Interview with Maly Gibbon
10/2/78

(WMP: I'm interviewing Mrs. Lovell Thompson, who was formerly Mrs. John Gibbon. Maly, would you tell me about Jack's interest civically at the time when Clark and Dilworth were getting underway...after World War II, in politics in Philadelphia. Particularly, I'm interested in the story that you mentioned to me of the communists approaching Jack.)

Walter, that took place before World War II, and it began in 1936. And it began because Jack was very emotionally involved in the Spanish Civil War. And I think if he had not been married, he would have volunteered his services as a doctor on the loyalist side.

We were living at that time at 1608 Spruce Street, down mid-city, and he was approached one day by a man named Dr. Leoff, who asked him if he would head up a committee to raise money for medical supplies to the loyalist side in Spain. This appealed to Jack, 'cause it was something that he was professionally equipped to do, and so he agreed to do this. The next interview that I remember was with Dr. Leoff's daughter, whose name was Madeleine Blitstein, whose husband became quite famous because he was the author of a very popular musical comedy called "Pins and Needles", about labor. And it was a great success. And Jack did head up this committee, and we raised quite a bit of money and sent it abroad to the loyalists for buying medical supplies...or so we thought...and I still think it probably mostly did.

We gradually learned, I suppose over a period of two or three years, of association with the Leoffs and the ...I don't think Blumstein is the right name.....Madeleine.....Blitstein. Can you change that? It's Madeleine Blitstein, and it was her husband, Blitstein, who did "Pins and Needles". And we learned a bit...I'm not quite sure why or how...that they belonged to the communist party. They were pretty frank about it, and they asked Jack if he would be interested in joining it. At that time he said...No...he would lend his name...he was very emotionally disturbed about the loyalist cause in the Civil War in Spain, and was more than willing to do anything that he could about it.
A little bit later, the same family, by now we were introduced to a niece of Dr. Leoff's...and I forget her name...but it was this four of them...Dr. Leoff, Madeleine, her husband and cousin...who really put pressure on Jack to form a group. And the name of the group was The Friends of Democracy. There was a great deal of work done by these three people, and probably many others, to raise money for this group called Friends of Democracy. We got several quite good speakers; one of them was Estes Kefauver. Do you remember him?

(WMP: Yes indeed.)

Very tall...senator...and he spoke to the group that we had at the Academy of Music.

(WMP: About what year would that have been?)

This would be about 1937 or '38...still Europe in turmoil and knowing that Hitler was coming in, but not knowing just when. And the interest this group had was to do anything they could to stop Hitler and Mussolini and the power that they eventually achieved. And there was one occasion which I happened to remember very well when Jack Gibbon was driving our car and the passenger on his right in the car was Dr. Leoff's niece, whose name I have forgotten - I was sitting in the back of the car. She handed Jack a little green card and said...If you will just sign this card, you will get all the privileges that will accrue to you as a member of the communist party.

And Jack looked at her like this, and he looked at the card, then he looked at his driving, and from the back seat, I reached over and I snatched that green card and I stuck it in my pocketbook. That was the nearest he came to becoming a communist and a card-carrying communist, but he continued to be the president and to lend his name to this organization called Friends of Democracy.

(WMP: And they were intertwined with the communists, were they?)

They were really run by the communists. We had a lot of meetings at our house to make money, mostly, what to do...and eventually, the meetings would start at 8 o'clock say, or 7:30, and by 10 o'clock, most people wanted to go home. We had not communist members: we had people like Margaret Mead's mother, who was quite an active member of the group, and all the liberal people....if Emily* had been there, she would have been. And ways and means were discussed, and it always ended up that these three or four important communist members, who held the positions...not the top ones...but the treasurer and the executive manager....they held those positions...and they

*Emily Jones, a founder of ADA, (formerly Emily Lewis Ehle).
lasted until one or two in the morning. And they simply stayed on and passed resolutions.

(WMP: Do you remember what they talked about?)

No; I do remember they were terribly upset and the whole thing kind of went to pieces when that Hitler-Russian pact went through. Do you remember?

(WMP: Yeah...yes.)

And one of our speakers was Winston Churchill's nephew, who was a communist, had fought with the loyalists...later when the war broke out, he joined the British Navy and he was....his ship was sunk in the Baltic and he died there. And he was a charmer! A lovely person!

Then the war broke out and that broke up this organization. Later I found in our attic a good deal of stationery. And by that time I knew a good deal more about communism and I carefully burned all this stationery and tried to destroy every evidence that there was such an organization called the Friends of Democracy, which is a very harmless title.

(WMP: Yes, you're right.)

Did you ever join it?

(WMP: No, I didn't but I do remember its existence.)

And that we had speakers like Kefauver and rather good names? And it was entirely engineered by this very small executive committee.

