowing access to their monopoly facilities to competitive carriers?

So, for example -- what I'm doing now is as much for your benefit as mine. So, for example, a company might be able to compete with electronics technology but not run its own telephone wires, so the idea was there should be a rate at which you could lease the copper wire from the phone company, since that was a monopoly thing, the wires -- and you could then have competition in services over the wires, because both the telco and the competing company could make use of the wires.

That led to a lot of rules by the FCC about how at what point in the local telephone network should competitors be able to get access? What rates could the phone company charge them? And that got into *if* the telephone company's plant or a modern plant in a competitive environment, what would the prices be for access to various parts of the telco network? Which, in my opinion, got over into a ridiculous how-many-angels-could-dance-on-the-head-of-a-pin-extremely complex FCC paradigm which was unworkable and, in fact, was recognized as unworkable at some point, which led to the demise of that scheme and I think a telecom act of roughly -- I don't know when that was changed, but there was a revision of the Telecom Act of '96 to undo some of the provisions.

What was going on was the FCC was saying -- in part because of the act, in part because of the FCC economists -- was saying, let's imagine a perfectly competitive world and figure out what the prices would be. And of course, that just led to a ridiculously hypothetical and complex scheme which was unworkable, as I've said twice now. As to what the current scheme is for the use, the rules for the competition with the telcos, I'm not sure. And the question of the telcos has now shifted to the Internet because the whole world has gone IP -- we'll talk about what IP means later -- and the telcos are now major ISPs, and the whole issue of net neutrality has now come up as probably the most significant issue in regulation of the telcos.

So, the book will have to deal with all of that, and I suppose -- I don't know, the Telecom Act of '96, the bubble in fiber optics, which was roughly, oh, 2000, and the fixing of the '96 act, sort of brings the book to an end in terms of telecom policy. And then the issue of net neutrality, I think, will be in the epilogue, where we talk about what's all this history mean in terms of the major issues and how they should be dealt with going forward. And that's the book.

Susan Burgess: Okay.

Tom Whitehead: Okay. World War I. I'm just going to talk, and you can ask questions as we go along. World War I was important for several reasons. One reason was -- I think the overriding reason, when we look at the bits and pieces, the overriding reason was that it really was the bringing together a national focus on these electronic technologies, which at that time were basically telephone and wireless. In World War I, the government took over the management of AT&T. Whether they took over the management of the independent phone companies, I don't know -- that's a question --

but they did take over the management of AT&T, which was a wonderful opportunity for AT&T to increase its rates, because they -- I've forgotten who; was it the post office? I don't know which agency of the government ran it; it may have been the head of the post office. But AT&T told him what they needed in terms of rate increases, and he just authorized them, I guess, or he told whoever. I'm not sure who set AT&T's rates then. Partly the states.

In any event, World War I, with the government running the phone company, which only lasted about a year, was a good opportunity for AT&T to upgrade plant, raise rates in order to build the upgraded plant and so forth. And if AT&T had not consolidated its position as the monopoly phone company by the beginning of World War I, they certainly had done that at the end of World War I. Question: how do we document that statement?

Okay. The other -- I think AT&T took over -- excuse me. And I think the government took over the Marconi company as well -- I'm not sure about that -- the American Marconi company. By "took over," I mean they managed it -- took over the management of it. And one of the major issues of both of these industries at the time of World War I was the patent rights that each of the major companies had -- and we'll have to identify the major companies and what are the most significant patents that they held, but they were General Electric and Westinghouse and AT&T and maybe a couple of smaller companies.

The patents centered around -- the relevant patents -- centered around vacuum tubes, and although there's also the patents for the Alexanderson generator -- I think that's the right term -- which is not vacuum tube-based. Most of the radio, most of the wireless stuff at the time of World War I was still spark generated, but the Alexanderson generator was

developed about that time and was a superior way of generating a radio wave.

I think the main theme of this is the vacuum tube, and the vacuum tube was invented -- there are several inventors here; there's no single inventor of the vacuum tube. But it was -- I'm trying to think how much detail to go into here; I think the answer is not much. The vacuum tube was invented in several stages by several different people. I guess that's a way to put it. Or the vacuum tube as we know it was invented in several stages by several different people. I guess that's the way to put it. Or the vacuum tube, as we know it, was invented by several different people in several different stages. And they invented it with different purposes in mind. Some people were trying to use it to receive -- as a device for receiving radio waves better; some people were doing it to amplify voice signals; AT&T wanted to use the vacuum tube, too, as an amplifier for long-distance telephone calls; and other people wanted to use it as a replacement for the spark and the Alexanderson generator as a way of generating radio transmissions.

So, going into World War I, these different uses were being explored and developed, and different companies had different patents on vacuum tubes for different purposes. There was no single patent; there was a patent on this part of a vacuum tube or this feature of how a vacuum tube worked or how a vacuum tube worked in this kind of equipment. So, there were just a bunch of patents. And we should put in a footnote that late 1800's, early 1900's was a really vibrant time for the patent business. There were all kinds of patents being -- People were filing patents for all kinds of stuff and the Patent Office was granting patents at a rapid rate. So, it was a time in the country of innovation, of commercialization of innovation, and the patent process, which gave people a monopoly over their invention for a period of years -- I think it was 17 years -- was

happening in that time. And so these patents we're talking about kind of fit into that environment.

Because the patents -- Who had the right to use what type of vacuum tube for what type of purpose was an area of considerable conflict among the companies, and the government decided that the exigencies of World War I required that they needed access to all these patents and they needed these companies to develop the equipment the military needed without concern to patent rights. So, the government created a kind of moratorium on enforcement of patent rights and said any company can use any of these patents for any purpose related to what the government needs. So, there was kind of a hiatus in the adjudication of who had what right for what purpose.

Another thing that the government did, was to -- because they were buying vacuum tubes in large numbers, or probably more accurately, the government was contracting -- oh, maybe the government was buying vacuum tubes itself, but I think they were more likely buying equipment that used vacuum tubes. But they were buying it in very large quantities, and the nature of the government procurement process is that it tends to standardize. So, the government began to develop standards for vacuum tubes, which largely had not existed before. There were lots of little companies making vacuum tubes in small quantities, and the quality of the tube, the performance of the tube varied tremendously.

So, by standardizing its specifications for vacuum tubes and giving contracts to people who could deliver to those specifications, the government substantially advanced the art of the industry in building standardized tubes, which, in turn, could be used by engineers to build different kinds of equipment, knowing that the tubes would deliver the performance that they expected. So, that was a major factor in the

development of the vacuum-tube manufacturing industry, which was important to the postwar environment, because it meant that companies had a far superior capability for generating electronic equipment and developing new electronic -- improving the performance of electronics.

In addition to the vacuum tube, there were patents on circuits, most of which employed vacuum tubes, but circuits for generating radio waves and also circuits for receiving them. The reception in particular was somewhat difficult because there were problems with the ability to make tune circuits that would receive one frequency and reject other frequencies, that would reduce the noise, that would be more sensitive to pick up weak radio signals so that you could hear them.

So, there was a considerable development of that technological art which was reflected in patents, and one of the principal people there was a guy named Armstrong -- I think it was Edwin Armstrong -- and he deserves a couple of good footnotes in what we write. But I don't see, unlike a lot of history, I don't see individual inventors playing much of a role in the mainstream of our text. They unquestionably deserve a lot of credit, but they're not a major part of this story. And there are a few others that we'll find; [Reginald] Fessenden was one. He was important. Marconi. [Guglielmo] Marconi, Fessenden, Armstrong, and this guy [Ernst] Alexanderson are probably the major inventors that we will deal with.

Okay. So that was World War I. At the end of World War I, the government had to unwind all of this, and I think the unwinding of their management of AT&T was probably pretty simple; they just turned the management back over to AT&T. But the government still had these patents to deal with and the industry had these patents to deal with, because companies had patents and they rightfully wanted to enforce them against their competitors and they wanted to build equipment and so

forth. And so, following World War I, there were talks involving government and the major companies about how to sort out all these patent rights. And there was an important agreement, which I think was in 1919, which created a patent pool -- you need to check and make sure that I'm using the right terminology in the right time period -- but there was an event where the companies agreed on who could use what patents for what purpose, and it presumably included a mechanism for the patent holder to be compensated. I don't know how that worked and I'm not sure it's important.

Westinghouse and GE were the major companies, and there may have been a couple of others in there. Then my recollection is that AT&T joined that at a later date, but I could well be wrong about the sequence of which companies were in at the beginning and which came later. But I believe it was late 1919, maybe early 1920, when the major companies all signed onto this patent pool. We'll have to set forth what the basic arrangements were, but roughly speaking, GE and Westinghouse got the rights to use vacuum tubes for wireless purposes and AT&T got the right to use vacuum tubes for audio purposes, telephone-audio purposes. We need to check that out and make sure that's right, and we've got books here and they're marked up and we can do that. I can show you the books and talk you through a few of them. That's a good research topic and an important one.

Susan Burgess: Okay.

Tom Whitehead: Okay. Then another thing that came out of World War I was that the government realized -- and here we're talking the Navy; the Navy was the main player in the government's role in radio -- in wireless. The post office tried to stick its nose in, the Army had a minor role, but it was principally the Navy. And the Navy was concerned that from a national-

security point of view, it couldn't rely on the near-monopoly position that Marconi had in wireless, both ship-to-ship and ship-to-shore. Marconi had created a worldwide near-monopoly in wireless telegraphy between 1900 and the beginning of World War I. And they had requirements in place that involved things like any ship that had Marconi equipment could only communicate with a shore station or a ship station that also had Marconi equipment. It's the kind of thing you can do if you're a monopolist.

Susan Burgess: Uh-huh.

Tom Whitehead: And so the government -- the U.S. Navy -- didn't like being dependent on the British for its wireless needs. The U.S. Navy had been extending its reach around the world, but in World War I it really extended it. We need to research that as to what had gone on. I think Franklin Roosevelt, who was then Assistant Secretary of the Navy, played a role in that; I don't know how important his role was. But anyway, we will need to say something about the strategic importance to the Navy and the country of wireless, which took a quantum leap during and after World War I.

So, that concern on the part of the Navy led to talks between the Navy and GE, and maybe Westinghouse, with the idea that the British Marconi ownership in the American Marconi company -- Marconi was a British company, but they had created the American Marconi company which they owned, and that was how they did business in the United States. So, these talks between the Navy and GE and whoever else were around the idea that British should not control our communications, which meant that the British had to be reduced to a minority position in American Marconi or something. And it is not -- there are conflicting views in the books as to whether those conversations were initiated by the Navy or

whether they were initiated by GE. It would be nice to know, but it's not crucial.

Okay. So, how did they go about doing this? Well, the end result was the creation of RCA, Radio Corporation of America, which I believe was incorporated in late 1919. The former stockholders of American Marconi were reduced to a minority position, and GE and Westinghouse, I think, became the majority shareholders. I keep saying "Westinghouse, I think" because Westinghouse and GE were the major manufacturing companies of electronic equipment, but Westinghouse was always kind of playing catch up. Excuse me, let me back up. GE and AT&T were the major manufacturing companies and Westinghouse was always kind of playing catch up. They were a major manufacturer of radios during World War I, they held some of the key patents, but they weren't as strong as GE or AT&T. So, I'd like to know when Westinghouse -- I'm just uncertain about when Westinghouse came into these things, but I'm pretty sure they were -- well, I don't know. Let's say, for purposes of this text, that it was just GE, so GE became the controlling shareholder. There was a requirement that a majority of the directors of RCA be Americans and so forth and so on.

So, there were a number of provisions in the establishment of RCA to make sure that from the Navy's point of view it was controlled by Americans. And this idea of having companies controlled by Americans carried on. I think it is largely gone by now, but well into the mid-20th century there were still restrictions on foreign ownership of radio stations and some communications common carriers. So, it all goes back to that World War I experience.

So, we have RCA set up as a company whose purpose was to provide -- was to sell equipment for wireless transmission and reception, and GE

and Westinghouse were the primary manufacturers. They were in essence the wholesalers to RCA who then was the retailer. That's a simpleminded way to look at it. And that little book that I gave you by Amy Friedlander

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Susan Burgess: Uh-huh.

Tom Whitehead: -- it was just held together with clips -- has a pretty good discussion of this topic.

So, we end up with World War I having created a kind of national perspective and an awareness from the federal government's point of view of the importance of both wireless and telephone to the country, and we end up with all of these -- not all, but the majority of the -- vacuum-tube patents being sorted out so that the major companies knew who had the right to use these for what purpose. And that's kind of the end of that World War I overview section.

All right, this is just going to be a short track to talk about how World War I set the stage for later on. Actually, it's World War I, it's the patents, it's the state of the industry, it's sort of all that. Going into and coming out of World War I, there were two basically quite different industries. There was the telephone industry and there was the wireless industry, and they really didn't overlap except some people were experimenting with using phone lines to connect radio stations so that the same program could be played over several radio stations, and that was kind of technologically the precursor to networks. But basically the two industries -- telephone and wireless -- were different.

On the telecom side, if ATT wasn't the 800-pound gorilla before World War I, it certainly was afterwards -- and as I said, we need to document

that. There was a period somewhere where the independents and AT&T sort of reached a *modus vivendi*, and I honestly don't know whether that was before or after World War I time period. But as I said, AT&T's monopoly position was not only established, but it was recognized by the federal government. I don't think there's -- I don't know what a single event would be where you would say that the telephone business had consolidated itself into the monopoly position that it would have for the next 50 years; it would be interesting to see if we could find an event that we could sort of use as a peg to say -- Well, you can't say that any one event made that happen, but you might find an event that you could tell a story around that shows how it had happened by that time. Maybe that's the kind of thing we're looking for. Or maybe we can find a precipitating event that we can claim was the event that resulted in it.

But in any event, coming out of World War I, with the government having taken over AT&T and then turning it back, leaving it with a much-improved capital structure, the telephone business was consolidated. And AT&T had the rights to all these vacuum tube patents that pertained to telephone audio purposes. The words in this, "telephone," "audio," are important. I'm not sure I've got them quite right, but you get the gist of it. We will, in our write-up, have to be accurate about those terms. So, that was the telephone side of it.

Over on the wireless side, we already talked about how the government, and the Navy in particular, turned the -- had worked with GE and others to establish RCA, so America had a company that would operate ship-to-shore communications for the Navy, presumably would set up -- presumably did take over the Marconi stations in the United States and also would take over the service provision for American ships abroad and so forth. Anyway, you ended up with RCA being the predominant company for wireless in America. It was mostly telegraphy at that time.

There were some applications where they were using voice, but it was always referred to as wireless telephony, and I think in everyone's mind - - the terminology supports the idea that back then wireless telephony meant point-to-point communications. There were wireless broadcast stations, mostly telegraphy with the Agriculture Department sending out quotes of market prices of various agricultural commodities, the Navy sending out weather reports. So, there were wireless broadcasts, but they were mostly telegraphy and the voice stuff was mostly point-to-point.

So you ended up with the, to really oversimplify this, you end up World War I with RCA, GE, AT&T having a commanding position in all of the relevant technological patents. You end up with Westinghouse and GE as the major manufacturers of wireless equipment, having sorted out their patent agreements, jointly owning RCA, and you end up with AT&T over on the telecom side. So, I'd say at this point the narrative has established the major companies as near-monopolists in wireless and AT&T as the major company in telecom. So, that's sort of the consolidation picture to that time but note that we still don't have radio broadcasting. You've got government wireless telegraphy, agricultural and weather information being broadcast; you've got government -- and not just government, but primarily government, ship-to-shore communications; there's also some private communications for commercial ships.

Susan Burgess: What about railroads or anything?

Tom Whitehead: Pardon?

Susan Burgess: What about railroads or anything? Nothing?

Tom Whitehead: I haven't seen anything about the railroads. That's an interesting question. You would think that they would use it -- actually no, because the

railroads had the telegraph lines, Western Union. And Western Union was at that time the monopoly on U.S. domestic telegraph services, telegrams. I don't want to spend a lot of time talking about that, but we need that in there. But the way Western Union got most of its rights-of-way for running its telegraph lines across the country was to run them along the railroad tracks. It was a win-win situation, because the railroads needed communications and Western Union needed a place to run its wires. That was kind of that. Okay. Does that do that?

Susan Burgess: Yeah, it does. Thank you.

Tom Whitehead: One thing I'd like to research to the extent we can at various stages in this narrative, meaning the whole narrative from beginning to end, is at various points to capture the mood of the country. This book is about industries and technologies and government regulation and innovation, but it's really about how those things impact people and impact the way we live. And that's a big part of what I want to convey. Part of the reason for starting at the beginning of the 20th century is that I don't want to deal with all that telegraph stuff and early telephone stuff, but it's also because around the turn of the 20th century there was a tremendous excitement about wireless. It was almost magic. The telephone business was very vibrant, because there were lots of new phone companies being established, so there was a vibrancy that I think is important that you can catch at the beginning of the 20th century.

And then at the end of World War I, I'm not quite sure what you say about the mood of the country. Most of these things I talked about have to do with the government and the big companies, but it would be interesting to see if there's something you can say about the mood of the country as it pertains to these industries at the end of World War I. It may

be that you can't -- maybe we don't find anything -- but at various stages we want to catch the mood.

