

Outside the wind whipped off Lake Michigan around the Birchtree Farms in freezing temperatures on a Friday morning, December 8, 1978. Inside, warm and comfortable, sipping hot coffee was a different world. Admiring needlepoint projects and collected artifacts, we spoke of still another world, from a different time and place: The United States Air Force during and after World War II. Military strategies, world politics, research and development of the first nuclear weapons seemed faraway to Interviewer Cis Jankowski, but to Colonel Ola Paul Thorne, they were close in his mind as just another common lifestyle.

CJ: Okay, you might want to start with, well, I guess one question that I have in my mind is, you said you taught for a couple years before you got into the Air Force. Were you drafted or did you just choose to go into the Air Force?

OPT: No, that was in the first year of the draft, 1941, and rather than be drafted, I volunteered as a private in the infantry. Went down to Fort Benjamin Harris and joined the service down there. When I went down there, the major that was interviewing me said "Well, why are you enlisting as an infantry rifleman with a Master's Degree in your background?" He said "We should send you to Officer's Candidate School. I said "Well, I hadn't considered that." Then he said "Well, we'll try to get you into the Flying Cadet Program."

CJ: And what was that?

OPT: That's the army air corps. And they trained their flying cadets to be pilots and navigators. And so I spent eleven days, I guess it was, as an infantryman. Then my mother died and I went back to Michigan City for her funeral. Then from here I went to East St. Louis to Parks Air College to join the air corps and learn to be a flyer. So I was a Flying Cadet then, until December the sixth, 1941, the day before Pearl Harbor. I graduated from Lowry Air Force Base and the Flying Cadet Program there, and commissioned as a second lieutenant. The day before Pearl Harbor. So that's how I got started in the Air Force. It wasn't that I had an intent or design, it was just that all the boys back in those days, it was a lot different than this Vietnam or Korean mess. In those days they beat the drums and waved the flags, and the guys signed up. And if you didn't sign up, you'd be drafted anyway. So it wasn't any great desire to become a military man that started me off. Just something that everybody was doing. So I volunteered then. I was teaching at Michigan City at the time, and I off. Just something that everybody was doing. So I volunteered then. I was teaching at Michigan City at the time, and I left here then that January for Fort Benjamin Harris.

CJ: So where were you at the time of the attack on Pearl Harbor?

OPT: I was a brand new second lieutenant in Denver, Colorado. We were all downtown in Denver, celebrating our graduation, and the announcement came over on the radio "All military personnel return to base. We've been attacked by the Japanese at Pearl Harbor." So we all had to take our brand new second lieutenant bars and uniforms and go back to the base. And that's where this all started. I was in Denver, 'cause I had just finished training on December the sixth, a Saturday. We had our graduation exercises on Saturday, December sixth, the day before war broke out on the seventh. So all the guys in my class, we've got kind of a joke with us that we

were the United States secret weapon. "Now that our class has graduated, they're ready to go to war"

CJ: So then, what happened to you from there? Where did you go?

OPT: Well, from there, they lined us up and they divided us at Denver that Sunday. They divided us odd and even numbers and we were told we were shipping out Tuesday. And we would prepare our gear depending which direction, north or south. I was in the group that was sent to Alaska. They had word that the Japs were going to attack the Aleutian Chain. I was supposed to get married, and we had announced it in the papers and all. My wife was a Michigan City girl and I was coming here during the Christmas holidays to be married, and I couldn't tell her, couldn't tell anyone where I was. So I went up to Alaska and we stayed up there a couple weeks. And the wife still wrote to me at Denver, and I'd answer as though I was in Denver. And I had to call off the wedding, but I couldn't tell her why. Then I got back to Lowry. But that was a foul up. They sent us off. See, when you're in the Flying Cadets, you're discharged, entirely now, to take a reserve commission. It's not a continuing service. Your active duty ceases when you graduate and you now become a second lieutenant in the air corps, in those days, the Army Air Corps Reserve. You're not in active duty. But they ordered all of us out of there into B-18's, the old B-18 bombers, and flew them to Alaska to Fairbanks. And actually we were civilians. Till we got up there, we hadn't been sworn in as active duty. 'Course everything got so confused; the bombing of Pearl Harbor and the Whole United States was up in the air. Someone in Denver or Washington, D.C. failed to process our orders. So here we're all up there in Alaska as civilians. And it came pay day at the end of December, and the finance officer up there in Alaska said "I can't pay this group of guys." There were fourteen of us. "They're not on active duty. They're civilians. They were discharged on the sixth of December." And we hadn't been picked up yet. So they sent us back to Denver. It's the only thing they could do with us. Because of the military regulations or something, they could only post-date your orders back for fifteen days, I guess it was. So they called us to active duty on the fifteenth of December. They dated us back that far. So we got paid for those two weeks, but the first week I served as an officer I didn't get paid. From December 7th to the 15th, we were on our way and in Alaska as civilians. So they called us back to Denver, at Lowry Air Force Base on December 30th, I guess it was, or the 31st we got back there. Then, from there I went to Kelly Field, San Antonio, as an instructor at Kelly. Then my wife came down later in January, and we were married the last day of January. We got married in San Antonio. I couldn't get back to Michigan City. The war was on, and there was no way you could come home. At Kelly, that was 1941 to 1943, I was a ground school instructor, at Kelly Field Advanced Flying School, San Antonio, Texas. During that period, we were having difficulty with the automatic pilot which was called the stabilized bombing platform. With these big bombers, you have this electronic system that flies the airplane. When you're on a bombing run, to keep the airplane stable, and the gyroscopes, to keep balance and stability and all. The bombardier operates the bomb site; he controls the pilot and the airplane so he can get accurately in position, because of wind drifts and so forth, to hit the target. And I was kind of an expert on, I'd been teaching this automatic pilot bombing to pilots, and I'd been working with this so they formed some teams, and I was one of the teams selected to go out and demonstrate this to crews getting ready to go overseas. Then, to try it, they sent me to China to China-Burma-India Theatre with a couple of officers to test this in combat. So then I was assigned to the Tenth Air Force in India and flew combat with them and also with Fourteenth Air Force in China and flew with

them, teaching them how to use the automatic pilot and how to bomb out low altitude bridges and this kinda stuff, until I was wounded. Then I was sent back home.