(WMP: What happened finally? What became of these people who were the manipulators?)

I don't know what has happened to them.

Another speaker we had was Dr. Norman Bethune. Do you know that name?

(WMP: Vaguely.)

He was a Canadian doctor and he was the official speaker at a foreign policy luncheon during this time which was before the war broke out, between 1936 and 1942. And he was a very, very charming person, and very frankly, a communist. He had served in the Spanish Civil War; he came back to raise money for medical supplies for the loyalists. And then he was
interested and had volunteered his services to China and help the communists in China. And he invited Jack and me to go with him and be part of his team in China.

(WMP: But you didn't go.)

No. We couldn't. We had small children and a family and Jack had his practice and he had to earn a living. Norman Bethune did go to China. He worked there for maybe a year to two. He was operating under very difficult conditions, as they had to, in a cave or ....

(WMP: He was a doctor too, was he?)

He was a surgeon. And in the course of doing an operation on a patient who had suffered....you know, pus and things, he pricked his finger with a needle that he was using, he contracted a disease and he died of it. And they have erected a shrine in communist China called the Norman Bethune Shrine. And people go to worship him there: his name is very well known there.

(WMP: What was his origin?)

He came from Canada. I don't know very much more about him. He stayed with us one night, I think, and we took him to the station and again, he put pressure on Jack to become a communist. And again, Jack said...No, I don't think at this time I will. And I can remember shaking hands with him and his saying.....Goodbye, Comrade...to both of us. That was the last we saw of him because he died in China.

(WMP: Well, do you think these people were innocent Americans who were taken in by some communist agents from somewhere else?)

Yes, I do, probably. They were liberals, all of them.

(WMP: All from Philadelphia?)

Yes, around the corner on 16th street was where Dr. Leoff lived.

(WMP: Nobody from New York?....came from any other place?)

Not that we met. And I never knew more than this about their connections or why they became communists. They were very frank about it.

(WMP: What finally happened to the group? Did they go into ADA later?)
UmmHmm. I'm sure they did. And I think this was one of the problems that John Lewis found himself faced with when he began ADA. Wasn't he one of the beginners?

(WMP: He was the first chairman.)

That's what I thought. And Emily can tell you more about that.

(WMP: So both Ada and John were involved with this little group of yours?)

I'm sure they knew them.

(WMP: But you didn't meet with Ada and John?)

No. We never did. And you see, Jack went off to the war the minute it started. His unit happened to be the one that was called first. Pearl Harbor was December, wasn't it.

(WMP: Yeah, the 7th of December.)

And Jack's unit was off and away by January 30th. And that was the end of the Friends of Democracy as we ever knew anything further about it. And it was after that when we were leaving the house on Pine Street, that I decided it was wise to destroy as much evidence as I could. in 1956

(WMP: Do you know whether any of those people gave up entirely the idea, and moved over into ADA, which was anti-communist?)

I think they did, probably, but I don't know it for sure.

(WMP: John Lewis, of course, became the first chairman of the .... of ADA.)

Yes, and I think he was innocent of the problems that he was going to face. But he very soon found that he had to face them.

(WMP: Well, when Jack got back from the war, did he renew any of his interests in public affairs?)

Oh yes, and he was very thrilled about Joe Clark. What year was that?

(WMP: Joe ran for mayor....well, Joe ran for City Controller about 194....he was elected mayor in 1951, and he was involved before that...about three years before that....)
He began to get into that...

(WMP: ....about two years before that, he got elected controller....controller to mayor.)

'52.

(WMP: No, he was elected in '51.)

So he was controller in '49.

(WMP: But he was elected mayor in '51, and he was elected controller in.....two years earlier.)

Well, when Joe came in, we knew him pretty well and played tennis with him, and so on, he asked Jack to serve on the Board of Health, not as chairman....the chairman, I think, was Dr. Dixon. Do you remember him?

(WMP: Yes, indeed. He came from Denver.)

Right.

(WMP: Dick Jack help bring him to Philadelphia?)

He may have. He may have known him. But he served on that Board for many, many years after Dixon left. And who followed Dixon? I forget.

(WMP: Norman Ingraham.)

Yes. Well, he served on the Board of Health after that, I suppose, for ten or twelve years. It was at a time when we were all excited about the Clark-Dilworth reforms.

(WMP: Ingraham was quite a man. He, I think, more than anybody else, developed the treatment for curing syphilis.)

Did he really?

(WMP: I interviewed him and that's what he told me.)

With penicillin.

(WMP: Yeah.)

...which was just coming in at that time.

(WMP: That's right. He was the first to use it.)

And it was not available to the public, until after the war. But it was used during the war.
(WMP: Well, anything else you want to say on the tape?)

Let's see if I can think of anything more that would interest you. I have never seen Leoff, Blitstein....

(WMP: They're all disappeared.)