All right. This is the Davis story, and it's not really about Davis; it's about the emergence of radio broadcasting as we know it and how that grew as an important economic and cultural factor in the country and how it grew as an industry, which then by the latter part of the 1920's had -- or maybe it's 1930 -- had pretty much consolidated into a national system of radio stations in three radio networks, which was the predominant structure of radio which played an important role in creating a national mass culture, if you will. It played an important role in that, or creating a new thread in the evolution of American mass culture, but also brought a new dimension to advertising and then carried over into the structure, the industry and regulatory structure of television broadcasting and was the primary industry structure for radio and television broadcasting, news and entertainment, pretty much as a monopoly through, let's say, the 1970's, and then a predominant factor into the '80's and '90's and is of declining importance today with the growth of cable channels and satellites and Internet.

But anyway, it was the formation of an industry structure and a regulatory -- formation of an industry structure that really carried over for a very, very long time. So, these three stories -- Davis, Hoover, and Paley -- collectively deal with the creation and consolidation of the radio broadcasting business. The Davis story starts in 1920 with the station -- with the experiments of Frank Conrad with voice transmission by wireless, wireless voice. Conrad worked at Westinghouse in Pittsburgh, and I think his role was as an engineer on Navy contracts at Westinghouse then, which may or may not have involved voice wireless. But at his home, he had his amateur radio station. I think it was 8MK. [8XK] And he was interested in experimenting with different ways of

voice transmission, and he solicited reports from people as to when they heard his station, how clear it was, how strong it was and so forth. So, he would ask people to send him postcards and people did.

Because he didn't want to be talking all the time, he started playing phonograph records, he had his sons play the piano, various people came by to talk into the microphone, and then he would at intervals ask people to write and send him a postcard about how they were receiving the signal and how good the quality of the music was and so forth. He got lots of responses. I think what that reflects is, there was no business of building radio receivers, so the people that were hearing this were either fellow amateurs like Conrad, who had built their own radio receivers, or they were interested people who just wanted to build a receiver to hear whatever they could hear -- weather reports, whatever.

The literature tends to show that the people who had radio receivers then were classified either as -- well, of course there were the official licensed things that the Navy and commercial shipping had and so forth, but in the country, these receivers were principally owned by amateurs or the American boy. Today that would seem very sexist, but back then --

Susan Burgess: But it's the truth.

Tom Whitehead: -- it was young boys, for some reason, had an interest in radio and many -
- I suppose it was in part related because they had to string a big long antenna along the roofline. So, in addition to building the equipment, they had to climb in trees and poles and put up wires for antennas. So, for whatever reason it was the amateurs and the American boy.

So, people were -- whoever the audience was that had these receivers, in addition to reporting how they were receiving the signal, started asking

for certain records to be replayed. In other words, "I heard your station at 9:00 last night in Sandusky. I really liked that piano piece by so-and-so that you played. Would you play it again?" And so Conrad got an increasing number of postcards not related to the technical aspects of what he was trying to do but related to the content of what he was broadcasting. And I say broadcasting because people weren't applying that term, but that's what he was, in essence, doing. And I think he even went so far as to have programs. On certain nights he'd have live performances of the piano or whatever -- I don't know how far he went in this, but he was putting together an entertainment, and I suppose he did some news reporting as well, entertainment broadcast and news broadcast.

Then, I think in the fall of 19-- no, no in the summer -- sometime in 1920, an ad appears in one of the Pittsburgh newspapers, and here the story gets very interesting, and the documentation is scattered here and there. At some point, I'm going to want you and/or me to go to Pittsburgh to look at his papers. But the story goes that -- and I'll embellish a little bit, but this is the basic story. He gets up one day and he's reading the newspaper and he sees an ad at the Horne -- H O R N E -- Department Store that they are selling radio receivers for people who want to listen to Frank Conrad's radio transmissions. I can't remember what they called it; somewhere in here there is the text of the ad, and I think we even have a reproduction of the ad somewhere.

So, the story goes HP had a -- I think he was called Harry, it was Henry P. Davis, I think he was called Harry; I call him HP -- HP has an "aha" moment. He says, "Hey, we make radio equipment, we could sell radio receivers, and we could sell more of them if we have a regular broadcast of entertainment and news material. So, why don't we set up a station that has more power than what Frank Conrad has and has a regular program of

music and news and what have you, and that will create an audience of people who will want to go buy our radio receivers?" And he presumably noticed that nobody else was selling radio receivers for this purpose, except whoever it was that built the equipment that Horne was selling. And one of the things that I've never seen, which would be interesting to see, is who built those radios. It might have been Conrad; it might have been one of his friends; it might have been some enterprising American boy. Somebody took the initiative to build and sell these things, and it may have been the Horne Department Store for all I know.

In any event, back to HP; he has this "aha" moment, so he gets Conrad and the other people at Westinghouse to build a more powerful transmitter on top of the Westinghouse plant in Pittsburgh. And he applies to the government for a license, and for reasons that it would be interesting to explore, the government grants Westinghouse a commercial radio license, which I think is in the same category as licenses they gave to companies for commercial ship-to-shore communications. And I think nobody had applied for a license for this purpose, so the government kind of came up with a way of granting it, and they gave the station the call letters KDKA. The KDKA story is well known. HP's role in it tends to be a footnote, and I'm going to try to turn it around and make HP the story.

So, HP gets Conrad and they build this station. HP, by the way, maybe I didn't say, was the vice president of Westinghouse. I'm not sure that he was Frank Conrad's boss; he may have been in a different part of Westinghouse, but he was in the part of Westinghouse that built radios. So, this "aha" moment is, in my view, the "aha" moment for the creation of the radio broadcasting industry, which later became the television broadcasting industry. That is to say, a corporation is going to transmit news and entertainment for the general public to receive, and it's also the

"aha" moment for the creation of the consumer-electronics industry because you need radio receivers to receive the transmissions.

So, you have here the spark that creates two separate but mutually dependent industries. The radio-broadcast business needs people to have radios, and the radio manufacturing business needs there to be interesting radio broadcasts to encourage people to incur the expense to buy the radio. So, if it's not stretching too much, I would like to lay the creation of both of those industries at HP Davis' foot and the morning coffee over the newspaper is the "aha" moment.

In any event, we continue, and this is some of the documentation. So, HP gets his people to build this radio station and put up the big antennas and so forth and start transmitting a regular program of news and entertainment. And he starts selling radio receivers. Then there's a kind of a footnote -- I mean, it's not a footnote -- well, let me go on. So, HP starts the station. He presumably starts building radios. He does start building radios, and he builds a number of other stations around the country, from the Midwest through the Northeast. Those were the first radio broadcast stations, and most of those stations still exist today. I think it's WHDH in Boston, WABC in New York. It'd be interesting to find several of those stations that still are around today. It might make the story a little more interesting; give it a little flavor.

In any event, he starts a number of radio stations -- he doesn't just do KDKA -- and he starts making radio receivers. At this point in the story, RCA comes into play because Westinghouse is a part owner of RCA and, as part of this, is in this patent regime, which came to be called the radio trust, as we get later in the story. And so, it appears -- well, it does. It not only appears, it is true that the radio receivers are sold by RCA to the public. Now, I believe -- and this is probably a footnote, but an interesting

one -- that Westinghouse sold radio receivers under its own brand name for a while. And I don't know whether they felt like that was -- their right to build those radio receivers was exempt from what the patent pool had agreed to or not. I have seen references in radio, where people do -- the guys who do the collection of old radios, occasionally you see reference to a Westinghouse radio.

And I'd like to find out more about what HP did to -- how he implemented the building and selling of the radios at the very beginning, because if I'm going to claim that he was the father of both radio broadcasting *and* consumer electronics, I've got to show that he -- It's pretty easy to show that he created a number of radio stations before anyone else did and that he had the idea of doing this as a commercial undertaking, not just a plaything, but I need to show that he was the shaper of the building and selling of the radios in order to make the claim that he is also the father of the consumer-electronics business. There's a research task there.

So, KDKA made its first transmission on election night in November of 1920, which I think was really kind of a stunt, and a few months later, or a few weeks later they began their regular radio broadcast. So, now we have in Pittsburgh and in Schenectady and in Boston and I guess maybe in New York -- or maybe it was in Newark -- here we have radio as we know it, so we're no longer talking wireless; we're talking radio. I mean, it's the same technology, it's just deployed in a different way for a different purpose.

The interesting thing is -- There are several interesting things here. One is nobody had really thought of this before. Some of the histories like to talk about Fessenden and some other guy who did voice transmissions. I think Fessenden did a Christmas program in New York City one year. There

was a guy on the West Coast who actually had kind of a regular program of transmissions of voice and music, but there are only two or three references to that, and in no case did any of those people think about making this a commercial proposition. It was kind of a publicity stunt in Fessenden's case, a personal hobby in the case of the guy in California; there was no effort to commercialize it, no involvement to stimulate the sales of radios by the general public. So, HP really, in my view, did create this.

There were the inventors like Fessenden, there were the isolated hobbyists, I guess I would call them, but HP really sees the creation of two industries -- in his mind they were probably one industry, but they in fact were two separate industries. One was the transmission of programs -- broadcasting -- and the other was the building and sale of the receivers. He undertook to do both simultaneously; he really saw the interdependence and the viability of both businesses as a commercial undertaking. The viability of the broadcasting side of the business in his mind was undoubtedly that by broadcasting news and entertainment and advertising that you would create publicity that encouraged people to buy Westinghouse radios. So, to the extent we could get inside of his head, he probably saw the radio broadcasting business as the come-on to the primary business, which was selling radios. And indeed, there was no other form of income for the radio broadcasting except the subsidization of the parent company.

So, Davis in most histories at this point disappears. He has his little footnote of reading the paper and most people give the credit for KDKA to Frank Conrad, but what Conrad did, he did as an amateur, 8MK [8XK], and when it went on top of the Westinghouse roof and when there was a station in Schenectady and a station in Boston and so forth, that was HP Davis, because Conrad was an engineer not a businessman, and HP was a

businessman. I'm kind of rambling here, but I'm trying to get the theme out.

So, HP kind of disappears here. We've got KDKA; we've got other stations -- not just Westinghouse stations -- but there are lots of copycats quickly. And HP largely disappears until 1926 when NBC is formed as the National Broadcasting Company. It's a network owned by RCA, I believe, and HP appears as the chairman of the board of NBC. You can find little footnotes about him in between, and then in Archer, Gleason Archer, he has a couple of pages devoted to HP, who died in the early 1930's, as the father of radio broadcasting. So, that tells me that HP was a mover and a shaker in the creation of the broadcast industry, the manufacture and sale of radios; I don't know what role he played in RCA between 1920 and 1926. But he was no doubt -- as Westinghouse, he was selling radios; he was building radios that RCA sold.

It would be interesting to know who the primary manufacturer was of those radios that RCA sold. I think later on they developed an agreement that GE would build 60 percent and Westinghouse would build 40 percent of RCA's radios that they sold. I'd like to know how much HP was involved in shaping the kinds of radios they built, the pricing, the business aspect, because my instinct is that Westinghouse was more entrepreneurial than GE. GE was bigger and more powerful, but Westinghouse, I think, was more entrepreneurial. And RCA never really found an important role -- although they licensed some broadcast stations -- never really played an important role, I don't think, until the creation of NBC. Well, they played an important role in the manufacture of the radios, but in terms of the broadcast side of the business, I don't think they played a very important role until the creation of NBC -- which was not a radio broadcasting company, it was a network company that provided the programs to local radio broadcasters.

Let's continue with Davis for a minute. Davis was the first Chairman of the Board of NBC. I'd like to look at his papers; I'd like to look at the RCA papers, and see if we can document how much of a role he had in the creation of NBC. Was the creation of a network heavily his idea? Lots of people had ideas for a network; just how much was he involved in the creation of NBC? He could've been a figurehead chairman, but I don't think so -- but I kind of doubt that.

So, in order to support my story about HP being the father of the broadcasting and consumer-electronics businesses, I think I can pretty much show that based on KDKA and the other stations and Westinghouse's beginning to make radios in, let's say, 1920-21, and that's probably almost good enough, but the trail runs cold after '21 and I'd like to show an important role for him in that. The reason I'd like to show that is: number one, if it's true, it's very important; number two, it just helps make the story of the foundation of these two industries more interesting because you've got a primary driver for a five or six year period, 1920 and afterwards.

OK, we're still going on HP Davis, and at the risk of some repetition, the broadcast business didn't exist before KDKA. Then, suddenly, it existed, and it became a national phenomenon very quickly. For some reason, the idea of radio using wireless to broadcast regular programs of entertainment and news for the reception of the general public -- that that had just not occurred. And the idea that you could build radio receivers for the general public as opposed to the amateur and the American boy experimenter, the idea that you could build and sell these radios on a commercial basis to receive these broadcasts had never seemingly occurred to anybody.

So, suddenly you have these two businesses emerging as commercial enterprises, and suddenly you have a number of stations that are transmitting. You have Westinghouse, RCA, and others building and advertising and selling radio receivers, and people are talking about -- I say people, you see it in magazines and newspapers -- Who knows what people were talking about? You read in newspapers and magazines that this is exciting. I can hear the opera as it's being performed. Opera was a big deal. I could get news reports as they happen. I can hear a station that's 300 miles away. On a good night, I can sit in Ohio, and I can receive a radio station from New York City; isn't that exciting?

There was a sudden excitement on a national level about both the entertainment and news aspects of it, but also just the wonder of hearing things that were happening far away and participating in a nearly national audience -- scratch that; it wasn't a national audience in the beginning. But you were participating in events that lots of other people were experiencing simultaneously. It was different from playing a phonograph record because everybody was listening to the same song at the same time. If a new song came out, you were hearing it for the first time when everybody else heard it. Your world was suddenly expanded beyond the locality of your local newspaper. I want to do some research on that excitement, because it really does just appear out of nothing, and it appears because of what HP did.

So I think that's -- Let me come back now. As a result of this excitement, there is a big business in selling radios. And in part because of its patent position and in part just because of its economic power, RCA became the largest seller of radios to the general public. And there also -- I guess RCA -- I don't know whether it was Westinghouse or RCA; Westinghouse I guess built the transmitters, but in doing so, they were dependent on a number of these patents from the patent pool, and here we

run into a problem, because AT&T had the rights to use the vacuum tube for radio telephony. And AT&T argued, "Well, what Westinghouse is doing with these transmitters is radio telephony. They're transmitting voice through wireless, and that's our patent, and Westinghouse doesn't have the right to use the vacuum-tube technology for that purpose."

All of a sudden, the division of the rights to these -- the division that had been agreed to in 1919-1920 as to who had what rights in these patents -- suddenly got very complicated because nobody had contemplated radio broadcasting. AT&T had certain rights; GE and Westinghouse had certain rights as applying to the reception equipment, which I think they ultimately -- I think that was part of the reason for the predominance of RCA radios was that they had the patent rights to technologies to build radios that were superior to what other people could build, because other people didn't have access to the patent rights.

The important thing is, I think -- Well, there are two important things. One is that this 1919-1920 agreement didn't contemplate radio broadcasting, so the alignment of patent rights and industry power, industry positions, if you will, no longer made sense -- or at least were considerably complicated. And the other thing is that radio, the building of radio receivers and also the building of radio transmitters was suddenly a big business and people bought a lot of radios very quickly. We'll find statistics that we will use about what percentage of American homes had a radio receiver by when. When you look at it, it was very impressive. People bought these things in large numbers.

So, Westinghouse, GE, RCA, AT&T all wanted a piece of this business, and over the course of the 1920's, early 1920's, you find a tug and pull where Westinghouse is the primary force in broadcasting, RCA is the primary marketer of radios, and AT&T has patent rights that it thinks give

them a superior position, if not a monopoly position, in the building of radio transmitters. So, Westinghouse had a predominant role in radio broadcasting, RCA tried to catch up, never really succeeded, although there were a few GE stations, there were a few RCA stations. And I think the fact that there were Westinghouse, GE, and RCA radio stations probably points up the fact that these companies didn't know how the rights to these various patents sorted out themselves. They just went ahead and built stations.

So, people were trying to get a bite of the radio-broadcasting business. The primary reason for doing that was the sale of radio receivers. AT&T was trying to claim that it had a right to radio transmission; I don't think they claimed they had a right to build radio receivers, but they did claim they had the patent rights to build radio stations, so they wanted to get into the business that way.

So, we have these two big businesses and all of the major companies with any kind of patent rights or any kind of big electronic manufacturing capability all want a piece of the action. But the industry moves more quickly than the companies can -- the business grows more rapidly than I guess the companies can -- it's hard for the companies to adjust as quickly as the industry's going. Let's put it that way. Radio is a national phenomenon. Lots of people want to apply for licenses, so there are lots of people doing radio broadcasts. In many cases, there's no economic basis for it; the stations were expensive, there was no means of generating income other than the sale of the radio receivers, so why were people getting these licenses and incurring the expense of setting up these radio broadcasts? In some cases there's a public relations and advertising value, but the number of stations grew very rapidly and in many cases, if not most cases, there was no clear economic return for that.

This is the first cut at the Hoover story, and this is really a story of the ebb and flow of government regulation of radio broadcasting from the KDKA event forward into, I guess, through the early days of the Federal Radio Commission, which was established by the -- I guess it was called the Federal Radio Act of 1927. So, really what we're talking about here covers from late 1920 to let's say 1929 or 1930. And this forms the formation of the Federal Radio Commission and its adoption of most of the structure and policies of the Commerce Department developed under Herbert Hoover. This largely sets the framework for the radio part of the 1934 act.