CJ: What happened when you were wounded?

OFT: I had a shoulder injury in combat, flying against the Japs, when I was over Rangoon. Then from there I came home. I guess that was in May, maybe June, I got back home. And then they sent me over again. I recuperated and they sent me back again about six months later to do some, to take low altitudes. I was in the, at that time I was in the, moved up to the Pentagon, and working on armament research and development. Armament includes bombs, guns, etc. for air warfare. Then they sent me over again, so we worked on some low altitude fuses. At the Aberdeen Proving Ground, so we could fly at very low altitudes over bridges, since there was a big battle over the Burma road, knocking out bridges. They're hard to hit from very high altitudes with these big bombers, but you get down low to the ground, the difficulty is that if your bomb explodes while you're down there, you've had it as well as the bridge. So we had delayed fuses, we developed some delayed fuses so when the bomb hit, instead of going off at contact with the ground, there was a timing unit so it blew up after you had when the bomb hit, instead of going off at contact with the ground, there was a timing unit so it blew up after you had enough time to escape. You'd have to keep flying to go beyond it. So I was sent back the next spring, after I recuperated, to demonstrate this new fusing mechanism against low altitude bombing. Then I got hurt again, and I came back then again, to the United States. Then I spent some time when I was down in the jungle for a while, and some time when I was down in the Indian Ocean, but I don't like to talk about those so much. It's not important.

CJ: I didn't realize you were in direct combat. I was thinking, as an officer that you would be...

OPT: No, no, I was an air force officer. Practically all the air force officers, you start your career flying. Oh, there are certain guys who don't, engineers and people like that. I spent most of my career, up until the last of the war, going in on combats. Then after I came home after that trip, I recuperated and I was sent back later to Italy to fly with the Fifteenth Air Force to demonstrate new bomb sites and gun sites to the... I was doing combat testing. I would get the equipment here at our laboratories at Wright Field, then I'd go down to Eglin Air Force Base in Florida, that was the test equipment here at our laboratories at Wright Field, then I'd go down to Eglin Air Force Base in Florida, that was the test grounds, proving grounds. I'd go down there and learn how to use the equipment and test it down there. Then I'd be sent over with a couple of maintenance men from the factory or from our own service, and I would fly it in combat, and demonstrate it to the combat crews. Then I'd set up a little training school we had in Italy, and England. I did China and India, to teach other crews how to use this particular equipment. Then I'd go out and demonstrate it would work in combat. And at that time I also worked for Walt Disney. As you can see some Walt Disney pictures on my wall. Walt Disney did some training films for us on this equipment which I had to take with me to help train. I became a technical advisor on this picture called "Victory us on this equipment which I had to take with me to help train. I became a technical advisor on this picture called "Victory Through Air Power." So Walt gave me a lot of these originals when I was stationed out there working with him. So I would take this equipment then, the training gadgets, and I'd go over and I'd teach. I'd test it in combat, then I would

introduce it. So then, from Italy I went into England, London, and I was in the first wave of bombers on D-Day across the target on it. So then, from Italy I went into England, London, and I was in the first wave of bombers on D-Day across the target on Normandy. Then I developed a combat neurosis. I had terrific headaches. They sent me down to the islands for three weeks to recuperate and so forth but it was just these headaches for five, six years after the war. They finally cured me of it. It was a low supply of histamine or something that affected my brain and adrenal glands. So that was my combat experience. I put in an awful lot of missions. Normally, combat ran for twenty-five missions. But in my case, I was flying very fast, and in India I set a record: twenty-nine missions in thirty-one days. Then I got shot and came home. Then I went back and flew another, I think twenty-two or something. Then I went over to Italy. So I had an awful lot of combat. I felt an advantage. A lot of the boys I knew overseas, they were very blue and very discouraged and wanted to get home so badly. It was a matter of the time you were spending away from your families and in combat. In my case, I had to go over on temporary duty for like of the time you were spending away from your families and in combat. In my case, I had to go over on temporary duty for like ninety days, and I'd go over and fly fast and get back. Course I was exposing myself more to the enemy that way but I think that, to me, the hardship of combat was sitting around waiting to get killed. Waiting for combat. The guys had all kinds of silly numbers. They established a twenty-five mission level, was what you flew, then you came home. In the early days of the war, the figures were astonishing. They were something like 20% of the air crews who finished twenty-five missions. Then the number went up like 30%. And it got to a place where a guy got to his twentieth mission, and he kept counting "I only got five more to go. I'm gonna make it! I'm gonna make it!" Even to the point where when your buddies got shot down, "see that's the percentage. He's one of the eighty that's gonna get it, and I'm one of the twenty that hasn't got it." That was all foolish. You can't do that when you talk probabilities. You're speaking of large populations, like if you had ten thousand air crews, maybe twenty-five percent survive. You can't talk about ten air crews and say twenty-five percent survive. Population figures don't work that way. But that was one of the biggest things, I think, that bothered air crews, was the thought that they got twenty-five missions to do then they can go home. And they start sweating them out. They get was the thought that they got twenty-five missions to do then they can go home. And they start sweating them out. They get about fifteen, or say sixteen, seventeen, in there, and every mission became pressure, "Can I make it? Can I make it to the next, to the twenty-five?" Well, I didn't have that experience. I didn't have any set number of missions to fly. I had so much test work to do, so much demonstration to do and I'd go over and do it. So I don't think I had that pressure. So after you get back and flown like I did, more than the normal amount of missions, you didn't have that sweating it out.

