

## Oral History of Robert Phillip Upchurch, PhD

### Background

From 1985 until 1995, Dr. Robert P. Upchurch, A.K.A. Phil Upchurch, held among other positions, that of Director of Alumni Affairs for the College of Agriculture of the University of Arizona in Tucson, Arizona. As a function of this office, he conceived and led a project on recording the oral history of leading agriculturalists in the state of Arizona. Included were prominent farmers and ranchers, business men, faculty members and the like. Several dozen oral histories were taken using a tape recorder followed by transcriptions and approval by the individual being recorded. Volunteer interviewers and typists were recruited. Prominent among them were Dr. George W. Ware and Dr. L.W. Dewhirst, interviewers, and Beth Thrall, typist.

The Oral History Project was created as a joint venture of the College of Agriculture and the Arizona Historical Society, with representatives of the College doing all of the work and the Society agreeing to accept outputs and to preserve and share them in perpetuity.

Phil conceived and implemented this project for its intrinsic historical value but also as an integral part of enhancing "friendships" for the College which in turn enhanced the chances for support for the College, financial and otherwise. It was intended that the effect would enhance the prospects of the development program of the College of which Phil was also Director.

A full list of the oral histories taken is recorded elsewhere.

The University of Arizona College of Agriculture and  
the Arizona Historical Society Oral History Programs

Narrator: Robert Phillip Upchurch

Interviewer: George W. Ware

Transcriber: Beth Thrall

September 7, 1994

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Today is Wednesday, September 7, 1994. I am George Ware representing the University of Arizona College of Agriculture. Today I am in the company of Dr. Robert Phillip Upchurch for the purpose of recording his life history, but primarily his experiences at The University of Arizona in many positions in the College of Agriculture. We are in Phillip's home at 2637 West Crown King Drive in Tucson, Arizona, but Phil is soon to leave Tucson and move to a small city West of St. Louis.

Ware:

Phil, am I correct in stating that it is your intention to give this tape and the typed transcript resulting from this interview to the Arizona Historical Society?

Upchurch:

Yes.

Ware:

We thank you for that and this gives an oral commitment of this effort. Phil, I would like to start off by having you go back in your early years and tell us about your early childhood, your brothers and sisters, particularly your Mother, your Father, your Mother's maiden name, and the usual, what I would call, early genealogical history.

Upchurch:

I was born in Wake County, North Carolina, on February, 9, 1928 in a clapboard house on my father's 43-acre farm. I was the third child in the family with two sisters, twins, having been born in 1920. This small farm impressed me greatly. It was terribly eroded and half of it could not be tended because of erosion and that has continued to influence my thinking about agriculture throughout my life. We had a difficult time of life. My Father was a cotton farmer, he was not very successful although he worked at hard at this. The boll weevil became a significant factor in his inability to make a good living for us on the farm. During the depression we lost this small farm and moved to a log house on my Grandfather Eugene Cross's farm in the same county where I was born. We were able to get the farm back through the Franklin Roosevelt program of allowing people to reclaim

their property and I recall going with my father back to the farm as we reclaimed it and burning off the fields and starting over again. I was raised in a community where I had an association with my Father's brothers and sisters, very much with a sense of community and family history. I left the home setting to enter high school in Raleigh, North Carolina, and attended school there at Hugh Morson High School for two years and then transferred to the more rural Cary High School at Cary, North Carolina, and after only three years of high school, I dropped out and have never received a high school diploma. The circumstances of this were that while I was attending Hugh Morson High School in about 1942, there came over the loud speaker an announcement that the North Carolina State Agricultural College wished to hire some high school students, probably because other people were taken away during the war. I responded to this and commenced to work for Dr. Roy Lee Lovvorn at North Carolina State College in the forage crops program. After working there as a high school student for two years he offered me a full time position which I assumed in June of 1944 which was 50 years ago this past spring.

Ware:

Phil, can I interrupt just a moment? I would like for you, if you would, to record your father's full name and your mother's maiden name and your brothers' and sisters' names.

Upchurch:

My father's name was Robert Jefferson Upchurch and he was born January 28, 1880 in Wake County North Carolina and died in Raleigh, North Carolina on the 13th of April, 1948. My mother's name was Bessie Elnora Edwards, that was the name by which she was born. She later adopted the name of her step-father whose name was Adolphus Creighton. She was born on the 25th of September, 1898 in Wake County, North Carolina, and died on March 10, 1984 in Raleigh, North Carolina. My sisters, who were twins, were Ernestine Ray Upchurch, now deceased, and Patty Lane Upchurch. They were born on the 17th of December, 1920.

Ware:

I would ask one question. I have noticed that your father was born in 1880 and your mother in 1898, an 18 year difference in your mother's and father's age. That meant that your father was almost 50 years old when you were born.

Upchurch:

Yes.

Ware:

That's a little late in life. How did that influence your life and your relationship with your father?

Upchurch:

My father was raised in a rural setting and had that demeanor all of his life. He was a very loving, caring individual, but an individual

who had not achieved any mechanisms for being very successful in life. In addition to this, in his early years he abused alcohol and this influenced his chances for success. He had overcome that by the time I came along, but the age did not seem to place any particular burden on our relationship. Both my mother and father were very caring parents and always wanted the best for me and for my two sisters and did everything they could to help make our lives successful. I would say that I think because of their limited educational background that they had substantial inability to understand what we encountered as we entered what was then the modern world. They were always supportive but they were not able to give us advice and guidance about steps to be taken. I can recall as I went to college and learned things about evolution that it was a little bit of a strain for me to go back home and try to deal with my parents who, although not overly religious, were certainly not in tune with the concept of evolution.

Ware:

What tools would you say that your parents gave you as you grew up in their counsel and care for success in life?

Upchurch:

I'd say that with regard to my father I can always look back as him being a loving, attentive parent and wanting the best for us and striving as best he could under difficult circumstances to make a living. I think perhaps the stronger influence comes from my mother who was an extremely determined person and who was perhaps more successful than my father in making her way through life - that is, she was more determined, she would seize more opportunities, she would create opportunities and I've always felt that she set an example for me throughout my early years, always encouraging me to strive for the best and be successful and always wanting the best for me.

Ware:

That's a good review of your parental background. If you would now, pick up where you left off. You had finished, or almost finished high school and you had an opportunity to go to work for the College.

Upchurch:

Yes. This fortunate occurrence had a very profound effect on my life because I've continued ever since to be involved in professional agricultural work. Dr. Roy Lee Lovvorn who was in charge of the forage crops program became essentially a second father to me. He was a great counselor and guider of my activities as were his colleagues, Dr. W. W. Woodhouse and Dr. Douglas Chamblee. The latter individual was best man at my wedding. So I did a lot of my growing up in association with the forage crops group there at North Carolina State having worked as a high school student with them and having then taken a full-time position in June of 1944 as a Technician. I soon figured out that I would want to go on to college and so I took the college entrance exam in the Fall of 1944 and in December 1944

entered North Carolina State University (then College) as a Freshman majoring in Agronomy in the College of Agriculture. I continued, during my period of undergraduate days to have a close association with the forage crops program and, although I was handicapped somewhat by having only had three years of high school, I worked very hard and took what was then called a Science Program in Agriculture which was designed to prepare people for graduate school. By and large, I supported myself by working at different jobs during my college days. My parents helped me as much as they could but they had limited resources, but fortunately North Carolina State University (then a College) as a Land-Grant institution had low enrollment fees and it was possible to accumulate the resources to pay one's way through college at that time.

Ware:

You mentioned something which arouses my curiosity and has to do with your failure to finish high school. This is a rare thing in a person who goes on to make great achievements in academia. You didn't finish high school - how did that influence your drive and your motivation and why didn't you try to go back and finish?

Upchurch:

I think probably a great influence on my behavior pattern in those days was the unfolding of World War II. I went to Hugh Morson High School in the City of Raleigh, making my way there by thumbing or walking the three or four miles back and forth each day. While there, World War II began to unfold and people that I knew went away to the war and I soon got caught up in the fervor of wanting to move on with my life and activities. So I transferred back to Cary High School where they had only a four-year program as opposed to Hugh Morson where they had a five-year program with the idea that I could accelerate my activities and move on to finish school. But the opportunity to take the job at NC State came along and I think that I saw that as another way of just moving along with my life and my activities. I think it was ill-advised, I wouldn't recommend it for anyone and I was handicapped because I didn't have a lot of courses in high school that helped other people so I was behind in competing with other people.

Ware:

What would have happened had you finished high school in the normal course of events?

Upchurch:

That of course is impossible to say. I think it would depend upon whether or not I maintained an association with N. C. State. If I had maintained that relationship as a high school student, I think it is very likely that I would have gone there and taken a degree in Agriculture just as I did except that I would have a little better background. Had I not been working for N. C. State, it's sort of impossible to say what would have happened. It would all be the circumstances that you would encounter.

Ware:

While you were in college, did you become affiliated with any of the fraternities?

Upchurch:

No, not the social fraternities. I was elected to Alpha Zeta as a Sophomore and that was fairly unusual in those days. My grades were not outstanding and I remember being very pleased at being selected to Alpha Zeta. I remember visiting with Dave Weaver who was at that time the Head of the Department of Agricultural Engineering and later Director of the Extension Service. He - Dave Weaver - was one of the high officers in the National Alpha Zeta system. He had a great love for that organization and I can recall today the lecture he gave to me about how fortunate I was to be elected at such a young age and the responsibilities which devolved upon me. I still have my paddle which we created during the initiation procedure into Alpha Zeta. I've benefited from that organization. I was not affiliated with other societies other than the normal clubs in Agriculture which existed.

Ware:

You finished your Bachelor's degree in what year?

Upchurch:

Actually in August of 1948. I was very anxious to move ahead with my career and although I started somewhat late in the year in December, I actually finished in three and a half years by going to summer school and by taking extra courses along the way. I was fortunate in that I continued to work for the Experiment Station and started my thesis while I was an undergraduate student and also took the foreign language so that I was prepared to enter Graduate School. Still, my grades were not the very best. They improved some after I started going with Sallaine because I began to be more serious about life in general and so I was able to enter Graduate School. In fact, the day I was accepted for Graduate School I asked Sallaine to marry me. It was an interesting reminiscence for later life in that our son Barry held his prospective bride on the line while he got his Law degree and only asked her to marry him after he received notice that he had been admitted to the Bar.

Ware:

You now have your Bachelor's degree and you have proposed to Sallaine. Tell us about Sallaine. Where did you meet her, who was she, who is she?

Upchurch:

I became acquainted with Sallaine because of my best friend in college Linwood Edge who had a sister who had come to Raleigh, North Carolina, as had many young ladies throughout the State to get further education and to work in State government. It happened that Linwood's sister lived at the same house where Sallaine lived and, in fact, Linwood was dating Sallaine and I was introduced to another

young lady in the household by the name of Miss Nunnley whom I then dated for several months. In fact Linwood and I double-dated with Linwood dating Sallaine and me dating Frances Nunnley.

Ware:

Was Sallaine a student?

Upchurch:

No, she had finished her Business course there and had taken a full-time job as a secretary in the Department of Conservation and Development in the State Department. She had a nice job, it didn't pay a lot of money as jobs didn't in those days, but she spent it all on clothes which hasn't changed much to this day. It was a behavior pattern. So, Linwood and I double-dated from that household and then it happened that Linwood's father had a heart attack and he had to go home to the farm and help his father in the Spring of about 1946. I had been on a trip to Western North Carolina for the Experiment Station. They had given me quite a bit of responsibility by that time to go take readings on forage crops plots, taking counts and that sort of thing. A friend and I had returned from that trip after school was out in May of that year and we were at loose ends and walked downtown to the main street - Fayetteville Street - sort of cruising up and down the street and lo and behold along the way we met Sallaine and a lady friend going down for ice cream. We joined them and the rest is history.

Ware:

What was Sallaine's maiden name?

Upchurch:

Her family name was Sledge, it was Eva Sallaine Sledge.

Ware:

And her friend's name was Edge?

Upchurch:

My friend was Linwood Edge and his sister was Miss Elizabeth Edge but that was not the lady who was with Sallaine on the evening that we had the fatal encounter. Sallaine and I and the other gentleman and the other lady had ice cream together at Eckard's Drug Store and then we walked back through the Capitol Square to where they lived and along the way we fell into intense discussions and interactions such as young people will do and we simply became enamored with each other just like an explosion. Of course, Linwood soon got word that his girl was being encroached upon and he rushed back from the farm and then for a number of weeks Sallaine had two dates a night and I think I usually had the second one. In due course she had to make her choice and fortunately she made it for me. We continued to go together as a couple then for almost two years before we decided to get married.

Ware:

What city was it that you were in at the time of the ice cream and .  
. .

Upchurch:

That was Raleigh, North Carolina. The occasion of me asking her to marry me was interesting. We went out for Chinese food as we often did and on the way back I was thinking that I would ask her to marry me and we wandered through the Capitol Square, a lovely setting there in Raleigh, North Carolina - the capital city - and a little dog came along and I attempted to make friends with the dog. This irritated Sallaine somewhat, she spoke to me rather strongly about this which caused me to reconsider whether or not I would go through with my plan to ask her to marry me later that evening. It happened that that was the night that Harry Truman was giving his acceptance speech before the Democratic convention to run for President for a full term. I asked Sallaine to marry me, sitting on the porch of the house where she lived and she hasn't said "Yes" until this day. I do remember she said, "Well, do you know what this means - do you know what you're getting into?" We did get married although she hasn't said "Yes" yet.

Ware:

A real challenge for the interviewer. Okay - so you were married when?

Upchurch:

1948. I finished my B.S. degree on Friday and we were married on Saturday, so I'd say I've never had a free day.

Ware:

Did you have a big wedding?

Upchurch:

No, we had a very small wedding. Neither my parents nor Sallaine's parents were able to come. My sisters and her sisters participated in the wedding. It was in the Tabernacle Baptist Church in Raleigh, North Carolina, a very impressive church but a very small wedding. As I mentioned earlier, Doug Chamblee was my best man. My sisters were habitually late to all sorts of things and they were an hour late to our wedding in keeping with their normal practice. We survived that, nevertheless. We borrowed a car from a friend, an old Studebaker which was bashed in on one side, and took our honeymoon in Greensboro, North Carolina.

Ware:

That completes your life history up to your marriage. You had your Bachelor's degree and I know that you went on for advanced education. What took place after the Bachelor's degree?



Upchurch:

Immediately after I got my Bachelor's degree, I entered the Graduate School at N. C. State to complete the Master's degree and, because I had already taken certain courses as an undergraduate and had already done a certain amount of my thesis work, I was able to complete that in three terms. By June of 1949, I had completed the requirements for my Master's degree and since I had not officially been given my B.S. degree in June of 1948, I received both at one and the same commencement my Bachelor's and Master's degree. The Master's degree was under Roy Lovvorn and it dealt with describing the root system of alfalfa in North Carolina. I eventually published two articles out of that undertaking. So I finished my Master's degree with excellent grades I would say - I made all A's except one B. Dr. Ben Smith gave me a B on my seminar which I thought was not the proper grade. I must say that my better grades as a Graduate Student were in a certain measure related to the fact that I was married and I was really very serious now about moving ahead with my graduate program and I had someone to monitor me.

Ware:

So in 1949 you received your Master's and your Bachelor's degrees. Your Master of Science was in what area?

Upchurch:

They were both in Agronomy.

Ware:

It's June of 1949, what happened next?

Upchurch:

I was offered a full-time position as a Research Instructor in the forage crops program, sort of being the day to day manager of the program for Lovvorn, Woodhouse and Chamblee. I had a good background for that and so I took over the program and ran it on a day to day basis and had some of my own research which I carried out. That position as a Research Instructor allowed me to take some additional courses which would prepare me for future graduate studies. I held that position until December of 1950.

Ware:

Something of significance must have occurred in 1950.