They're all disappeared.

(WMP: ...gone back into the woodwork!)

Yes. And, you see, we moved away to West Philadelphia. Oh yes, we moved to West Philadelphia in 1940, and Friends of Democracy was still going at that time, because our neighbor was Margaret Mead's mother, Mrs. Mead, and I happened to be quite friendly and she asked me to come and baby-sit for Margaret Mead's daughter. Margaret Mead kept her maiden name and she would dump her daughter on her mother from time to time, who was a neighbor of ours when we lived at 4035 Pine Street.

I don't think she was a communist. I think she, like all of us, were innocent....

(WMP: Well, Margaret Mead I wouldn't have thought was ever a communist.)

Well, I think she knew probably a lot about it...a lot more than her mother did and a lot more than Jack and I did.

Jack got to realize that he was being used and he was quite willing to lend his name because he believed in many of the same things that they did.

(WMP: Years later, didn't Jack go to China...communist China?)

He was asked to, but he didn't go. His reason for not going was that he said he would go if they would release the prisoners.

(WMP: Oh.)

They refused to do that. They then approached him again and said...would it make a difference if you could take your wife? And I was dying to go. And he again said...not unless you will release the prisoners. They wanted him to do a six month teaching and operating job in Hanoi.

(WMP: What were the prisoners that they had?)

Our prisoners...U.S. prisoners.
Yes. Yes. And you know they were held prisoner for years. And we kept hearing horror stories about how they were being treated. And I think Jack thought that if he said...yes...this could be a way of releasing them. But the negotiations never came through about that. So he said...no, he didn't have enough motivation unless they met this demand of his.

(WMP: From the Vietnam war?)

Yes. Yes. And you know they were held prisoner for years. And we kept hearing horror stories about how they were being treated. And I think Jack thought that if he said...yes...this could be a way of releasing them. But the negotiations never came through about that. So he said...no, he didn't have enough motivation unless they met this demand of his.

(WMP: Do you want to say a little bit about how Jack got the Bok Award for his heart-lung machine?)

If you'd like me to.

(WMP: Yeah. I think we ought to put that in the record too.)

Well, in 1930, Jack was 27 years old. And he had finished his training, his internship at Pennsylvania Hospital and he got interested in the research part of surgery. And he took a year off and was advised by Dr. John Flick that he could not do better than to spend a year with Dr. Edward Churchill at the Massachusetts General Hospital in Boston.

At that time I happened to be Dr. Edward Churchill's technician, and that was how I met Jack. In October of 1930, there was a patient in the hospital who had had an operation for gall bladder two weeks earlier, was doing very well, when very suddenly, she developed all the signs and symptoms of a pulmonary embolism, which is a clot that lodges between the heart and the lungs. And virtually the patient, if the clot is big enough, will die of suffocation. Many surgeons had tried to operate and remove this clot, but there was almost no way to do it without the patient bleeding to death. It meant opening the pulmonary artery and all the blood that is going from the heart to the lungs will spill out.

Dr. Churchill happened to have a special interest in this because of the fact that it had never been done successfully in the United States. In Europe, in the medical literature, nine successful cases had been reported, out of 142 attempts. So you can see that the mortality was very high and it was a very dangerous procedure.

Well, Dr. Churchill had alerted the staff of the Massachusetts General Hospital to let him know if there should be any patient that showed the signs and symptoms, which were pretty clear; sweating, pallor, shortness of breath, anxiety, and these are all the things that this woman showed. And so Churchill was notified, immediately, when she began to show these symptoms. And this was about 2:30 on a Friday afternoon. And Dr. Churchill and Jack left our laboratory which was in a separate building from the operating room. And I didn't know anything about it and cleaned up the laboratory and went home for the weekend.
Churchill took this patient to the operating room at 3 o'clock in the afternoon. And Jack's job was to record her blood pressure, her pulse rate, and her respirations every 15 minutes and report them to the surgeon. The surgeon had his operating team in the room, scrubbed up, capped, gowned, the way, as you know, surgeons are, sitting like this. And no one left that operating room until at 8 o'clock the next morning, Jack had to tell Churchill that he could no longer record the pulse pressure. During this time, from 3 o'clock in the afternoon until 8 o'clock the next morning, Jack was at the head of the patient and saw the distended veins, because the blood could not get back into her heart, and the heart could not pump it past this block that was between the heart and the lungs.

(WMP: What do you call that, an embolism?)

An embolism. The operation itself is called a Trindellenberg because a German surgeon named Trindellenberg was the first one to try it. I read about every case that has been reported and these 9 successful ones out of the 142 attempts were minor clots, where some of the blood got past. So there was always the hope that she might be able to pump this clot down into her lung, which would block part of her lung, but as you know, the lung has plenty of space. And if the clot could have been pushed past the smaller passage of the pulmonary artery, she could have lived.