CJ: I'm sure that could affect you.

OPT: Psychologically, a lot of guys, I think most people have forgotten that now but most of the fellas who flew in World War II in Europe would talk about their chances of getting through twenty-five missions. And that was a magic number. That's what just happened to be that somebody in the air corps, at that time the Army Air Corps Headquarters selected that as a crew knock-off point. Then you'd get to come home. And that got to be a, oh, boogie-man in your mind. "Will I or will I not make it?" So I came back and worked in the Pentagon then after the Normandy days, after I'd get these headaches, I came back and worked in the Pentagon. During that job in the Pentagon, we had these submarine pans, in Germany right off the Norwegian

coast. There was just no way we could get 'em by normal bombing, etc. So we designed big block-buster bombs and tried to knock 'em out, and then we went into what we called "Mother Drone" air craft which was the beginning of the guided missiles business. We took all the war-weary B-17 bombers and we loaded 'em from just the tail to the nose tip with TNT on a fuse, with an automatic pilot on them. That's how I got into it, because of my experience with automatic pilots. That was the drone airplane. Then we had the mother airplane which would steer it. We started out down in Field where we'd take these drone off and the crew would be in it. We'd take it off. Then we got airborne, the mother airplane would take over, then the crew would bail out and the mother airplane would steer the drone into the target, and land it, or crash it into the target to destroy the target. So that was the idea of one way of getting the Helgoland submarines would be to fly these B-17's full of TNT into these targets. So that got me started with the guided missiles program. From there, I went from the Air Force Guided Missiles Program. That was back in '46 I guess it was, yeah. I went to the Joint Research and Development Board Guided Missiles Committee, which is a big national committee. I was the Air Force representative on that, and I was moved up then to the War Department General Staff, where Eisenhower was my boss there as Chief of Staff. There's a good joke about Eisenhower, I don't know if it's interesting to you or not. I was Chief of the Guided Missiles Branch, you can see that here. From 1946 to '48 I was Chief of the Guided Missiles Branch, the Research and Development Division of the War Department General Staff. The War Department General Staff, at that time, was the head of the army and the air corps, the air corps was a part of the army. And you always had to call it the General Staff. I was Chief of the Guided Missiles Branch, in the development there. And our job there was to determine the military requirements for the research and development. We'd initiate new projects like the Nike missile, the anti-aircraft missiles, and the surface-to-air missile. That's where it all started, back then, in 1944. I was in charge of that office from 1946 to '48. And I was the War Department's representative on many committees involving research on guided missiles. But the interesting thing about it, on New Year's Day, we had to work New Year's of '48, maybe '47. We had to work New Year's Day. Not a total office force, but about two-thirds strength. And I had a young West Point officer working for me, very eager little guy, captain. That morning, New Year's Day, Eisenhower came down to visit his troops, you know, 'cause he felt sorry for us, working New Year's Day, I guess. And he came in and course we all came to attention when he walked in. He turned to this young captain, and he says "How do you feel today?" The captain says "Very well, sir, thank you sir, very well sir." He says "Did you have a good time last night celebrating New Year's Eve?" He said "Yes sir, I had a very good time sir, yes sir." And Eisenhower said "Now listen, captain, you're telling me a lie. If you had a good time last night celebrating New Year's Eve, you don't feel good today on New Year's Day." But that's the kind of guy he was. He had a warmth about him, see, that just broke all this stiffness that we all felt being he was the big boss, the Chief of Staff. Then from there, I went out to the, uh, that was in '48. Course the war ended now. It was during that earlier period that I first got introduced to nuclear weapons. That was back when I was still in the Pentagon. That was back in, oh, '43, '44, when they were developing nuclear weapons. And I got mixed up with the armament laboratory at Wright-Patterson in developing the bomb bay and the bomb shackles carrying this big bomb. It was called the "fat man". There were two types of nuclear weapons we used. The Hiroshima and the Nagasaki weapons, and most of the weapons were the "fat boy" or the "fat man" using the implosion method, the air force principle. And the other one was the army's development which was the cannon type method where we rammed nuclear material together. Our job was to come up with the bomb bay,

to the B-29, to modify it so we could carry this huge, mammoth bomber. In my experience with the Helgoland stuff, and the Mother Drone airplanes made me think we were doing a big blockbuster to drop. It was a large bomb, and we couldn't put it in the bomb bay. And we were redesigning the doors and the shackles and all the armament, obviously to put a great big bomb in. I was given such things as center of gravity, length, diameter, volume, certain measurements, as the load I had to carry, and how I had to suspend it, and how it had to be reached, and this kind of stuff. So all you had to do was draw a great big imaginary figure to get the dimensions of your bomb bay width. We had no idea what was inside of it. It could've been concrete for all we knew.

CJ: You said they were very secretive about it.

OPT: Yah, we never knew. I didn't know anything about that, that they were developing a nuclear weapon. I had heard about the heavy water research that the Germans were considering over in Norway, and some of the Norwegians were thinking about doing, which were of a nuclear type development. But I didn't think we were in on it. My job in the Pentagon was to coordinate this development, this bomb bay, to meet the schedule of the other things. It turned out to be a nuclear development.

CJ: What was going on with you when you found out it was the nuclear bomb?