The high level overview of this story is that the Radio Act of 1912 -- question mark -- I think it was 1912 -- said that the secretary of Commerce must grant a license. I'm not sure of the wording. Let me check. It said that the people who want to transmit, set up a wireless station have to get a license from the Secretary of Commerce. So, the procedure was that anybody who wanted to set up a radio station had to apply to the Commerce Department; the Commerce Department granted their license. That was true of amateurs, which before World War I the amateurs largely were unlicensed, and at some point -- I think it was after the 1912 act, maybe it was the 1912 act -- amateurs had to get a license, but the licenses were *pro forma*.

In any event, back to the high-level overview. The procedure was -- The legislation that applied and existed at the time of 1920, at the time of the birth of radio broadcasting, was the 1912 Radio Act, obviously conceived in a different era for a different purpose, not meant to apply to licensing of radio broadcast stations. But in any event, there it was, and so anyone who wanted to could set up a radio station and start broadcasting. Under the law they had to get a license, but the Secretary of Commerce had to give them the license. As a result, the number of radio stations grew

rapidly. The technology of pre-1920 and before was -- fill in the blank. There's a blank there. It was a technology that -- both the transmission and the reception technology were such that it was hard to differentiate among different frequencies.

So, at the outset of radio broadcasting, the Commerce Department gave licenses for companies or individuals to broadcast on certain frequencies, on one of two frequencies. So, as the number of stations grew, there was more and more interference. Hoover at the Commerce Department believed in the cooperation between government and industry, and he developed a procedure for granting licenses to broadcast stations subject to certain restrictions. For example, a station might be allowed to broadcast with only 25 watts of power, or they might be restricted to broadcast during the daytime only and not at night, or they might be restricted to broadcast only on Monday, Tuesday, Wednesday. And by working with the applicants for the licenses and the existing licensees, the Commerce Department was able to largely accommodate anybody who wanted to set up a broadcast station.

There was interference, particularly at night. The Commerce Department, at some point, started changing frequencies, so they added more frequencies, which required at least the new stations to adopt more precise frequency-control transmitters. The adding of more stations with different frequencies required people to buy new radios that were capable of tuning to different frequencies in order to receive these stations without too much interference from one another. But the people who had the older radios still got interference. So, interference was a constant problem.

But Hoover and the industry for the most part sorted that out and radio grew very rapidly; there were more and more stations and the public interest, as we've talked about, grew and grew. And we'll want to cite

different events like election coverage, boxing bouts; there were a number of events that show that radio was an increasingly noticed phenomenon on the national landscape, *i.e.* people wrote about it.

So, back to the overview, which I keep digressing from. We have lots of people applying for licenses, Hoover and the Commerce Department granting licenses subject to various conditions, but always the pressure for more and more stations and disagreements that were hard to resolve among various competing broadcast interests. In some cities you'd have six, seven, eight radio stations all trying to broadcast, interfering somewhat with one another, not liking the fact that they were limited to what they considered undesirable times of the day and so forth. But overall, back to the overview, there was an accommodation of commercial interests and the listeners' interests and the industry grew.

Then in 1920-something, a guy named [Eugene] McDonald who was president of Zenith, a radio manufacturing company, wanted to -- he also had radio stations and he wanted to transmit on a different frequency than the Commerce Department was willing to give them. And so he moved his transmitter frequency to a frequency that had been agreed to be a Canadian frequency; that is to say, the U.S. government had agreed that a certain frequency would be reserved for Canadian broadcast stations. And Zenith said, you don't have the authority to restrict us, and so we're just going to do it anyway. And so they did it, and I guess the Commerce Department filed suit against Zenith. That case ended up going all the way to the Supreme Court, and the Supreme Court said, as had the lower courts, that indeed the Secretary of Commerce did not have the authority to refuse a license.

Hoover had been long asking for congressional authority for the regulatory apparatus and the regulatory procedures that he had evolved,

and Congress was never able to get its act together, so to speak. Sometimes the House would move, sometimes the Senate would move, but the history of the congressional involvement -- which is in those two books I gave you, the Bennett [not CQ] book and the Rosen [not CQ] book -- you get the impression that on the one hand, Congress was kind of trying to deal with this because the public and various industrial interests were pushing them to do so, but you also get the impression that they didn't feel it was very urgent, or maybe they didn't know what to do or whatever. There was a disagreement between the House and the Senate about some things.

I keep digressing from my overview. The overview is that Hoover kept it together in terms of regulation and the accommodation of various industrial interests, and he pretty much kept it together until the Zenith case unwound it. There is some speculation that Hoover encouraged Zenith because he wanted -- there is some belief that he wanted a test case to show that he didn't have the authority in order to stimulate the Congress to enact a statute that explicitly governed government regulation of broadcasters.

Susan Burgess: Would someone really want to undermine their authority that way, though?

Tom Whitehead: Well, not if the Congress gave him the authority to do what he had been doing.

Susan Burgess: Yeah, but that's a big risk.

Tom Whitehead: Not necessarily, if you work closely with the Congress. And indeed, the Commerce Department wrote one of the bills, either the House bill or the

Senate bill. I think they wrote the House bill. And it's not uncommon for a government agency to work with the Congress to draft legislation.

So, Hoover, in any event kept – and the record shows he kept pushing for government regulation. Whether he somehow encouraged McDonald to file his case or whether he just kind of acquiesced, it was clear that he wanted Congress to act. And so the case was decided in, I think early '26, and it had the predictable effect of encouraging people to just do whatever they wanted to do because the Supreme Court said that Hoover couldn't limit their licenses. So, you began to see people shifting to different frequencies and interfering with each other. What had been a manageable problem handled by evolution suddenly became a real mess. Commerce didn't have any authority, and people were moving -- this former accord that had developed quickly unraveled and so you had people jumping ship, so to speak.

Whereas interference before had been an annoying but manageable problem, it suddenly became an unmanageable problem because many people didn't respect the cooperative regime that had evolved between government and the Commerce Department. So, there was, starting in early 1926, there was just a huge amount of totally unregulated interference and that caused the Congress to realize they had to do something. They pretty much got it together in terms of an act; the major issue was the Senate wanted an independent regulatory commission to do the licensing, the House wanted the Commerce Department to continue to do it. They finally reached an agreement at the end of '26 and that resulted in the Radio Act of 1927, which was passed in January of '27.

The act provided that there would be a commission for one year to regulate and issue licenses and that at the end of that year the authority would revert to the Commerce Department. What happened was that the

Radio Commission, there were supposed to be five commissioners; it was never fully staff -- the commissioners were never fully filled out, because there were numerous political disagreements about who ought to be on the commission, who could serve, who couldn't serve. And the commission was extended for another year and then another year and then another year, and I think in 1929 it was made permanent, which meant that the licensing was done by the Radio Commission and not by the Commerce Department.

However, continuing our overview here, the policies and procedures that the Federal Radio Commission adopted were essentially those that the Commission Department had evolved. So, the allocation of what frequencies could be used, where the stations could be geographically, pretty much followed the pattern of the Commerce Department under Hoover. Then you have the 1928 election, where presumably Hoover was occupied with things other than broadcasting -- and by the way, as Secretary of Commerce he was involved in a number of industries in a significant way and we ought to make a reference to some of the other important things he did as Secretary of Commerce, because he was Secretary for eight years. He was quite a figure on the national and international landscape.

So, kind of as a sidelight, in '28 he runs for president, he's elected; '29 through '32 he's president. But by then, the Federal Radio Commission had the authority, and I don't think there's much, if any, indication that Hoover as president had much to do with radio. I think he had done his thing as Secretary and the Federal Radio Commission was kind of keeping on doing what he had set in place. So, from his point of view, his regulatory scheme worked; the industry grew; he was presumably happy and rightfully so.

So, that's the Hoover story; it's the sorting out of industry and through government ownership -- part of the theme of this overview is that Hoover and many other people, if not most other people, felt that the radio spectrum should not be owned by corporate interests; that it should be owned by the public and regulated in the public interest. There's a lot of use of the term "public interest." And in the '27 Radio Act, you see the injunction that the Radio Commission is set up to "regulate radio in the public interest, convenience and necessity," I think.

As a footnote, I want to check when that phrase "public interest, convenience, and necessity" first -- I think it came out of the Interstate Commerce Act applying to railroads. But when it was first applied to radio I don't know.

Anyway, the Hoover story is the story of government regulation of the airwaves, cooperation with industry, regulation of industry, and the emergence of a basically sound regulatory scheme under which the industry grew and prospered. One of the key elements of the Hoover scheme -- we've got to find a better word than "scheme" -- the Hoover pattern, the Hoover policy, I guess you'd call it. One of the key things about the Hoover policy was that they, in order to accommodate all of these would-be broadcasters, they adopted a pattern of having high-powered transmitters located in certain areas and medium-power located in other areas and lower power in other areas. So, they could have a low-power station in Peoria, which wouldn't have much coverage beyond Peoria and therefore wouldn't interfere with another station, let's say in Cincinnati, because they were far enough apart and their power was low enough that they could coexist.

Other stations were more powerful and they had to be spread around the country in a pattern so they were far enough apart that they didn't

interfere with each other. This resulted in what is now called the Table of Allocation, and it basically sets forth that we can have stations of this power in this location. That pretty much evolved from the stations that were already operating in the early days, and it grew from the bigger companies wanting more coverage, wanting more power so that they had a higher-quality signal. And it also reflected a political interest on the part of the Congress to make sure that radio frequencies were equitably assigned around the country.

A question to research is how that political interest, which came heavily from the West and the South, because most of the early radio stations were in the Northeast and people in the West and South wanted stations, so there was presumably congressional pressure for that even as Hoover was developing this scheme. And then when the Federal Radio Commission was established, the Congress was very emphatic each of the five commissioners had to come from a different geographical region in the country. There was a Davis Amendment in '28-'29 which required that licenses be evenly spread around the country, which had already been happening in a way.

So, you have this -- the technical -- the need to coordinate station power and station location based on technology and interference and also the political pressures to make sure that everybody had some radio service. There were various schemes that were proposed, but the end result was this Table of Allocation. I would very much like to find that first Table of Allocation. That is a research topic that is very nearly an investigative topic. I've never seen it. There's the -- the Radio Commission in General Order 40 of the Federal Radio Commission.

Susan Burgess:

Maybe it's in the Archives.

Tom Whitehead: I think we need to go to the people at IRAC, I-R-A-C, which is in the Commerce Department. The IRAC came into existence during the Hoover regime. It's the organization, it's called the Interdepartment Radio Advisory Committee, and it was made up of representatives from the various departments of government -- Navy, Post Office, Commerce, what have you -- to coordinate discussions of radio matters with industry was really why it was set up. It, in time, became the mechanism for assignment of frequencies to federal government radio stations as opposed to commercial stations. And to this day, the spectrum is divided; part is assigned by the executive branch for executive-branch agencies, and part is assigned by the FCC for commercial -- or more precisely, is assigned for non-federal government users.

But back to our overview. You can begin to see why this is a bit difficult, because it's so easy to digress onto some of these things. So, this Table of Assignments, or Table of Allocations -- it's important for us to get the right terminology, because they're different -- this pattern of where the high-powered stations were, where the medium-powered stations were, and so forth and the political pressure to make sure that the stations were evenly spread geographically, but yet there were more stations where there were more people -- it was a balancing act.

The net result was that if you look at it, you see that almost every town in the country could receive at least one station. Most of the towns could receive two stations. A majority of the towns could reliably receive three stations. Only a fraction of the population could receive four or five or six stations, and that's important, because when the networks were set up, the networks naturally ran their telephone line connections to where they could get the most audience. And the long-distance rates that AT&T charged for networking were expensive, so the networks went to where they could get the most people. If you were the first network, you would

go to the most powerful stations getting virtually 100 percent of the people. If you were the second network, you go to the second most powerful set of stations and you fill in with low-powered stations where you need to in order to try to get as much of the audience as you can.

The third network has a little bit bigger problem, because they can go to the bigger cities that have three, four, five stations and they can pretty easily get the market in those bigger cities, but then to find markets where people can receive the third station gets to be -- I mean, you have to find markets or towns where people can hear three stations, and then that gets to be more difficult. Then the fourth network has a bigger problem, the fifth network has an almost impossible problem because they have to run very expensive long distance wires to lots and lots and lots of little stations, and that's very expensive and not economically practical.

The net result of that Table of Allocations and assignment of stations was that the first two networks formed fairly quickly, both of them owned by NBC, and only later did the third network emerge, which was CBS, owned by Bill Paley, which is our third story in this saga. So, the idea of - - There are two important ideas here which I have to, in addition to your research about that table, the two important ideas are that the assignment of stations and their power around the country was done in a way that was a balance of political pressures to cover the whole country and commercial interests to reach the most people. From a networking point of view -- What that produced was a scheme so that everybody could get at least one station, and then so forth and so forth.

But from a commercial-network-economics point of view what that meant was that it was economically viable really only to have three radio networks, and that philosophy, that policy, whatever we call it, of balancing the political interest for making sure everyone has it and then

the commercial interest to try to get more stations where there are more people, was carried over into television with the result that we have three television networks.

Going back up into the stratosphere for our overview, Herbert Hoover devised a scheme which was adopted by the Federal Radio Commission, perpetuated by the FCC, that allows commercial broadcasting to grow but constrains it from a networking point of view to basically three networks. The economic and political and cultural power of those three networks creates -- I'm being circular here -- this gave the three networks a lot of political, cultural, and economic power, which they used in an oligopolistic way, being an oligopoly, which I choose to call a monopoly, since the book is written from a fairly high-level point of view.

That's really the Hoover story except for AT&T.

Tom Whitehead: This is the AT&T part of the Hoover story. It really isn't part of the Hoover story, but we have to put it somewhere. We might put it, depending on what we can find about Davis and how we decide to parse these stories, we might put it in the Davis story. But I think it maybe properly belongs in the Hoover story, because it's in large part about government regulation -- oversight of industry -- and politics at a fairly high level.

The high level overview -- trust me, some of my high-level overviews will be short -- The high level overview here is that AT&T thought that it had a very strong position in radio broadcasting coming out of the agreement on patent rights that gave them priority for the use of vacuum tubes in so-called radio telephony and audio. As we will develop, AT&T in the '20's had become a very powerful national force. It had become -- [Theodore] Vail had succeeded in creating an organization that

communicated information inside the company to the various parts of the company -- by that I mean engineering, marketing, manufacturing -- so that everyone was coordinated, and also to communicate this information so that the coordination carried around the country, which enabled them to manufacture telephones in large quantities, which enabled them to install the same telephone with the same installation diagram with the same instructions to the engineer and so forth all around the country.

So, Vail had succeeded in creating a kind of organizational machine -- I've got to find some better terminology for this -- he had succeeded in making AT&T in its organization, an organization that wanted to control its environment, that wanted to basically control everything. Not from an avaricious power point of view but from the standpoint of just making sure everything worked in the right way. And part of this was to look at new industries, new technical developments, and to make sure that they had a competitive position in anything that was important to them.

AT&T at that point had not become a technologically superior corporation. There was no significant research department; they largely grew on old technology and they adopted new technologies after other people had developed them. So, one of their philosophies -- and it's set forth in one of these books by one of their senior people -- that their strategy was to develop a position in new technologies and new lines of business that were relevant to their baseline of business so that they could move into those industries as it became attractive to do so.

AT&T recognized that the patent position they got in 1919, 1920, was potentially valuable in radio in that they could and should have the monopoly under those patent agreements, should have the monopoly on building radio transmitters and maybe operating radio transmitters. They tried at one point to force radio station owners to pay license fees for the

technology that they were using, and they had mixed success with that. The important part of the story is that they developed a plan for building a network of radio stations around the country with the idea that they would have local partners but it would all be controlled by AT&T. They would control the long distance networking, they would control the transmitters, they would put on a mix of local programming and national programming through the network, and they would sell time for advertising.

Part of AT&T's claim to monopoly was based on the fine points of the patent rights, and part of it was based on -- So, part of it was based on the details of the patent rights, and part of it was based on the idea that they had the right to operate broadcast stations as a kind of carrier of other people's messages. They coined the term "toll broadcasting," which was meant to carry a parallel with long-distance tolls for telephone calls. So, you had long-distance tolls and you had broadcasting tolls, and the idea was that they would build the radio stations and other people would pay to get time on those radio stations. And the other people would control much, if not all, of the content and AT&T would be a somewhat neutral party, maybe a common carrier. I mean common carrier in the legal sense of the word.

Their claim was partly, "We've got these patent rights," and partly "It's our place in the order of things to provide toll services, and we provide toll telephony through the long distance lines, point-to-point, and we provide toll telephony through radio." I think the latter was a way of reinforcing or buttressing a somewhat weak case on the patent issue. But in any event, AT&T developed a plan for this national system, and I think it was 50-some powerful stations around the country, and the most detailed documentation I've found of this is in the Danielson [Danielian] book. That may be enough; we may need more, because one of the things I want -- let me come back to the overview.

In the end, AT&T never went ahead with that plan. They had a station in New York, which is fairly famous in the story of early radio, WEAFF, and it was the first toll broadcast station. I think they ultimately built one more; I don't remember where it was. But WEAFF went on the air and sold time to people who wanted to broadcast, and it did provide a different model from what other broadcasters were doing. The other broadcasters were putting on their own programming and controlling what went out over their radio station, and AT&T was selling time to anybody who wanted to be a broadcaster, so you didn't have to own a radio station to be a broadcaster under the AT&T scheme.