Upchurch:

Well, my superiors thought that I should really hold on to this position as a Research Instructor for two or three years but, as seems to be my habit, I am always anxious to move ahead to the next thing. I began to think about graduate studies and to have feelers sent out. One went to Ohio State University and I was in fact offered an Assistantship there working in the red clover program. That was because of my association with Warren Shaw who became very prominent in weed science circles and who was taking his Ph.D. under Dr. C. J. Willard at Ohio State University. However I also had feelers out

based on Doug Chamblee's having done his Ph.D. at Iowa State University under Maurice Peterson. Maurice Peterson by that time had moved on to the University of California at Davis. He was a prominent forage researcher and had a national reputation. So Doug Chamblee facilitated correspondence with the Davis campus and I was offered an Assistantship there at Davis and I decided that it would be appropriate for me to go to California to do my Ph.D. program because that would give me the greatest amount of difference in what I would experience. I elected to go to Davis. Sallaine and I had been very careful to save our money. We had not had a car up until that time so in the Fall of 1950 we bought a brand new 1950 Ford and prepared to make our way to California to seek our fortune.

Ware:

You used the word "difference." I presume that you're referring to difference in both geography, crop management, and also people who supervised your education.

Upchurch:

Yes, all of that, and in fact that turned out to be the case. It turned out to be even more the case than I could've thought at the time because when I reached California and learned more about irrigation agriculture and about the people and the geography and the climate, etc., it was certainly very broadening for me to have that as an opportunity. I also learned that at the University of California there was a great deal of elitism and they had their own philosophy of science and the world and thought that perhaps the rest of the world did not pay enough attention to the California oriented way of thinking about things. I took that all under advisement.

Ware:

As you reflect on your arrival in California, were you genuinely impressed with their sophistication?

Upchurch:

I was certainly impressed with their background overall in the State and their successful pursuit of agriculture and research. I was not all that impressed with the Davis campus. It's a wonderful place, wonderful campus and wonderful people but, in fact, the Davis campus was a small campus at that time and only gradually getting its autonomy from the main campus at Berkeley. In fact, I had to have one professor from Berkeley on my graduate committee even at that time. I can recall Sallaine and I going to the football games and being somewhat amused that the stands were somewhat rickety - temporary and for entertainment at half-time they brought out and had cows that they milked. Of course the cows do what they sometimes do in front of hundreds of thousands of people and we thought that was a little bit "home-townish" shall we say? The campus at Davis has since grown tremendously and does have a great reputation. I worked under Maurice Peterson as my major professor but almost co-major professor was Robert Hagen in the Department of Irrigation. I was housed in the

Department of Agronomy. They did not give a Ph.D. in Agronomy - you had to select a discipline and I selected Plant Physiology and Alden Crafts, who was a grand old man of weed control and plant physiology, was my subject matter advisor. I benefited intensely from my association with all those people.

Ware:

Well I can see that Alden Crafts significantly affected your career as you later went to Monsanto. But we're not there yet. You finished your degree in what, 1953?

Upchurch:

January of 1953.

Ware:

You have your Ph.D. and then following that, you returned to North Carolina State as I recall.

Upchurch:

Yes, that's correct. I might say another word or two about the University of California. While we were there Sallaine worked as one of the principal secretaries in the fairly new School of Veterinary Medicine which was very helpful to her and improved her knowledge and skills and interaction with people and the money was very helpful. We lived in a lovely little cottage in Davis and along the way I obtained additional support from the National Science Foundation. I took a competitive exam and I believe the record will show that I am the first student in Agriculture to have received a National Science Foundation Fellowship.

Ware:

Now you have two distinctions under your belt - Alpha Zeta as a Sophomore and the first National Science Foundation Scholarship in Agriculture. That lasted how long?

Upchurch:

That finished out my degree program there. I was very pleased to be able to finish my Ph.D. in two years at Davis but this was only by extraordinary effort. I did my thesis on Photosynthesis and Respiration in Ladino Clover as Related to Soil Moisture Content. This required you to take measurements during the light period and during the dark period. I would have a cot at the building and would sleep there part of the time and take measurements and also Sallaine would come in and help take measurements for me, so we were able to accelerate the process of collecting data rather than having to do the experiment over twice to get data once for daylight and once for night. We did it all at once.

Ware:

You had to make your readings both in the dark and at night and during the daylight hours.

Upchurch:

So we did double duty on this and were able to finish the thesis program faster than would otherwise have been the case. As I was about to finish my Ph.D. at California, I of course started to look for jobs and I received three offers. One was from Dr. Roy Lovvorn, who by that time was in charge of the weed program in the USDA/ARS. He offered me a job to do research on halogeton, which is a toxic weed, at Logan, Utah. Sallaine and I traveled to Logan to look over that position and discuss it. We were also offered a position as an Assistant Professor in Weed Science at North Carolina State and we also were offered a position to be an Environmental Horticulturist at the University of California at Davis. My colleagues there at Davis who arranged to offer me this position were completely nonplused when I did not accept the position. First of all I think it was considered an insult to them because they figured that the University of California was the apex of the educational system in the world and anyone who could possibly receive an offer from there would have no choice other than to accept it. We had decided then that we would go back to North Carolina. Although my work had not been in weed control up to that point, I had had connections with the various people in the weed control field and Alden Crafts himself had been involved in weed control research. I had discussions before leaving Davis about various aspects of weed control. In fact, I arranged to pattern some of my future research activities on the behavior of herbicides in soil based on what Alden Crafts had done starting in the 1930's, so I am indebted to him for the germ of ideas. It was a blending of what I learned from him and what he had done as well as my own experiences in soils. I had had five courses in soils at North Carolina State all from Fulton Lutz who was a wonderful professor of soils and that has stood me in great stead all along the way. There was one other aspect of the program at Davis I want to mention. I had taken my undergraduate and Master's program at North Carolina State and had received some rather good educational experiences. My plant physiology was under Donald B. Anderson who was actually a superb professor and when I reached Davis I found that they were not that advanced in their graduate course work. I nevertheless took their courses in plant physiology but I felt I knew about as much as the professor did. I didn't look upon this as being an exalted position but rather one which allowed me to sit back and compare the philosophies and the theories in a more mature way than an ordinary student would be able to do. So I did learn from the program in spite of the fact that I felt I was already far advanced in my educational work. I will note that it later proved interesting that I already had several courses in ecology and the University of California at Davis which in later years became more involved in environmental issues, did not at that time even have a course in ecology.

Ware:

That's a surprise.

Upchurch:

So I felt that I was sort of on top of the heap. One of my outstanding courses there was with Dr. Kathryn Esau who was an absolutely superb teacher in the field of anatomy. I was so pleased that after I had taken her course she did invite me then to join her seminar the next year which was a privilege not accorded to all individuals who had taken her course. Kathryn was an absolutely superb teacher and superb anatomist and has since published a book on plant anatomy. That was Davis, California.

Ware:

Your overall experience there was very pleasant, I'm sure.

Upchurch:

Yes. We stayed very busy because we were taking a lot of courses and working, etc., but I got to know a lot of people and formed good relationships and learned a tremendous amount, in spite of the fact that their course program was not as great as one would like in the agricultural areas.

Ware:

You finished your Ph.D. in two years after your Master's. Is that correct?

Upchurch:

Yes.

Ware:

Was that two calendar years or two academic years?

Upchurch:

Well it was essentially two calendar years because I arrived there in January of 1951 and finished my program and left in January of 1953, so it was an exact two-year period.

Ware:

That's almost phenomenal for someone to finish a degree of that complexity or in that complex area in that short a time. You had to have had a well-organized plan of your own to do that.

Upchurch:

Well I think it's related to the fact that I had already taken a science program as an undergraduate at North Carolina State. I had then taken a Master's degree program rounding out all my courses and then in my almost two years as a Research Instructor, I took additional courses at North Carolina State. I was well buttressed with course work by the time I reached the University of California at Davis.

Ware:

Did you do most of your organization of curriculum or was this something that you just simply had to follow at the University?

Upchurch:

At the University of California at Davis, one would sit down with Alden Crafts who was the senior advisor for Plant Physiology Ph.D. students and he would look over your program. In those days it was not a matter of a lot of committees - he would tell you what you needed and they had certain general requirements so he would look over your past record and give you credit for what you had already taken and then outline additional courses you needed to take.

Ware:

As you look back on your entire formal education, who would you pick as your one or two most influential mentors?

Upchurch:

Of course Roy Lovvorn overall was an outstanding mentor, a wonderful person who followed my career and supported me in many ways for a long period of time. But there were other people who also were very influential. I would say that Doug Chamblee, early in my career, helped to guide and direct me. Among the professors that I had, I mentioned Fulton Lutz at North Carolina State and I mentioned Don Anderson, both of whom were outstanding professors and very helpful. Then at the University of California at Davis of course Maurice Peterson and Bob Hagen as my co-advisors and Alden Crafts and Kathryn Esau - those were the people who provided seminal information to me about science and about the educational system.

Ware:

You didn't mention, and I would like to bring this up. There were two or three possibilities - there were 4-H, there was FFA and there was Boy Scouts and then there's church camp. Were you involved in your youth in any of those?

Upchurch:

I was involved in church activities. My parents did not attend church regularly but they urged me to go to church and I was raised in a church environment, the Inwood Baptist Church in Wake County, North Carolina. I did attend the summer workshops and daily vacation bible schools, and that had an influence on me. I had a person who married my first cousin, a fellow named Randolph Jeffreys, who taught classes and he taught me biology in my last year of high school and I'd say Rand Jeffreys had a great influence on me. I can recall discussions in our Sunday School classes that were in great depth and I recall one occasion in which we were involved in such deep discussions that our Sunday School simply ran right on through the preaching service and we did not even go out and join the preaching service, or did so only tardily. That church community was a very loving one. When I went to high school in Raleigh, North Carolina, that was a city school and they did not have 4-H or FFA or that sort of program and of course I had to make my way to school and back home so there was about an hour and a half transit each way each day and so I didn't participate in any activities. I did fall in love with books at that point at Hugh Morson High School. I can remember

being introduced to the library in the high school and being fascinated with all the books and to this day, I still love books and enjoy reading and it dates back to that early period. Boy Scouts were active in the community and I can recall some general discussions about whether or not I could join that, but the fact is that our resources were so limited in the family that it was simply not visualized that I would be able to have the money to buy the Boy Scout paraphernalia so I was not encouraged and didn't feel I should take aggressive action to become a member of that group. When I did transfer back to Cary High School where they had an agriculture program, I did take vocational agriculture. Mr. Ray Dunham was the high school vo-ag teacher, I got to know him very well but I did not participate in the other programs. We had to leave on the school bus to go back home right after school. There was only the one year there that I had that experience.

Ware:

So you really didn't have the benefit of any of the youth groups that we talked about.

Upchurch:

That's correct.

Ware:

That's a little surprising. You must've had some extra-curricular activities, though. You said you liked to read. Is that how you spent some of your time?

Upchurch:

Yes. I liked to read and I spent some time that way. When I transferred back to Cary High School, I became associated with my former peers that I'd been with in elementary school and I remember wanting to do well so I studied very hard and I made good grades and I did well in that one year in Cary High School - better than I did back in Hugh Morson High School because I elected to be more competitive at that point.

Ware:

Were you involved in any sports?

Upchurch:

No, I did try for track in Hugh Morson High School. I thought I might be a pretty good runner and I remember getting such sore calf muscles that it was difficult for me to walk up the stairs and it was difficult for me to participate in that. I did have an association with my family in the community. My Uncle Gettis Upchurch and I would go possum hunting together and I couldn't figure out if this was because he liked me or because he just was lonesome and didn't want to go possum hunting by himself. But Uncle Gettis and my other aunts and uncles had an influence on me - they were loving, caring people. I had other associations in the community. As a young teenager I stayed with a widow lady at night and she paid me a dollar a week for

this and this occupied some of my time. That was Mrs. Simpkins and she lived about a half a mile away from us and she stayed by herself. She was afraid to stay by herself so she invited me to come and stay in her home. I would go over in the evening and spend the night there. She was a wonderful lady and I enjoyed getting to know Mrs. Simpkins and her family. There was another lady in the neighborhood, Mrs. Tilly. I remember visiting in her home and I would especially go back often near Christmas time because she worked at a place where they gave her a five-pound box of chocolates and neither she or her husband were particularly enamored with the chocolates but I was. I would go up and listen to certain radio programs in their home and munch chocolates. I guess my visiting sort of tapered off after the chocolates were gone. They were a nice couple - they had no children and I got to know them rather well. So I was involved with people in the community in various ways and, in general, in ways which tended to make me grow up faster because I was associated with adults. Somehow I had a penchant for wanting to grow up faster and to reach out to the outside world and somehow find a place to make my way.

Ware:

Did you learn to play a musical instrument?

Upchurch:

No, I never did. I never had an inclination - never had the opportunity. I was never sent to musical school. I've never tried to this day to tackle a musical instrument. I suspect I have a rather large amount of musical talent hidden in me since none has ever come out.

Ware:

Well I guess along with the absence of some of these others, you also did not take ballet.

Upchurch:

That's true.

Ware:

Okay, that's a good piece of background information. You finished at the North Carolina State University and then you joined the faculty there, did you not?

Upchurch:

I was there as a Research Instructor as a junior faculty member from 1949 to 1950 and then I went back as an Assistant Professor in January of 1953.

Ware:

You'd only been away, what - three, four years?



Upchurch:

I'd only been away two years to get my Ph.D.

Ware:

How were you received when you now come back no longer a Graduate Assistant but rather an Assistant Professor?

Upchurch:

This is an interesting point. I was aware that one is normally advised not to go back to the place where you were an undergraduate. But, of course, the appeal was too great - to go back home after two years. There were already people there in weed control and in particular, Dr. Glenn Klingman who had been there before I left, was the Senior Professor in Weed Science. I would like to give credit to Glenn Klingman because when I arrived as a young Assistant Professor and with him being the senior, he graciously agreed that the program should be divided up and that I should have certain parts and he certain parts. Glenn Klingman never lorded it over me as a professor. He always gave me complete rein as a colleague, treated me as a colleague and I think that was a wonderful bit of behavior on his part. The administration was very supportive of me in due course. When I first came there they gave me a laboratory and a pencil and that was it. But I gradually began to accumulate various resources to work with and I worked very hard. I had a plan of action which involved research in the field, in the greenhouse and in the laboratory. As I began to get more grants and more resources, the administration itself turned more resources my direction. It was a little slow for me to get around to getting an Associate Professorship, I was interrupted by my military service and I had to build the momentum, but once I got the Associate Professorship then I got to be a full Professor in fairly short order. I was very successful in getting grants, I worked cooperatively with about 40 commercial companies and I just hit on the scene at the right time. In the forage crops field where I was, had I gone back into forage crops I would have been facing a situation where you had dozens and literally hundreds of senior professors across the country and a young assistant professor would have to simply sit on the back row for a few decades to earn their place in the sun. In the case of the weed science field in 1953 it was just blossoming and anyone who could turn their hand in any way towards doing something useful was immediately accepted and allowed to sit in the front ranks as it were. Being an aggressive young assistant professor, I was able to take advantage of this in a variety of ways. So I did develop close working relationships with about 40 commercial companies, I was very successful in getting grants and in getting appointed to committees in the USDA and the National Academy of Science, and in receiving USDA grants. By the time I left the Department of Crop Science as it came to be known in 1965, my budget was equivalent to about 10% of the total department's budget. Along the way I had decided to make a prominent part of my career the behavior of herbicides in soils. It turned out to be very fortunate - there was a need for that and I had some of the background and knew what to do and I did work in the

field and greenhouse and published some seminal studies. In fact, I am still pleased to note that my articles are still being cited. The Weed Science Journal which came yesterday had two of my articles cited in it after some 30 years and that's not easy to accomplish.

Ware:

That doesn't say very much for progress.

Upchurch:

Well I think those people have my articles in mind and they cite them. It took a while to build momentum at North Carolina State because I was there just a little over two years before I was called into the Air Force, and so I had to go away and then come back and continue building my momentum. My work on herbicide behavior in soils stands as a landmark, I think, and I was given an "Outstanding Young Scientist Award" for that work at North Carolina State fairly early in my career. By 1964 my reputation was international and I was invited to speak to the British Weed Control Conference at Brighton in 1964 and gave what I thought was a fairly outstanding paper at that place and time.

Ware:

So you'd really been in academia only about ten productive years when you achieved this international recognition.

Upchurch:

Yes.

Ware:

Well that's certainly a great accomplishment. Now you were talking about having your career interrupted by the Air Force. How did that come about, because normally a person wouldn't just hop into the Air Force right out of academia?