OPT: I was in the Pentagon during that. We finally dropped it, then they told us the bomb shackles and the bomb bay we had been working on were for that purpose. And I knew the guy that dropped it very well, by the name of Paul Tibbets, who was the pilot over Nagasaki-Hiroshima. I later on served with him in France. But my first experience with the weapon I had no idea what I was doing. After working in the War Department General Staff as the Guided Missiles Chief, I was sent out to Albuquerque, New Mexico. After working in the War Department General Staff as the Guided Missiles Chief, I was sent out to Albuquerque, New Mexico, which is the, sort of the Atomic Energy Center for the country at that time. Los Alamos Laboratories in Santa Fe. That was a boys' school up in the mountains. And we went up and used that boys' school to develop our first nuclear weapons; it was secret and hidden. When you went out there, you had to go up in civilian clothes, and they'd meet you instead of a staff car with the markings of the air force or army. You went up in civilian cars and stuff. And that's when I first met Edward Teller and some of these top scientists. I was sent out then in '48 to be the Operational Analyst. That's the guy who analyzes statistically and mathematically the probabilities of doing things operationally. How you can apply weapons to certain targets and this kind of thing. So I was sent off to the Special Weapons Command of the Air Force and they were the people responsible for developing atomic weapons for the air force use. And our neighbor out there was the Defense Atomic Support Agency. So I worked with them. That was when the army and the navy and the air force all three got together to work on nuclear developments. In the special weapons center was at Kirtland Air Force Base where I was Chief of Planning and operational Analysis. That's when I worked rather close with the Atomic Energy Commission at the Los Alamos Laboratory. That's when I got started with them, in developing future weapons. Well, I worked out there till '52. At that time, the president... At that time, we could never carry a nuclear weapon during that period over the United States. It could never be put in an airplane and so all of our testing had to be done at Eniwetok. That was the interesting thing. I was going to be

sent out on the first nuclear test we had up in the Pentagon. That was back before I went out to Kirtland. In '46, I was going to be sent off to do nuclear testing and how frightened people were, their lack of knowledge or understanding. My going to be sent off to do nuclear testing and how frightened people were, their lack of knowledge or understanding. My insurance company wouldn't insure me if I went out there. I couldn't buy insurance. And here I had a young son who was two years old. And I had a pair of twins who were just born. And I didn't think it was that dangerous. After you've been working with that stuff, you understand it. That was back in 1946 when I was involved in nuclear work then, from the testing standpoint. I was still in the Pentagon at that time. It was pretty interesting. That came back in my mind.

CJ: And you weren't aware of how dangerous it was? So you just went ahead anyway without any insurance?

OPT: Sure I knew how dangerous it was. You know how dangerous it is. Just like gasoline is dangerous. You're not gonna walk up to a gasoline pump and light a cigarette. Well, it's the same thing. You take the necessary precautions. We never had any real... We've had some, a few accidents... We had a weapon went off out there with a higher value of mega tonnage than we'd thought. And it contaminated a lot of the natives out there. We had to move them off the island, then we moved them back, then we had to move them out again. So we had made some mistakes. That's accidents. Those things happen in anything you do. I think in the actual development of nuclear energy we have had fewer fatalities in reactor development than we've ever had with steam, the development of steam. We have an awful lot of people electrocuted in electrical plants. So I'd say, there's always a fear of the unknown, so insurance companies were being very cautious. But that was the risk you had to take back in those days. We, who were working in the field, and had knowledge of it, we didn't have those fears. But someone outside of the field, something brand new like this, and you have to have experience actuarial tables and this kind of stuff if you're an insurance man. That's was just an interesting sidelight, that they wouldn't insure us cause we were going out for the nuclear test deal.

CJ: When did they finally give you insurance then?

OPT: After we had had the tests and things worked successfully, then. It's just a matter of the insurance companies getting used to it. I went to a couple companies I was doing business with, and they turned me down. One that was the nastiest about it, I've never insured with them again. My wife's uncle here in town who was selling it, he tried real hard to get me some and couldn't. I got so angry with them I never bought any more insurance from them. Another I was doing business with, they did insure me for a little bit, but, so I stayed with them. It's just interesting the fear people have of the unknown. You can imagine the fears these boys had the first launching in space, and the guys who walked on the moon. But to them, they were so well qualified and well-trained, thoroughly researched that they knew. Man doesn't go out and take these risks, without calculating them and these fellas had no fears, I'm sure. They had misgivings. Every time I climbed in an airplane during combat I had misgivings. I don't think there are very many brave guys. Guys do things, but it's not because they were maybe brave, they do it with the knowledge that there's some possibility that they're not coming back. Then in '48, to '52 I was there at Albuquerque doing nuclear testing and we did lot of studies on weapons effectiveness and we'd go out and test it down at, and I was getting ready to go back to I.U. to work on my doctor's, and

the Air Force had sent me back. The president said we could start testing nuclear weapons in America. We didn't have to go way out to the islands. So we were building and designing weapons at this test area out at Yucca Flats out in Nevada near Las Vegas and I was already accepted for school. My commanding officer out there said the general wanted me to stay, to be the Air Force's test officer on the first tests in America. He told me if I would stay, he'd get me promoted and that he'd like for me to cancel my school. Once you're accepted for university training in the Air Force, it's up to the individual to cancel himself out. Your commanding officer can't order you to not go to school. So I gave up my Doctor's degree to stay to become the Air Force test officer. And my job then was to go out to Las Vegas and to help design the test ranges out there, the instrumentation. Well, we built the barracks, we built the test site, and the laboratories. Hired the Indians to dig the trenches that hide the built the barracks, we built the test site, and the laboratories. Hired the Indians to dig the trenches that hide the cables. It was, just a construction job. Constructing a test site. That was back in '47, '48. Well, I stayed there then instead of going back to I.U. I stayed out there and did that work. Helped plan the first nuclear testing in the United States. And I took part in those tests out there. Then, in '48 I was sent to England. I was loaned to the Ministry of Supply. I was the Executive Director of Armament Research and Development for the British Ministry Supply. I was under a Supply. I was the Executive Director of Armament Research and Development for the British Ministry Supply. I was under a guy named Henry Ford, who was the Air Commodore, who was my boss. He was the Director of Armament and I was sent over as the Executive Director. I was responsible for planning and directing armament research and development of the British.

CJ: You said you were "loaned"?