The evidence seems to suggest that at the beginning it was a difficult sale, because not many people had thought about being a broadcaster without building a radio station. But there's some evidence that ATT was moderately successful economically in doing this at WEAFF, and there's no clear reason why AT&T did not proceed with this scheme of building 50 stations, or whatever the number was. They certainly had the technical ability and the economic ability to do so, but they didn't. Instead, in 1926, I believe, they entered into an agreement with RCA to sell WEAFF to RCA and to provide the long distance networking service for NBC over AT&T's long-distance lines.

Why they did that is usually just kind of glossed over in the histories. Well, first of all, most of the histories don't know about this plan to do a nationwide system. As you'll see, it's just kind of written about as a, well, it's in the past, in 1926 AT&T reached agreement with blah, blah, blah. I think the reason it happened was that the country and the Congress had become very concerned about monopoly in the radio business. There were a number of charges that RCA, GE, Westinghouse were monopolizing the manufacture and sale of radios, they were

monopolizing the patents, they were monopolizing the ownership of radio stations. I'm not sure -- I think that monopolization worry came in part out of the Standard Oil generalized concern about monopoly in the country at that time, but it also grew out of this public interest thing that the airwaves belonged to the people, and we shouldn't have it monopolized by the big companies.

Susan Burgess: What did you mean by the general concern about monopoly in the country at the time, referring to Standard Oil?

Tom Whitehead: Well, you remember there was, during Teddy Roosevelt --

Susan Burgess: Trust busting?

Tom Whitehead: -- there was trust busting, there was kind of a residual leftwing animosity against business. I don't really know where it came from; I just know that there was a lot of talk about monopoly -- concern about monopoly in radio. Frankly, I don't see any monopoly in the period we're talking about, early to mid-'20's, and it would be a -- a good topic for you would be where did this talk come from, and was it really widespread or just, if you're writing about early radio, do you write about the concerns about the radio trust and so forth and so on. I don't know whether it was something real -- significant at the time or whether it's just become something that people write about as part of the history. I don't know.

But in any event, I do know that there was a lot of concern about monopoly. I do know I found one place, and I can't find it again but I do know it's here, some AT&T executive in testimony really said the wrong thing and pissed off a powerful senator or committee chairman. I think that AT&T read the tea leaves and decided that they did not have a winning hand, and they backed off because of these concerns about

monopoly and that in the adoption of legislation in 1926, that they were going to be cut out. So, rather than try to get in and be cut out, they gave up on broadcasting and settled for earning revenues from the networking of stations. And I'd like to be able to document that somehow.

Susan Burgess: Okay.

Tom Whitehead: There's always the risk in these documentations, Susan, that you may prove me wrong, so --

Susan Burgess: Right:

Tom Whitehead: -- I need to know that, too. If we look at it, over in when we were addressing AT&T in the telecom business, I suppose we could ask the question, "Why did AT&T do this?" looking at it from a telephone point of view. But I think it more properly belongs here in the broadcasting Hoover side of things. And I put it in Hoover rather than Davis, because I think AT&T's decision to back out was primarily a reaction to the negative governmental environment. I mean, the Congress, in passing what became the '27 act -- in fact, I think there was consideration of legislation at the time in the '26-'27 act that would exclude phone companies or monopoly phone companies or something like that. So, there was draft legislation around that was hostile to AT&T, and I think they just realized that they needed to cut and run.

A final point, which is not final because way back, part of the early skirmishing about patents and rights was that when AT&T was trying to promote its own radio station, WEAf, they refused to allow their telephone lines to be used by other broadcasters for networking. In other words, they wouldn't sell their lines, which forced the broadcasters to use Western Union lines, which were very much worse quality because the

Western Union lines were laid out for telegraphy, not for voice. So, you had AT&T trying to use its monopoly position over the telephone lines to keep other people from doing networking, and that policy slowly eroded and then, in this agreement with RCA, evaporated in 1926. That's the end of the AT&T story unless you have a question.

Susan Burgess: No.

Tom Whitehead: We're talking about some of the things we left out on radio, principally broadcasting. The initial perception was that radio manufacturers, department stores that sold radios, would operate the radio stations as a kind of promotion device for selling radios. In time, the competition of putting on quality programming began to make the cost of programming more expensive. There was the assertion of copyright by ASCAP [American Society of Composers, Authors and Publishers], which required broadcasters to pay royalties on music; there was a similar arrangement by -- I don't know, there was another copyright issue, which I guess it was by the record companies -- that led to the common practice of radio stations not playing recorded music. I don't know if that was an ASCAP issue or something else. But to avoid some of the royalties, the bigger broadcasters hired their own orchestras. If you listen to the network radio shows of the '20's and '30's, the music is all live.

The story goes -- which is a good story and worth documenting -- that the first network broadcast of a recorded musical performance was Bing Crosby singing "White Christmas," and the reason for that was, according to the story, that Bing Crosby got tired of singing it all the time. And the first recorded news event was supposedly the report, which you have no doubt heard, of the crash of the Hindenburg, which was actually recorded and there was no other way to put it on the radio so they somehow they got an exemption. They made an exemption.

The funding of radio broadcasting as a separate economic undertaking sort of emerged in the mid-'20's, and, as I said, there were lots of ideas and most everyone agreed the worst possible thing was advertising. But through the device of sponsorships, which grew into a form of advertising, and then the sale of actual shows and the sale of minutes, even, was a fairly inexorable process that led to the advertising-supported model we have today.

I think it was kind of a class thing about advertising. Advertising had a bad smell about it, and it would be worth trying to catch some of that. There's a book over there on advertising in America; some of the history of advertising in America will no doubt capture that. And I don't know why it was. The thing that was apparently worst was the advertising of a price promoting, saying, "I will sell this overcoat for \$9.95." Somehow advertising prices was considered tacky, and indeed advertising was tacky. On the other hand, creating your own radio station and saying this is the Westinghouse station or this is the RCA station, or this is the – what was the department store? Bamberger's department store in Newark owned a network, you could talk about Bamberger's selling radios, that was somehow OK, but advertising prices and advertising other things was somehow not.

But anyway, it happened, and that gets us into the Paley story because Paley recognized that this shift towards more commercial sales of advertising, and more specifically program sponsorships, he realized that was a way of making money out of radio broadcasting. And he built CBS really in cooperation with the advertising agencies and the major advertisers, and he was much more aggressive than [David] Sarnoff at NBC in allowing more and more overt commercialism in advertising, and indeed promoting it. But anyway that digresses into the Paley story, and

for the Hoover story I wanted to get across the idea that advertising in the beginning was not even thought of and then, later, was frowned on, before Paley.

OK, this is the quick and dirty Bill Paley overview. Paley brought to the business -- and I may be repeating myself here -- the idea that you could build a commercially successful broadcast business as opposed to a broadcast business that was subsidized by the sale of radio receivers. So, RCA running NBC could justify running NBC at a loss and its radio stations at a loss because they would sell more radios. Paley was not in the business of selling radios, so he needed to build a -- if he was getting into the business, which he did, he needed to build his network to be economically viable on a standalone basis. And in order to do that, he was more willing to accept more overt kinds of advertising. In the beginning it was not advertising; in the beginning it was CBS had a show and they would say at the beginning and the end, "This show is brought to you by X." And then they started doing product placements, like one of the famous shows was the Klondike Ice Cream Singers, so they named the singers after the Klondike Ice Cream Company.

So, the advertising crept in. The AT&T model at WEAH may have played a role in this, but the important thing about Paley was really two things. He built a third network in competition with NBC/RCA and he built it by developing ways that sponsors and later advertisers could use to promote their products and their brand name, and he was always more aggressive than Sarnoff and NBC in organizing his programs so that commercial sponsors could get more and more value out of them, and therefore pay more money to him. And over time, it grew into advertising agencies developing programs directly in cooperation with the advertisers. And Paley and CBS were always at the forefront of that; NBC was always the class act and CBS was the scrappy commercial company.

So, in my view, given the way advertising has emerged as the fundamental revenue source for broadcasting, it was really Paley that built the economic model for the broadcasting business. Davis created the broadcasting business; he was the guy who created it, but Paley was the guy who built it as a standalone successful industry. And I would argue that his position *vis-à-vis* NBC and RCA continued through most of the '30's. I think he was the most innovative, aggressive, and successful guy in the business, and he more than anybody else shaped the business.

Susan Burgess: That's really interesting, because he seems to be the only one to be able to question a cultural norm and say, so we have this sort of shrinking violet feeling when it comes to commercials; why is that? Is there any fundamental basis for that? And then push past it and take advantage of the fact that no one else was willing to step outside the cultural normative box.

Tom Whitehead: I think that's exactly right.

Susan Burgess: I think that's fascinating.

Tom Whitehead: And if you look at it from an industrial history point of view, you've got to give him credit for doing that. If you look at it from an economic analysis point of view and you say, was there any other economic model on which you could base radio broadcasting, I think the answer is no. It's either the BBC model or the advertising model. Maybe I'm giving Paley too much credit, whether he knew at the outset that that's what he was going to do -- I don't mean that he knew exactly how it would turn out, but whether he knew at the outset that he -- well, he must have known. We ought to try to figure out what we can from his early foray into the business, because he obviously had a model in his mind as to how to

make money out of this, and if we could somehow document what that original model was, that would be interesting.

But it's clear to me that throughout the history of CBS, that was what drove it, and that's what really drove broadcasting; it made possible the revenues that created new talent and new shows, and it ultimately -- I mean, not ultimately, it became the model for television, because the whole broadcasting model was put in place with radio and it just was copied almost 100 percent in television. And still today, most of the successful networks are advertiser supported. There are a few, like HBO, that aren't.

Susan Burgess: I guess the reason they never developed a model like the wireless models that you have now for wireless radio is because in wireless radio, in order to get the programming, like the satellite radio --

Tom Whitehead: You mean satellite radio?

Susan Burgess: Yeah, I'm sorry. In satellite radio, actually, the producers of the software are producing the programming. So, in order to access the programming you have to purchase their system and then you have to purchase their subscription, and it's advertiser-free.

Tom Whitehead: Right, but it's paid for by --

Susan Burgess: The consumers.

Tom Whitehead: Do you want to keep recording this?

Susan Burgess: It's more for myself.

Tom Whitehead: Is it still recording? Yeah. Back then, there was no -- The reason XM and Sirius work -- Well, there are a lot of reasons, but one of the reasons is they can keep you from receiving their signals if you don't pay your subscription fee.

Susan Burgess: And there's nothing like that in radio.

Tom Whitehead: In the early days of radio, there was no technology that allowed that, so once you broadcast something, it was out there and everybody could receive it. Interestingly, the idea of tuning to different frequencies, at the very beginning of wireless, there was just the ether, as they called it, and all of the ships, everybody was just on one frequency. In fact it was not a single frequency, they just splattered over the whole range of frequencies. It would be like, in audio terms, if we generated a single musical tone, like we had a tuning fork, and then you had a million tuning forks. You'd hear what's called "white noise." It's what you hear when you turn to a blank channel on your TV set, it's just that Pshhhhhh noise.

Well, the original wireless was just white noise; everybody broadcast on a whole range of frequencies -- not that they set out to do that, but their signal just occupied a whole bunch of frequencies, and the radio receivers couldn't differentiate one frequency from another. As the technology developed so that they could narrow the amount of spectrum that any one station broadcast and the receivers could select one set of frequencies as opposed to another, the idea of tuning was thought of as a means of privacy. They were thinking in telephony terms, and it was, if you tune to this channel then you will hear what's meant for you and other people won't hear it. Well, the fact is, of course, anybody else could tune to that channel too, so it didn't end up working that way.

Back to what we were saying, there really wasn't any technology for collecting revenues from listeners except by voluntary subscriptions, kind of like public broadcasting does. You end up begging for funds. Because when you transmit, everybody hears. With XM, you have to buy a radio receiver that has built into it the digital technology. Basically, if you don't pay your money, they turn your radio off.

Susan Burgess: Right. But they didn't consider trying to come up with a technology like that?

Tom Whitehead: Yeah, it was discussed. It was discussed. I don't know. We should look at that. It was one of the obvious ideas.

Susan Burgess: I guess you'd have to have such amazingly valuable programming that people would pay for that over all the other alternatives.

Tom Whitehead: No, the bigger problem was how do you prevent people from receiving it? You can't collect money for it if you can't prevent the non-payers from receiving it. I don't think anyone ever had a technology that was viable. There was an effort in the '50's, maybe, when UHF television was struggling to find a place for itself, and there were over-the-air pay television schemes, but the technology didn't work very well and it didn't catch on in part because of the technology and in part because there was, by that time, a kind of perception that television ought to be free. Radio ought to be free; TV ought to be free.

We're starting to talk here about the 1934 Communications Act, and that act is very important, not in that it broke a lot of new ground in terms of regulatory policy, but because it became the framework for the regulation of both telecom and broadcasting, and thereby over the decades the framework for regulating all electronic communications by wire and by

wireless. And it's kind of amazing that an act written in 1934 would cover and would, without very much change, govern the regulations of these two huge industries for so many decades.

To digress briefly, when OTP was formed, there was consideration to rewriting the Communications Act, and I was opposed to that because it would have been such a high profile, politically charged thing to do. When you look at the scope of what OTP proposed, you could very easily come to the conclusion that it was so sweeping that it constituted a *de facto* rewriting of the Communications Act, but the Act was so ingrained in everything the town did that to say you were rewriting it would've been political dynamite. So, what we, in fact, did was to propose a rewrite of the Act *de facto* by changing a bunch of policies.

That had in fact been done before, in a few specific cases, and I won't take the time now to think what those were. In any event, back to the Act. The Act really has two substantive sections; section 3 deals with broadcasting, and I think section 2 it is, deals with what we can maybe call telecom -- back then it was telephone and telegraphy. The broadcasting part of the '34 Act is pretty much just an incorporation of the 1927 Federal Radio Act, so there was nothing new there. I don't *think* there was anything noteworthy there. The telephone side of the Act was new. The Act created the FCC, which superseded the FRC, and so the Act in the telephone side of things for the first time created a federal agency with a real mandate to regulate the telephone industry in the "public interest, convenience, and necessity."

Prior to that time, most of the regulation of the telephone industry was done by the state regulatory commissions or by the state legislatures. The ICC had the authority to regulate interstate communications, but up until that time there really wasn't much interstate, because long distance was

very expensive, not very commonly used, and wasn't a big economic piece of the telephone business. It was a piece of the AT&T business strategy and political strategy, but it was not a big part of the economic picture of telephone and telegraph.

So, in 1934, you have the FCC established with the broad mandate to regulate “in the public interest, convenience, and necessity” these two quite different industries with not a lot of overlap.

Susan Burgess: Agencies, did you mean? That they had the broad mandate to --

Tom Whitehead: -- regulate these two industries.

Susan Burgess: Oh. Regulate these two industries. Okay. I'm sorry. I misheard you.

Tom Whitehead: The genesis of the Act itself, the Act was -- obviously, since we call it the '34 act was passed in '34 -- but it grew out of the Roosevelt New Deal and was, to some extent, proposed by Roosevelt as a part of his New Deal package in dealing with various industries. We ought to have a little intro into the politics of why Washington felt that they needed this act and this broader FCC. It's not clear to me that anyone very seriously thought we needed it, but that could be wrong.

One of the interesting stories is Clarence Dill going to the West Wing and participating in the writing of the act while he was still chairman of the Senate Commerce Committee. And in his book, *Where the Water Falls*, there are some interesting reflections on how that was done and why that was done. I think, from the standpoint of the book, this section on the '34 act is -- as we've done with World War I and will do with World War II -- it's an opportunity to pause in the story of these industries and recast the broader political and economic and industry landscape. So, it's a kind of

an opportunity to do some stage-setting for the more action-packed stories that will come later on. And that's about all I have to say about that.

This track is about the telephone business in the 1920's and it follows the intro/stage-setting section of World War I and patents and so forth. What I would like to do, if it fits, is to divide the telecom story prior to the '34 Act into two broad sections: the first section would cover the period up to World War I, and then the second section would cover World War I through approximately the '34 Act. The '34 Act is probably a good point to stop that, although, really it might end in the 30's -- in 1930 -- early '30's.

The first part of the story, prior to World War I, is basically the Theodore Vail story. Vail and [J.P.] Morgan, perhaps with the behind the scenes acquiescence of the top management of AT&T, really took the management out of the hands of the Alexander Graham Bell/Boston group and put it firmly in the New York framework -- New York base -- and created the AT&T we know today. I'm digressing here a bit -- regressing actually, going back to the period before WWI.

One of the things about starting at the 20th century is that the Bell companies were restructured and while AT&T existed before 1899, it was a subsidiary of the Bell company in Boston. The restructuring made AT&T the parent company -- I think it was December of 1899, at the outset of the 20th century -- and that was significant because it really placed AT&T in the center of capital in the United States and moved it from being a New England company to being a New York-based, national company.