Upchurch:

It goes back to my undergraduate days when I was making money every way I could. I had about five different jobs and when I finished my B.S. program, I had about \$400 in the bank to the good. One of my jobs was being a part of ROTC where they paid money to be part of that program. I got my 2nd Lieutenant's commission when I got my degree in June of 1949 and at that time it was a loose arrangement whereby I had sort of agreed that if there was a national emergency I would go into service and this obligation could be implemented any time over a five-year period. When I got to the University of California at Davis, the Korean War was heating up and both my draft board in North Carolina and the Air Force were keeping track of me. I would always tell the draft board that I was in the Air Force and they'd say "O.K." The Air Force would call me in and have me come down to Hamilton Air Force Base near San Francisco to give an accounting of myself. Since I was in Graduate School they kept giving me permission to stay in school, but increasingly they made me sign more definitive papers and in the end, I had to sign a paper that I

would extend my commission to a total of seven years and that I would agree to come if called, period. So by the time I got my Ph.D. in January of 1953, the Korean War had wound down, they didn't need me, but the fact is that they kept the tickler system working so in March of 1955, just short of the time when I would have had less than two years to serve, they knew that they could get me and they called me up. I received orders to go to Japan as an administrative officer - I was on the faculty of North Carolina State at that time, so Sallaine and I got in the car and we drove up to the Pentagon and told the people that, "I will go to Japan if you want me to as an administrative officer, but I do have scientific background and if you've got a better assignment, I would like to have it."

Ware:

You say you drove to the Pentagon. You mean you really did go to the Pentagon?

Upchurch:

Yes. We drove up to Washington and we sorted out the people.

Ware:

No telephones, no letters - just straight to the horse's mouth.

Upchurch:

Yes. The Lieutenant Colonel that talked to me said, "Lieutenant, I'm not sure I believe your story, I don't know how to sort this out, I'm going to turn you over to Major Cronin and he'll figure it all out." So I explained it to Major Cronin and he said, "I understand your position. You go back and I'll get new orders and you'll either go to Fort Detrick or to White Sands, New Mexico, or to Eglin Air Force base in Florida." Sure enough, I got orders to go to Eglin Air Force base in Florida to report to their Proving Grounds Command. We loaded up our stuff, by then we had one child, and we went to Eglin Air Force base and I was very fortunate. In the assignment section I encountered Major Pletcha. They still didn't know what to do with me. I was a free officer, I could be assigned to any unit without them having it charged to their table of organization. This Major Pletcha happened to be with a little section in the Air Force Armament Command and he overheard our conversation and said, "I think you could fit with us." But the assignment officer said, "Well, the general gets to make the decision - if he wants you he can have you." They checked with the General and he didn't want me in his section and so I was allowed to go to the Air Force Armament Command. There I was assigned to a project dealing with vegetation control on the ranges which goes to prove that given that the Armed Forces have millions of people to assign, there's no way they can get them all in the wrong assignment. So I was given an assignment to study vegetation control on the ranges because they had huge bombing ranges and the vegetation interfered with their recovering their test bombs. That was a wonderful experience for me to learn how the Armed Forces did research. I was involved both with in-house research and in contract research and inter-governmental research and they allowed me

a free hand to make arrangements. There was at that time a contract with the University of Florida through the Engineering College which was inappropriately arranged. I arranged to get that switched over to the College of Agriculture to work with Earl Rogers there who was a weed science professor.

Ware:

This was at the University of Florida?

Upchurch:

Yes, Florida. I had a cross-servicing agreement with the U.S. Forest Service and got to know a fellow by the name of Frank Woods who was at Chipola, Florida, doing research on vegetation control. I was allowed to go to scientific meetings and give papers and the Air Force paid for all of that. Furthermore, they had a laboratory that wasn't being used very well so I arranged to do leaching studies on herbicides in soil. I published two papers from that in due course.

Ware:

All of this was at Eglin Air Force base?

Upchurch:

In Florida. We had one child born there. Sallaine stayed at home during that period of time and I found that all to be very informative. I was allowed to go to various Air Force bases. I was a courier to take information to the Pentagon in Washington and allowed to debate whether or not the atomic bomb should be discontinued or not. It was an amazing experience and, in fact, very fortunate for me because over my lifetime I'd learned how research is done in the university system, I also learned how research was done in the Air Force. Later I was to learn how research was done in a commercial organization, Monsanto.

Ware:

So your military career, rather than being a stumbling block and a halt in your career, was actually an additional bonus.

Upchurch:

Yes, yes it was. I never regretted being called up because I felt I was obligated to serve, although it seemed kind of dumb that they just called me in if they didn't need me, but in fact I did not resent having to serve. I was very fortunate that I did get additional professional experience.

Ware:

You went in as a 2nd Lieutenant?

Upchurch:

Yes.

Ware:

After two years you came out as ...

Upchurch:

Well, in six months after active service, I was automatically promoted to 1st Lieutenant and then after I got back to Raleigh, North Carolina, I visited the Armed Forces section there they said, "Well, we don't have very active slots. You can come in without pay, but it'll probably take you about ten years to get to be Captain." So I decided not to be involved actively in the Armed Forces and Reserve, but I wanted to retain my commission just in case so I stayed on the rolls but did not participate - never went to any schools, summer camps or whatever, never sought any pay. In spite of the fact that they'd said it would take about ten years to get to be Captain, in about six months I got through the mails my promotion to Captaincy, which shows you the Armed Forces and how they work. I stayed in the Armed Forces in the Reserves for a total of eighteen years and I was continually

end of side 2, tape 1

Ware:

Phil, you were closing the last part of the tape by talking about your eighteen years of Reserve in the military and then you were discharged, I guess, or received an honorable discharge at some point, and when was that?

Upchurch:

I think it was in 1967, eighteen years after I got my commission.

Ware:

You've had no further affiliation with the military, they've not called upon you for any consulting or anything?

Upchurch:

No.

Ware:

What would you consider as your greatest contribution to the military during your two years of active service?

Upchurch:

I think my greatest contribution was to be a representative of the university community that was called into service and that performed in a reliable and responsible manner and exhibited the traits that one acquires in a university system. The military is involved in a lot of hurry up and wait and confusion about who's doing what and I was able to pick up and carry on with a project that was relevant using my professional background. I didn't receive a commendation for that, but Major Moore, who was a very interesting personality and my supervisor, had given an outstanding award to another individual, another lieutenant. He later told me, "Well you were more deserving than he." I never had a piece of paper saying that, but I took that as high commendation from him and his having respect for my activities.

Ware:

Was there any one thing that you did scientifically or pragmatically in the way of weed control that might be worthy of comment in this closing of the topic?

Upchurch:

I think the two articles that I published on the leaching of the herbicides are the most relevant. In fact just in the last month I've been called upon to carry out a consulting exercise which traces back in its basis to those two articles so they're there as a part of the basic knowledge. It was not an elaborate study but it was probably the most definitive thing I did. I did many other things but that one is the one that is most productive and lasting.

Ware:

I'm looking at an abridged biography that you have prepared and in there you talk about having completed the Air Force and then you went back for another seven or eight years to North Carolina State. Then I presume that you reached your full professorship at that point.

Upchurch:

Yes.

Ware:

You left North Carolina State University for a position with one of the leading manufacturing companies that produces pesticides. Let's move into that topic.

Upchurch:

All right. As I mentioned, I had worked cooperatively with about 40 commercial companies and I did have a number of opportunities to consider joining those companies. I was invited to interview at Shell Development Company in Modesto, California, for a position. They didn't offer me a position but they did take me on as a consultant so I was a consultant with them for three years. I also had a close working relationship with Eli Lilly and was a consultant with them. Monsanto had brought me out for an interview two years before and had not offered me a job because they didn't think they had quite a fit or quite a need. I had a close relationship with Phil Hamm there who has since deceased - a wonderful fellow. He and I served on a National Science Committee together and at one point he said, "Well, Phil, why don't you join us?" I said, "Why don't you make me an offer?" And so he did. At that point I joined them, and I think it's interesting as to why I was willing to do so, because I was a full tenured professor at North Carolina State with a wonderful program, well-funded, and making good progress, but here was my thinking. Two things - one is I felt that if I stayed at North Carolina State another ten years, I would simply do the same thing only better and more productive, but it would not involve necessarily any new dimensions, whereas if I went with a commercial company I would learn new things and associate with new kinds of people. I was willing to make this change and give up my senior professorship for

the same money - my salary plus my consultantship with Shell Development amounted to the same amount of money they paid me when I went to Monsanto. Eventually I was paid much more than had I stayed at North Carolina State. But I didn't go for the money, I went to gain new experience. The other thing I went for is I felt I was so closely attached to North Carolina State that it would be difficult for me to be a professional in the true sense as long as I had this attachment which was nonprofessional - it was emotional and I felt I needed to get away from that and that has proven to be valid. I think, since I left there, I have been able to look at all of my professional involvement more on a strictly professional basis including here at the University of Arizona.

Ware:

Are you saying then that you felt like your academic or professorial activities were somewhat sullied with your affiliation with industry?

Upchurch:

No. I'm saying that in North Carolina I felt I was so emotionally attached to the State that it would be difficult for me to take all the right steps and make all the right decisions and if I did get to be a Department Head or I didn't get to be a Department Head maybe that would be influenced because I was so closely attached to the State. I just felt I could be a more straight-forward professional and attack my work assignments without that emotional involvement. So if I had to fire somebody or hire somebody, I could do it strictly on the basis of professional criteria. I think that was a good decision.

Ware:

But there was also the element of adventure, I think, that had a very strong appeal to you.

Upchurch:

Yes, yes, no doubt. Plus the idea of associating in new ways and this proved to be exactly the case because when I moved to Monsanto I then started ten years of close association with people who were chemists, and I worked very closely with them in the programs. I worked very closely with the legal department on patents and law suits and all of these sorts of things. So I had a wonderful increase in my learning experience by moving to Monsanto. I look back on that as a very bright period of my life as having made a contribution and having learned in that setting.

Ware:

As you reflect on it do you think perhaps you had reached a burnout stage in your overall channel of living?

Upchurch:

I don't know that I felt I had reached that stage but I felt that it could be around the corner - that I would be doing the same thing - that it would not be as thrilling for the next five and ten years as it had been in the past.

Ware:

You had graduate students when you were at North Carolina State?

Upchurch:

Yes, I did have some graduate students and that was a very satisfying relationship but I must say that I elected to spend more of my project resources hiring full-time people rather than investing the money in graduate students. The reason for that - it was a cold-blooded, cold-hearted analytical decision. With graduate students you have to pay a certain amount of attention to what they want to do - they've got their own agenda in terms of taking courses at the pace at which they take them, and there's a long learning curve for them to get up to speed on whatever it is you want done and so there's a certain amount of encumbrance. Now I think that's all a very satisfying relationship and it's very useful and necessary and productive, but I simply elected to hire more technicians and to hire more post docs and, in fact in one case, to bring on a full-time professional with one of my grants, Jerry Weber who is still there as a full Professor - he came on under one of my grants. That was the choice I made.

Ware:

Did you have any outstanding graduate students that went on to "make you proud?"

Upchurch:

Well, I think they're all fine people. There's Fred Corbin who's now Professor of Weed Science there. There's Harold Coble who's Professor of Weed Science and immediate Past-President of the Weed Science Society of America. There's Paul Perry who went on to work for Monsanto and make real contributions there. There's John Hooks I was associated with - so I did have a number of graduate students and the relationship was productive. Frank Selman was another.

Ware:

So in 1965 you left North Carolina State and went to Monsanto. Let's talk about Monsanto. What was your initial position there and then let's just move on through that program.

Upchurch:

All right. Let me tell you about another transition aspect. When I left North Carolina, I had been very active in research, but I had a lot of papers that were ready to be published and I know Dr. Roy Lovvorn was very complimentary of me because in the next five years I published about twenty papers based on what I had done at North Carolina. I can tell you, that took a lot of night work and weekend work and Lovvorn's comment was that almost every professor who leaves just never gets that job done.

Ware:

That's exactly right.



Upchurch:

I worked very hard and Sallaine did the typing, etc., and we got a number of excellent papers out of it. So I joined Monsanto as a Senior Research Group Leader. My responsibility working under Phil Hamm was to be in charge of the evaluation of candidate herbicide products. The groups working under me would be responsible for taking the compounds as the chemist made them for whatever reason or as we acquired them from whatever sources and test them for the first time in the greenhouse with applications to soil or to growing plants for the purpose of seeing if they would control weeds. I monitored that process myself very closely and was very interested in the structure-activity relationships that unfolded. We accumulated this data and made summaries and compared known chemicals and then had conferences with the dozen or so chemists that were actively involved in synthesis to discuss what additional synthesis should be carried out.

Ware:

Your position was one of being a scientific administrator.

Upchurch:

Yes.

Ware:

You didn't do bench work?

Upchurch:

No, I did no bench work although I did create techniques for use and I was responsible not only for the greenhouse work but the early stages of field testing. I put several innovations in place. One is, the records will show, that during the period of the late 1960's and early 1970's we had from Monsanto the most complete papers when we introduced our products from the scientific arena. You can go back and look at the new products that we introduced - I had outlined various procedures that you carried these products through. Evaluating as to volatility, the selectivity, the leachability in the soil, the influence of temperature on performance, etc., etc., etc. These documents stand, I think, as models of what you do if you want to introduce a new pesticide. What you tell your colleagues in the world, in the universities and elsewhere, about these compounds and I think those papers stand as outstanding examples of what you need to do. I further created an additional approach in that we would turn these compounds over to our development department and we would create what we called a transfer document which says, "Here's what this product is good for, the market it's good for, what it does technically, it's limitations - here's what needs to be done next." Those transfer documents again stand as models of what you do when you move a compound from one part of a company to another. There were a number of innovative approaches in outlining that kind of research and other things. People working under me did that but I was instrumental in designing those experiments and programs.

Ware:

Very possibly, we've never talked about this, some of the basic work that you were outlining there ultimately became procedural format for EPA testing and background of herbicides.

Upchurch:

I think it's quite possible.

Ware:

None of the people in EPA understood any part of it. They had to call upon consultants and most of their consultants came from industry and the initial laydown of the requirements for registration so I'm guessing you had perhaps a silent and yet unknown role in developing the herbicide aspects of that.

Upchurch:

That was always a very satisfying experience and the company was very cooperative. They would allow you to publish information like this and so it gave stimulus to the scientists and my name was on a number of those papers of that sort.

Ware: You had considerable to do with the development of certainly one, and perhaps three or four major well-known, internationally-known herbicides. Let's talk about that.

Upchurch:

Yes. The first one I was involved in was LASSO, CP50144 as it was called initially. That compound became and still is a major herbicide for corn and soybeans and it had already been through the early stages of evaluation when I got there. It was my job to see that it was polished off and my name is on the introductory paper for that compound. That was the first one I had a major association with. A related compound was the rice herbicide which was related to that, commercially called Machete, primarily applicable to the Far East. There were several other compounds, some of which did not make it all the way through to commercialization and they could have. The primary herbicide, the major one I was associated with was, of course, Roundup. This compound is one I'm very proud to have been associated with because it's an extremely effective compound that controls perennial weeds. It is extremely effective as a post-emergence herbicide in a variety of circumstances, and it is also very environmentally benign. It breaks down readily into carbon dioxide and water and we recognized immediately when that compound was tested that it was a spectacular compound. I thought it was very interesting that the long-range planners at Monsanto had just recently produced a document which said that there is no way the company should be further involved with developing post-emergence herbicides because there probably would be no sufficient market to warrant this. This has turned out to be one of the greatest money-makers of all times among herbicides and probably among all pesticides which shows you how much long-range planning counts for. So that product was extremely successful. I outlined an accelerated program once we

recognized its attributes and by that time I had responsibility for world-wide testing, not just the local testing. My colleague, Doug Baird, then was sent to Canada and to Latin America and to the Far East and we worked with Monsanto colleagues there on doing further tests on this compound and prepared a document. My name is on the initial document that published the existence of this compound. We prepared a transfer document which of course is secret within the company files and is not available, but the published document is. A message to people who are interested in the environment is that rather than lambasting pesticides in general as being terrible things, they ought to be looking at the possibilities for improved types. You could cite Roundup as an outstanding example of a compound that does extremely useful things in crop production and otherwise, and yet is simply not harmful at all to the environment. It's also very safe as far as humans are concerned from the toxicity standpoint.