Now, during this time, the thought occurred and recurred to Jack, over and over again, looking at her distended veins, if there was only some way of taking this blue blood out of her veins, here, some way of putting oxygen into that blood, and returning it on the other side of the clot, we could save her life. And this is when he first thought of it, and this was 1930.

Well, the outcome of the operation was not a happy one, when her blood pressure had dropped to a very dangerously low level, Dr. Churchill operated, and in six and a half minutes, he was able to open the artery and remove a long clot that had subdivided so that it went into both lungs. And he took it all out and sewed her up again in six and a half minutes. But the patient never regained consciousness and died.

Jack and I went back to Philadelphia after this year that he had spent in Europe. This was 1934-'35, and we had two children and we had a house in Cambridge and I was his technician again...at the Massachusetts General Hospital.

Oh, I'm sorry; I skipped. In 1930 was the time of the opera-
tion. We got married in 1931...we went to Philadelphia. But this idea of creating a machine that could put oxygen in the blood and pump it back into the patient persisted in Jack's mind. And after about three years, he returned again to Boston, asked Dr. Churchill for a laboratory, and his permission to work on this problem, if Churchill approved of it.

Well, Churchill didn't approve of it very enthusiastically. But he was good enough to give us a laboratory and to pay me a technician's salary, part-time, again.

(WMP: You were pretty young then, still.)

We'd been married about five years. And for a year, we did nothing else. Every single day we went into the laboratory. We used cats as our subject and read every piece of literature there was, about how to get oxygen in the blood and this was always a big problem, because there had never been a device as efficient as our own lungs. And as you probably know, if we were able to spread our lungs out over this room, they'd cover the surface of the room. This is the capacity of our lungs. And this is why surgeons are able to remove a total lung and the patient can survive on one lung. There's enormous reserve there.

Well, anyway, our first problem was to devise some method of getting oxygen into the blood. And after reading about everybody else's attempts and trials and errors, Jack got an engineer to build him a vertical cylinder about two feet high, about one foot in diameter, that would spin...that we could rotate at varying speeds. And our method was to insert a long stainless steel, very thin cannula into a cat's jugular vein, so that it reached the heart, as the blood from the cat came into the heart and was about to be sent to the lungs. Then he had a clamp, which was very finely graduated and we would operate on the cat in such a way that it freed up the artery and he'd put the clamp around it and hold it so that we could spin it and gradually occlude the pulmonary artery which was simulating a clock.

And as we did that, very gradually we took blood with a pump out of the cat's jugular vein, put it at the top of our spinning cylinder in a tangential direction, and the blood went like this around it...spreading itself in a thin film. And through the middle of this cylinder, we blew oxygen and carbon dioxide in small amounts. And this worked pretty well finally, for a cat. But our method and our oxygenator was not efficient enough for anything larger than a cat. And we tried lots of different ways. We would surround the entire apparatus with ice cold water and reduce the cat's temperature because when a person is frozen or semi-frozen, which is called hypo-thermia and is now used in all...in most modern
open-heart operations. The oxygen needs of a patient are very much reduced, and we hoped that we could get enough oxygen into a cat if we did that. Well, that didn't work very well. The cats didn't survive it.

But at the end of that year, we were able to show that it was possible to put the clamp entirely closed and occlude all blood going from the heart to the lungs of the cat, by taking it out of the vein, putting it through our oxygenator, and returning it on the other side of the heart to the cat's aorta. And we were able to keep a cat alive for as long as an hour and 50 minutes...I think...was our longest one.

At that time, we didn't attempt to have our cats survive indefinitely, because that was too complicated. We weren't set up for that. The most we could do at about that time were two operations a week; it took so long to prepare the cats and to prepare our apparatus...two or three. And I talked to Dr. Denton Cooley about a year ago, and he does eight open-heart operations every day!....which was staggering to me!

(WMP: Where does he operate?)

In Houston, Texas.

Following that year in Boston, we returned to Philadelphia and worked at the University of Pennsylvania under the direction of Dr. I. S. Ravdin, who was quite enthusiastic about our work and was quite encouraging. And we had the help of another technician besides myself. And we were still using cats, but we did use sterile technique. And eventually we got some cats to survive this operation.

This work was interrupted by war and then Jack left almost immediately after Pearl Harbor. He was away for nearly three years.

Meanwhile, I was working at the University of Pennsylvania on phosgene poisoning because the government asked the University Medical School if they would undertake the project of trying to devise a cure for phosgene. So I kept busy while Jack was away.

(WMP: What did you do as to the phosgene?)