Then in the years following that, the Morgan people took over more and more of the financing, and there's an interesting story there as to what

extent the top management of the Bell companies and AT&T were complicit in shifting from their prior bankers to the Morgan group, and then bringing Theodore Vail back into the company on the board and then in 1907 making him the CEO. There's an interesting story as to how that happened, and the interest of that story is what on earth went on between Morgan, Vail, and the then-head of AT&T, because the head of AT&T in, let's say, '05 to '07, must have known what Morgan and Vail meant for the company because of Vail's prior role with AT&T.

So, Vail and Morgan were firmly in control of the company by '07, and it's not clear to me how much Morgan continued to be involved. Morgan wanted to control the phone company in the same way that he controlled the telegraph company and the railroads; it was part of the Morgan trust building scheme. But once you get them in there and they do a number of financings and raise a lot of money for AT&T, and I think must have been complicit in bringing in Vail, then they kind of fade away, but Vail stays.

To reiterate, from my point of view the significant things in that pre-World War I period are Morgan and the availability of capital, the explicit attention to the capital needed to build AT&T, and then the role of Theodore Vail. And Vail did two important things. He built AT&T into the Bell system -- maybe the Bell system terminology was around before him, in which case we'll have to find another terminology -- but he's the guy who really built it into a national corporation that was centrally managed and was able to buy equipment with large economies of scale, to build equipment with large economies of scale, to try to achieve uniform practices, pay schedules, rates, and so forth on a national basis.

It would be interesting to see to what extent you can say this was the first truly large national corporation. You have to deal with the railroads and

you have to deal with Western Union and the post office, so maybe we shouldn't digress in trying to make too much of a point of that. But in any event, Vail did build AT&T into this national organization, this national system. The second important thing he did was to set the regulatory framework of -- I think it was "public interest;" maybe it was even "public interest, convenience, and necessity." And the second equally important thing he did was to create the regulatory framework, first in the states and then nationally and ultimately at the FCC. I would like to try to make the case that it was a really successful intellectual scam.

My version of the story goes like this: that Vail set up the regulatory scheme in the states -- I say he set it up; he encouraged it, he argued for it -- and it was that the telephone business was inherently a monopoly business. That is to say, it was a natural monopoly. I don't know if he used the term "natural monopoly" as the economists use the word, but that was his basic argument, that this was naturally a monopoly, and as such, it had to be regulated, because competition wasn't really feasible in the phone business, and you had to have regulation to have the public interest served.

That line he began by articulating -- the first time I've seen it articulated was in the annual reports of AT&T in about '07, '08 -- and he continued to propound it and it was generally adopted in the states, and I think it was generally adopted in the ICC. There were a couple of acts Congress passed having to do with the phone company, but at the risk of being too dismissive, they were not very important. So, then building the Bell system, building AT&T on this monopoly framework, he then later, as the independent phone companies became more forceful, he then switched to the view that we had to have regulation to protect AT&T from competition.

And those two ideas are fundamentally incompatible; a natural monopoly is an industry where competition is not feasible. So, he starts by saying we have to have it because competition isn't feasible, and then he starts defending himself from competition that we have to maintain the monopoly -- to protect it. Regulation has to protect the monopoly from competition because competition will be destructive. It would be interesting to parallel -- It's important to put that on a timeline as to when AT&T shifted. The first phase of it you can document pretty easily; the second phase of when they started claiming that they had to be protected from competition might take a little more research. The second phase might well have come -- probably did come after World War I, so this discussion is kind of mixed up. In any event, I think I have covered what I wanted to cover in this big digression of the part that went before World War I, and so now I will continue with World War I.

We've already talked in the section about World War I about how the government took over the management of AT&T, which helped in the nationalization, the standardization -- Not the nationalization. Helped bind together AT&T as a really national entity and to raise capital and to promote standards in certain areas and so forth. After World War I, we now get to the point. I think the story of AT&T runs along two or three tracks. One track grows out of the patents that we discussed -- let me make that one second. So one is the path that grows out of the patents and AT&T's role as an active player in the electronics industry. Somewhere we need to say that the electronics industry really got its birth in World War I and shortly after World War I with this patent thing.

Anyway, AT&T is firmly in the electronics patent business and therefore in the electronics business. Secondly, they continued to evolve the regulatory framework of the states and the federal government and they dealt with various parries by the Antitrust Division in Justice. I think

around World War I, Vail's successor was put in place who had been Vail's number two guy -- I think his name was [Walter] Gifford -- and so the 1920's is sort of the Gifford story. It's the further development of AT&T as a national entity where long distance becomes an important part of the business.

Let's see if we can regroup here. The 1920's, the important things are the further development of the company as a truly national entity, its firm position and playing out its position in the electronics business growing out of the patents, and then getting its role *vis-à-vis* the other electronics manufacturers established, and thirdly dealing with the independent phone companies and getting the regulatory scheme established that would be reflected in the '34 act and continue after that. So, that's kind of the quick summary.

Research topics: we've already said we want to research their foray into the broadcasting business. There is an interesting sidelight in their foray into the movie business, which I think is probably also in that Danielson book, and somewhere, continuing to show what a great researcher I am, somewhere, I know not where, there is an interesting little vignette of AT&T having virtual control of the movie business and Hollywood in the late '20's, early '30's. I think the broadcasting WEAf episode and the movie episode both grew out of AT&T's patent position and their ability as a well-funded powerful national entity to stake their claim in industries that had some relation to their patent position.

There's a good discussion by one of the AT&T executives -- actually there are a couple of good discussions somewhere in the books that talk about AT&T's strategy, and it was always to control the business it was in and the businesses that might in the future impact on the core business. There are a couple of good discussions by ATT people about that.

So, in the '20's, this business in broadcasting and the business in the movies grew out of their patent position. We've talked about the broadcast business; the movie business grew out of their patent rights for the use of vacuum tubes in audio applications, and, of course, when sound came to motion pictures, the sound had to have electronic circuits to record the sound and then to replay it at the motion picture theater. And AT&T claimed, with some justification, that that sound reproduction business was a business that they had the rights to by virtue of their various patents.

RCA also claimed that it had a right, and so there developed in the late '20's two technologies. I suppose you could say it was a forerunner of the VHS/Betamax kind of thing. But two technologies for creating movies, sound motion pictures, and AT&T claimed that RCA didn't have the patent rights to do that, but RCA went ahead and did it anyway, so you have these two competing technologies, both of which came into practice. Some motion picture companies and some theater chains adopted the Western Electric system and some of them adopted the RCA system.

To be honest, I don't remember how that sorted out, but the cost of making sound pictures was considerably higher than the cost of making silent movies, in part because of the recording technology. And I'm not sure how the economics of the motion picture theater business to install these sound projectors; I'm not sure how important that was to the scheme of things. But it was true that the cost of making movies was considerably increased. New sets had to be developed, new studios had to be developed, and that required a lot of capital which the movie business heretofore had not had, and AT&T, of course, liberally underwrote the adoption of its technology by motion picture studios in return for debt.

So, by let's say around 1930, there were a number of major -- and I think it may have been a majority of the major motion-picture studios were so far in debt to AT&T that AT&T effectively controlled those companies and probably played a role in the mergers and acquisitions that went on in that time period. So, you ask yourself, well, AT&T could have probably come to control a lot of the motion picture business, if not the majority of it; why didn't they? I think the answer is similar to the answer in the broadcasting business; they were very afraid of charges of monopoly, and to monopolize the movie business would have been a very high profile thing. So, they probably pulled out on the theory that they didn't need that kind of trouble and it was not sufficiently ancillary to their core business that they had to stay in it. To monopolize the movie business would have probably threatened antitrust actions and legislation that would have been seriously detrimental to their core business.

Gifford, like Vail, I think was a real true believer in the importance to the country of the phone system being a stable, ongoing system -- I keep using that word in different ways. But I think the main story probably, to digress here, is -- I don't want to use the word "consolidation" because I want to use it later -- I think the main story is the transition from Vail to Gifford, the temporary resolution of the antitrust situation, the accommodation of an acceptance of the independent companies in a certain framework *vis-à-vis* the state and national regulation, and then these forays into broadcasting and movies and AT&T in both cases settling for the core telephone business.

Okay. This track is talking about the consolidation aspect of the telecom business in the rough period -- the early '30's -- to some extent tied to the '34 Act. I suspect that we will find that AT&T was an active participant in the drafting of the '34 Act. Whether we'll actually find their fingerprints or not is another matter. Somebody may write about it; Danielson may,

depending on when he wrote his -- actually, he wrote his book earlier than that.

So, part of the thesis of this book is that by the early '30's, by the time of the '34 Act, by 1930 -- whatever date or event we take to peg this to -- let's just say we're going to peg it to the '34 Act, and if that works, great. So, what we're talking about now is the ATT that emerges having forgone the broadcast business in favor of being the national carrier of the network signals to stations around the country and having either elected to -- having elected, let's say, not to extend its strategic control into the movie production business and largely having established the structure for regulation, both state and federal, and the relationship of the, or the role of the independent phone companies in the ongoing telephone business.

We now have AT&T really having consolidated all of that in the company AT&T as we know it has consolidated its position -- or I guess what we want to say is not "has consolidated" -- spends the '30's consolidating its position and growing the telephone business, both locally and nationally. And I honestly don't know what the story is, or I don't know what would be the event, the person, the theme that can make the FCC of the 1930's interesting. I just don't have a clue. So, maybe what you could do is do some reading. You're welcome to suggest a storyline, or you may point me to some books or sections of books that I ought to read and we can compare notes.

There are two or three events that come to mind about the telecom business in that time period. Somewhere in our story we have to get the Western Union thing woven in and AT&T's relationship with Western Union. That probably takes place in the '20's. In any event, on the topic of Western Union, they, from an early stage they -- AT&T -- had Western

Union in the position of that people called in telegrams and AT&T did a charge for delivering the telegraph message to the Western Union Company. I think that's the way it worked. So, AT&T got a piece of the action of the telegram business. I think that's right; you need to check that. But I digress.

The events of the 1930's: the development of the coaxial cable, which greatly improved the quality and the economics of long-distance telephone, improved the quality of transmission of network signals to radio stations around the country. They probably did something in the development of television, but by and large, I think what AT&T did in this consolidation phase was they consolidated; they strengthened the Bell system, expanded their business, basically did a good job of getting black telephones everywhere in the United States.

There was a continuing concern about monopoly, and I don't know where that was coming from. I think the independents had largely accepted their role. The only other thing that comes to mind in the '30's is the report written in 1939 by some staff member at the FCC which was the result of, I think, a congressionally mandated study of AT&T, and it was pretty negative about AT&T in a number of respects, mostly, I believe, having to do with their abuse of their monopoly position. And that report, I think, is a good source for seeing some of the things that were going on in the '30's. Reading about that report or maybe even reading sections of that report would probably give us some window -- a good window into what were important things going on.

But for the most part, if I had to say right now, I'd say in the '30's AT&T consolidated its economic and regulatory position, developed some new technologies, generally did a pretty good job and was fairly widely

criticized for monopoly practices. So, that criticism doesn't quite fit with my impression of what they were doing, but there you are.

Susan Burgess: And so the importance of the report --?

Tom Whitehead: It was a report that had been in the making for a long time and it was a -- I believe it was a report to Congress. So, it was a significant event in that the people who followed the industry -- reporters, the House, the Senate, the independents -- I mean everybody in the business was probably looking forward to this report. That's all I know. Plenty of research for you to do there. I suppose if I sat down and read through a few books I could refresh my memory and do a better job of this, but that's all that comes to mind so far.

Susan Burgess: Okay. And so maybe I can just identify which books, discuss it in detail.

Tom Whitehead: Yeah. There was the consolidation of the international telegraph business -- there was a consolidation of the whole telegraph business; the domestic and the international sorted out differently. Bob Sarnoff was a major player in that as well as the radio side, which we'll get to. That's it. That's all I can do right now.

Susan Burgess: Okay.

Tom Whitehead: So, this track is about the period of radio broadcasting after the '34 Act or after 1934 or after Paley or however we decide to segue into this. There are a number of things that are going on in this timeframe. There's the breakup of NBC, red and blue -- I don't know when that was -- there was the increasing role of the advertisers in the growth and structuring of the radio business, there's the consolidation of the network relationship to the local broadcaster with sustaining programs and so forth. One thing you

can do there is to get the terminology right there. The networks, as far as I know Paley and, Paley was probably the leader in this, but the networks developed a pattern of two or three different categories of programmings.

Some programs they gave to the local broadcaster for free; other programs they charged. The programs they gave for free, the broadcaster had to carry the national advertising, so the network made the money -- gave it to the station for free but made money by charging the advertiser. Then in another type of program they sold the program to the station and then the station had the right to sell ads in part of the time. That structure you need to sort of develop a summary for, because it carried over into television. And we need to address the relative profitability of the networks and the local stations over time.

Another thread in this time period is the programming, the evolution of genres like the situation comedy, which I want to say the first situation comedy may have been "The Goldbergs." I kind of think that it was. And that led to a show many, many years later, I think unconnected to "The Goldbergs" on television -- you're probably too young to remember that.

Susan Burgess: The Goldbergs?

Tom Whitehead: On television. In any event, there was the evolution of the content of radio broadcasting, the balance of network versus local news and information versus entertainment, the evolution of advertiser sponsorship and then more and more direct, more blatant advertising, and then finally at some point the actual sale of -- well, I think it got to the selling of 15-minute segments, so you could sponsor a segment. Then eventually it got to the sale of minutes, which is what we have now. The evolution of the personalities and their role --

So, you have in the early days of radio, the stations kind of relied on whoever they could get, then in network there was that to some extent and they began to do more and more of their own programming with their own people, and then we've got the copyright aspects, the ASCAP, and so forth. Then we've got the move of Vaudeville personalities over onto networks, a number of key people like Eddie Canter, Jack Benny, and others came from the Vaudeville business. "Amos 'n' Andy" and their unique role. "Amos 'n' Andy," we have to talk about in what I'm saying now. There was the syndication market. "Amos 'n' Andy" started off in syndication, and then I think went to NBC, and then Paley bought them away.

And then you have the advertising agencies beginning to take a more proactive role -- I hate that word, by the way, but I keep using it -- [Albert] Lasker and the guy at BBDO play that pivotal role. So, there's just a lot going on here in the consolidation of radio, and I don't quite know what the right set of stories is. We'll have to figure that out. What I don't want to do is just kind of a cataloguing of who were the stars, who were the advertisers and so forth and so on; I don't want to do that kind of thing. I want to make it more industry structure and try to find the key people in moving the industry to different plateaus, if you will.

Sarnoff emerges as a key player in this time period -- at least he gets written about a lot -- but I'm not sure what he did, actually. What happened to radio was that it moved from a primarily local phenomenon to a national phenomenon, and you've got the personalities, you've got the FDR fireside chats, but you also have the economics of radio in the Depression as opposed to Vaudeville and phonograph and movies. In a sense, radio competed with those other industries, because they were all forms of entertainment, but in Vaudeville you had to pay to get into the

show, you had to buy phonograph records to play on your phonograph, and you had to pay to go to the movies.

So, part of the appeal of the radio in the '30's during the Depression was once you had a radio, the rest of the entertainment was free. So, for people who were on hard times, the radio was an attractive medium. People didn't have as much disposable income, so the amount of money they had to spend on movies and phonographs and Vaudeville went down, and it has been suggested that the movement of important personalities from Vaudeville to radio reflected in part that you had developed personalities with developed shticks, but you also had these Vaudeville stars who were not making as much money anymore, because people couldn't afford to pay to go to the Vaudeville shows.

So, there's a slightly complex set of economics of how these industries interrelated in this time period, and radio emerges -- it certainly didn't put the phonograph or the movies out of business, but it emerges along with those two as one of the three important new technologies of consumer culture and mass culture. There's a pretty sweeping statement.

So, now what we have to do is find some stories there. I think the Lasker Lucky Strike is very interesting. The "Amos 'n' Andy" story is interesting, but it's been beaten to death. Jack Benny and/or Eddie Canter is probably interesting. But they weren't the actors; the actors were Paley, probably Sarnoff at this point, and Lasker, and the guy at BBDO. So, there are a limited number of actors in this part of the story, but there are a lot of threads that sort of interweave, and we've got to find the right two or three actors and the things they did that made a difference.

Susan Burgess:

Okay.

Tom Whitehead: Do you have questions on that one?

Susan Burgess: Just that we need to find the actors, and we're going to need to do some digging.

Tom Whitehead: Yeah. I can't think of any -- I've never read that there are any talent agents. I think it's going to be advertising agencies and Sarnoff and Paley. I don't think the FCC amounted to a hill of beans in this time period in terms of radio. So, that's kind of it for now.

Tom Whitehead: One, two, three, four, five, all right why don't you say something?

Susan Burgess: One, two, three, four, five

Tom Whitehead: Try it again.

Susan Burgess: One, two, three, four, five.

Tom Whitehead: That's plenty.

Susan Burgess: Okay.

Tom Whitehead: One, two, three, four, five. Okay, over to you.

Susan Burgess: I'd like you to talk about what you were doing before joining the Nixon campaign.

Tom Whitehead: The long version or short version?

Susan Burgess: The long version.

Tom Whitehead: Well, I was being a policy wonk. I had gone back to MIT to get my Ph.D. in management, and, true to form, I took some management courses. But I took a course or two from Bill Kaufmann who was a professor in the Political Science department. And Bill had been -- for many years he'd worked at RAND, he'd come to MIT -- but for many years he'd been a consultant to the Defense Department, mostly working for Alain Enthoven who was Assistant Secretary for International Security Affairs, I believe, and a consultant to [Robert] McNamara himself. Enthoven was the chief of the McNamara Whiz Kids.