Ware:

I guess ecologically it's virtually inert. It's a fantastic compound. You had more to do with recognizing its potential and bringing it to market.

Upchurch:

Yes, although I would say that almost any half-witted developer in the agricultural area of herbicides or otherwise, looking at that compound would recognize very quickly its attributes. Now, that doesn't mean it was that easy to identify exactly how you would proceed, which markets you would go for, and whether or not there would be unforeseen difficulties. It would be easy to simply overlook any of those possibilities. For example, we carried out tests on its leaching, on its breakdown in soils, on the influence of sunlight on its performance, on the influence of droplet size on performance, on the volume of application as related to performance, on interaction with other pesticides and other agricultural products. On and on and on and those studies stand as hallmark studies characterizing that compound.

Ware:

You spent ten years at Monsanto. What changes did you see in their overall attitudes or philosophy toward ecology and wildlife and human concerns?

Upchurch:

I think the companies, Monsanto and others as well, are primarily responsive to society and if you say here's a need for a product but it also must have this characteristic and that one and the other one, then that's what they would go for and particularly if you say you cannot introduce this product if it has these certain characteristics, they'll right away respond to that. I think, during the ten years I was there, there was an emerging process whereby Monsanto as well as other companies were increasingly aware of what the demands of society were. Of course sometimes you get off into the

business of having to deal with society's perceptions as opposed to the realities. For example, if society perceives that insecticides are bad, then even though the company might discover and introduce an improved one, if the perception of society was sufficiently drastic, the company might elect not to be active in that area.

Ware:

If you were writing a history of herbicides you would have in their landmarks, stepping stones of major compounds that really were the stepping stones of progress. Briefly, go back through that and tell me what your impression is now as you look back.

Upchurch:

I think you'd have to start with some of the inorganic compounds such as potassium cyanate and sodium chlorate which were available starting in the 1930's and on which work was done by people like Crafts and Timmons, etc. Those products did not really reveal to you the total potency that could be forthcoming, but nevertheless they illustrated that you could selectively control weeds or that you could kill a perennial and people toyed with the idea of weed control. You could imagine but not really visualize completely because you didn't have the examples. Of course, the big advance was 2-4-D and that was dramatic and an outgrowth of activities in World War II, a lot of work at Fort Detrick, by Bill Ennis and others. That set the stage for rather rapid development. There were compounds that followed on, some of which were not dramatic but gave some indication of success. For example, IPC and CIPC, two compounds that followed closely on the heels of 2-4-D showed that you could have pre-emergence weed control of a different type than you had with 2-4-D. But the really big break-through then came when the urea herbicides were introduced. It started in the early 1950's and one of the most outstanding pieces of work of characterizing herbicides was by Gideon D. Hill with Dupont who, in 1955, published an outstanding article on the urea herbicides and their characteristics. What was extremely difficult to understand is that you could take as little as a pound of a herbicide, thinking back in those days, spread it on the surface of the soil and it would prevent weeds from emerging but allow cotton to grow. It was just amazing that you could do it. Now we do that with some compounds which are one-tenth of that level.

Ware:

You say as low as one-tenth of a pound per acre?

Upchurch:

Yes, just ever so small now.

Ware:

Name some of the ureas.

Upchurch:

Well diuron, which is sold as Karmex DL, was the herbicide for cotton and its analog monuron was used as a soil sterilant. There were some

other ureas that were used as well. Those are the two principal ones introduced by Dupont.

Ware:

Following the ureas, what would be the next stepping stone?

Upchurch:

Well, trifluralin, or Treflan as it was known commercially, was the next big break-through. Then, of course, fairly early in those days, in the early 1950's or mid 1950's, we had the acid analide herbicides that Monsanto introduced and they started out with the linear types such as CDAA Radox which it was known as commercially. Those gave a burning sensation when you were exposed to them.

Ware:

To the skin?

Upchurch:

Yes, to the skin. Later on they moved to the aromatic types, Ramrod being the first one that was introduced for weed control in corn, and then later on they followed on with the hindered types of acid analides of which alachlor was the principal type. It was my great privilege to have been associated with the chemists that were involved - very wonderful, creative people and wonderful to work with. John Chupp was one of the chemists, Wayne Ratz another one, John Stevens another. But Olin was probably the most outstanding chemist of all. Olin had been an administrator but he retreated to the bench and that's what he loved to do - make compounds. He made the most pure samples, John Olin was the guy's name. He always wore a white shirt and a bow tie and he was always smoking a cigarette and he would never wear an apron or anything. He would never get a drop of anything on that shirt - he always looked impeccable. John didn't know much biology but he knew chemistry up one side and down the other. I can remember taking John Olin out in the greenhouse to show him some of his compounds that looked fairly favorable on wheat. He says to me, trying to think ahead, "I can see it controls the weeds and the wheat looks okay, but will it have any berries on it?"

Ware:

Now, you did not mention the triazines.

Upchurch:

That's an oversight on my part. Geigy of course introduced the triazines and they became very spectacular compounds.

Ware:

What do you remember most of the triazines - which stands out?

Upchurch:

Well the first one introduced was one called 4-4-4 and I don't recall the structure of that one but that was not successful as a compound. What I do remember is Chuck Ercegovich with Geigy who was responsible

for that - a wonderful gentleman, since deceased. I remember when I went to the British Weed Control Conference in 1964 and stopped off in New York, he took all the trouble to come out to the airport just to meet me. He later went to the University of Pennsylvania. I also remember a paper he gave where it turned out that they had a complete fluke in the experiment. It turned out that it had complete artifacts and he went to the professional Society and presented the paper anyway - he explained that this is all a fluke but here it is.

Ware:

I guess atrazine would probably be the key to all of those, wouldn't it?

Upchurch:

Yes. Atrazine as a corn herbicide which we are still using. Of course symazine was for soil sterilization.

Ware:

Enough of that history. Now, in 1975 something happened that really changed your career entirely, so you're about ready to leave Monsanto and I'd like for you to talk about the transition. Why you chose to leave - were there any internal factors that compelled you to leave or was the magnetic activity elsewhere so strong that you were literally sucked into another career.

Upchurch:

Some of both. I had been successful at Monsanto and had been well paid and rewarded and was looked upon as a very successful leader. I was promoted at one point from Senior Group Leader to Research Manager and later to Manager of Research and I received bonuses for my work and I was looked at as a very "heads-up" person. But you can't rest on your laurels in a company and the company was churning from time to time. I survived through all of those churnings. I ended up reporting directly to John Speziale as Director of Research, and they promoted me up the ladder and made me responsible for additional things. At one point at the end I was responsible for worldwide testing of herbicides, I was responsible for registration and metabolism work in Europe, Africa, in charge of a laboratory in Belgium, and had other people working for me at other places around the world. It turned out that really didn't fit well in the company's evolving requirements. There were some personalities involved. That had to change and the company was constantly re-examining, for example how much work should it continue to do on empirical synthesis and screening versus on more theoretical approaches. There was a question of whether or not it should get more fully into plant growth regulators.

end of tape 2-A

So as Manager of Research, I had responsibility for worldwide activities including a laboratory in Belgium where there were

greenhouses where we did metabolism research. I was responsible for registration in Europe and Africa. I was responsible for early stage testing in the U. S. Given that the company was always churning in how it wanted to portray itself, how it wanted to spend its money, how it wanted to approach the science of pesticide development - there were different needs and the personnel did always enter into the picture one way or another. There were some times when I was greatly benefited because of my personal relationships with people. There were other times when there was some question about whether or not my personal relationship with people may be ruled out some additional opportunities for me. It was not unusual in the company at all to have that happen. At any rate, in about January of 1975, John Speziale to whom I reported began to ask me certain questions about what I would like to do next. It was obvious to me in due course that John had other bigger things in mind and he began to outline some possibilities for me. For example, I would be allowed to go to Japan and open up a Far Eastern research establishment for Monsanto and agricultural chemicals which would have been a great challenge. I would have been allowed to go to Latin America and organize a program there. Or I was told if I wanted to I could simply stay in St. Louis. My feeling was at that time that staying in St. Louis was really not an option because they didn't outline a real job for me to do there. I didn't particularly care to go to Latin America. At an earlier time in my life and career the assignment in Japan could have been very exciting. In fact, I had asked some two years earlier for an overseas assignment and I didn't get it, but that's okay.

Ware:

Where did you want to go?

Upchurch:

I would have negotiated for any place. Of course, Europe would be the best place, but I would have been open for discussion.

Ware:

Another question - why would you have wanted to go overseas?

Upchurch:

Because in a company like Monsanto, your eventual progression is contingent upon your having had experience in different parts of the company and given that Monsanto's herbicide interests and pesticide interests were world-wide, you would be well advised to have some overseas experience.

Ware:

So you just consider that as a necessity for career improvement?

Upchurch:

Yes. There were a couple of large factors in my decision finally to leave Monsanto. One was - my children were at the stage in their progression through school in 1975 that I did not want to take them to a foreign country. They were very impressionable, they were in the

high school stage, they had friends, they would be going to college soon and I just did not see that as a good family arrangement. A lesser factor was that Monsanto did have some problems as I suppose most companies did, on what they called their re-entry problem. You might be sent overseas to a fairly choice assignment but after two or three or five years when you would come back, there was some question about who remembers you and what do they do with you and their record was not good in that regard.

Ware:

That's a little like academia, isn't it?

Upchurch:

Yes. So that was a factor that had some bearing. The other factor was that I really felt comfortable about my ability to cast around and find opportunities and so I did cast around and I identified five job opportunities. I was offered the job to go to Washington to work for ARS to be the point person in the Department of Agriculture in liaison with the world at large. It was a position that Stan Fertig had at one time, Warren Shaw had at one time, and whatever major problem hit the Secretary of Agriculture's desk that related to pesticides whether it was a spill or whatever, a complicated issue or drift, would be referred to this individual. I was offered that position and they were quite disappointed when I didn't take that. That would have been an exciting thing but it's a burnout position. Eventually you'd have to take a position within 24 hours as to what the situation is. This is either a problem, it's not a problem, it's serious, it's not serious, it can be solved by this, that or the other thing. Of course, sooner or later you're going to be wrong and you're going to take the fall for it.

Ware:

So it's a brush fireman's position.

Upchurch:

Yes. But it would have been very exciting for a period of time.

Ware:

Okay, what's the next job?

Upchurch:

Ed Alder at Lily offered me a job to come there. Ed and I had been friends for many years and then I was offered a job with American Cyanamid in a plant-growth regulator area and I could've stayed at Monsanto, and then I was offered the position here. Now all of this time Monsanto was very good to me. They really didn't have a position for me. They put me in a nice office and didn't give me any responsibilities and allowed me unlimited time to sort out what I wanted to do, including staying with the company. In the end when I was getting close to having my ten years for vesting in retirement, they just bought out the last few months. They paid me for those months and let me go. Monsanto, of course, knew that they had a



commodity they had to deal with in my case because I had a great reputation in the scientific community and they didn't want me to go out of there feeling trashed.

Ware:  
Sure.

Upchurch:  
That was a good move on their part. They didn't do everybody that way. I had to tell some of my people at eight o'clock in the morning and be gone at ten. It depends on who you are as to how you're treated. But I was treated extremely well. So I elected to come to the University of Arizona.

Ware:  
Let's back up a little way. At what point did you know about an opening at the University of Arizona?

Upchurch:  
I can't recall exactly.

Ware:  
Did you read about it or did someone tell you?

Upchurch:  
I can't recall how that happened. I'm sure it was an advertised position. They in fact had looked at other people and had not agreed on other candidates so it was a position that had been open for some time. I was one of the second batch of candidates brought in on the search and that would have been some time in the Spring of 1975. I made two or three trips down, in fact Sallaine came down with me once. Gerry Stairs was very cagey about what he was doing to see that he would get just the right person. Among other things that we can talk about was that the amalgamation of that department led to quite a few stresses because you were pulling together Horticulture and Agronomy and Plant Genetics. The horticulturists wanted a horticulturist and the plant breeders wanted a plant breeder and the agronomists wanted an agronomist.

Ware:  
Let's see if we can walk slowly into this because I'd like to get the details correct. You came on two or three interviews bringing Sallaine in all instances?

Upchurch:  
Not in all but in some.

Ware:  
The more interviews, the more likely you were to become the prime candidate. Now, in the Search Committee, do you remember who was your contact person?

Upchurch:

Duane Buxton was the Chairman of the Search Committee and the one I had the primary contact with.

Ware:

And other members of the committee were?

Upchurch:

I don't remember the others.

Ware:

Were they all plant scientists?

Upchurch:

As far as I recall. Now there could have been a non- plant scientist on there.

Ware:

You were brought in to become a Department Head. Is that correct?

Upchurch:

Yes.

Ware:

Your title was the Department Head of . . .

Upchurch:

Department of Plant Sciences.

Ware:

Now had that department been amalgamated out of several at that time or was that your job.

Upchurch:

I was hired to come on board July 1 at which time the amalgamation took place. I got there a little later than July 1, so when I arrived, budgetarily it had been done.

Ware:

Under whose leadership was this being done?

Upchurch:

The Interim Head of the Department was Dean McAlister. He had been in the Experiment Station program as the Assistant Director and they simply put him down to sort of sit as a caretaker until I got there. Of course the department had not yet become a functioning department when I got there - budgetarily it had been combined.

Ware:

Now, historically there had been other units that were brought together. What were those units?

Upchurch:

Well, originally there was a separate Department of Plant Breeding and of Agronomy, so sometime well before 1975 this Department had been amalgamated into what was called the Department of Agronomy and Plant Genetics and Martin Massengale had become the Head of that Department at some point. By the time I got there Martin, of course, had moved up to Associate Dean and was no longer in the administrative setting but that had not happened too long before. But then there was also the Horticulture Department.

Ware:

Hort was the third unit?

Upchurch:

Yes. And there was some churning there. At that point Landscape Architecture had been a part of the Hort Department but they removed that and made it a part of the School of Renewable Natural Resources. The other part that they brought into the picture was Agricultural Botany. At that time the Experiment Station had a certain number of lines and positions over in the School of Liberal Arts - Paul Bartels and Art somebody and Mat Matsuda and Chuck Mason - those were all in a separate budget prior to July 1, 1975.

Ware:

And they were called Agricultural . . .

Upchurch:

Well, Agricultural Botany is probably the closest that you could come to it, but there was simply a series of designated lines and positions prior to this time. It was Stairs decision to pull that all together into one impossible department.

Ware:

Okay, let's look at the scene. The Dean was Gerald Stairs and he had been Dean for how long?

Upchurch:

About two years, I think.

Ware:

Who were the other administrators?

Upchurch:

Martin Massengale was one. Richard Frevert, Director of the Experiment Station, was sort of in transition. He was moving out of administration over into a professorial position. George Hull, Director of Extension, was also in a state of transition - he was in Washington and out of the picture at the moment, he was not here when I arrived. Darrel Metcalfe of course was Associate Dean for Instruction.

Ware:

You came in 1975 and you were facing something very new. Primarily a large number of faculty members, all of whom were unhappy with having to be welded together.

Upchurch:

Yes, this was a "shotgun wedding" I think you might say. Some people were fairly unhappy. I'll relate one story. During the interview on one of my visits we had a group of the faculty sitting around the table where all the faculty members were supposed to tell their little bit of what was to happen, and Professor Leland Burkhart was one of those sitting at the table. By that time, Lee Burkhart had become rather disenchanted with various administrative decisions. As each person around the table put on their best act to tell what the program was all about and what they were doing, the time came for Leland Burkhart to speak. He spoke up and in no uncertain terms he was going to tell me the truth of how it really was and what bad decisions had been made, going way back. As Chairman of the committee, Duane Buxton was very embarrassed and he tried to placate Leland Burkhart, "Dr. Burkhart, I don't think this is the time or place for this kind of discussion," and Leland proceeded to read Duane the riot act - this was his opportunity to speak and he was going to say what he pleased. So he did go on for quite some time while everyone's face turned red and I was embarrassed, but he told me what he thought, in no uncertain terms. It turned out that Lee and I always had a good relationship because we actually had served on the faculty of North Carolina State at the same time. I didn't recall him and he didn't recall me, but we naturally were "buddies" because of that. Of course, at that time I was not tainted by having made any administrative decisions at the local level here in Arizona so I was okay.