We used dogs. We had a gassing chamber. I worked with a team of about five men; one was an M.D. and the others were Ph.D.s. One was a chemist. And we gassed our dogs with varying dosages of phosgene; one of our team was the man who managed that. We had a huge gassing chamber. We all wore gas masks during the time the dogs were being exposed. And then we tried everything that anybody could think of to
cure them. And this is of particular interest to me, right now, because I and about three other people believe Legionnaires' Disease is caused by phosgene poisoning.

(WMP: Really!)

This is another story that I won't tell you now, unless you want it.

(WMP: Well, let's have it, yeah.)

Do you want it?

(WMP: Why not.)

It's quite a long story.

(WMP: Let's hear it.)

All right. Eventually, by the end of the war, our work was de-classified. During the time we were working on it, we couldn't talk about it...we couldn't write about it. But by the time the war was over, I and my teammates wrote ten papers on our work.

(WMP: How many papers?)

Ten different papers...because we tried oxygen therapy, we tried different drugs, and we found nothing that would cure the dogs that had undergone a 90% fatality dosage. The man who did the exposures knew just how much phosgene to let in with the air in the chamber to make a 70% fatality, or a 60%, or a 40%, or a 20%...meaning that if it was 20%, 20 of 100 dogs would die and the others would survive.

The dogs lungs had a very particular look, which is very like pneumonia, but is different in some respects. And the symptoms that the dogs showed of coughing, gagging, vomiting, urinating...immediately after exposure, were so similar to the description of the legionnaires who died in July, two years ago, that I was convinced, just by reading the newspapers that this is what had happened to them.

About a month later, in the magazine called Philadelphia, two bright young reporters had found a chemist who happened to share my belief. And they then started detective work at the Bellevue Stratford. And they found that there is a substance that is used in all air conditioners called Freon. And that if Freon is escaping and it's heated to a certain point, and a cigaret, like mine right now, is capable of heating Freon and that that chemically turns into phosgene. And their theory was that there was a leaking air conditioner
over the heads of the legionnaires who were smoking, and most of them were, gathered in...I think it was the lobby... ...and those were the ones that were the sickest. And that showed these symptoms.

Well, I wrote a letter at the suggestion of friends, because I was talking about it so much, to Dr. Bactffiflfe, who was in charge of the investigations in Philadelphia. And I happened to be out in Manchester and I didn't have my reprints. But I did tell him in what year they were published in case he could look it up and that I felt pretty certain that this was what the cause.

I wrote to him in July. In November I got a form letter, beginning "Dear Concerned Citizen...Thank you for your letter. Please be assured that every suggestion that has come into this office has been investigated..."

A little bit later...oh, these two reporters wrote it up. And in their investigations, they did discover that there was a leak in the air conditioning. They did discover that the Bellevue Stratford had ordered something like nine times their usual amount of Freon from DuPont Company, who happens to be a supplier to many places...of Freon. And this made them pretty sure that there was a leak. And it was also leaking outside; there were some persons that suffered this disease on Broad Street. And none of the employees had it.

(WMP: Why is that?)

'Cause they were moving around and they were not sitting under an air conditioner. Nor were they smoking. Isn't that interesting?

I attended a little bit later an all-day session held at the Bellevue Stratford Center in Atlanta, where the specimens had been sent that were taken from the...well, sputum from the live legionnaires and specimens of their lungs from those who had died. And the doctor in charge erroneously told the group that these were not the symptoms of phosgene poisoning. And I think the reason for this is that nobody except me and my group and a similar group during the war in New Haven and a similar group in Chicago...we three groups were those who were working on phosgene poisoning and we knew the symptoms. But nobody else had seen them. The doctors that treated the veterans of World War I...no longer alive. And nobody's interested in phosgene now that the war's over, and no one is familiar with it. And this doctor who was in charge told the group that they showed no symptoms of phosgene poisoning.... ...which is simply not true...because he didn't know them. I'm still convinced.
WMP: Why were they using phosgene in the Bellevue as part of the air conditioning...?

In the Bellevue? It's part of every air conditioning...everywhere.

WMP: Everywhere?

UmmHmm.

WMP: In homes and everything?

Yeah.

WMP: Why hasn't it happened oftener?

Well, an efficient air control system without a leak is safe.

WMP: But I should think there's always the danger of a leak.

But there is a danger of a leak, always. I believe it's used in ice boxes too. And Joan Dickinson, who heard me talk about it that summer, was quite worried because her ice box, she thought was leaking. And I think she had it fixed immediately. So there is that danger.

WMP: It's very important to know that.

Yeah. But it's a common chemical.

WMP: How much of a dose do you have to get to be knocked out by it?