OPT: I was loaned by our government to the British government. We called it an exchange. I went over there and one of their officers came over here. I went over there and worked for the British. I was assigned to the Air Attaché at the Embassy for administration pay and so forth. But I was actually working as a British officer when I was in charge of British engineers, and Royal Air Force people, in the development over there of gun sites and bomb sites and some of their developments with the, uh, original intent which was never advertised or discussed, because we couldn't at that time, I was developments with the, uh, original intent which was never advertised or discussed, because we couldn't at that time, I was sent over there to help the British with their nuclear atomic bomb development. That was the real intent. I was sent from the weapon development in Albuquerque from our Air Force over to England. At that time, our government and the British were negotiating, our diplomats at a very high level on the exchange of nuclear and atomic information. So when I was sent over there in '52 that was the intent. Once they had the agreement signed I could work from the network of exchanging information between America and the British in this weapons development. Then I stayed over there almost two years while these negotiations were going on. And about three months before my tour was over, till my two years were up over there, we finally got the agreement. So I only got in on the tail end of that. The tail end of my career was the beginning of this exchange of information between the British and Americans. And so then they sent me down to France, from England, we went down to, (my family was with me all this time), from London, England we went down to Fontainebleau, France, which is the headquarters of the allied air forces of NATO. Of the air forces in central Europe, we were the headquarters in Fontainebleau. I was sent down there as Chief of the Air Atomic Operations. By that time, we were allowed to have atomic bombers and

bombs stored in England and in Europe. That was an operational headquarters like it still is. In event of war, our troops are in place. In those days, we'd rotate troops from America there, the aircraft people from our own bases to Europe. They'd serve three months, six months then go back and another group would come in. I was Chief of the Atomic Operations and I was sort of a special advisor to the commander of the allied forces, Sir Basil Embry, was my boss then. And I was the advisor on nuclear operations. I set up this school then with the NATO forces outside of the American forces who didn't know anything about the nuclear operations. So we established a weapons school in Fontainebleau, France, where we brought in the Dutch and the British and the French and NATO forces and we gave them a course in nuclear weapons. Not their development, but their actual effectiveness. Weapons effects: what they would do, how to employ them, how not to employ them. Things like this. So I established that school in France. Then I came back to America in '55 and then I was sent to what was called the Weapons Systems Evaluation Group. By that time, the Air Force became separate. We were no longer the Army Air Corp, we were the United States Air Force. That's where we had the Joint Chiefs of Staff was organized, instead of a War Department General Staff. So when I came back to America in '55, I was made a member of the Weapons Systems Evaluation Group. That's the same thing as analysis and analyzing what happens, what are nuclear effects, what does a nuclear weapon do, and etcetera. My big job at that time for a couple years with Dr. Magee, who was head of the science at Notre Dame, was on loan to the British Government. And he and I conducted a program of study for a couple of years on an exchange between the United States weapons and the Russian weapons, in the event of war, what would happen to the world in the way of fallout patterns. We studied the fallout patterns, and what damage would be done to America and did quite a long study on that. Then I also got involved in some air defense problems, radar tracking and this kind of stuff. It's a study of mathematical analysis and various testing work and this kind of stuff. And I did that until '58. Then I was sent off to the Air Force Systems Command, Air Research work and this kind of stuff. And I did that until '58. Then I was sent off to the Air Force Systems Command, Air Research and Development. And we were responsible for all Air Force research and stuff. I was out there as Chief of Planning of that. And at that time, I started working on long-range forecasting of what the Air Force will look like, what will weapons look like in 1980. And there's an interesting period there. During that time, I set up a study group, and Jock Whitney had this beautiful estate up in Martha's Vineyard, this big beautiful home, and he loaned it to us. So we gathered all these scientists together: Dr. Von Karmen, Hans Betha and Einstein visited us for a few days. And they brought in all these scientists, and we did a study called "New Horizons", a military study of what goes on in 1980. Now we were doing this back in 1958. And it's surprising, now twenty years later, how much of that is true. And we were trying to forecast for the Air Force and for the military how should we be going in research and development. What should we put on the drawing boards now. Force and for the military how should we be going in research and development. It's a long, long process from basic research to applied research to engineering to development and to finally the end, production, and utilization of the weapons. It's a long, long period. And really looking at anything, their early warning radar detection, electronic detection, nuclear detection, solar energy, various types of energies, we were looking into multiple warheads which are a very common things now, supersonic aircraft, space travel, new horizons of where we should be multiple warheads which are a very common things now, supersonic aircraft, space travel, new horizons of where we should be going in research. Defense research anyway, in America by 1980. And we spent two summers up there. All these scientists coming in, and we worked on these problems. Then we wrote this book, this top secret "New