Ware:

Because of his somewhat bizarre behavior, I think you were very fortunate in having him on your side. He was an amazing person - caused an awful lot of problems to an awful lot of administrators. Okay - you got here and now you're on the job and you've got all of these disenchanted faculty members, what was your modus operandum?

Upchurch:

Well we had two or three things to deal with. One is that Dean Stairs had insisted that I accept an organization of the department which was really very complex. It involved having a matrix of about six categories based on commodities, and then another six categories based on discipline, so you would have the cotton group but in the cotton group you would have people who belonged to the genetics program, belonged to the physiology program, etc. So you had about 36 cells and theoretically someone would meet in a cell in genetics in cotton and decide this is what we're doing or ought to do or need to do or budget or space or whatever. It turned out to be a completely unworkable arrangement and over a period of time it simply

disappeared as a functional arrangement. So that was one thing we had to deal with. The other one was space because Horticulture had been over in BioSciences East and it had been mandated that they would move into space in the Ag Building which is now Forbes. We had the space and tentative decisions had been made already which, as I looked at it and this gave me my first tough administrative decision, it really amounted to the fact that the Horticulture group was going to move over and they were going to continue to be a separate Horticulture group even though they would be in the same building.

Ware:

Now who made that decision?

Upchurch:

Somebody had - I'm sure Tommy Thompson, who had been Head of the Horticulture Department and was deposed under this new arrangement, that it was his preference as well as his colleagues in the Horticulture area to maintain their identity as a Horticultural unit. So they had staked out space and I was presented with who was to go into what spot. As I studied it, I made the determination that we would have one cytogenetics laboratory and the cytogenetics people, whether they came from Horticulture or Agronomy, would be in the cytogenetics laboratory. Then we would have a set of physiology laboratories and the physiologists, irrespective of where they came from, would be in the physiology laboratories, etc. We would have a tissue culture laboratory. So it was my job then to restructure the space in the department and to make peace among all these people. Eventually they stood still for that. I'm sure there was some resentment harbored in some quarters but that was fundamentally a good decision.

Ware:

Did anyone leave as a consequence of this, just fed up with that kind of activity?

Upchurch:

I think Tommy Thompson eventually did leave, within about two years he left and took another assignment.

Ware:

That was my impression.

Upchurch:

I think he was truly dissatisfied with the arrangement as you can understand. Any of us would have been in his position.

Ware:

Of course, keep in mind he had just been brought there about two years before you came to head up Horticulture, then we got a Dean and then we got the new Department, so literally he became the head of a non-existing department and so his disenchantment was probably well deserved.

Upchurch:

Yes. I can certainly understand how that would happen.

Ware:

Did any other faculty members leave? Did any of them leave mentally and just sort of retire without performing? Names are not necessary.

Upchurch:

No, I think some of them had done that before I arrived and I think some of them were working in areas that were very relevant 30 years earlier, but not necessarily any longer. I think some were still busy collecting data which they were never going to publish and there were some that simply were not productive in my tenure, or were miscast. There were some of them, for example, who were splendid teachers but also had a substantial research assignment and really were very poor in the research arena. So it was my job to sort through all of this, get to know all of these people, and then make rearrangements so people could be in areas where they could be productive. A fair amount of that was, I think, successful.

Ware:

Was the job bigger than you had anticipated?

Upchurch:

No, it wasn't bigger than I had anticipated because I was convinced that I could solve any problem of any magnitude under any circumstance and therefore, I couldn't be surprised. However, as it turned out - well, I was willing to work 80 hours a week and it was a challenge - it was an exciting challenge for me. Again, it was like moving from North Carolina to Monsanto. New dimensions, new arrangements, etc., and it was very exciting for me. But what turns out to be impossible is that there were about 80 people professionals counting the USDA people - that were an integral part of the department, reporting to me plus about an equivalent amount of technical, clerical support. If you look at this by any standards of management, it's totally impossible. Not only that, I was given the assignment - let it be known that part of my salary was on Extension and I was supposed to monitor the Plant Science components of the Extension program. That was a little bit like trying to help the little old lady across the street if she didn't want to go. They didn't want to go. You'll recall in 1975, you were in the same position, when Stairs said that part of your job was Extension - you have to monitor all that stuff and be helpful. But it was impossible to maintain contact with that many people and give advice and direction, etc. Now, you did the best you could and you only saw many people infrequently just because of the sheer magnitude. There was one reason I had written down the name of Floyd Spar because Floyd was a good friend of the Department and of the College. He was a grower in Yuma and very active in the Crop Improvement Association. I soon got to know him well. People were concerned in the department that I was too businesslike, that I had my head buried in the paperwork and that I was furiously writing memos in forty different

directions and perhaps I didn't understand the personalities well enough. Someone got to Floyd Spar and he gave me a "fatherly talk" about how I probably would make more progress if I would just relax a little bit and if I would go have coffee with the folks periodically. I think his advice was well intended. I think the department members who got to him were well intended but what neither group seemed to appreciate was that with 80 faculty members and with a budget this size and this many people and this many dimensions of program and with no Associate Department Head and with no prospects under the system of having one that anyone would pay any attention to, you were faced with an impossible situation. I tried to explain this to Floyd and furthermore if you went and had coffee, which group would you go have coffee with? If you went and had coffee with one and not the other, then you've got a problem in that. My conclusion was that I was simply going to barrel ahead, do the best job I could, and make the best decisions I could - get the best advice I could and then let the chips fall where they may. To this day, I can't believe that this was a wrong decision. I must say I would have enjoyed going and having coffee with the boys. One thing I would have enjoyed that I have to this day not done, given my background in weed control I would have loved to spend some time with K. C. Hamilton and Stan Heathman in the field with their weed control program. I have yet to go put my foot in their field to look at what they did. Now to me this was a sacrifice because I would have preferred to have done that. I would have enjoyed that. I would have enjoyed going to any of the faculty members' research arena or teaching or whatever and looking and becoming better informed. But when you look at the scope of what you had to do, it was impossible.

Ware:

At that time, what would you say your working hours were?

Upchurch:

For the first year or so, it was about 80 hours a week. I was at work every Saturday and Sunday I would spend at home writing memos. I was sort of famous for my Sunday memos, all hand written and with copies.

Ware:

Were you in your office all day Saturday?

Upchurch:

Yes.

Ware:

That was after the time that we worked on Saturdays, so Saturdays in a sense were free days.

Upchurch:

Yes. It was very lonesome there, I can tell you.

Ware:

But you worked on Saturdays and you stayed at home and worked on Sundays.

Upchurch:

After a year or so I made an adjustment and said I'm not going to work on Sundays anymore, so that was when I got more heavily involved in genealogy.

Ware:

What about your hours. Tell me about a typical working day during those first few years.

Upchurch:

Normally I would arrive at the office at least by 7:30. I would have coffee at my desk, never a coffee break that was a chatting type. I would take fifteen minutes for lunch - I could make the cafeteria and have a bowl of soup and a vegetable and be back at my desk in fifteen minutes. I would be at work until 5:30 or 6:00. I did have a private secretary that worked strictly for me as well as Charlotte Brooke as the Administrative Assistant who handled generally administrative duties.

Ware:

Who was your private secretary?

Upchurch:

Well there were different ones, I don't recall specific ones.

Ware:

So you did have someone that could take dictation and carry out . . .

Upchurch:

I used a recorder and the work was done along that line. On the teaching program I was very involved in the evaluation of the teachers and I made it my practice to go sit in on at least one lecture of every course that was taught every semester, with the permission of the instructor.

Ware:

You alerted them that you were coming.

Upchurch:

Yes, I asked them if I could come and sit in at one of their lectures.

Ware:

How did that sit with the Instructors?

Upchurch:

I think they had mixed emotions. I think on the one hand they were probably pleased that I would bother to take the time to come and get



to know more about that. There were times that they probably thought it was an intrusion and thought it really was none of my business.

Ware:

Did any of them ever at any time during those visits change their behavior and say something caustic to the class that might be inferred as . . .

Upchurch:

No. I don't remember anything along that line. I will say I think it did give me a better perception of what the teaching program was about. I was able to blend my knowledge brought from various directions, and there were some professors that I felt that better teachers than their records would show otherwise because I was in their class. There were some others I felt were rather disorganized and were not as good and there were some that were disorganized but very good. You learn - it was a worthwhile experience.

Ware:

Just out of curiosity, where in the classroom would you sit?

Upchurch:

In the back.

Ware:

Would you come in after the class had started?

Upchurch:

No, I would normally be there at the beginning. Sometimes I would be introduced, sometimes not.

Ware:

So the students would know that there was someone in there.

Upchurch:

If they'd look around, they'd see this strange person and they'd know, yes, there's somebody different here. But the instructors would vary on their introductions.

Ware:

Now Darrel Metcalfe was the Associate Dean for Resident Instruction at that time. Did you have any interplay with him with regard to visiting classes like that?

Upchurch:

I'm sure that I would have gone over with Darrel my general program of activity related to teaching as well as to evaluation, and I don't recall any difference of opinion. Darrel was always so keenly interested in instruction in any respect. I was very impressed with the program he had helped instigate in the area of evaluation, the CIEQ program with Larry Aleamoni and I worked very closely with Larry

Aleamoni and with Darrel and I thought that was a very useful program.

Ware:

As I recall, he made a considerable effort to try to stimulate the faculty by participating in this refurbishing for teaching effort.

Upchurch:

Yes. There were a variety of things we did - some of the green houses we reorganized for teaching. We reorganized a tissue culture lab for teaching. We changed the teaching assignments to get people into the proper slots and of course we reorganized the teaching program. We instigated a Plant Science Bachelor's major as opposed to Hort and Agronomy. We still kept the others but we created a Ph.D. program.

Ware:

Had you not had a Ph.D. program before?

Upchurch:

They had had one in Agronomy and Plant Genetics and in Horticulture, but not in Plant Science.

Ware:

So this was a more general Ph.D. program. What was your major problem during those formative years of the new Plant Sciences Department?

Upchurch:

I think my major problem was not in understanding that an administrator is generally not appreciated for what he does. If you take something away from somebody who doesn't deserve to have it and you give it to someone who deserves to have it, the person whom you take it away from - be it space or money or whatever or teaching a course or an assignment - they of course never feel that it was justified to have this taken away from them. The person to whom you give it, normally feels that you were very tardy in getting around to providing them what they needed and that you probably did not provide enough, whether it was salary or space or allocation of resources. It took me a while to understand that a Department Head, in making those good decisions, sort of is going to be in a lonely position and is not going to be appreciated.

end of side 2, tape 2

Ware:

Phil, we're on the third tape and the second interview. This is now the 8th of September, we're still in Phil's home and I think we'll start off on a new topic this morning. The thing that I'd like for you to elaborate on briefly is the new crops thrust of the Department of Plant Sciences that you initiated.

Upchurch:

When I arrived at the University of Arizona in 1975 I soon learned that there was a considerable interest in developing new crops for arid lands. We already had a number of people involved in that sort of activity such as Dave Rubis and Bill Bemis. I became very interested in that not only as it applied to Arizona but as it applied to the rest of the world and tried to augment that thrust in the Department and in the College. I felt that was a unique thing we were doing in our Department and in our College that was very important and it could be a great deal of service to the rest of the world. We did a variety of things to augment this thrust in terms of buying equipment and urging the professors to undertake this kind of work and in getting grants for this sort of work. I ended up publishing a paper in 1981 at the Kuwait Conference giving my concept of what developing a new crop means, what it means to domesticate a wild plant. I have been disappointed over the years that our College and our University was not more dedicated to this on an ongoing basis. It seemed to me that we tended to go more strongly with the development of a new crop if there was grant money available and if the grant money dried up we'd drop that crop and maybe if money was available on another one we'd go to the other crop. I really think the University is a place where you could have a sustained effort over a long period of time and really make progress in new crop development.

Ware:

What crops would you consider new crops and those that you thought were good candidates for our research efforts?

Upchurch:

The ones that we concentrated on were buffalo gourd, jojoba and guayule. Later euphorbia came into the picture and the candelilla plant for producing wax. Of course ERL was conducting research on salt tolerant plants - salicornia in particular emerged from that program. Those were some of the plants that were involved.

Ware:

Was your attempt to bring on new crops - would you consider it successful?

Upchurch:

I would say only semi-successful. I didn't feel that we had an institutional commitment for a long-term program such as, for example, if a particular professor left who was working on new crops, there would not necessarily be a great emphasis to hire another professor who would pick up where that one left off. You might or not be able to hire a new professor and if so, the new professor would take off on whatever direction the professor preferred.

Ware:

Was that a choice of yours as Department Head or was that more an administrative College-level decision?

Upchurch:

I think there was more, without trying to affix any blame on anyone - there simply was not the institutional commitment to go with this kind of program. In fact it is sort of a characteristic of Universities that the heart of the University program rests in the individual professor and that individual professor carries that work as long as he or she is in the institution and when they leave, the next professor goes in another direction.

Ware:

Eventually you developed what became known as a biotechnology center. Elaborate, please.

Upchurch:

The issue of biotechnology was heating up as I came to the University of Arizona in 1975 and in due course it was decided that there should be more effort on this and several professors began to direct their efforts in that direction, Bob McDaniel being one in particular. I was pleased to write the first decision package that brought new money from the Legislature to our College for a biotechnology position. That was done under Bart Cardon as Dean and that position paper went forward, money was approved and if I'm not mistaken, I think Hans Bohnert was the person who was hired to come on board under that funding.

Ware:

You eventually brought on other people into the biotechnology center and certain kinds of activity. Who were they and what were their specialties?

Upchurch:

Really before we got too deep into that, I moved on to other things so I was not strongly involved in that. I'd say laying the groundwork for Hans Bohnert to come on as a biotechnologist was probably the strongest effort I made in that regard.

Ware:

Now Hans really didn't come into the Plant Sciences Department, did he?

Upchurch:

I believe he was a part-time employee, that is he has a joint appointment between Biochemistry and the College of Agriculture and I believe it was in Plant Science, but he was housed in Biochemistry because they had the laboratories available for him.

Ware:

Did the biotechnology thrust begin in Plant Sciences or did it begin in Biochemistry?

Upchurch:

I'd say there was an emerging interest in both places. When I came on board, the Biochemistry Department did not exist and it was only after two of three years that that was formed and became a stronger part of our program at the University with John Law coming on board as Head of that unit. But there was an emerging interest in biotechnology in both Plant Sciences and in Biochemistry during the late 1970's.

Ware:

We're about ready to pass on to another topic but before we do, I am wondering is there anything you feel that we have not covered that belongs in the Plant Sciences Department while you were Department Head? You eventually had someone to help you as an Assistant Department Head I know that was a change in policy.

Upchurch:

Yes. One thing we have not mentioned is the international thrust. I became involved in international programs on behalf of the Department and wrote a proposal for Sorghum Improvement in North Yemen and in 1977, Bob Voigt went to Yemen to lead that program. I traveled to North Yemen a number of times and later became the Program Director for the Title XII evaluation of work that needed to be done in North Yemen. That was in 1979 and 1980. We did get fairly heavily involved in the international program and that brought some resources to the Department by the way of salary release money and we used that, along with other monies, to build what is now known as the Crop Improvement Building and we built that piecemeal. It is now a \$500,000 functioning facility which was brought into existence without any State appropriations but we did it piecemeal, a little bit at a time - that and an associated greenhouse. At one time I recall that standing barren and without walls, it came to be called "Upchurch's Mausoleum." Later on it took on a more functional shape for other purposes.

Ware:

Well, it's gradually filled up and become a very productive and useful facility. Certainly you're to be congratulated on bringing that about because it didn't take tax monies and it didn't take University funding. You might mention the administrative changes, briefly.

Upchurch:

As I became more involved in a variety of activities such as International activities, it was desirable to have some assistance at the Departmental level and I finally negotiated that Arden Day would become Associate Department Head and he took over many of the routine duties of processing paper work for the Department and it was a great deal of assistance in that regard.

Ware:

Moving to another topic - you've been a member of a number of national and international professional organizations and almost to an organization you put all of your energy into those. Review those that you think most important in your career.