And Bill was one of those guys who believed that you could do analysis of defense strategy and budgeting that would give you a better policy control over what the department was doing and what it was prepared to do than the generals and admirals could do left to their own devices. He was very much involved in sort of the Cold War stuff. So, Bill became my dissertation advisor, because I was interested in both public policy, as well as management in economics. So, by working with him and Enthoven and others I could meld all of those interests.

And my dissertation was in part on public policy and it was actually about the comparison of the economic theory of the firm with the organizational behavior theory of the firm. And at that time that was a very interesting set of topics. It still is. And I did a couple of case studies, both of which were based on Pentagon DOD analyses, and how certain policies got adopted in an actual organizational setting. And that led to my going to work in the summer of '66 at the Budget Bureau.

Susan Burgess: How did that lead to you working in the Budget Bureau?

Tom Whitehead: Well, because Harry Rowen who had been, I think, Alain Enthoven's principal deputy went over to the Budget Bureau to work with Charlie

Schultze to start a program, planning and budgeting effort at the Bureau of the Budget. And I can't remember now whether I met Harry before or after he went to the Budget Bureau, but it was relatively small group of people who were focused on these -- they were trained in economics. They were trying to look at defense policy and procurement and force level decisions from a resource allocation economic point of view. So, Harry went over and he had just started his office at the Bureau of the Budget and I was hired for the summer, a kind-of summer intern.

Susan Burgess: And you wanted to work there, because it was in alignment with your interests?

Tom Whitehead: Yes, right. And I shared an office with John Deutch and Jim Woolsey and one other guy, who I can't remember. Woolsey and Deutch, of course, went on to be heads of the CIA at different times. So, I worked there that summer and worked most closely with John Deutch but got to know Harry Rowen fairly well. And then when I finished my dissertation and graduated in 1967, Harry had just been hired as the new President of the RAND Corporation out in Santa Monica where I had worked summers before.

So, I guess it was pretty natural. One thing led to another and Harry offered me a job to come to RAND, and the only other option that seriously interested me was teaching, and, while I liked teaching, the idea of being a career academic did not attract me. And Harry was going to continue, of course, RAND's traditional role in national security policy analysis but he was also going to try to build up an effort, a program in domestic policy analysis. So, I went out there, and I was the co-head of the health part of the domestic policy analysis.

Susan Burgess: And why the health part?

Tom Whitehead: Why the health part? That's a good question. I didn't know anything about health. I guess Harry had people to do other things, and health seemed like a good place to start, because one of the things you have to do in policy analysis is you have to figure out what are the outputs you're trying to optimize. And in health care you could think of some pretty simple things like people lived or died. And one of our very first analyses was the analysis of intensive-care units where literally people go into an intensive-care unit and they live or they die.

And they're kind of in there for two weeks and one way or another they exit. So, it was a place to start to do resource analysis. It was heavily resisted by the doctors, who thought that you couldn't possibly apply economics to intensive care. We did, we compared a number of intensive care units over time and came up with the unexpected results that the main thing that mattered as to whether people lived or died was the number of nurses, which was surprising. You would think that the training of the doctors or the machinery or any one of a number of things would make a difference. This was all adjusted for how seriously ill the people were when they went in. What kind of heart attack they'd had, how old they were, and what sex they were, and so forth and so on.

And what we found was that the reason, you know, it was the number of nurses that made the difference, and the reason it was the number of nurses is because there was someone there. When somebody experienced an acute event in the ICU, there was someone there to respond quickly and to try to deal with it. Which, you know, in retrospect, seems pretty simple, and I think eventually it was pretty widely accepted, but initially it was subject to some controversy. Anyway those are the kinds of things we tried to do, and one of the things also that I did was to participate in a little study group.

And I don't know who started this study group, there were like maybe eight or nine members of the group. The only ones that I remember are me, Harry Rowan, Charlie Schultze -- who was then the head of the Budget Bureau and would come out every couple of weeks or three weeks, and meet with us -- Ken Arrow -- later to get the Nobel Prize, was a member. And the study group was aimed at the question of how do you apply the principles of program budgeting and.... So, anyway the group was looking at how do you apply these principles of program budgeting and policy analysis and management financial controls to federal government budgeting.

Charlie Schultze was interested because he was the head of the Budget Bureau. Harry was interested because Harry had had a couple of years working at the Budget Bureau doing these kinds of things. I was interested in part because of the policy analysis aspect, and in part because of my management training at MIT. I had had some exposure not only to the economics, but to the idea of the way corporations use financial controls and financial measures to direct a corporation. So, each one of us brought our own perspective to this.

And it was a very interesting, lively group. I really, really enjoyed that. I enjoyed that more than I enjoyed the health stuff. And one day in the spring of '68 Harry invited me to have lunch with him and Charlie Schultze in his office to talk about such things, just the three of us. And so, I remember we were sitting around on the sofas in Harry's office and eating sandwiches and talking about what we were trying to do and the difficulties of actually implementing it in the government. And all of us felt that it needed a presidential perspective, because, after all, the whole purpose was to help the president control and shape the executive branch to accomplish the things that he had been elected to do.

So, at some point in the conversation Harry and Charlie sprung their idea on me, which was the reason for the lunch. They said something like, I think it was Charlie that said, "You know, when Hubert is elected," not if but when Hubert [Humphrey] is elected, "Hubert will have to get up to speed quickly in order to put his shape on the budget. And [Lyndon] Johnson has kept him completely out of the processes of government. Hubert doesn't know anything about what's going on, what policies are being promoted, what budget allocations are made, and so we will have to get him up to speed quickly. And he will want to put his imprimatur on the budget."

"Which is what we've all been talking about, how does a president put his own imprimatur on the policy goals of the executive branch? So, we think, Harry and Charlie, that you Tom, should take a leave of absence from RAND and go to work on the Humphrey campaign and develop a plan and a guidebook for what are the major policy issues that the incoming president will face, and how he could look at the budget a different way than the Budget Bureau typically presents it, and show the incoming president-elect the major policy options that are available to him."

"Well," says Tom, "That would really be fascinating. That is right down our alley." They knew probably better than I did that the idea of doing something that was action-oriented would appeal to me. And I had never thought about it before, but it did appeal to me. I guess they probably thought that from my work that summer at the Bureau of the Budget, because John Deutch and Jim Woolsey and I were very activist and sort of cherry-picking policy issues that we thought would be good ones, and pushing them up the line for decision; pushing them out to the departments for decision.

Susan Burgess: So, you're saying that maybe by seeing you both in that role and at RAND
--

Tom Whitehead: And at RAND. They knew that might be something that would appeal to me, and it did. So, for some reason I said, "Let me think about it." And I went off and thought about it. And there were sort of two things that came to my mind, or three things. First of all, it was an ideal opportunity for someone doing what I was doing. To actually develop for a president-elect, the tools to present to him the major areas where he could make significant policy decisions that would make a big difference. It was a great opportunity and it was intellectually very appealing and very interesting.

The second thing that occurred to me was that the person who did this ought to have some identity with the goals of the president, because we are talking about a political -- This is inherently a political undertaking. The language of the policy analysis crowd and all of the language of our study group was always very academic and neutral in terms of policy goals. But when you're actually talking about setting goals and prioritizing them and developing the decisions for a president, you have to look at it from the perspective of what the president wants to accomplish.

And what Hubert Humphrey would want to do and the kinds of issues he would want to look at and the way he would want those issues structured, the decisions he would want presented to him would be quite different from what someone like Ronald Reagan or Barry Goldwater would. So, it was inherently a political thing. So, I reflected on that. And then the third thing was that I wasn't sure that I really identified with Hubert Humphrey, not that I knew that much about him. But I just --

Susan Burgess: You weren't sure you identified with Humphrey?

Tom Whitehead: Yeah, well I wasn't sure I identified with Humphrey, and I wasn't sure that the country needed another four years of Kennedy/Johnson presidency. And so, I guess for the first time I had to think about where was I politically? Was I a Republican? Was I a Democrat? What was I? And I had never been involved in politics. I had never really focused on that, but I guess something in me must've said, you know, not Democrat or at least not that kind of Democrat.

So, in trying to think this through I talked with a guy I knew very -- I guess I'd met him once or twice -- who I knew was involved in Republican politics. And I was really very naïve about politics, but he was somebody I knew who was in Republican politics. In fact, he was the only person I knew who was in Republican politics. And so I got to Washington a lot so I met with him and I told him the story. And I said, "What do you think? I mean should I do this? Is there someone on the Republican side who'd be interested in this who's going to get nominated?" This was before the conventions.

And he basically said, "I haven't the slightest idea what you're talking about, but why don't you go talk to Bob Ellsworth in the Nixon campaign?" Boy, we're really getting interrupted here. So, I went to see Bob Ellsworth and I told him my story. And he said, "Well, hell. Nixon needs that, so you should take a leave of absence from RAND and do this for Nixon." And I said, "Well, that's an interesting thought. Let me get back to you."

So, I went off and thought about it, and I decided that, you know, I didn't know Richard Nixon. I didn't know that he was my ideal candidate, but the idea of doing this thing at the presidential level was very interesting

and exciting, and I would rather do it for Richard Nixon than Hubert Humphrey. So, I called Ellsworth and told him I would do it and I called, or went to see Harry, I don't remember, and told him what I was going to do, which was -- I guess I must've seen him in person, I don't remember. I remember he was quite astounded.

RAND was quite astounded to discover that there was a Republican in their midst. And so I arranged to take a leave of absence, and at my going-away party several people wished me poorly.

Susan Burgess: That must've been such a shock. I can't imagine. Charlie and Harry'd be like, "Uh?"

Tom Whitehead: Yeah, I don't know what they thought of it, I really don't. And there were some people at RAND who thought this was a fine idea. Two people whose offices were across the hall from me were Andy Marshall and Jim Schlesinger. Jim went on to be Assistant Director of OMB and then at my recommendation he went to be head of the Atomic Energy Commission. And then he was the head of the CIA and then he was Secretary of Defense. Andy Marshall is the ultimate insider's guru about national security policy analysis, and he still is a consultant to the Secretary of Defense. He's been a consultant to every Secretary of Defense since the Nixon Administration, I guess.

Susan Burgess: Actually can we talk a little bit about RAND and the culture and why it was such a shock that they had a Republican in their midst?

Tom Whitehead: Oh, just because people at RAND were, and I don't think it was everyone at RAND, I think it was the Economics Department at RAND where I was and not everyone there even. It was just that most of them were

academics and academics tend to be liberal and tend to be Democrats. I mean, it's nothing more than that.

Susan Burgess: It's also that, at least of what I know of RAND, it does a lot of defense work and I think that that may be more --

Tom Whitehead: That's true, there were a lot of people who did defense work and I suppose a lot of them would have identified more with a Republican. So, you know, if you asked me how would RAND as a whole, how would all the policy people at RAND have voted, I don't know. It may well have been 50-50. I just remember the crowd that I was working with thought it was unusual. And one of the other guys who had an office near me was Dan Ellsberg, and therein lies a number of other stories.

Susan Burgess: But just to stay on this, did Charlie and Harry say anything else after you came back?

Tom Whitehead: No, no. My recollection was they thought that, you know, they clearly didn't want Nixon to be elected but it was probably better if Nixon were elected to have someone of our crowd in there doing this kind of thing, because they were not developing these tools from a partisan point of view. What we were about in the study group was developing these tools as a way of doing better budgeting. And it could be applied equally to any president, any set of political preferences.

Susan Burgess: Is it your guess that they were suggesting Humphrey because they just believed he was going to succeed? That maybe they would have backed Nixon, if he had been the one that they believed, or if they'd known of him, and if they believed he would have succeeded?

Tom Whitehead: I don't know. I think it was because Charlie knew Hubert Humphrey and maybe Harry did, too, but I think it was really nothing more than that. That they knew him and presumably had worked with him from time to time, and that they didn't know Nixon who was the leading contender for the Republican nomination. So, I don't think there was anything mysterious about it.

Susan Burgess: OK, sorry just to stay on this scene.

Tom Whitehead: Nor did I think there was anything particularly political about it. I think it was just a natural -- I think they saw it as an opportunity to further develop and apply these tools that we had been working on, which was a good idea.

Susan Burgess: When you said that when you announced that you were leaving there were individuals who wished that you did poorly. Do you recall how those conversations went or who the people were?

Tom Whitehead: No, it was just jocular. You know, basically they didn't want Nixon to be elected. It wasn't that they wished me poorly. No, it wasn't. It kind of makes for a good story to say they wished me poorly. In fact, it was a very amicable parting, and I think they generally hoped that after Hubert was elected I would come back to RAND. So, anyway that was that.

So, anyway, having had this opportunity to join either the Republican or the Democratic campaigns, I suddenly, having declared myself, I found myself back in New York City working on this with very little guidance from anyone. My job was to develop the policy options and to have something ready for the day after Nixon was elected. So, I was ensconced on the top floor of the Nixon campaign headquarters in New York.

[Doorbell] I think this may be my next meeting, but I'll go quickly.

Susan Burgess: Okay.

Tom Whitehead: And that was interesting because there were five or six of us on the floor. And besides me there was Ray Price, who was Nixon's chief speechwriter, there was Alan Greenspan, who was economic consultant to the campaign, and Pat Buchanan, who was a speechwriter.

Susan Burgess: Rich is here.

Tom Whitehead: Okay, I'll be out in just a minute. And so I worked from roughly June to the election working on these things, and that's how I got involved and let's break there.

Susan Burgess: OK, great. I'm keeping track of the sessions I have. [End of audio]

[Interview resumes]

Tom Whitehead: OK, you want to talk about the campaign. I spent most of my time working on a document that could be used by the Nixon budget transition people. And I did produce a fairly lengthy document that I thought was pretty good for the time. It dealt with a number of different policy areas from national defense to various domestic issues. And I for the most part, was working by myself. I would occasionally go down to Washington to talk to people down there, and I got dragged into various campaign issues, because the people around me -- it was a small group, a small office, and a relatively small group of people -- so, I inevitably got involved in this or that campaign firestorm, I guess would be the way to put it. When they needed some help they might come around and say, "Hey, can you help us with this? Can you help us with that?"

Susan Burgess: Can you give an example of what one of those was?

Tom Whitehead: No, I can't think of anything right now, but mostly I was sticking to my knitting and doing my work.

Susan Burgess: Did you report to anyone in particular?

Tom Whitehead: Well, I reported to Ellsworth but Ellsworth was, like everyone else, was very, very busy on the campaign, so I was pretty much on my own. Not much else to say about it.

Susan Burgess: What was the document that you produced?

Tom Whitehead: It was an analysis of the federal budget, I guess, the last budget that Johnson had submitted and the identification of various areas where Nixon might want to make changes and how those changes could be applied in the budget.

Susan Burgess: Do you remember any of those recommendations?

Tom Whitehead: It wasn't recommendations so much as it was presentation of options.

Susan Burgess: Okay. Do you remember any of those options?

Tom Whitehead: Not off hand, no.

Susan Burgess: And who did you present it to when it was completed?

Tom Whitehead: Well, my thought was I would give it to Ellsworth, since he's the guy who had brought me in to do it, or to the budget transition people. I gave

a copy, as I recall there were only a couple of copies -- two or three copies -- and I gave a copy to whoever was in charge of the budget transition team. The presidential transition process was just beginning to take on, I think, a routine form back then, and the pattern which may have been established by Kennedy, I don't know when it was actually done, was for the incoming president to create a number of transition teams.

And those teams, they would bring in people from the outside world with expertise. And they would develop recommendations for the president-elect. And I can't remember now who headed the Nixon budget transition team, but I think I gave it to that person. And it kind of disappeared, because the format of the transition team was to get a bunch of experts together and get them to talk. And the experts seemed to be academics, and academics love to talk, and so it wasn't as tightly focused a decision process as one might like. I gave a copy to Ellsworth and I think that was it.

Susan Burgess: What was your relationship like with Ellsworth?

Tom Whitehead: Fine, not very close. He did not have any time for me after he hired me. He was Nixon's campaign manager before the convention. After the convention he stayed on in some other role, which I don't recall right now, political advisor. [Phone rings] Let me see who this is.

Susan Burgess: We should check with him.

Tom Whitehead: We didn't know each other terribly well and he sort of expected me to do my thing and I did. And I gave a copy of this thing to him, and he just disappeared after the election. He was nowhere to be found. He'd gone off to the Caribbean I think somewhere and was gone for a couple of weeks. And finally he came back. We met, and he said he was going to join the

White House staff, and I said that was great. And he was going to be one of three Assistants to the President. Nixon had created a super category called Assistant to the President.

So, it was going to be Ellsworth, actually I guess it was four top-level people: Ellsworth, [Henry] Kissinger, [H.R.] Haldeman, and [John] Ehrlichman. And he said that he would like me to come work for him on the White House staff. And I said, "Doing what?" And I remember him looking at me incredulously and saying, "Does it matter?" and I thought about it for a microsecond and said, "No, it really doesn't." So, from that point on I was one of two people working for Bob Ellsworth.

Susan Burgess: And why do you think he chose you?

Tom Whitehead: That would be pure conjecture. I guess he thought I was capable and bright and hardworking, and he needed someone to work with him. I don't know. Anyway, he did, and so that's how I came to join the White House staff.