That I don't know. I don't really know. On radio last Thanksgiving, there was a half hour...what do you call those half-hour scientific, small things...and there was a man...it was whatever channel Kronkite was on...what is that, ABC? I never know. Anyway, it's one of the regular channels and there was a man interested in the Legionnaires' Disease and phosgene, and they asked me to come in two days ahead of it and tape what I knew about phosgene poisoning. But until I alerted all my family...I was up in Manchester for Thanksgiving...and we all sat around the room...maybe thirty of us...waiting to hear me come on the radio. And they never got to me. There's too much to say about it...all about the Legionnaire's Disease...how they were gathered...and who did it. This chemist was sure about it. There were only about three of us...five of us...who hold this view.

WMP: Even as of today?

UmmHmm...or who are even articulate about it. There may be
other people who think so, but don't bother to talk about it. There was one elderly private practitioner in New Jersey, who at the time, two years ago, was frantic, because he was sure it was phosgene. His brother had died of it in the war...World War I. And he knew that many of the people who had been exposed...many of the soldiers in World War I...who had been exposed to phosgene, later developed pneumonia and other diseases long before a normal person would. And he wanted something done quick about it. He went frantically to Atlanta to Dr. Bac...to anyone who would listen to him...and nobody paid any attention...because nobody knows what the symptoms are...except a guy like him who'd seen them, and this chemist who knows what Freon turns into.

(WMP: I would think our refrigerators and air conditioners are so common now...I should think it would happen all the time.)

Well, you have to have enough Freon escaping, and you have to have it come out with heat. Because it doesn't turn into phosgene unless it is exposed to the end of a cigarette or a cigar or a fire. I don't think an electric light bulb is hot enough to...you could put your hand on it, but you couldn't put your hand on this. It's an interesting story, isn't it?

(WMP: Certainly is.)

I'd like to tell you one more thing about the heart-lung machine, if I may.

(WMP: Yes, let's go back to that.)

Well, I told you about the patient who died in 1930, whom Dr. Churchill operated on but was unable to save her life, and that during this long operation between three in the afternoon and eight in the morning...was the time when Jack thought of a heart-lung machine...if there could be such a device made. Well, I had always wished, ever since 1930, that her family or her friends could know that because she lived and died when and where she did, that 90,000 lives a year in this country alone, are saved.

(WMP: Wow! That's something!) I thought it might give them some comfort.

(WMP: Did you ever try to communicate with them?)

Yes. And this is a curious story. I was in Boston two years ago, working at the Massachusetts General Hospital and trying
to find the records...or anything that I could find there that would help me write this chapter that I've just told you. And when I was in Boston, I was lucky enough to call Mrs. Edward D. Churchill, to ask if she had the operative records of her husband who had died recently. And she said....I've sent them all to the Harvard Countway Medical Library, except one case, which happens to be upstairs and didn't fit on the truck. And I'll go and look in that case.

And it was a rare enough operation, you see, being called a Trendellenberg...it was the only one that had ever been done at the Mass. General...that she found. And she called me back....she lives in Belmont, and she said...So I went straight out to Belmont where she lives, and I got a hold of the case, which I have upstairs in my records. She allowed me to take it home.

Through it, I found out the name of the patient...I didn't know the name...I just knew there was a patient...a woman...who died of this operation earlier. And in the record it gave the address where she had lived and the name of her husband. So this way I got her name. And I looked it up in the phone book and I found somebody with the same address and the same name, and I got my courage up and I telephoned. And this was an awfully odd phone call to make, 'cause how would I explain over the telephone what it was I was after, and what my connection was at all?

So, I began by saying what my name was and that I was interested in a patient whose name was such and such and who'd been operated on at the Massachusetts General Hospital on October 30, 1930, and did she....it was a woman who answered me...did she know....was she a relative? And she must have hit the ceiling! She said....I would never send a friend of mine to that hospital. It is a pernicious place! It would be a waste of your time and mine to come and see me! I don't want to see you. I don't want to talk about it. They killed my mother!

And I tried to explain that Dr. Churchill had tried to save her life, and she wouldn't listen to me. So I hung up and said....I'm sorry to bother you. And I came back here and I wrote a long letter to her, saying this is what I wanted to tell you if you had allowed me to come out and see you. She lived in Charlestown, I think. And I got no answer to the letter. I wrote this, I suppose, in November, and I thought...I've done everything I can...there's no more I can do.

I got an answer to that letter six months later, thanking me for my consideration, my kindness, saying come and see me any time, apologizing for having cut me off on the phone.
And, of course, I wrote back and thanked her very much for it. I think what happened, probably...this is a guess.... I think she showed it to her relatives who said...you're an idiot! Why didn't you let that lady come out and talk to you!

I think she showed the letter, you see, to somebody else who had an entirely different attitude about it. Well, I haven't been to see her yet, but I may. Isn't that an interesting human life story?