Upchurch:

Yes, I became very interested in professional societies and I started out with the Southern Weed Science Society and served them intensively for several years, including finally as editor of their publication. My habit has been to work intensively in an organization for four to eight years and then simply to move on to another one. I was involved in the Weed Science Society of America for a long time, for nine years as a member of the Editorial Board and then progressed through the organization to become President in 1972 and I think I carried out a very aggressive program of work as Vice President and as President in that organization. Along about the time of leaving that organization, as far as intensive work, I essentially single-handedly formed the Plant Growth Regulator Working Group which continues today after a couple of decades in existence as a useful organization. I served first as President of that organization and then for five or six years as Executive Manager which was the position that actually supported the organization on a day to day basis in terms of fund raising and creating the publications, etc. Then I moved on to the CAST organization and I have to thank Bart Cardon for getting me involved in that. He did that after I came to the University of Arizona. He was involved and became President himself and in due course got me involved and I was very active in the organization and was President of that organization in 1982. I then left active involvement in that and moved on and have become involved in the American Council on Science and Health and for about a decade I was an advisory member and then in 1993 I was asked to be a member of the Board. This is an organization that tries to get the truth out to the public about issues dealing with science and health. Those are the major organizations with which I have been involved over the years.

Ware:

In the organization of CAST, you developed a magazine for science leaders.

Upchurch:

Yes. I did that starting out as Chairman of a Committee. One of the thrusts of CAST was to inform the political public as well as the lay public about issues relating to Agricultural Science and Technology. It was understood that in order to have the public understand the science about agriculture, you had to get to the younger people and it was recognized that the teachers in the high schools and elementary schools were putting out information that was not correct. So there was the issue on how to get to those people. I conceived the idea of having a magazine that would go to the 16,000 science teachers in high schools and we studied that for a long time and

eventually received complete agreement from Board for the creation of this magazine called Science of Food and Technology. That still exists and was in a very robust form for a period of time. After I as President I still was active in raising funds for that project and making sure that it was successful. I think it did a lot of good - there still is a great need for that but it's not that easy to keep such a magazine going. I mentioned earlier the Southern Weed Science Society where I was editor of their publication.

Ware:

You received several honors in those societies. Would you enumerate those for us?

Upchurch:

I was elected an Honorary Member of the Weed Science Society of America. In the Western Society of Weed Science I became a Honorary Member and I also was given a number of honors while I was here at the University of Arizona. I was elected to the Gamma Sigma Delta Society here in 1977; I became a member of Alpha Tau Alpha in 1988; I was elected an Honorary FFA State Farmer in 1988; and I was made an Honorary Alumnus of the University of Arizona in 1993.

Ware:

That ought to fill your wall with plaques and certificates that you won't even need anything except a few studs to hold up the frame. Let's go into your change in careers from being Department Head of Plant Sciences as you moved into becoming the Associate Director of the Experiment Station with some peripheral duties.

Upchurch:

Yes. In 1981 after I had been Head of the Plant Sciences Department for six years I felt it would be nice to have some different kinds of challenges and I recall discussing this with Pete Dewhirst who was the Director of the Experiment Station at the time as we drove to Phoenix together. I had always had a very cordial relationship with Pete Dewhirst and over the years we developed a very close friendship. I described to him my desires and ambitions, he undertook to negotiate a change in my duties and in due course I was appointed in September of 1981 as an Associate Director of the Agricultural Experiment Station and was given the title of Director of Development. This was the first time the College had had an official development function and I was given freedom under that title to create a Development Program in any way that seemed reasonable and that would be approved by the Executive Council of the College. I did evolve such a program based in a large measure on relationships with alumni. We created under that program of Development the Friends of Agriculture, which is a sort of an organization used to raise money for the College and that still exists today and people who contribute money to the College are said to be giving money to the Friends of Agriculture. We also initiated under that program the Friends of the Arboretum working with the Boyce Thompson Southwestern Arboretum and Tim Clark was headed to initiate that effort, first as a part-time

graduate student and later on as a full-time employee. We did have in the Development Program a certain effort to bring Vice Presidents of Research of corporations to our campus to discuss the possibility of collaborative work in grants. The greater thrust was in the alumni program where we pursued the further development of the Alumni magazine which we renamed as Agri-News. That continues to exist today and it served us very well. There were a fair number of projects under the alumni program that were created.

Ware:

You mentioned the Arboretum - go back into that briefly and how did you become involved in the Southwest Arboretum and who and what is the Southwest Arboretum?

Upchurch:

The Boyce Thompson Southwestern Arboretum was established by Colonel Boyce Thompson in his will and essentially had been his backyard garden in the Superior area where he had a winter home. Colonel Thompson was an extremely successful promoter of mining interests and very wealthy and he established also the Boyce Thompson Institute for Plant Research as a companion organization which now is located at Cornell University. The Arboretum was a separate venture and he endowed that in his will and it was the first not-for-profit corporation organization in Arizona, established about 1927. When I came to the University of Arizona there was already an existing relationship between the Arboretum and the University and that came about along about 1965 when the Arboretum Board decided that it was not doing the best job of managing the Arboretum and they needed a partner to sort of run it. They struck a deal with the University of Arizona to use the income from the Arboretum's endowment and to put some University money in it and to have a venture. I think they hoped that the National Science Foundation would put lots of dollars into that operation but that never came true. When I arrived in 1975, the relationship with the Arboretum was being managed by the Liberal Arts College, but in fact they had little interest in it. As of July 1, 1976, the responsibility for the Arboretum as far as relationship with the University was transferred to the College of Agriculture, one position was transferred in that transaction. It so happened that there had been negotiations ongoing with the Arizona State Parks Board for them to come into the picture and help support the Arboretum. That event came about on July 1, 1976, and at that time I became a member of the Advisory Board and have been affiliated with the Arboretum in one way or another ever since 1976.

Ware:

Do you want to talk any more about the Arboretum or is that sufficient?

Upchurch:

I think it has been a very successful partnership between the Arizona State Parks, the Arboretum Board and the University and there's every indication that this will continue. It has grown a great deal in



stature and in its nature and facilities available and I think that's probably all we need to say about the Arboretum.

Ware:

After two years of being the Associate Director of the Experiment Station and the Director of Development, you were then asked to take over the leadership of Instruction for the College. That was in what year?

Upchurch:

That was in May of 1983 and Bart Cardon invited me to move into that position after Darrel Metcalfe had vacated the position having earlier been Dean and then having returned to his position as Associate Dean and Director of Instruction and then having retired. So Bart asked me to take over that position and in doing so he asked me to give up the title of Associate Director of the Experiment Station, but to retain the title of Director of Development. I kept the title of Director of Development and that function for a year until 1984. At that time it was decided that the Development function itself should be moved to a new setting and Gerry Eberline was designated as Director of Development in 1984 and served in that capacity until 1990. I continued even so to keep the position of the leader of the Alumni program so I have had continuing responsibility for Alumni for the College since September of 1983 up until the present time.

Ware:

The Resident Instruction program had languished a bit in its later years just before you took over and we were ready for a new and energetic thrust at that point. Why don't you elaborate on your role and the things that you did to beef up Instruction in the College of Agriculture?

Upchurch:

One of the things we were lacking in the Instruction program was an adequate recruitment program and we were all concerned at that time across the nation that enrollments in Colleges of Agriculture were dropping and in fact shortly after I took over the position, we were required to give up positions in the College because our enrollment had dropped. So I took on a special assignment and created an action plan for recruiting students and that had a variety of elements to it. One of them that I undertook personally was the teaching of a course on the overall concepts of agriculture. This was a summer course and was designed to attract Sophomores and Seniors in high school. They would receive one hour of credit from coming and spending one week on the campus with me teaching them about six hours a day about the overall aspects of agriculture starting from day one in man's existence and coming up to the modern day. I had a fairly good number of students, thirty or forty in that program each summer. I taught it for three years and found it to be a very exhilarating experience. That was successful and was expanded in due course into a program called Horizons Unlimited and in that version I continued to

teach my course but we invited other departments to also offer summer courses for these high school students. We also dovetailed with that a research scholars program where some of these students were given further scholarships and invited to stay another week or two and work in research laboratories. We were able to receive some national grants for this program and the Horizons Unlimited program continues to this day and I think is a very successful program. So that had to do with recruitment. In due course we also expanded our course offerings in the general education area. This was an opportunity for our College because the University had decided that every student in the University should take selections from a core of general education courses and they were not that available across the campus. Certain of our courses were designated as general education courses for students across the campus and we also added two or three courses in this category and were able to greatly expand our student credit hour offerings there. I must say I was disappointed in due course because, although we could show we had made dramatic improvements in total student hours taught over the several year period, when we asked for resources to be given to us in consideration of that the University said "No, we can't give you any resources for that." It was really an unfortunate circumstance where Professors and the Department Heads all worked together to create more student FTE's only not to receive additional resources in due course.

Ware:

You started a program which I think became very solid and that had to do with a computer laboratory, in fact several programs, the evaluation of teaching and of teachers, several other items that you may want to develop here.

Upchurch:

Yes. As I came on board, there was already well established the Larry Aleamoni program, the CIEQ project for evaluating teaching. Darrel Metcalfe had brought that into the picture and I thought that was very sound and I pushed it very hard. I would meet with Department Heads to discuss the CIEQ results for their particular departments. I think we were able to establish a great deal of good communication about improving teaching. We did have an initiative on establishing computer labs. Some of these were already partially started but I was able to direct resources in that direction so that we ended up with about five computer labs across the College for use by students. We also initiated a course in teaching students how to use computers. This was very successful for a number of years.

Ware:

One question I would ask you - while you were heading Instruction, what became of the Statistics program that had been in the College for so many years?

Upchurch:

The Experimental Statistics program, Bob Kuehl's program is the one you are referring to?

Ware:  
Yes.

Upchurch:

Historically, it has been the case that Colleges of Agriculture and the Experiment Station have had a program on helping professors apply statistics to their research programs and the University of Arizona was no exception to that. There were several people involved, the key person being Bob Kuehl, and the difficulty was in finding a suitable home for him. At one particular point he was located in the School of Renewable Natural Resources and it became necessary to move that program and I worked with various people to negotiate a new setting for that in the Department of Ag Economics. I think those programs have waned in their importance across the nation, although there still are a number of Universities that have a major program in Statistics. North Carolina State where I did my undergraduate work and graduate work had a major program in that regard.

Ware:

Well there's a simple reason for this decline in statistical programs in the College of Agriculture.

Upchurch: Yes, I think the appearance of the computer and the use of programs that are available and the great facility that professors have developed in using computers means that it has shifted down to the project level. There is still, I think, a great deal of need for consideration of statistics in biological work and I happen to have had a very good grounding myself in that and have published papers jointly with the Statistics professors at North Carolina State. There were other things that we did in the teaching program. I was involved with a Resident Instruction Committee on Policy at the national level. I was involved in long-range planning for the College in a variety of ways and I'll have to confess that I really do not have a lot of confidence in long-range plans in general as they're normally done. The confidence I have is in the long-range plan that each individual has in their own mind, whether they've written it down or not. The long-range plans that we prepare as organizations are useful exercises in some respects, but for the most part they do not result in any major help to the institution. In the Instruction program, I initiated a magazine or newsletter going to all the students in the College called the Highlights magazine. Four times a year we sent this magazine to all the students. Up until that time there had not been any such direct mechanism for corresponding with students.

Ware:

Does that still exist?

Upchurch:

No, that went by the board someplace along the way. One other thing I did that I was very proud of and I don't know how much this was appreciated, but I made the effort to give the maximum amount of money to the Department Heads to spend at their discretion for the

teaching program. For example in some circles it had been appropriate to withhold out-of-state travel money and capital improvement money at the College level so that Departments had to apply for this. In my case, I simply enfolded all that money into a single pool of money, allocated money to the Departments based on what I considered...

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Ware:

Allocated, you said?

Upchurch:

...[B]ased on what I considered to be their needs and taking into consideration as to whether or not they were disproportionately underfunded. Then it was up to them to tell me how much of their total amount of money they wanted to spend on out-of-state travel and capital and I would then allocate money from the various pools for their use. This was designed to give maximum opportunity to the Department Heads to have all of the Instruction money possible that they could spend at their discretion.

Ware:

When you were developing some of these changes in Instruction, did you run into resistance of any consequence across the College?

Upchurch:

No, I don't think we ran into any orchestrated resistance. I think what we ran into was simply a matter of Instruction being a lower priority than some other things. Now you always had a substantial interest on the part of the professors in teaching their particular course and you had a willingness for the professors to participate in the teaching program, say from the advising standpoint. That was always a strong point. But if I were to set a meeting of all Department Heads or a meeting with an individual Department Head to discuss some teaching problem, we would have a very useful, cordial, meaningful discussion but my feeling was that on the way back to the Department Head's office, they would kind of begin to focus on other problems so that there was not a great deal of initiative and energy expended to follow up on the Instruction program in particular. I think part of this has to do again with the fact that Universities operate on the basis that the professor is what counts and Department Heads and the other administrators are really sort of a necessary evil and the important thing is to let the professor do what they do best, teach and do research with minimum orchestration from the administration. I think certainly the professors feel that way and the Department Heads tend to feel that way after a while because the professors tell them to go mind their own business. The Department Heads do some very important things but mostly the professors don't appreciate what those things are. When it comes to trying to re-orchestrate the teaching program in a given department, that's something there's not a lot of enthusiasm for.

Ware:

Going back in time, Darrel Metcalfe was the Director of Resident Instruction for a long period and he built the College's teaching staff and students up to a tremendous level, really kind of a phenomenon at that time. One of the things that seemed to work so well for him was the very close advising by the faculty. Where did that go after Darrel left the office?

Upchurch:

I think we continued with a very strong orientation of faculty members of the College of Agriculture advising students and there has been some weakening of that in recent years, but still professors in the College are relatively available to students even to this day. We contrast with other Colleges in the University in that regard. I think there was a natural tendency to have this function - I think that Darrel Metcalfe accelerated that and gave emphasis to it and that it continues to this day to be a relatively strong point of the teaching program in the College of Agriculture.

Ware:

Midstream in your career as Resident Instruction Director, the Deanship changed. Bart Cardon left the office and we brought on Eugene Sander. How did that affect your program and then what happened after that?

Upchurch:

I worked under Dean Sander from about August of 1987 until May of 1988 as Associate Dean and Director of Instruction and he and I had a very positive relationship. I did find that in working with Deans - Dean Sander and Dean Cardon in particular, but I think this is a general characteristic, that they really did not want you to come to them and explain a lot of things. They didn't want to take up a lot of time with explanations. If you had a problem, the appropriate thing to do was to take the problem to them and tell them what your solution was and ask for their approval if you needed it and do that very quickly. I found that to be a very successful route in working with both Cardon and Sander. They were very supportive of an administrator, but they didn't want to take up a lot of time chatting about all of the ramifications of what might be and how something came about, etc. So I had some feelings of difficulty with Sander, not that we didn't have cordial relationships, but that I didn't get to sit and explain to him all of the things that I thought were important about Instruction - what our problems were, what our challenges were, what our opportunities were. That was a sense of some frustration to me but no great difficulty as I learned that this is the way you had to work with this particular person. What happened then prior to May of 1983 is that the time came for my five-year evaluation and that turned out not to be so favorable. I have some very strong feelings about how that all transpired but it worked out well in the end. I think the five-year evaluations of administrators is a terrible thing in the University system because the administrator is picked by a committee- in some fashion and usually

with a strong input of whomever the leader is, the Dean or whomever. The administrator responds to the Dean and does what they want done and then at the end of five years you ask the faculty to evaluate them. Now the faculty is evaluating rather than the Dean and I think that's an unfair situation. In my case I think both Bart Cardon and Gene Sander would say that what I did as Director of Instruction was in keeping with their directions and guidance and advice and I was very responsive. I think another unfair aspect of the evaluation in this particular case, and I'd not like to make an issue of it, was if you were to read my five-year evaluation it included only about 50% of what my assignment was. The committee that was evaluating seemed to have little desire to evaluate my total activity - I thought that was unfortunate. Another unfortunate thing about it is that when I was appointed to Associate Dean by Bart Cardon - this was not through committee action - it was based on his decision as being that I was the right person for the job. I had not been actively involved in the teaching program to a large extent other than as an administrator. I had not been a classroom teacher. There were about three people who came to the Dean and particularly to Pete Dewhirst and protested my appointment. It was decided that the protest would be set aside - they were listened to but they were told that this was the decision. I was a little bit surprised when it later turned out that those same three individuals were among the five that were on my evaluation committee and to this day I cannot believe that those individuals had an unbiased view of what they were saying about the Instruction program. Furthermore I think, as I read the evaluation, I could see aspects of inaccuracy and aspects of unfairness and I told Dean Sander at the time. He said to me, "Phil, I have no problem at all with your running the program but with this committee report I've got a problem." My comment to the Dean was, "Dean, this report will not stand the light of day. There's no fair unbiased group who would look at what has been done in this report and be satisfied with this unfair evaluation." However, it was probably a blessing in disguise that my five-year report led to me giving deep consideration to other things that I could do. I proposed to the Dean that I take on something that I had really wanted to do for a long time. I had long been interested in the concept of desert legumes and even in 1977 while I was Head of the Plant Sciences Department, I formed a working group on desert legumes. Legumes are an extremely important plant family and they exist in all the deserts of the world in the arid and semi-arid lands. I thought a collection of these legumes and a study of them would be a fascinating academic exercise with tremendous potential on the practical side. I proposed to Dean Sander that I simply go do that, something that I wanted to do very badly and it would give me a strong academic thrust as I finished out my career at the University. Gene was very supportive - he was perfectly happy to help me get that done. He said, "However, Phil, I need your help in some other ways. Would you please continue and strengthen the alumni program." I told him I would do that. So at that point I went off in a corner and designed a program for myself and created what then became the Alumni Affairs Department in the College and the Arboretum Affairs Department. I became Director of each of those two separate

budgeted units and funds were allocated to me to carry out that work. Therefore I assumed full responsibility for management of the Boyce Thompson Southwestern Arboretum again and under that heading also carried out and orchestrated and organized the Desert Legume Program. I must say, I have been much happier in this six years that's intervened than I feel I would have been had I been given a great blessing and encouraged to continue as Director of Instruction. I think the program has been very satisfying including my work with Alumni and my work with the Desert Legume Program. There's no position in the University that's better than being a professor.