Susan Burgess: Okay. You'd mentioned that when you were working on the campaign there were other folks there: Buchanan, Price, Greenspan. Could you talk about what your relationships were with those folks?

Tom Whitehead: Again, not terribly close, but since we were on the top floor of a townhouse on Park Avenue and there were only four or five offices, we were in close proximity, so we got to know each other and talked. I suppose the one that I had the best relationship with was Alan Greenspan, because he was an economist and I was a sort of an economist. I minored in economics in getting my Ph.D. and really had quite a bit of economics under my belt. So, I think it was safe to say we knew each other and sort of learned how to work with each other. But it wasn't close.

Susan Burgess: Do you remember any interesting moments or exchanges between you and those folks?

Tom Whitehead: No, no.

Susan Burgess: Okay.

Tom Whitehead: It's been a long time ago.

Susan Burgess: One of the things that occurred to me when you were talking about the moment when Harry and Charlie were suggesting this great idea about how you could join the Humphrey campaign, because he needed somebody to help get him oriented to that issue. It kind of reminded me of what was sort of put together for the Ford transition team. Did that occur to you at the time, when you were putting together the Ford transition team? Did you think back "Oh, this seems familiar?" or remember strategizing to try to help the president or a potential future president get ready?

Tom Whitehead: I suppose in some way, but the circumstances were so different. Ford, we didn't know whether Ford would take office or how. We didn't know what the circumstances were. But the likelihood would be that Ford would take office in an unusual way, meaning Nixon would be impeached and convicted or he would resign or something. And I think we were more concerned, I know we were more concerned, with broader operational and political issues; not particularly budget issues.

So, the reason Phil Buchen asked me to take on the Ford transition thing was because I had had experience in the Johnson-Nixon transition. So, I knew something about a president who transitions. I'd been on the budget

transition team and I think, it seems to me I was on one of the other teams. But anyway I knew that process, and so I suppose the thought crossed my mind, but it was really such a different set of circumstances, a different level of issues.

Susan Burgess: Okay. What was Harry like, and what was your relationship with him like?

Tom Whitehead: Harry was a very dynamic guy, very smart. A little abrasive I think, because he wanted to get things done. A lot of that McNamara Whiz Kid crowd was smarter than almost everyone else, and they knew it. So, it's kind of hard to be humble, if you know you don't need to be humble, you shouldn't be humble.

Susan Burgess: Right.

Tom Whitehead: But he was, no, I think on the whole he was a very bright, effective guy. He did create a substantial shift in RAND to add a domestic policy program there, which was good -- RAND needed to diversify -- and so our relationship I think was good.

Susan Burgess: And I'm not familiar with what you referred to as the McNamara group? I'm not familiar with that.

Tom Whitehead: I'm not quite sure what you could read, a lot was written. McNamara came to be Secretary of Defense under Kennedy from being president of Ford. And at Ford he had had a reputation. He came out of the financial side of Ford, and his big claim to fame was creating the Thunderbird, but his forte was financial analysis, economic analysis. And he came into the Pentagon and hired a guy named Alain Enthoven. Don't know how they got to know each other.

And Alain was an economist, a Ph.D. economist. I did not keep up with Harry. I guess in large part because my White House responsibilities quickly went so far afield from what I had been doing that I didn't really, as far as I remember, keep up with anyone from RAND except Jim Schlesinger and Andy Marshall. And the reason I kept up with them is they came to Washington.

Susan Burgess: Now, how did that come about, because I think you said that you recommended one of them for an OMB position?

Tom Whitehead: No. Andy came as a consultant to somebody in the Defense Department and Jim came to be Assistant Director of the Budget Bureau for national security. I wasn't involved in either of those, I don't think. Maybe I was asked about Jim, but basically I was not involved.

Susan Burgess: Okay. Another thing that you had talked about before was that the other person that Ellsworth brought in with him was Jonathan Rose?

Tom Whitehead: Mm-hmm.

Susan Burgess: Did you know him from the transition team?

Tom Whitehead: No, I don't think so.

Susan Burgess: What was he doing before the administration?

Tom Whitehead: I think Jon had just graduated from law school. No, that can't be right. Yeah, that can be right. I think he'd just graduated from law school or maybe he was finishing up his tour in the Army, anyway.

Susan Burgess: And what was he brought in to do?

Tom Whitehead: Not clear. I think he was just another bright guy that Ellsworth got a hold of somehow. And Jon's father had been the head of Jones Day and my guess is that Ellsworth knew Jon's father, but I've never probed that.

Susan Burgess: And what was he like?

Tom Whitehead: Jon was, and is, a very intense, very broad-gauge political kind of thinker who liked to get things done. But he was a lawyer, so he brought a certain perspective to things. And he -- oh gee, Jon just worked on a whole bunch of things. He was one of those White House Assistants who thrived on process, getting the process to work, to do things. A couple of big things that stand out, I remember, was he led the effort to make the transition to the volunteer Army to end the draft, and he led a very major effort to swing California to vote for Nixon in '72. Jon worked on a whole bunch of things.

Susan Burgess: And what was your relationship like with him?

Tom Whitehead: Good. We've been friends ever since.

Susan Burgess: What was his -- you told me a couple of projects that he worked on, but what was his role? Did he have a title?

Tom Whitehead: I don't know what it was. Ellsworth didn't last very long at the White House, I want to say two or three months, and he went off to be ambassador to NATO. Why? I'm not sure why he left, but it wasn't working, and the fellow who was brought in more or less to replace him was Peter Flanigan, who had been managing director at Dillon Read, an

investment firm in New York. So, Peter inherited Jon and me, and, I think, didn't quite know what to do with either one of us.

I mean, here's this high-powered financial guy from New York and all of a sudden he's got a young lawyer fresh out of the Army, and he's got this policy wonk from RAND, and thank you very much. But it turned out that the three of us got along very well, and so I kept on doing what I had been doing but with Peter's support. And so my two years at the White House I reported to Peter, and it worked very well.

Susan Burgess: Is he still alive?

Tom Whitehead: Yes.

Susan Burgess: Okay. Is he in the area?

Tom Whitehead: New York.

Susan Burgess: New York. Okay.

Tom Whitehead: And he's someone I have to go talk to. He's on my interview list, at least he should be. Let's double check that he's on the list.

Susan Burgess: Okay.

Tom Whitehead: Because one of the things I need to talk to Peter about is where did all this competition stuff come from in the White House? Who was supporting it?

Susan Burgess: Is that a concept that was talked about at RAND a lot, or...?

Tom Whitehead: Well, RAND wasn't much involved with regulatory policy, as I recall. In fact, they weren't because they were doing national security. And when we set up the domestic policy analysis we were not focused on regulating industries, we were focused on policy programs where the government is doing things, like education, like healthcare, like whatever, so.

Susan Burgess: But it seems like the concept could come up anywhere, like whether you're talking about employees competing with each other and that leading to a better product. It seems like the concept could really --

Tom Whitehead: I suppose, in theory, it could.

Susan Burgess: I'm just wondering where the -- maybe it was just something that was an economics idea that you learned from square one.

Tom Whitehead: I think it came out of just the general principles of economics that competition is better than monopoly, and leads to more efficient markets more responsive to consumer needs and interests. And also the basic Republican view that you ought to keep the government out of businesses' hair, and let businesses do what they do. So, I think it was partly the Republican pro-business focus combined with the Chicago School academic economics view of competition that probably just came together. I think that was probably all there was to it.

Susan Burgess: Okay.

Tom Whitehead: The Council of Economic Advisors was chaired by Paul McCracken who was from the University of Michigan, but he came out of the Chicago School of Economics. He brought in people who were pro-competition, and so I think it was probably partly the juxtaposition of the economists and the Republicans. And it was probably the coming together of people

who had regulatory responsibilities like me, who was basically a Chicago School-type of guy, with the council people, who were Chicago School-kind of people. It was probably partly accident: just the right people at the right time.

Susan Burgess: Speaking of the notion of this being a Republican idea, when we were talking before about how you came into be a part of the Nixon campaign you had said that you were pretty sure you didn't want to see another Kennedy-Johnson-type administration when you were trying to understand your political affiliation. What was it that you disliked about what you saw that administration doing that made you feel like you didn't identify with that?

Tom Whitehead: I think it was primarily the presumption of the Democrats at that time that big government was a good thing, or at least that was Johnson -- and I think to some extent Kennedy but more Johnson -- view that big government was the answer to a lot of problems. And it seemed to me that a more market-focused thing made more sense in a lot of cases. And I'm sure some of it came from my Kansas upbringing, but some of it came from my theoretical economics training, and some of it probably from my work that summer I'd done at the Budget Bureau, where I was just really skeptical of the ability of the federal government to operationally accomplish a lot of things. It was probably all of those things.

Susan Burgess: Was there any particular decision he made or law that he supported that you --

Tom Whitehead: No.

Susan Burgess: No?

Tom Whitehead: No.

Susan Burgess: Okay, and at that time the way you had described it to me it sounded like this was your first moment of really questioning which party you affiliated with. Is that the case or had you previously identified yourself as an independent?

Tom Whitehead: I really hadn't thought a lot about it. I mean my parents were Republican, but then again almost everybody in Kansas was Republican, but they weren't really partisan Republicans. I remember my father and mother were vigorous Truman supporters, so it was on the -- it was, I suppose the idea of being Republican was something. If you'd asked me the question at some earlier time I probably would have said, "Well, now that you mention it, I probably am Republican." But I certainly was not a partisan, activist kind of Republican.

Susan Burgess: Right. Okay.

Tom Whitehead: We're going to run out time here in a few minutes.

Susan Burgess: Yeah, and I'm actually out of questions for today. And are you leaving at 2:30? [Audio ends]

[Interview resumes]

Tom Whitehead: You're on.

Susan Burgess: My first question is after Nixon was elected and Haldeman gave you the responsibility for all that technical shit, as he said, what did you do to get up to speed and prepare yourself, since the job was so different from what you were doing at RAND?

Tom Whitehead: Well, I didn't prepare myself. It was basically you get thrown in the water and you swim. So, let me see if I can recall. I haven't thought about that in a while. Well, there was a transition process where all of the agencies were set up to feed materials to the Nixon transition team. And so there was a point of contact, a liaison person for each of the agencies to the new administration. So, I got put in touch with the liaison person for each of the agencies that I was given responsibility for, and that that got me the official transition materials that the agencies had prepared for the new White House. So, I had to look at that material and talk to the people from the agencies. Of course, once they knew that I was their point person, then they sent people over to talk to me. So that was part of the process. There was also the process of talking to other people in the Executive Office that would have something to do with these agencies: for me it was the Bureau of the Budget and the Office of Science and Technology.

And because several of the agencies that I was responsible for had traditionally been viewed as science and technology agencies, those agencies were used to dealing with the Office of Science and Technology. So, that was another source of information, talking to the staff there about what they had done with the agencies and what the issues were. So, I guess the first order of business would have been to talk to the agency people, talk to the Bureau of the Budget Staff, talk to the OST staff, to get a handle on what the issues were. And the issues ranged from budget issues to key decisions to certain sensitive items. The Atomic Energy Commission had, as I recall, a few sensitive things about upcoming tests.

So, talking to all those people and convening meetings where I got the OST staff together with the BoB staff, or in some cases bringing in the agency staffs to meet with all of us. That process of organizing the inputs that all of those different people had was in many ways a good tutorial. It

was the only tutorial I had, but the people were primed to tell me what the decisions and issues were, so that obviously helped. Part of what we had to do was appoint people to the agencies. Every agency has a number of presidential appointees and then schedule C's, and so part of my job was to sift through those personnel appointments and look at candidates.

In some cases candidates were already surfaced through the transition apparatus. In some cases they came in from the RNC, in fact there were a lot of personnel files. I don't think there was a personnel office. I guess maybe there was in the White House, but however it came, those personnel files and candidates came to me, and sorting through the people who were there, candidates to replace them, talking to candidates, making recommendations about what I thought. In some cases I had essentially the final word; in other cases, political things trumped other things, other considerations.

And in some cases somebody else in the White House would know a candidate, particularly for the higher-level jobs. But I was involved in all of those personnel decisions, so talking to staff people, sorting through the issue books, looking at the personnel decisions, all of that was a good tutorial. I would say through all of that I was able to get up to speed pretty quickly. In some cases it became apparent to me that there were issues that were not on the table, that would come up through either looking at the materials or talking to people or both, presumably both, and also from talking to people on the outside, because once I had been tagged as the person in the White House responsible for these things, my phone started ringing. So, a lot of people from the outside started calling me and coming to see me and telling me what the agencies were doing wrong or right or whatever. And indeed, looking at some of the materials here in the files, I noticed that it was like in March or April that I was still meeting with people. We should try to pin that down, because there was

one month-- and I want to say it was March of '69 -- where I just had a who's who of telecom and broadcasting coming through my office.

All of them telling me what they thought of the world, and what needed to be done, and who should be fired and so forth and so on. So, I would say that “you get thrown in the water and you swim” is a pretty good analogy, but there's a lot of people, a lot of material, a lot of activities where if you can swim, you end up swimming pretty quickly. So, that's the long-winded answer.

Susan Burgess: Mm-hmm, do you ever remember, because there was no Internet back then, do you ever remember looking outward to try to do any independent reviews, like looking at journal articles or talking to folks you knew at MIT? Things like that.

Tom Whitehead: Oh, yeah, not so much journal articles, but one of the things about the White House is that you have, you know, almost anybody will return your phone call. And you've got a lot of people who want to help you, according to their view of what help is. So, I was able to turn, for example, to the Antitrust Division at Justice and, you know, you want to understand something about a competitive issue, they would know about it. Or somebody on the staff of the Council of Economic Advisors would have done some research or know some economist who had researched some subject.

Or the Budget Bureau would say, “You know, we've done all this research” and there's somebody there who did the research. So, if you want more information you'd ask them to go get it for you. Two reasons, because the Internet wasn't there and because of the incredible call that you have on resources when you're on the White House staff, between

those two things, the idea of going out and doing research yourself just didn't arise. Because you had so many people who could find it for you.

I mean, you had scores of people in and out of government who were there and available to be your research assistant on any subject you cared to ask about.

Susan Burgess: Right. Okay. One of the things that you mentioned was that going through these materials, going through the appointment process, you learned about what issues were on the table but you also started learning about what issues were not on the table and that should be on the table. Do you remember any of those issues? What those may have been?

Tom Whitehead: Well, one of the ones that stands out is the domestic-satellite issue. There were a number of personnel issues that were sort of lurking beneath the horizon. People that were flagged; people who it became clear were troublemakers. Not that they would've thought of themselves as troublemakers. Yeah, there were a lot of issues about people. People who didn't appear political but were; people who had axes to grind.

I mean, AT&T and other companies would come in and have kind of a hit list like, "You know, that person really needs to go, and, gee, wouldn't that be great if you hired old Charlie over here," you know, so those issues. And then industry would come in and industry would say, "You know, the agency hasn't been looking at this option," which usually meant, "We have something we'd like to sell to the government, and the agency's not looking favorably on this and, you know, you should know that the agency is short sighted." And it very often turned out that the agency was not at all short sighted.

Susan Burgess: Can you think of an example of that?

Tom Whitehead: Well, one of the ones that I really got sucked into was the Jones Act was up for renewal. And the issue of shipbuilding, American shipbuilding, was on the table. And I remember some, I can't remember now who it was, some shipping operators coming in and telling me that, you know, we really didn't need to build so many of our ships here in the United States. That we could buy some of our ships from outside of the United States, and that wouldn't cause any economic harm, and so forth and so on.

The bureaucracy was pretty much geared to keep on with the status quo, but I had people coming in and leaning on me real hard that these restrictions were no longer necessary, and we ought to change the law -- which would've have resulted in their businesses being more economically competitive. And then there were, I guess MCI and Datran coming in and telling me that we needed to open up competition in the telecommunications business. [phone rings]

[Interview resumes]

Susan Burgess: We were talking about the issues that you realized weren't on the table and the reports that you read that other people brought to your attention. And we talked about MCI and others saying that there needed to be more competition, and I don't remember exactly what we were talking about though when the phone rang.

Tom Whitehead: Well, I think you were just asking me if there were any specific things that the agencies hadn't raised. And I was just sort of rambling I think. The industry people came in and probably we were getting input from the Hill, Republicans on the Hill, as well. But I don't remember a lot of specifics.

Susan Burgess: Okay. Is it back on?

Tom Whitehead: Yep.

Susan Burgess: Another thing I wanted to know is you'd mentioned that folks would from time to time say, "Oh, you need to get rid of this person," or "Would you please fire that person and hire this person." When you were Director of OTP did anyone suggest that about your core group like Brian or Henry or you had to fight for them or whatever?

Tom Whitehead: The only the time that I recall was when Brian suddenly appeared in the Jack Anderson column, and I suppose we should ask him what the issue was. He remembers it quite well, because, I think, he was quoted as saying something disparaging about something the administration had done or was doing. And I got an absolutely irate phone call the very morning it appeared from Peter Flanigan saying, "You've got to fire that guy." And, as I recall, I was blindsided because I hadn't seen the column.

So, I went and talked to Brian and then called Peter back and said basically Brian hadn't done anything wrong, and he got quoted out context and basically I wasn't going to fire him -- which didn't placate Peter a lot -- but I just said I wasn't going to fire him so that was the end of that.