Walter, I forgot to tell you about the events in 1953, on May 6. By that time, Jack was working at the Jefferson Hospital. Two of his young interns had developed the screen oxygenator, as it's called, which is a series of screens. And if it's a baby that's being operated on, they may use three... If it's a man as large as you, or a woman as large as me, they'll use eight screens, sometimes fourteen. It just depends on how big the person is. The blood comes down on the screens...in a sense, it bubbles over them. And therefore it exposes more red cells to the oxygen that is pushed up...over the screens. And this proved to be the solution to the problem of oxygenating blood. And although Dr. Blaylock and other heart surgeons were very anxious to use Jack's machine, he would not allow them to use it until he thought it was so safe on dogs that the mortality was within a reasonable range, which in any operation is around 5%...most operations today.

(WMP: Was the air pushed through the screens? How does it work?)

It came in at the bottom, and it rose up, under pressure, and escaped at the top. And the blood came in at the top, and was taken out with a pump at the bottom. But there was a lot of complicated machinery, so that one pump wouldn't work faster than another...in which case, if the pump...the arterial pump, putting the blood back in the patient, worked too fast, air bubbles would be pushed in with the blood, and that would be fatal.

(WMP: The heart would stop when it was hit with the air.)

Yes. Bubbles in the blood would be absolutely fatal. And if the veins...what we call the venous pump...worked too fast, the blood vessels that the cannula was in, would be sucked into the end of the tubing, and would stop all flow. Many, many problems of this kind. Other problems were filling the oxygenator with similar blood, matching the blood of the patient and having it in the bank. These are only a few of the many, many problems of it.

But, finally, in 1953, Jack felt that the mortality was get-
ting with his experimental dogs was low enough so that he was willing to try it on a human being. And there was a young girl of nineteen, lovely young lady, who was a college student, but had a ...what is called a...atrial defect, which means a hole in the atrium which divides the heart into the right and the left sides. And this meant for her, that half of her blood was re-circulating...was in the heart and not getting to the lungs. Easily correctable with surgery, if there was some way of oxygenating the blood while the operation was going on. And so this is what....she was the first patient in the world to survive this operation, which was successful. She was on the machine for twenty-six minutes, with no blood going through her own heart and lungs. The entire circulation was kept up artificially outside of her body. And a hole about as big as a quarter of a dollar Jack found between the two sides of her heart, which he sewed up, put her back on her own circulation, and she left the hospital in ten days.

(WMP: Hmmmm. Isn't that wonderful.)

And she's very much alive and able to work and lead a normal life, right now.

(WMP: How many such operations have been performed since then, would you guess, roughly?)

90,000 a year in this country alone is the record that I've found. And they're used in every country. There's a machine in Red China. There are many machines in every hospital in Europe...many machines all over the United States. Houston happens to be the home...residence of Dr. DeBakey, who does many of these operations, and Dr. Denton Cooley; they work in different hospitals. And Dr. Cooley is doing about eight open-heart operations every day. They're repairing valves but more recently than that, they've been able to help patients who have coronary heart attacks....like Jack...by doing what they call a by-pass. They will take, using a machine to support circulation while they do this...they will take a small artery from some other part of the body that isn't too important and attach it to the heart so that they increase the blood circulation in the heart, that is giving the person the heart attack. The coronary artery will get blocked with age and with diet and with other things.

(WMP: So they fix it with their own tissue.)

Yes. They fix valves with teflon tissue, which has been developed....leaky valves in the heart, which is another, wholey different heart condition.

(WMP: Sometimes they use tissue from the person's...some other part of thier body?)
With the so-called by-pass operation, they use tissue from the patient's body. I watched an operation, not long ago, in March, before I was going to talk to this group that is named Amsect. And what amazed me... I watched Dr. John ... do a by-pass operation... open-heart at Jefferson Hospital... he was kind enough to let me stand over his shoulder and walk around the room and watch everything that was going on.

(WMP: That was recent?)

Last March. And what fascinated me and astonished me the most was that nothing went wrong with the machine!!!

(WMP: After what you'd been through!!!)

After what we had been through and the trials and tribulations!!! It just went smooth as a clock.

(WMP: Perkin's wife has just had that operation.)

He talked about it at your party.

(WMP: Well she was sitting next to me and she told me about it.)

Did she tell you about it? Someone told me that she had, so I rushed over to her and we had quite a conversation about it.

(WMP: Maybe I told you about it.)

And she was interested ... perhaps it was you who told me. Somebody told me. So I had quite a long talk with her about it.

There's one more little detail that I'd like to sort of end up with. When Hilary and Tensing climbed Mount Everest... ...and that must have been in about 1951 or '52, the doctor on their expedition was an Englishman named Dr. Evans and he was interested in our heart-lung machine and he came out and spent a day in the laboratory. And Jack brought him home for a drink or for dinner... we were living in West Philadelphia then... and the three of us were just sitting around talking. And I got up my nerve and I said... Dr. Evans, in all of this extraordinary achievement that you did..... oh, he and a companion had been the ones that had almost reached the top the day before Hilary and Tensing had... Dr. Evans had. And they left oxygen as near the top as they could. That was their function... to leave oxygen and food supplies up as near the top as they could get, and then come down again. And Hilary and Tensing were the ones that made the ascent the following day.
Well, it was Dr. Evans who was sitting in our living room. And I said to him...Dr. Evans, what were the greatest difficulties in this extraordinary achievement that you did?