Horizons." That's when I got to know, I worked with Dr. Einstein. No one knows him, well, I guess I just got to work with him for a little while. And Dr. Von Karmen, who has one of the greatest minds, German minds after World War I. Hans Bethe, Edward Teller, in the developers of the original nuclear weapons. And I got to know these guys real well. Like Hans and Edward Teller called me Olie, and I called him Edward. Got to be very good friends with him, very close. And I got to know Jimmy Dolittle real well in those days. I had an opportunity to work with some very splendid minds. Not that my mind was that good. I didn't do any of the original thinking in the studies. I helped layout the study, what areas should be looked at. My basic job was, these fellas did the original thinking, great minds, and my job was to kind of interpret that thinking and put it into military terminology and military requirements and characteristics so we could explain it to guys like Curt LeMay and Chief of Staff and the Air Force people. People like this who could make the decisions on the money we could spend and how we could go. So my job was basically interpreter, I guess, and not to do the original thinking. I was sent, for instance, in that same kind of role, I was sent to France to Paris for two weeks in that year '59. I guess it was, yeah, after they got the study written, to finalize the writing and I was sent over there to France because that's where Einstein wanted to be, and Von Karmen wanted to be and a couple of the other scientists. So I was sent over for two weeks, and we were going to do the final writing and be and a couple of the other scientists. So I was sent over for two weeks, and we were going to do the final writing and final editing of that "New Horizons" manual. So that was an opportunity to work with some very good minds. I guess that's one thing I appreciate about my military career is the opportunity to work with people like that. You'd just see Hans Bethe used to sit there with Edward Teller and their mind'd go "click, click, click" almost like a computer running. And at times you'd think they were asleep, Bethe particularly. He'd sit there, and Edward Teller would say something, and somebody else would say something, and finally he'd say "No." And that was something to what was said three, four, or five minutes ago. "No, we missed it there." Then he'd go back, he was calculating like a computer, his mind, was probably, just a terrific mind. It's surprising. Makes you ashamed to think of the unused capacity of almost every mind. Yours and mine and every one else's. We just don't use them. And these guys are just trained, I don't know what makes people get that outstanding, they call it genius. Maybe they're born with this gift, maybe it's just a desire, I don't know what causes it. But there's a big separation from guys like Bethe and Teller, and Von Karmen, between guys like that and ourselves. I think it's, uh, the good Lord gave us all the same circuitry, we all have the same capacity, if we knew how to develop it, it could be developed. I'm not a psychologist, I don't know. Then, from there, I went up to do these studies, this "new horizons" thing as Chief of Plans for the Air Research and Development Command. Then I was sent back to the Pentagon in '59, and I became the... You see, your Chief of Staff is the head guy of the Air Force, he's your Chief of Staff. Then, at that time, it was Curt LeMay, and I was sent up there to be assistant Chief of Staff for nuclear systems. And at that time, I was also the assistant director for aircraft reactors for assistant Chief of Staff for nuclear systems. And at that time, I was also the assistant director for aircraft reactors for the Atomic Energy Commission. So I had a joint job. I was working for the Atomic Energy Commission in development of nuclear propulsion for airplanes. At the same time, it got so I was working with, uh, can't remember his name. I was in the nuclear development program from the standpoint of reactors for aircraft, plus reactors for power and energy, resources and this kind of stuff. And we were doing what was called SNAP, Space Nuclear Auxiliary Power. We launched some of that. It's this kind of stuff. And we were doing what was called SNAP, Space Nuclear Auxiliary Power. We launched some of that. It's still

circling. It was an isotope unit, to give a reference point in space. That was about the size of a basketball, maybe a little larger. But that's still going up there, still giving off power. And we did what they called the SLAM program, Supersonic Low-Altitude Missile. That was a nuclear missile. And we were doing the aircraft nuclear propulsion, that was a nuclear missile. And we were doing the aircraft nuclear propulsion, that was a, probably could have flew an engine, but because of all the radiation effects Jack Kennedy finally cancelled it, when he became president. Admiral Rickover was developing the nuclear submarine. And my office was joined to his. I was doing the nuclear aircraft. We both worked together in the same headquarters out at the Atomic Energy Commission. I knew, I met Rickover, aircraft. We both worked together in the same headquarters out at the Atomic Energy Commission. I knew, I met Rickover, there's another man I think no one ever really knew. He's a brilliant mind. Very dynamic, self-centered, kind of a person. Very opinionated, but he's right usually! His nuclear submarine floated and worked and my airplane never flew so that's why he retired an admiral and I retired a colonel. But I worked there with that for '59 to '61. Then that's, I did a lot of studies then on the, what we're going through now, the nuclear test-ban. I was on joint committees; between our country and studies then on the, what we're going through now, the nuclear test-ban. I was on joint committees; between our country and the other countries on nuclear test bans. I was involved with a lot of testing. That's when I worked very closely with General Twining, Chairman of the Joint Chiefs of Staff. And I got to know Nate real well. And I worked very closely then with Jimmy Doolittle. It's typical, another kind of side. My children had been brought up in this kind of environment all their lives. They were born in it. And names like that, they knew. Like I went to the White House one time when President Kennedy was getting ready to go out to the West Coast and, to visit one of the development laboratories and factories that was doing one of these supersonic low-altitude missiles. So I was supposed to brief him at the White House before he left. I was supposed to go that evening before the take-off the next morning, and it worked out that he couldn't fit it into his was supposed to go that evening before the take-off the next morning, and it worked out that he couldn't fit it into his schedule. So the next morning at 7:15 I was over at the White House with my little briefing chart to brief the president. So I went up to his living quarters and the President was packing his suitcase, his overnight bag, I was giving him a briefing on nuclear aircraft engines. But our kids lived in that kind of life. Just as far as England, my wife and I were invited to Buckingham Palace for the Queen's coronation. I mean at Westminster Abbey. Then we were invited to Buckingham Palace for Buckingham Palace for the Queen's coronation. I mean at Westminster Abbey. Then we were invited to Buckingham Palace for tea one afternoon to meet the Queen and the Prince. It's kind of interesting. I always laugh when I look back on it. Here, I was a Michigan City school teacher and she was a local hometown girl and we never planned our lives this way. I don't think it affected us in any way. We're still just hometown folks now. But it's interesting how your life work, your career pulls it affected us in any way. We're still just hometown folks now. But it's interesting how your life work, your career pulls you into certain situations that you were not prepared, I guess there is no preparation for them. And now, to us, they're just interesting things that happened to us in our lives. And our kids got accustomed to this kind of life, but they played with the Embassy kids all the time. Mr. Aldrich was the ambassador at that time, and "the Thorne kids," course I'm prejudiced, but we had very sweet kids. They were so well behaved that Mrs. Aldrich would call Mrs. Thorne and say "My prejudiced, but we had very sweet kids. They were so well behaved that Mrs. Aldrich would call Mrs. Thorne and say "My grandchildren are coming over from France and we'd like to have the Thorne children come to the Embassy, to play with them." We were very proud of them. Our