Ware:

I think that a lot of the professors don't know that. Once they become an administrator they jolly well know that.

Upchurch:

They understand.

Ware:

Well, this was quite a transition and yet it was one in a sense of your own making - going from Director of Resident Instruction to Director of Alumni Affairs and Director of the Arboretum and also developing a new program of desert legumes. I think you've enjoyed the Desert Legume Program as much or more than just about any of your other projects, haven't you?

Upchurch:

Yes. It's been the most satisfying. You don't have to contend with Department Heads who may or may not wish to do what you think is important and you're not Head of a Department where you've got to be worried about affirmative action and course loads and budgets, etc. It's truly been a fascinating and enjoyable and productive experience and I've tried to set it so it will continue into the future.

Ware:

I was fascinated by your ability to get people to volunteer to work their little tails off to help you on that. How did you bring these people into the program?

Upchurch:

It turns out there are a fair number of people out there who are interested in plants, in the environment and the outdoors and they're looking for an outlet as volunteers and they're happy to step up. There are people who were interested but are not in a position to be a volunteer but are willing to supply funds. Of course they have to be persuaded that this is an important program. There's a certain social aspect to it - our volunteers with the Desert Legume Program enjoy getting together for a holiday party in December and they enjoy their monthly work sessions and they enjoy their trips out collecting seed. There's a lot of camaraderie involved. We've gradually been accumulating sponsors and donors - we probably have something on the order of 400 people who now support the Desert Legume Program one way

or another -through financial contributions, contributing their time, or sending in seed or whatever. So we have both the lay person component where people are doing it because they are interested just in plants but they don't understand a great deal about the technology. We have a fair number of people who are interested in the technology, the theory, the taxonomy, the metabolism of these plants, etc.

Ware:

How many people would you say are regular volunteers, people who routinely come and help?

Upchurch:

I would say we have a hard core cadre of about 30 volunteers. At any given day where we have a volunteer group we may have 15 but we have a cadre overall of about 30.

Ware:

Well that is a phenomenon to me - any place you get volunteers to do farm work. Let's move on to the period that you are now in and leaving and that is the Director of Alumni Affairs and Director of Development. Let's start with the Alumni Affairs. You took that over in 1981 to 1983 and you've continued that on a more concerted effort in 1987 after Sander came aboard. Talk about your progress and the many things that you've done in Alumni Affairs.

Upchurch:

Just to go through the sequence - I became Director of Development in September of 1981, I elected to give emphasis to the alumni program as a part of the overall Development Program and I have, since 1981 for the College, kept that responsibility in a leadership position for the College for Alumni Affairs. I pursued that for two years as Director of Development. I kept that during my five-year period as Associate Dean and then in May of 1988 under Dean Sander's impetus, we decided to grow that program some. One of the steps I undertook was to create a facility for this. Previously we had been operating the Alumni Affairs out of a corner of an office and Dr. Helen Goetz had been a volunteer as Executive Manager of the Ag Alumni Council, coming in a for a few hours each week, but working out of a corner in the Instruction office. I was able to obtain space in what is now 325 Forbes and was able to get money to modernize that facility and to create it as an Alumni headquarters. Some of our alumni contributed money to help renovate that facility and to make it an alumni headquarters and it continues to this day to serve that purpose. For example we have a collection there of practically all of the Desert Yearbooks for all the years. The alumni come in and they're anxious to pick up the yearbook for the year they were there and to look to see their picture because they have probably lost their yearbook by now. So we created a very nice, cordial, pleasant facility and I was able to acquire the furniture and the accoutrements equivalent to a Vice President's office in the University because of my function of working with alumni. At this point, I have the most pleasant office



in the University barring none, both in terms of its amenities and in terms of the good people who come there to visit.

Ware:

As I recall, you had the opportunity to actually design that facility.

Upchurch:

Yes, we did.

Ware:

You had marvelous help on the part of the construction coordinator from the College.

Upchurch:

I think it was a fellow by the name of Ware. So that was a nice accent and the program really took off from that point on. We had been gaining momentum and had tried a variety of activities. Of course we had the Homecoming which was already a strong event even in September of 1981. We had had for a couple of years a sort of a newsletter for alumni and we had had the Ag Alumni Breakfast already established for Homecoming. It was a strong function and we continued it and we've added to Homecoming a number of things. We've added a golf tournament which takes place on Friday which provides some money and income for the Ag Alumni Student Support Endowment, and we've added a banquet on Friday night which is increasingly well attended. We call that the Recognition Banquet and we've added a headquarters hotel and we've added a shuttle to take people from the headquarters hotel back and forth to the campus. We also have special events on some occasions in conjunction with Homecoming. Homecoming is a very strong part of our program in Alumni Affairs and we've simply built on natural interest and what has worked in the past. The AgriNews has continued as a very strong component of our program and is well received. We can tell that because, among other things, we receive more responses back from the readers wanting to tell us about their job changes or new children born or whatever. We have far more proportionately than the University overall has. If you read other College of Agriculture newsletters, we have more than other Colleges of Agriculture have. There's one interesting aspect of the AgriNews - I write an article for the AgriNews called Here and There, and it's a name dropping thing. I just simply report who I've run into across the countryside as I've gone about and people like to see their names in print. We put it in bold print and that works very nicely because people will say to me, "Oh, I saw you mentioned my name in your Here and There column." But I also ghost write the Dean's column in AgriNews - of course that's not for broad public distribution, but it is of interest to me. From time to time I will have a discussion with a reader of AgriNews who will say, "That's a fine publication, I really enjoy your article but I can't make sense out of what the Dean has said."

Ware:

That's terrific. There may be little subliminal vibes.

Upchurch:

I think part of the reason is of course my article is a fun and games article whereas the Dean's article is always something serious about the budget or whatever so he comes off second best.

Ware:

You're not putting him in a very good light.

Upchurch:

Well it's a burden he has to bear.

Ware:

That's a good story.

Upchurch:

We have a number of other activities in our Alumni Affairs Program. We have some meetings out across the State of various kinds but probably one of the most significant things we've done is to bring the Awards Program up in profile in the College. Over the years we've perfected what I think is an outstanding Awards Program using some volunteers to help us collect background information and we have a array of awards. Of course the peak of that would be the Honorary Doctorate which we try to orchestrate and get candidates in line for that. Then below that would be the Lifetime Award. We've now had those for three years, going into the fourth year now of Lifetime Award winners and we get their picture and frame it with a little description of what they've done, with a Medallion and then we make two of those - one for them to take home and one for us to place in the lobby of the Forbes Building. We are increasingly calling that the College of Agriculture Hall of Fame. If anyone wants to stop by and have a look at it, it's a very impressive array of personalities and people that have made contributions to the College. Eventually this will translate into more support for the College in a variety of ways.

Ware:

Now these awards that you're referring to are not necessarily those given only to alumni, are they?

Upchurch:

That's correct. We have some awards that are given only to alumni, some awards that are given only to non-alumni - for example if you are to be elected as an honorary alumnus you cannot have graduated from the University of Arizona so that is for non-alumni. But we have other awards where it doesn't make any difference, the Lifetime Award being one example of that type. The Awards Program has been very successful and very well recognized - the Lifetime Awards Banquet we have in the Spring is well attended and people are very proud to have their name in that array of people who are so recognized.

Ware:

This program did not exist before you took over leadership.

Upchurch:

There was no Lifetime Award program. There were some others. We have brought on the Honorary Alumnus Award. It was technically available but in fact never accessed, but now we do it regularly at Homecoming at the Recognition Banquet. We induct three Honorary Alumni just as a matter of course.

Ware:

I've been to your office and right now one of the walls is literally covered with these Lifetime Awards.

Upchurch:

Well, no. These are the endowment specifications. The Lifetime Awards are portrayed in the lobby of the Forbes Building. The thing that's displayed on one wall in my office would be the specifications for endowments which is something we need to say a word about along the way. It's an interesting program.

Ware:

Let's just go into that.

Upchurch:

Over the years I had given a lot of thought as to what a Development group in a College of Agriculture ought to do and I've come down on the side of saying that a unique thing that a Development Group can do is to create endowments to support the College long term. A given endowment may support the College broadly or it may support a specific program or specific Department or it may support County Extension work or it may support students or whatever. The endowments are perpetual endowments which support the College long term. Our College now has endowments worth about seven and a half million dollars. There's no reason we shouldn't move that up to double that and quadruple that in the not too distant future. The endowments represent an opportunity that is unique for acquiring assets because people appreciate being recognized and if there is an endowment with someone's name on it we find that that endowment tends to grow by one mechanism or another. Certainly if it's an endowment that a number of people have already contributed to we would continue to go back to those people and ask if they would like to add more to it. For example, Bart Cardon's Endowment was created in his name about 1987. When we had a recognition dinner for him and people paid for their peas and chicken and gave a little money for the endowment, we collected about \$17,000. That endowment today is worth about \$70,000 because different people have continued to contribute - one person came in along the way and contributed \$15,000, a single chunk of money. Other people have contributed and we find that if you create these endowments, even though they'd be small to begin with that they will grow. I feel that many of the people whose names are on these endowments will also have those endowments referenced in their will.

Over time it will tend to be almost an explosive growth of support for the College. I feel that the Departments and the professors are well organized to go get money to support their work for the near term. They know how to go get grants to support specific research, but what we need is a Development office which handles the long term so increasingly what we have orchestrated is the creation of endowments.

Ware:

One of the things that I know you initiated was the Phonathon. Has that been a successful venture?

Upchurch:

Yes, but you have to look at it in a certain light. We did create that very early in the game, I think probably back in 1982 would be the first one. We tried it in a variety of ways and we've settled down on doing it in a certain way. For example, we started out by trying to get clubs to send in their members and compete, but that didn't work. We tried to get volunteers and that didn't work, but what we finally settled on was the trick of getting new students coming into the College to be enrolled for pay to do the Phonathon. We have created a project which we call Project Benefit and this consists of the Director of Alumni Affairs, myself in this case, in July writing a letter to all the incoming Freshmen and transfer students that are coming to the College and saying, "We congratulate you on coming to the College, you will enjoy it - come by our office in Alumni Affairs and get acquainted and, by the way, we may have a job for you." What we have in mind is that they'll come in, we'll hire them to make the Phonathon calls and that fits in with the Alumni Affairs because we're supposed to be getting to know existing students well. Later they're going to be alumni and that part works out very well. So we pay these students to call and furthermore we need help in our office so we winnow out of that group - we'll hire about 40 of those students for calling - and we pick out the best ones and give them more important assignments and about five of those we designate as "Dewhirst Scholars." We use funds from the Pete Dewhirst endowment to pay those students and buy them a nice jacket and nice attire which they can wear to special events. We still pay these Dewhirst Scholars for working, but now they're working at sort of a superior level and they're given project assignments. It's tremendous as to what they can do. You give them as much responsibility as they can possibly take. That's a fine program.

Ware:

Tell me about the Phonathan yield in dollars?

Upchurch:

Well, here's the way you're going to have to look at that. You're never going to run a Phonathon and end up getting rich. It costs you almost as much to run it as you collect. We collect between \$20 and 30,000 a year. But what we tell our students that are doing the calling is that we want you to get money but the most important thing

is that you have a positive relationship with that alumnus you're calling. You have a pleasant discussion with them. It will be brief but it must be pleasant and we feel that that will lead to success in the long run. This is building the base of our operation on a pleasant association. I think that works. I think there are people there that later will elect to give a larger sum of money.

Ware:

As you reflect on your last six years in this present position that you leave, where do you think your greatest contributions have been overall, both to the College and to the State?

Upchurch:

I think my greatest contributions have been in the area of people relationships in the area of Alumni Affairs and Development. I cite in particular those cases

Start Tape 4

where we've established an endowment in the name of an individual. I have personally participated in establishing about 30 such endowments up to this point and I think we've learned how to do that and that established a very positive and personal and deep relationship between the College and an individual. I hope that will continue. I think perhaps also in the long run the Desert Legume Program will have an impact because I think we will see growing out of the Desert Legume Program important discoveries either related to the field of medicine or to the field of use of plants in our environment one way or another. I think those are the two areas where I feel strongest about what I've been able to contribute.

Ware:

We're approaching the end of your history. We've not gotten into the philosophical aspects of it which I think are always important at the end an interview. Are there any points that we have missed that you'd like to cover at this time?

Upchurch:

I might mention a couple of things that we have not touched upon in our discussion. One is my own self evaluation of how I think I have approached my assignments and that is in all of my administrative as well as my research assignments where I've had a personal research program. I think one hallmark has been aggressiveness, whether it was an administrative program or otherwise, and fairness. I have always looked upon myself as making the hard decision irrespective of where the chips may fall and if it happened to hurt somebody's feelings, I didn't want to do that but I would not shirk from my duty if that happened to be the case. I don't know if that won me a lot of friends or made me a lot of enemies, but that has never been a consideration. It's always been to proceed aggressively and actively do whatever this thing is and be fair and honest and we're going to move on from there. It's just been a characteristic of my behavior - that's the

way I interpret it. Another feature is that I've had a strong feeling about developing people. I've worked with a lot of people and they've made some fine contributions to programs I've been associated with. I've tried to give people an opportunity to grow and I've always had a little lecture that I gave to people that, "You've got to look out for yourself. I want you to stay here and help me do this thing forevermore and at a cheap price if I can get it, I'll give you more money if I can but maybe I don't have more money, but you've got to think as to whether or not there's a better place for you and when there is a better place, you should take that, and I would encourage you to do that." I've worked with a lot of people and I think have promoted people to go on to other things. Another characteristic as of my background, sort of a highlight, is the cultivation of multiple interests, both over time moving from my early days of working in forage crops on to working in weed control, to working in professional societies, to working in industry on certain aspects of herbicide research and development, on to administration in the University and working in Instruction programs and then in my own more personal life. I've given a great deal of attention to the family, probably not as much as they think I should have, but I do have my list of things which I say I have contributed to the family and it's been very important to me. Over the last ten or fifteen years I've developed further interest in genealogy and in farming and those interests are very significant to me. I'm looking forward to participating in some of them more in the future.

Ware:

You have been at the University of Arizona for almost twenty years. Have you ever had any serious conflicts with any of your faculty as a Department Head or any people who you worked with in the alumni group, or with the Administration of the College or the University?