Susan Burgess: And you guys had been working together for a while at that point.

Tom Whitehead: Yeah, we'd been together a while at that point, so I knew Brian was being honest with me. And, you know, sometimes, you know, Washington's a tough town. As the old saying goes, "politics ain't beanbag," and sometimes bad things happen to good people. No, I think he just got

caught in the crossfire, and it blew over. But other than that I don't recall -
- No, I don't recall -- There was one guy who wanted to be my deputy
director, and he pulled out every Republican politician in the United
States and the Soviet Union combined, and he had a campaign. And I
was getting a lot of pressure from a lot of different places to hire him,
which I did not do. But, the Brian thing was the only incident where
there was any pressure to fire someone.

Susan Burgess: Who was the person that tried to get hired?

Tom Whitehead: I don't remember. He wasn't a heavyweight. He obviously had a lot of
industry and political muscle, because he made my life difficult, but I
don't remember his name.

Susan Burgess: And he just didn't have the background for it and the experience?

Tom Whitehead: Well, as I recall he had the background and the experience, he just didn't
have the intellect or the judgment.

Susan Burgess: Okay.

Tom Whitehead: There's no shortage of people who know about telecom or broadcasting or
cable and have been around Washington. I mean, there are a lot of people
like that, but the key for the kind of things I was doing -- the high-level
policy stuff -- is you need people with intellect and judgment. That's
hard to find.

Susan Burgess: Speaking of hirings: I don't think they've gone over the details of when
you chose Niskanen to be OTP Director but then that fell through. Do you
remember first, why you chose him?

Tom Whitehead: More or less. We wanted somebody who would look at telecom policy issues as policy rather than just the non-stop stream of legal proceedings at the FCC, and we wanted somebody who had some knowledge and experience of industry matters, but also a more economic policy perspective. Niskanen was an economist. I've forgotten his background, I guess he was at the Council of Economic Advisors or had been at the Council of Economic Advisors or maybe the Budget Bureau or both. And he'd had some exposure to telecom issues. But as I recall the main thing was that he had a good nose for policy, and he understood industry issues.

A lot of economists don't understand industry issues. They do studies of industries, but that's not the same thing as knowing people in industry and knowing what decisions industry people need to take, and knowing how industry people work with Washington. Niskanen had had that kind of experience. It wasn't easy to find someone. I wouldn't say that he was the ideal candidate, but within the constraints of what we were looking for and finding somebody in a reasonable time frame, he seemed like a reasonable choice.

Susan Burgess: And why didn't it work out?

Tom Whitehead: Well, it didn't work out because we ran into a backlash on the Hill. And it was hard to find out what happened, but we finally figured out that Motorola had blackballed him, and Motorola had at that time a manufacturing facility in Arizona, I think it was. And one of the senators, a Republican senator from Arizona, killed it. And that was that.

Susan Burgess: What was their motivation?

Tom Whitehead: We never found that out. It may have been personal or it may have been that they just thought that he had an anti-Motorola point of view. I don't

know, but they thought he was a bad guy, and they used one of their big chits on the Hill to kill him.

Susan Burgess: And how were you subsequently chosen?

Tom Whitehead: Well, several people had suggested that I should take the job when we decided to appoint Niskanen.

Susan Burgess: Which people, do you remember?

Tom Whitehead: No, just people in the White House. I guess, I don't remember. But it was kind of, you know, "Why don't you do it? I mean you're doing that job already. Why don't you do it?" And I didn't want to do it because, as I famously said, "If I take that job, I will become typecast as a telecom person -- and I don't want that." And besides, you know, if I got someone like Niskanen or any halfway reasonable person in running that agency then that would person would *de facto* report to me, and I would continue doing all of the things I was doing. So, I could run telecom policy as long as I was at the White House. So, I didn't see any particular advantage in taking that job.

Susan Burgess: Did some of your responsibilities fall away because you did take the job? Was there anything you were doing before that you just could no longer keep up with?

Tom Whitehead: Oh sure. I mean once you -- I was Special Assistant to the President, and I had a lot of agencies reporting to me and I had the flexibility that a job like that carries. I guess all White Houses are different, and I guess White Houses have gotten much more structured, but back then -- well, you heard Brian talking about how we got things cleared through the White House process. If I saw something I wanted to work on, then I would just

go talk to two or three people and say, "Hey, what's happening on this?" you know. "I think we ought to look at so and so," and if nobody objected, then I'd just go off and do it.

So, there was that. And a number of the things I was working on were interesting. The NASA thing was interesting and important. The National Science Foundation, there were some important issues there about applied versus basic research. But when you move to an agency and have formal responsibilities, then you no longer have that Special Assistant to the White House thing, and you just don't do the same thing, and you have a lot of other things you have to do. I did continue, for about a year as I recall, to have the primary responsibility for NASA -- even after I took the OTP job.

I had had a deputy in the White House, Will Kriegsman, who I hired. As I recall he came out of the Atomic Energy Commission and we later appointed him to be a member of the Atomic Energy Commission. So, once I took the OTP job, Will took over most of what I was doing, but the NASA stuff was so important and I had so many of the NASA people reporting to me, and the Budget Bureau was keyed to me, so I had *de facto* responsibility for NASA for six months or a year after I took the OTP job.

But for the most part when you move out to an agency, you do what that agency does, and you don't do all the other fun things that you used to do.

Susan Burgess: Right. Okay. Moving forward a bunch. When we were with Brian, you talked a little bit about Watergate and how it affected --

Tom Whitehead: Before we go to that it's probably, you know, the question comes up, "Well, if you didn't take it the first time around, why did you take it the

second time around?" And there were two answers to that. One was that I was under more pressure to take it. "Okay, Whitehead, your guy didn't make it. We've got to find somebody, you know. Why don't you do it?" Some of that before was coming from the old Office of Telecommunications Management that we'll talk about some time.

But the second time around, people in the White House were saying, "All right. Who are you going to come up with now and maybe you ought to do it this time around." I don't know how much time elapsed between the decision to go with Niskanen and then the subsequent decision on my part to take it. But I think enough time had gone by, that I thought about it differently. Clearly, I thought about it differently, because I decided to take the job. So, part of it was internal pressure in the White House, you know. "Let's get real about this. We've got to appoint somebody, you're the obvious person, you know. You do it."

But the other thing was that I had always thought that I would only spend a couple of years in government, and I was a year and half, almost two years into the job, and so the question in my own mind was, "Okay, now what?" And I remember thinking that putting aside the fact that I might become typecast as a telecom person, there was another consideration, which probably some people had planted in my head, that being nominated, confirmed by the Senate to run an agency reporting directly to the President would be a valuable experience. And running an agency reporting directly to the President for a couple years would be something that I would learn from and would be valuable in terms of whatever I decided to do next.

And in my own mind I think I had that tagged as another couple of years that I would spend. And I suppose it's also true that I had most of the fun of being Special Assistant as I was going to have. I'd learned a lot and I

was feeling like it was time to kind of move, and that seemed like something where I would learn a different set of skills and gain some different kind of experience than I had before. So, I decided at that point that I would do it.

Susan Burgess: So, I was going to move forward quite a bit. When we were talking with Brian, he mentioned his impression of how Watergate affected the atmosphere in the White House and OTP. What is your impression of that?

Tom Whitehead: Grim. I think there was a wishful thinking attitude on the part of most people in the White House that the break-in was done by campaign political hacks, and it wasn't something that bothered us. That what the President was saying about it was straightforward, and it was just a Democratic attack on the President. I think at the outset it didn't have much of an impact. It certainly doesn't have an impact on my day-to-day activities. But it -- I'm trying to think of an analogy, and I'm not coming up with one.

It became one of those things where, I don't know, it's kind of like a shoe that doesn't fit right, you know what I mean, and one day isn't particularly bothersome but day after day after day it gets to be something that really drags you down. And it not only dragged us down individually but it dragged down the morale of the administration and the people in the White House in particular. And we saw the press office; we saw the congressional liaison people spending more and more of their time responding to charges. And it just got more and more grim.

Even though it didn't impact any of us directly, it just changed the atmosphere. So, by early '73 it had really gotten to be pretty bad. And I remember some time in there talking to Cap Weinberger and telling him I

was going to leave and he laid a real trip on me about how, you know, we can't do that because basically the President ain't functioning anymore, and if people start leaving, it will trigger -- more and more people will leave. I mean, "Who's going to replace you? Who's going to take a job at your level? Who would take a job in this administration given what's going on? So, we all have to hang in here and stay. We have to stay."

And I remember thinking that Cap was right, so I just sort of hunkered down and stayed on. I don't recall that Watergate impacted what we were doing at OTP, in particular, except that we didn't have the political clout on the Hill that we had had. But even there it was not terrible in any direct way; it was more just something that made the whole thing very unpleasant.

Susan Burgess: When Haldeman and Ehrlichman resigned, did that affect you in any way?

Tom Whitehead: No, it didn't affect me directly because I had never -- my reporting relationship remained with Peter Flanigan. Not that everything that I did went through Peter, but anything major that I did, because of the personal relationship that had been built up there, I would work with him. And Ehrlichman, I don't think Ehrlichman ever tried to get communications under his purview. I seem to recall vaguely one or two issues that he wanted to get involved in, but I think I was pretty good and Brian was pretty good at working the White House staff.

So, I would stay in touch with the people that worked with Ehrlichman and with Ehrlichman. And Brian tended to get more involved with the Haldeman people and [Ron] Ziegler. And so when Haldeman and Ehrlichman left, it caused something of a disruption, but less for me than it probably was for a lot of other agency heads.

Susan Burgess: You said that Brian worked more with Haldeman's staff and Ziegler. Was that because he personality-wise got along better with them, or --?

Tom Whitehead: Well, yes and no. Basically, no, but Haldeman and his people were the political operators. I mean everyone in the White House gets involved in politics, but Haldeman was, you could say he was the Karl Rove, but Haldeman was the chief political guy in the White House. And the speechwriters reported to him, and the press office reported to him. And I don't know if the press office reported to him, but he was the guy who dealt with political matters and Ron Ziegler wasn't going to say anything that Haldeman hadn't cleared him on. And then there was Chuck Colson of course but -- Where were we?

Susan Burgess: And so why was Brian the one?

Tom Whitehead: Because Brian was my political and press guy, and he was the guy who dealt with the Hill and with press people around town. And Brian was a broad-gauge press guy. He was not a telecom trade-press guy, so he [phone rings].

So, Brian because of his interests and because of his work on the Hill, he worked with the general press in town. And he was interested, and he knew the political considerations, and he loved it all. He loved how the press and politics worked behind the scenes. And he liked knowing who the reporters were and what they liked to cover and what they didn't like to cover.

So, Brian could go and just have a gabfest in the hall or go to a meeting and talk the same language that the political people in the White House and the press office were doing. So, when I had issues that involved that

kind of thing, it was just very natural for me to send Brian or Brian would get involved and just call over there directly and work with those people - - which was fine from my point of view -- and I didn't have any problem with any of those people. In fact, I made it a point to -- I already knew them -- but I made it a point to work with them and keep them posted about what we were doing. But Brian saw them much more than I did, because it just made sense. I had a lot of other things to do.

The only reason I would say no in response to your question was Ron Ziegler. Ron and I just did not hit it off, to put it mildly; and I didn't like Ron, and it was mutual. We just didn't get along. And at some point I just said to Brian, I said, "Brian, I cannot do this." And it's the only time in my life that I've ever refused to speak with anyone, but I just said, "I'm not going to deal with that guy anymore." So, any meeting in the White House that involved Ron Ziegler, I sent Brian. And that made it awkward at times. You should get Brian to tell you the story about him meeting in Haldeman's office with Ron Ziegler outside the door pounding on the locked door, "Let me in. Let me in. You can't do this. You can't have a meeting without me here." It was not a great relationship.

Susan Burgess: What was it? Why did you dislike him so much?

Tom Whitehead: I don't know. I don't remember. I've put it out of my mind. I just didn't like the way he did things, you know? One of the little sayings I used to throw around from time to time at OTP, which caused my staff to mercilessly ridicule me, was a line that you may or may not remember. You no doubt saw Bambi when you were a child?

Susan Burgess: Mm-hmm.

Tom Whitehead: And there's a line in there where, you remember Thumper the rabbit?

Susan Burgess: Mm-hmm.

Tom Whitehead: And Thumper's mother says to Thumper, "If you can't say something nice don't say nothing at all." So, I used to say that from time to time and, you know, that philosophy still applies to some extent to Ron. But basically, I don't think Ron was terribly honest. In fact, Ron was not honest, and he was expedient, and he wasn't somebody you would put a lot of, at least I didn't feel like you could put a lot of trust in him. There were times, and we'll get back to it on the -- I think we may have mentioned it when we were talking to Brian about the time on the public broadcasting issue, where Brian leaked a story to *The New York Times*, which was a truthful story. And at a press briefing that morning when the press asked him (Ziegler) about it, he just lied through his teeth. But there were other incidents of less import that I just didn't feel were appropriate.

Susan Burgess: Do you remember what the last straw was? That moment when you said, "Brian, I can't take it anymore. You've got to go to all of these meetings."

Tom Whitehead: No, I don't, but that's the way it was. Ron had a saying, in meetings when -- and in any White House this is true -- something comes up and somebody has to say something about it. The press secretary has to say something, because you know you're going to get a question, or the President has to say something or what have you. And so you talk about things and at that level they're very often things that are not crisply black and white. And so you say, "Well, what are we going to say about this? Well, you can't say that because then that'll cause someone to look into this," or, you know, what have you.

So, there's always the back and forth about what are you going to say and what are you not going to say? And Ron had a saying when someone

would come up with something that he liked, he would say, "You know, that has the added benefit of being the truth." But he didn't say it in jest, as you or I might, you know. It was, "Okay, you know, we're going to say that because that works, and oh, by the way, isn't it nice because it's also the truth?" And it wasn't, "We're going to say something truthful, now let's limit the damage." It was, "That's works, we're going to say it." And truth was not something that was number one with Ron.

Susan Burgess: So, he seems like he's the sort of person who would say whatever he needed to say to get what he wanted, as opposed to --

Tom Whitehead: I wouldn't --

Susan Burgess: You know, whatever.

Tom Whitehead: Bear in mind my Thumper's mother's philosophy.

Susan Burgess: Yeah.

Tom Whitehead: But I would say that he would be tempted in that. He would say what he needed to say and getting no farther from the truth than he had to, you know. Anyway Ron and I just had fundamentally different attitudes towards these things, and I just said, "Brian, you do it. I'm not going to do it."

Susan Burgess: Okay. [Audio ends]

[Audio resumes]

Tom Whitehead: I think the only thing of interest here is the [Douglass] Cater piece. I think the genesis, if Cater is correct -- and I have no reason to believe he's not,

the genesis of the Corporation for Public Broadcasting in the White House is interesting. That would have been '65. And it would be interesting to know more about who this guy Scott Fletcher was.

Susan Burgess: Mm-hmm.

Tom Whitehead: But it sounds like it was just a concern about continuing funding for educational-television facilities and IN programs. Well, it's hard to read here. If you read it superficially, it says this guy Fletcher came to see Cater and said, "We need more money." But if you look at it a little more closely, it says that various forces in "educational television" were ready to call on the President to set up a task force to come up with a new initiative. Well, those various forces could have been the educational television stations, or it could have been the Carnegie Commission, or it could have been the Big Five.

It was probably the Big Five stations, but you can't tell from this. And so, they came to the White House, whoever they were, with the idea of setting up a task force to come up with a new initiative. So, somebody had an idea and it was probably the same people who talked to the Carnegie Commission and got Carnegie to set the thing up and staffed the Carnegie Commission and wrote the report. And so, in a way this guy, Scott Fletcher, may have come in on his own, but more likely he was the front man for somebody else, for some other group of people. It'd be interesting to see which station he came from. He probably came from one of the stations.

And I'll bet you a cup of coffee or a martini, your choice, that it was from one of the Big Five. I'll bet he worked for one of the Big Five. But I don't know.

Susan Burgess: I'll check that out.

Tom Whitehead: Check that out. And it would be interesting to see if you can turn up any other names that Cater mentions. This is useful. The Albright and Lyons (?) sort of thing didn't strike me as very noteworthy.

Susan Burgess: No. They were just the only other ones that talked about the Corporation for Public Broadcasting. Did you already know that they had been considering multiyear funding at the time but then decided it wasn't a wise move to request an act, because they didn't think it would work?

Tom Whitehead: Multiyear funding was there from the beginning, as I recall. Now, I don't know if it was in the Carnegie Commission report, or if it was left out of there, but certainly by the time I was talking with Mac Bundy and Jim Killian, it was very much on the table. It was what they wanted, because they hated coming back every year. And they probably hated the hassle of it, and they hated having the Congress ask them a bunch of questions every year.

Susan Burgess: Okay. I wasn't sure if that had come later when you guys came into office.

Tom Whitehead: No, it was there from the beginning.

Susan Burgess: And what about, I believe you said that even then when they were creating it, they were worried about it becoming a certain partisan machine. Did that surprise you, too, that even the folks that were behind it were concerned with that?

Tom Whitehead: No.

Susan Burgess: No. Okay.

Tom Whitehead: I mean you don't have to be a rocket scientist to see that it's going to be political.

Susan Burgess: Right. Okay. That's it.

Tom Whitehead: That's it? [Interview ends]

End of recording.