kids were used to this. Well, anyway, one day, my little son Steve, he was in the Boy Scouts at that time, and we were living in Washington, and another young kid about his age was down in our basement. We had a billiard room down there, they were shooting pool or playing table tennis or something. And the phone rang and Steve went a billiard room down there, they were shooting pool or playing table tennis or something. And the phone rang and Steve went to the phone and they wanted to know if Colonel Thorne was there and he said "no, he's not here. He's at his office." And this person at the other end said "No, he's not at the office, cause I called his office." Steve said "Well, maybe he's on his way home. Who is this?" He said "Jimmy Doolittle. General Doolittle." He said he's flying into Washington. He was up, his way home. Who is this?" He said "Jimmy Doolittle. General Doolittle." He said he's flying into Washington. He was up, he was airborne out over Virginia, and he wanted to see me that evening. And he said "This Is Jimmy Doolittle and I'm calling from my airplane and I'm out over West Virginia. Tell your dad that I'll be in at a certain hour, out at Andrew's Air Force Base." He said "Okay." Then this other boy said "Who was it?" He said "Aw, some guy, Jimmy Doolittle, I don't know who, somebody called Jimmy Doolittle." And this other kid said "Jimmy Doolittle! THE General Doolittle that led the know who, somebody called Jimmy Doolittle." And this other kid said "Jimmy Doolittle! THE General Doolittle that led the raid on Tokyo." He said "I don't know. Just some guy, Jimmy Doolittle, said he's in an airplane and calling my dad." The kids get accustomed to it. I was very proud to get to know guys like that, and work closely with them. Well, during that period then, from '59 to '61 when I was the assistant for the Air Force for nuclear energy. I worked very closely on reactor developments, weapon developments, the whole program, which I felt was a very satisfying thing. In '61, well, I stayed with that job from '59 to '63 actually. There was a change of title. At that time, I was before Congress many, many times on nuclear testing. I worked with the Congressional Joint Committee for Atomic Energy, worked for the Atomic Energy Commission, the Department of Defense, and all the various Air Force commands on their nuclear programs. I very frequently, as you can the Department of Defense, and all the various Air Force commands on their nuclear programs. I very frequently, as you can see in my records here, some of the comments made by LeMay, I went to Congress with him as his back-up witness in support of various nuclear programs. I guess I appeared, I don't know how many times I appeared before Congress. Another interesting sideline; back when I was working for the British, I'm probably the only American officer that appeared before Parliament to sideline; back when I was working for the British, I'm probably the only American officer that appeared before Parliament to defend the Queen's budget. When I was over there as the Assistant Director of Armament Research we had to put a budget together just like you do in America. So I put it together for some work I was doing. So Air Commodore Henry Ford had to go before Parliament. He said "Well Colonel, you're going with me." Course I went in civilian clothes, we all wore civilian clothes. At that time, affecting the British atmosphere I wore a moustache and all this stuff. I was in the Parliament Committee for Budgeting for the Royal Air Force, to defend the queen's budget, to get money for Research and Development. Course I didn't fool the lords much. One guy in Parliament said "That's a Yankee!" Then they complimented me, they could tell by my voice and so forth, and they complimented me on my presentation. I thought that was kind of an interesting sideline. I don't know of any other American officer that went to Parliament to defend the Queen's budget. Then I spent a sideline. I don't know of any other American officer that went to Parliament to defend the Queen's budget. Then I spent a lot of time in Congress on nuclear reactor development, nuclear weapon development, nuclear test bans, future research and this kind of stuff. Defending the budget. That was '61 to '63. Then in '63 I

was sent out to be the Air Force Commander at the Defense Atomic Support Agency. That's where all the, I mentioned that back in '48 when I was working at Kirtland Air the Defense Atomic Support Agency. That's where all the, I mentioned that back in '48 when I was working at Kirtland Air Force Base, that was organized at Sandia Base in Albuquerque. That was the army, navy, and air force all together. We all worked on atomic developments for all three services. And you always have a navy admiral, an army general, and an air force general serving there together. And I was the air force general spot at that time. I wasn't a general, but I filled that spot. I was the air force commander at Albuquerque, and there I was in charge of the atomic testing. I was in charge of research and development operations including atomic maintenance. I was the commander of what they called the Atomic Support Wing in charge of the aircraft that supported overseas testing and local testing and that kind of stuff. We stayed out there then from '63 to '66. That's when I lost my kids. In the military, you have kind of an unwritten law that when your kids then from '63 to '66. That's when I lost my kids. In the military, you have kind of an unwritten law that when your kids get to the college age or the marrying age, that's probably their last station with you. And on our way from Washington that year, '63, Ruth and I were in one car and the twins, Steve and Stephanie, and Paul, our other son, were behind us driving the other car. And I told mom "This will be the last time we take two cars to move cause the kids may not move with us again." other car. And I told mom "This will be the last time we take two cars to move cause the kids may not move with us again." And sure enough, they stayed there. (family information) Anyway. I stayed out there till 1966, then I was sent to Wright-Patterson Air Force Base in Dayton, Ohio. And then I was Chief of Plans, and Chief of Operations there, which made me Director of Laboratories. Out there we had many, many laboratories doing everything you do for air aeronautical research, like twenty-six laboratories. I served then, at laboratories doing everything you do for air aeronautical research, like twenty-six laboratories. I served then, at Wright-Patterson till April of 1968. And I retired from Dayton, Ohio, from the Air Force, and came back to Michigan City. I told you about that. I was on my way out to be assistant to the Vice-President of North American Aviation when the I.V. Tech. people called me out there in Las Cruces in New Mexico and wanted to know if I'd take this job. So I did. We lived in Ogden Dunes then for six years. That's when I started the campus over there in Gary. And I stayed with that for six years Ogden Dunes then for six years. That's when I started the campus over there in Gary. And I stayed with that for six years and I retired from that four years ago. So now we don't do anything. We just go away in the winters. I developed cancer a couple of years ago, two years this March. It was in my spine so I can't golf anymore, I can't fish, I can't do much of anything. I tire easily and I have considerable pain. So we just don't do much. We go day by day, and we travel, have as much fun as we can. That's pretty much my life history. I don't know how you tie it into LaPorte County; I guess I started much fun as we can. That's pretty much my life history. I don't know how you tie it into LaPorte County; I guess I started out in LaPorte County when I was six, moved up here from southern Indiana, then went to school in and graduated from high school here in 1930. I was quite young then when I got out of high school, I was sixteen. Then I left here and came back in '38 to teach, and I was here for a few years then I left again, then came back four years ago. It's interesting, a life like '38 to teach, and I was here for a few years then I left again, then came back four years ago. It's interesting, a life like mine. I mentioned my combat experience. A lot of it, I got a short arm and some other things that happened to us. And since you weren't a part of that, since you didn't live in that particular age, and even fellas who did live in that age who didn't serve and didn't experience these things in combat or experience them like I did, like in England, the ambassador or didn't