Upchurch:

Yes, I had some. They're not all that consequential. I had one with Gerry Stairs - he and I got along famously -he was a great guy because he hired me. But there was one occasion when he and I had a difference of opinion. He got rather testy with me about this. When I was hired he sent me a letter offering me the position and salary and a tenured position. After I had been here a number of months, I guess it was when the next year rolled around, I received my letter of appointment without tenure. I visited with Gerry Stairs and said that this was a problem. His view was that, "Don't worry about it, we'll submit your name for a tenured position and it won't be a problem." I said, "I've got a problem with that because I have a letter here saying this is what I was offered and this is what I expect to be the case." I think the situation was that probably Gerry Stairs had not completely cleared all this with Al Weaver and he was going to have to go over on bended knee and speak to Al about this and clear up the situation. When I insisted that this be done, Gerry Stairs blew his top, got mad, was unhappy, but said, "It will be done." It was done and we had no more discussion about it. But Gerry Stairs and I had an excellent relationship. I think he was very pleased with the fact

that he hired me and he gave me that indication on a number of occasions. There was one other occasion in which I received a letter of admonishment from John Schaefer as President of the University. I've never shared that letter with anyone, I've hidden it in the files - I never shared it with my wife I didn't see it would serve any useful purpose. But what happened when I was Head of the Plant Sciences Department - we were very short of funds and I particularly recognized that we had a lot of foreign graduate students who had come into the picture and they had a lot of money to support them from their institutions. We had little money to support their research at this end. I conceived the idea that I would write to the sponsors of these people and say, "This is not a requirement but would you like to contribute X number of dollars, \$500 or \$1,000 a year, towards the research that will be carried out as a thesis for this particular student. Now, if you don't have it, we'll still do our job but this will be very much needed." I cleared that with two senior officials in the University, one in the College of Agriculture and one in the University itself. It was later determined by another senior official in the University that this was inappropriate. Maybe it was and maybe it wasn't, but the fact is I had an agreement from two senior officials, both of whom denied that approval. I was disappointed in that. The senior official who blew the whistle on this, I'm not mentioning any names, I'm sure he then drafted a letter from the President to me chastising me, pointing out how this might get us into trouble with the Board of Regents and that I should make arrangements to return the funds, which I did. I think the letter was unfair. I think the two individuals with whom I had discussed this were not honorable in their having let me down and I didn't expect that they would say to keep doing it anyway, but I did expect them to step forward and say that they had approved this. So I have that letter hidden someplace. You pick yourself up off the floor and you go ahead and do your thing. I am pleased to say that John Schaefer and I have a cordial relationship and he and Helen have contributed to my Desert Legume Program financially over the last several years and bless be they're both coming to the Retirement Reception tomorrow.

Ware:

Well good. I have a feeling that Schaefer knew about that only as he signed the letter.

Upchurch:

Yes, I think that's true.

Ware:

And some Vice President beneath him probably made that decision. Phil, you're an ambitious person. Have you ever wanted to be a Dean, have you ever applied for a Deanship?

Upchurch:

Yes I have applied for several Deans' positions and I have never achieved that particular assignment. I think I probably could have had I continued to orchestrate my arrangements, etc., but I really have never put a lot of energy into trying to further my career beyond simply doing a good job of wherever I was. I've always felt comfortable that I had a great challenge wherever I was and that there was plenty for me to do and if I'd just get busy and do it, then I could show the results of that and that would be satisfying and helpful to my employer. If there was another position I where could serve, it would appear. Now I did apply for positions but never an orchestrated arrangement that I've just got to engineer moving on to the next thing at whatever cost. There are some people who operate their career in that way. They've got it planned out that every three years they're going to move into a new position. I don't know how I would have served in some of these higher positions. I know there are people who feel that I should've been serving in higher positions - Charlie Black who was the founder of CAST and with whom I worked extremely closely, was absolutely convinced that I should be President of the University of Arizona and I am honored that he felt that way. I have a number of other people across the country in high places who have given me very strong letters of recommendation and have given me a great feeling of accomplishment that they would say nice things about me. I do have a cadre of associates who have felt that I had a lot to offer and that I had contributed a lot and that I ought to be given additional opportunity to serve in additional capacities. It's never bothered me tremendously that none of those additional challenges came - I've always felt that I had lots of challenges at each step along the way and I've never worried about money. Both my wife and I have been very good stewards of what we did have. I've never gone out of my way to try to make extra money although some opportunities in the way of consultantships, etc., have come to me. I've never worried about money, I've never asked for a salary increase but I've always been rewarded extremely well wherever I've been and I've been satisfied with that. By the way, one of the prize consultantships I did have is that I was the consultant to the President of Eli Lilly & Company for eight years in the arena of Plant Sciences. I thought that was a wonderful opportunity, I appreciated having been at that exalted level.

Ware:

That was an honor that we haven't covered. As you reflect on all of your professional career, what do you recall as your greatest disappointment?

Upchurch:

In broad terms without thinking of a specific case, I would say that I would love to have had closer relationships with people. I have intentionally put my priority on the job in getting things done, not that I haven't been cordial with people, it's not that I haven't developed a lot of close working relationships, but I have not devoted the time and allocated the time to cultivate deeper



relationships with individuals, either on the job or off. I'm not saying that I should not have done some of the things I did, it's just that it certainly would have been more satisfying could I have had the opportunity to have had closer and deeper working relationships with various individuals. In terms of any specific disappointment I don't think of anything that particularly deserves to be raised up. I've had difficult times in my life in my career - those were challenges to be met and overcome. There were things that maybe at the moment you didn't see them as a plus but maybe they turned out as a plus later on. I don't have a scintilla or bitterness towards anybody, any place or any time.

Ware:

Well, disappointments tend to fade with time because we usually have current problems that overwhelm us that we forget some of those. In retrospect again, what do you see as your greatest success, the thing that you have derived the greatest pleasure from regardless of when it was.

Upchurch:

Again speaking broadly, I think that my greatest contribution has been a demonstration of commitment to my lot in life. I have had an extremely high level of commitment to whatever I was doing and I hope that that has served as an example for other people. Because I came out of a poor setting, had I been in any other part of the world I would not have had the opportunities I've had. Opportunities have been available to me and I've seized them and I think this serves as an illustration that anyone can be successful in life if they'll just get on with the job. I don't have any patience with people who sort of lay back and don't take care of themselves and don't get busy and do something useful to help themselves and their family. I know it can be done, the opportunities are there. Perhaps the greatest contribution I've made is serving as an example that you can do things, that no matter what the obstacles are you can deal with them, you can overcome them and can make a contribution - you can find a place to be of service. Now if you go into specific things that I've done, I think in each of the professional organizations that I have been affiliated with, I've left my mark on the organization. I have never gone through an organization without it being substantially influenced by my presence. You look at the Weed Science Society of America, every newsletter that comes out has my mark on it for several reasons - one is I created the newsletter, it didn't exist before I got there. Every time a newsletter comes I think, I did this. Or the photo contest in WSSA, I created that. The endowment in WSSA, I created that. So there are any number of things that exist that I know that are in place - for example, the Horizons Unlimited program in the College of Agriculture I created. The endowment program in the College, I brought this to a higher level of performance in activity. The Development Program has been orchestrated under my direction. Every organization I've moved through, I've had an impact on it and I think that's been a thrill, it's been a great deal of satisfaction. Going all the way back to my

work on herbicide behavior in soils in North Carolina to my work in professional societies, to my work in Monsanto with the various products, to my contributions at the University of Arizona, I've just made a mark wherever I've been in a certain fashion. I hope a lot of those things will continue to have impact. The Desert Legume Program still has a substantial impact, the Endowment Program at the University of Arizona twenty years from now will be far better because of the little inputs I've been able to add. I'm not finished yet.

Ware:

You've been a very successful person in academia, in the industrial world, in developing a foundation for College of Agriculture funding, you've been a very successful family man, and more recently a very successful business man. If you were assessing your own credentials, what would you say are the attributes of your success?

Upchurch:

I would say commitment. If I undertake to do something I will do it and a great many of the things that I have done were things that people said you couldn't do. That doesn't mean you should just jump off a forty story building because people say that you can't do that and live. The smart thing is to say, "Is there an elevator - I can get downstairs, where's the elevator?" I think commitment is important.

Ware:

It certainly is. What other attributes do you have that have led to your success because you are a remarkable person, unquestionably.

Upchurch:

I don't know about that, but I somehow have a sense that I am able to view things perhaps more in perspective than other people and get to the heart of the matter. I notice that a lot of other people in analyzing situations will get sidetracked into subsidiary issues which are not that relevant. I think as I analyze situations I can get above the matter of detail and above the matter of the trivial and get to the heart of the matter and make a decision on what specifically needs to be done that is crucial and critical. I would say that I think one of my limitations is that I don't have a good memory. I remember some things - in my genealogy I can remember all sorts of things about the family I don't even try because I think people are naturally that way. If you're really keenly interested in baseball you remember all the scores. I tend to remember certain things but in fact my memory is not very good and so I've created a number of techniques for dealing with that. You might say that I am known for my organizational ability and I'm a highly organized person in terms of material goods and in terms of my thoughts. I think being an organized person has served me well and it gets back to the matter of being able to make decisions on crucial matters without being sidetracked. Another thing I've learned to do is to work with people irrespective of my opinions of them. Mostly you find people to be

nice and upstanding. From time to time you run across someone whom you don't have a natural relationship to and maybe you even think they're downright boors or they're dishonest or whatever. I somehow have been able to put all that aside, not to say that you wouldn't keep your guard up someplace along the way. I've worked with a lot of people in my life that, at some point, I would have felt that they were so much against something that I wanted to do that I had a basis for saying, "That person's my enemy," but I don't accept enemies. I only accept responsibility and if there's somebody in the organization that for some reason there's a difficulty in working with, I naturally would not go seek that person out on a lot of occasions but if it occurs that I need to work with that person, I can do that. I've steeled myself to think in that manner. I'm not particularly impressed with the fact that I didn't get along with somebody under some previous occasion or that they didn't approve of whatever it was I wanted to do.

Ware:

Commitment, perspective, organizational ability and working with people regardless of your attitudes toward them or your opinion of them - that plows a lot of ground and apparently did the job for you. Well, you're going to leave Arizona and go to a new career. What are your plans for the future?

Upchurch:

I'm going to cut my work week back from 70 hours to 60 in this so-called new retirement. I plan to spend about 20 hours a week on farming operations at Fine Acres Farms, about 20 hours a week on genealogy and about 20 hours a week on real estate development. I plan to get my real estate agent's license to learn more about land in all of its aspects from the standpoint of how you use development potential, perhaps buy some small parcels of land and develop them and to create diversity in my farming operation.

Ware:

Is it fair to ask you about your farm and the size of it and the number of smaller farms that comprise your larger efforts?

Upchurch:

Yes. Since 1986 we've bought eight tracts of land so that we're now up to 1,200 acres of which 1,000 acres is tilled. We plant corn, soy beans and wheat and we're currently working with three operators in the local area who have their own farm equipment and farm in general and we farm on shares. I'm looking forward to the possibility that I would take over that myself and hire my own farm manager possibly in August of 1995, buying my own farm equipment and hiring my own farm manager. We've been very aggressive in our upgrading of these farms - soil conservation and otherwise. In fact Sallaine and I won the State Soil Conservation Award in 1993 in Missouri for work on our farms.

Ware:

Was that a singular award?

Upchurch:

A singular award given to only one farm in the State of Missouri each year.

Ware:

And you're not even a resident of Missouri.

Upchurch:

I wasn't even trying for an award but we feel very strongly about soil conservation in cleaning up these farms and making them economic units. We will continue that to acquire additional tracts of land and to make that farming operation more efficient and more effective and hopefully productive in an economic sense.

Ware:

You have built a new house. Would you talk a little bit about that and where it is located?

Upchurch:

Yes. Our new home is in a village of about 10,000 people called Lake St. Louis, Missouri. That is about a 30 minute drive west of the St. Louis airport along Interstate 70 that runs to Kansas City. This village is on a 600 acre man-made lake and we're one house removed from the lake. It's a house built in keeping with the standards of the community which means it's a two-story house, four bedrooms, it has a full basement and it has all the amenities you'd expect in a nice home in a subdivision in a suburban St. Louis area. We're 30 minutes from our children - two of our children who lived in the East, our son Barry and our daughter Deb and their families live slightly to the East, and if you drive 30 minutes West along the Interstate you come to our farm property. I will probably be getting a small office facility in the little town of Wentzville which is about five minutes away and begin to conduct some of my activities out of that facility. Sallaine will be developing the amenities in this house, that's her penchant and desire. I thought about buying a used house and we looked at a number but she said things such as, "I'm not going to buy this house, the oven's dirty," so I finally got the idea that that meant we really needed a new house. We have more house than we need but we built it in keeping with the local standards.

Ware:

Do you intend to take up any new hobbies?

Upchurch:

No, I think I have enough. There's wonderful fishing and boating on the lake and there's a great golf course associated with Lake St. Louis, but I don't particularly intend to participate in those ventures. I really am very excited about Fine Acres Farms, about my real estate interests and about genealogy. That will be about 60 hours a week. I'll be doing some traveling particularly as it relates

to genealogy. I would enjoy some golfing but you know that takes time away from what I would do otherwise.

Ware:

You have your priorities. Phil, we've covered in a period of about three and a half hours your entire life history and it's been a very entertaining and fascinating exposure of many things about your background that I did not know. In closing, I'll ask you one final question. How would you like to be remembered?

Upchurch:

Well I think I'd like to be remembered as a "can do" person because I've just enjoyed the opportunities I've had in life to do things and I think I've risen to the occasion to make things happen. I hope other people would look upon that as a model that they could adopt in their life. Some people are not as successful as they'd like to be, and it's their own fault. I hope they can look at what I've done with the opportunities given to me in this great country of ours and to say, there must be opportunities around for me like that. I'm not saying that I couldn't have accomplished more and I'm not saying that that other person who isn't accomplishing a lot needs to accomplish whatever I've accomplished. We each have the opportunity to accomplish a great deal. In reflecting on what we've said, I think one thing that's not come through is the importance of my family, particularly my wife, to what has happened. We commented on the family and I could spend a lot of time talking about our children and grandchildren and what they've done and how we've interacted it's all been a very positive working family relationship. But I think the truly spectacular aspect is the relationship that Sallaine and I have had. It really harkens back almost to an earlier era. It seems these days and when you hire someone regardless of whether they're in a clerical position or professional position, you get about 80% of a person. You know they're interested in a lot of things and their coffee breaks are long and they have to relate a lot of things that happened over the weekend with the family and whatever. They have a lot of other priorities other than their work, I felt that in my work, the company got about twice that much. They got about 1.6 people and part of that was because they got Sallaine in the bargain. Sallaine has always been extremely supportive of whatever activity I was carrying out. Originally she might tell me that I was foolish for doing them or couldn't do them or they're impossible or they're ridiculous, but she'd turn right around and help me do them and she's always taken my side as it relates to my employer. She's threatened any number of times to go down and "straighten the University out" and fortunately for the University, I've persuaded her from taking that step because I'm sure she would go down and really tell them how it is. The fact is she supports me even when I'm wrong, so in some cases if she went down they would explain how I really wasn't in all that good a position. It's wonderful to have a person that's supportive of you like that in so many ways so I think I've been extremely fortunate and there's no way I could have accomplished the things that I have without her unfailing support in so many different

ways. When I come home beaten and bruised why she's willing to listen if I want to tell and if I don't want to tell she's willing to just kind of make a comfortable place where I can recuperate and recover. If I'm willing to tell her, she'd always be willing to berate those other people or other parts of the organization that are not falling in line with whatever I need to do. She's spent an inordinate amount of time behind the scenes whether it was typing manuscripts for me or taking care of various aspects of business and she's just been a wonderful mate. We've had different roles in the family and in life but it's been a true team effort.

Ware:

That's quite a tribute to your wife and I'm sure that I would agree with you. Robert Phillip Upchurch, on Thursday the 8th of September at 11:30 AM in your home and approaching retirement at your age of 66 and 1/2 years, I must tell you that this has been a delightful interview. I've enjoyed every second of it and in closing I want to wish you the very best in your new career because retirement is not a word in your vocabulary, you're just changing jobs. Thank you for participating in this on behalf of the College and the University and the Arizona Historical Society.

Upchurch:

George, thank you very much for doing this. I've certainly enjoyed the friendship that you and I have had over the years and I appreciate the wonderful exercise you're carrying out on this Oral History project and the opportunity you've given me.

Ware:

Thank you.