He answered in one word. He said....Oxygen.

And that made me realize that this had been our problem all these years, starting in 1934, and this conversation took place about 1952. And the word "oxygen" sums up everything that we've attempted over the years.

It took nineteen years of development from the time we started work until Jack's first successful operation.

(WMP: Nineteen years. That's incredible.)

Think of his persistence.

(WMP: That's marvelous, isn't it?)

In about ....

(MBP: You're going to talk about the part that...)

That....I was going to tell Walter about the part that IBM played....the very important part that they played in the success of the heart-lung machine. And it happened in a very serendipitous manner. There was a medical student at Jefferson who happened to be married to a young lady whose father was a friend of Mr. Thomas J. Watson, who at that time was the president of IBM. This young student knew that we needed engineering help. Jack knew what he wanted, but he didn't know how to get the engineering help that was necessary. This young student introduced him to Mr. Thomas Watson in New York one day and Mr. Watson was interested. And at that time, it was the first project that IBM had undertaken to help that was non-profit...that was purely humanitarian. And Mr. Watson was very proud of it and was very interested in it.

For six years, while Jack was working on this after the war at Jefferson Medical College, we had IBM engineers down in the laboratory making bigger and better oxygenators...until the time when two of Jack's residents...one named John Flick and the other...I'm sorry, I've forgotten his name for the moment....

(WMP: Well you can fill it in when you get the transcript.)

....realized that if they could produce turbulence in the blood, that it would be spread in a thinner film and would be able to pick up more oxygen. So they studied screens...
...they lined our cylinder, which was not very big, that IBM had made for us, with screens of varying sizes and shapes and meshes, until they found what was the most efficient one. And then they realized that they didn't need to have a cylinder anymore...that the screens in parallel, like an automobile battery, and encased in a plastic...quite a large case, I would say, about three feet high, and wide enough to accommodate fourteen screens hanging parallel, and the blood trickled through the screens. But these engineers from IBM were helping us for six years, and we couldn't have gotten done, certainly, as fast as we did without them. So we're very grateful to Mr. Thomas J. Watson's help.

(WMP: He must have been a pretty fine man, I would think.)

Oh, he was. And he was awfully good to us. We were in Sweden that year, and he sent his representative, who was a count...

(WMP: Is he still alive?)

No, his son now is carrying it on. And his son isn't interested in that kind of thing. But Mr. Watson asked Jack to come and talk about the machine in about 1950....this is before he'd ......

(.....interruption by changing of tape.....)

Well, one year, Walter, Jack was invited by Mr. Watson to talk about the heart-lung machine at the meeting that he held every year for his salesmen. And they called it "a hundred percenters' meeting". And these salesmen and their families are all invited by IBM to spend a weekend in the country, up in upper New York State. And they hold their meetings under a perfectly enormous, great tent, which the men all attend and the women go off and do something else.

And I was there, listening...and a few other women, but there were mostly the salesmen themselves, and down in the corner, they always keep an ambulance and attendants with a Red Cross band on their sleeves, in case somebody faints. And it was a terribly hot day when Jack was talking, and he had some slides showing operations that we'd done on dogs and cats, and explaining how the machine worked. And the operations, like any human operation, there was a good deal of blood around, which shows in the slide picture. And sure enough, an enormous great man, two rows in front of us, fell over in a dead faint.....at the sight of the blood on the screen that Jack was showing.

So these little men with the stretcher ran out...that's what they were there for...took him away...there was sort of a commotion inside for a while, and then he revived right away
and Jack was able to go on with his talk. And I thought that was sort of interesting as to the way the IBM managed things.

I don't know if I told you what the rules are...that they can't smoke and they can't drink, and they must wear a stiff white collar at every meal.

(WMP: I wonder if the young Mr. Watson carries on most of these...)

I imagine he does...because it's a way for them to exchange ideas, just as a medical meeting is, for people to give papers and say what they've been doing that's new...and to develop new techniques of selling their products...or perhaps, inventing new ones...which I imagine they're still doing, especially in the computer age, don't you?

(WMP: I guess so. It's been a great stock. I hope you have some stock in IBM. Over the years it's gone on and on and on up.)

I wish I did; I don't think I do. It's a good stock.

(WMP: Oh, it's been wonderful. I think now, it's more or less run its course, because so many other companies have gotten into the business too.)

Into the computer business?

(WMP: Computer business, yeah.)

Well, I think that's all I have to say.