serve and didn't experience these things in combat or experience them like I did, like in England, the ambassador or guys like Von Karmen, Bethe, and these guys. They think it's remarkable. But actually, if you check into it, there's a thousand guys like me. For every guy, if I was injured during the war, there's a thousand guys who got killed in the war, which is more final than what happened to me. The guys who were wounded, think of the thousands of them. So a lot of these stories, then you hear them, since you weren't a part of them, they're rather exciting to you, and interesting. But if you stories, then you hear them, since you weren't a part of them, they're rather exciting to you, and interesting. But if you check through LaPorte County, you might find five hundred men with more interesting stories than mine. But you just don't happen to know about them. And I think that's true of a lot of things. If you go looking in space development, like I did earlier, space becomes becomes real to you. If you're working in the early nuclear developments, like this nuclear reactor. I was telling George, he's quite concerned. There's a lot of concern about reactor development. And fear. I have no fear. I think it has to come. I think it should come. And the same kinds of things you're reading today about the dangers of putting a reactor in our front yard, and this kind of stuff. We used to have some articles, I don't have them anymore, they putting a reactor in our front yard, and this kind of stuff. We used to have some articles, I don't have them anymore, they were clippings out of newspapers sound just like the nuclear reactor on the nuclear weapon, and you know what it was? They were going to put a gasoline station on the corner of Eleventh and Franklin. It's not Eleventh and Franklin, but some town. "Right down in the center of our town, they're going to put this highly volatile explosive." And people fought it and they "Right down in the center of our town, they're going to put this highly volatile explosive." And people fought it and they couldn't build a gasoline station. And now you live next door to them all the time. And that again is somewhat like not being able to get insured because you're going to a nuclear test. It's the unknown which you fear. And there's no question that there are possibilities of danger. The thing that worries me most about reactor development and use of nuclear power is that there are possibilities of danger. The thing that worries me most about reactor development and use of nuclear power is the waste disposal. But there are ways of doing that, and scientifically remove it. I would suggest if you're at all interested, you ought to go up to Cook's Nuclear Center up here in Michigan, just a forty-five minute drive. And they've got all these wonderful electronic displays, push a button and you can see all the development, and you can see the stuff I've been talking about going on right before your eyes. In the visitor center. And you'll come away with a altogether different attitude on nuclear energy as a power source. And really, a lot of these scare stories you read in the paper, I'm not saying that, there are pros and cons, but I think there are a lot of things in favor of it. We're going to have to find some kind of an energy other than just fossil fuels. I learned that way back in 1958 when I was doing these "new horizon" studies. We worried then about solar energy. We were talking about earth and stuff they're using now that's coming in. We worried about those things back then. I remember we were predicting petroleum stories even back in '59 we looked at that. So if you've been working in these areas, you have a familiarity with them, I don't think that familiarity should be content. But you feel a little more comfortable. And I think the average civilian, or layman, could go up to Cook's Nuclear Reactor Visitor Center and spend a couple of hours. You can get a lunch there, they've got a snack bar, you can take your own lunch, they've got a beautiful place you can sit out there and look over Lake Michigan. Have you ever been up there? (CJs No, I haven't.) It's a real nice place. You ought to go up and take a look at it. You learn a lot about nuclear reactors. It's a real nice place. You ought to go up and take a look at it. You learn a lot about nuclear reactors. (showing family pictures)

CJ: Maybe just to wrap this all up, could you think of one thing that you considered to have had the most impact on your life or maybe was your greatest achievement. Could you think in terms of what that would be?

OPT: Gee, I never thought about that. I think my greatest achievement, like any other guy, I married very fortunate, I married happily, I've had a fine family which I'm very proud of. I've had, as you can see from this little interview, pretty much a life of service, to my nation and to my fellow man. I think I made a contribution, in a way. I think I did what was asked of me. A lot of men, think that the military to them, wasted their lives, that they weren't used properly. I think the asked of me. A lot of men, think that the military to them, wasted their lives, that they weren't used properly. I think the military extended me. They took more out of me than I had to give. I was way beyond my depth in many things I did, and I had to work hard to keep up. So I think the military took advantage of me, which I was pleased to do. So I think I've had a life of service. Even when I left my military career, I came and formed I.V. Tech. College for northern Indiana, which I life of service. Even when I left my military career, I came and formed I.V. Tech. College for northern Indiana, which I think was a good thing. I've been very happily married, three fine children, four nice grandchildren. So I think that's my biggest accomplishment. Just being a normal man and do what I could for the country, and for my family and for the rest of the people. I don't think of it as being really outstanding about my career. It's been different. But that's not by my choice, as I told you, I just joined the army to avoid being drafted and everybody else was doing it. This wasn't any kind choice, as I told you, I just joined the army to avoid being drafted and everybody else was doing it. This wasn't any kind of planned career at all. Just happenstance. But I think I rolled with the punches and made the most of it.

CJ: Okay, thank you.