Transcript of Interview with Bruce Ault by Justin Howard and Matthew Evans

Interviewee: Bruce Ault
Interviewer: Justin Howard and Matthew Evans
Date: 02/18/2018
Location (Interviewee): Cincinnati, Ohio
Location (Interviewer): Cincinnati, Ohio
Transcriber: Kevin McPartland

Summary: Dr. Ault is a professor of Chemistry who first came to UC in 1976 and has worked for the university since. His research is in physical chemistry, and he recounts his experiences at UC, the shifting nature of the Chemistry field, and the growth and change at UC.

Categories: Arts & Sciences, Funding, Faculty Union

Tags: students, chemistry, research, molecules, Cal tech, science, teaching, early, university, STEM

Gino Pasi: So I'll tell you what we are currently recording. So whenever you guys are ready,

Justin Howard: We came up with a little prepared introduction we have. This is Justin Howard and Matthew Evans, and we're here with Dr. Bruce Ault to interview him as part of the University of Cincinnati History 3097 honors seminar—seminar course titled Bearcat's Legacies. In collaboration with the University of Cincinnati and Emeriti faculty History Project. The date is Friday, February 2 2018. And the time is 4pm. This interview is taking place at Dr. Ault's Office at 401. Crosley tower. Dr. Ault, thank you for being here today.

Bruce Ault: I'm happy to be here.

JH: To begin. Can you tell us what is your full name and when and where you're born?

BA: Okay. And full name is Bruce Stafford Ault. I was born at St. Luke's Hospital which is right on the border of the cities of Altadena and Pasadena, California.

JH: And is there a family history to your name? Or why are you named Bruce Stafford?

BA: Well, my parents were married in Edinburgh, Scotland, in the middle of World War II. And the—the—neither were Scottish. They because of the war circumstance they met there. And one of the historic heroes of Scotland is Robert the Bruce. So they took the Bruce from that Stafford as a family name, and then Ault's my father's name.

ME: And you said that your parents were not Scottish? What is their origin?

BA: My father's family has been in the United States from before the Revolutionary War. They can trace it back originally to Switzerland in the 1600s. On the other hand, my mother was born and spent her early years in Norway in a small town, what was then a small town. Now, a city on the southwest coast. And she emigrated to the United States when she was 20 in 1928.

ME: Okay, and what were your, your father and your mother's professions?

BA: Well, my father was a journalist, newspaper editor and book author, and he was a reporter for the United Press International during the World War II years. And in later years—he was with Patton in the early years of World War II in North Africa, and then he was reassigned to London for the last two years of the war, and was the chief of the London bureau of the United Press. My mother never had a formal profession. She came to the United States, mostly to escape Norway in what was then very difficult living circumstances. And she came as an escort to a younger, wealthy Norwegian girl coming to visit relatives in Connecticut. Once she got here, she simply stayed and worked a variety of odd jobs up and down the East Coast until World War II broke out. The Nazis invaded German—uh in Norway, and she immediately enrolled in the Norwegian resistance. And she went to Toronto, Canada, for training and she was trained to be a nurse in the Norwegian resistance. She was then assigned to be a nurse in Reykjavik, Iceland, Iceland, as my father was assigned to Reykjavik as a war correspondent attached to the US Army. And they actually ended up on the same boat from Halifax, Nova Scotia over to Reykjavik, and that's where they met and their courtship began. After World War II, and they move back to the United States. She was a house wife, and mother for entire time, she never had a job.

JH: So how did your family end up in California? you said that you had been born there.

BA: Well, as I said, My dad was a, a journalist and newspaper editor. And there were a group of them who were stationed in London during the war, at the United Press, international office, and they talked about what they were going to do after the war ended. And looking for opportunities they decided right—hortly after the war ended to start a new newspaper and that burgeoning area known as Los Angeles. So they all moved out to LA, my father was the managing editor of the Los Angeles Mirror News, which was an afternoon newspaper competitor to the LA Times.

ME: Then, so I guess just You know, moving from there? How did you know your father being a journalist? And, and that kind of influence your kind of school life? Or you know, your studies growing up?

BA: Well, you know, I went through elementary school, high school the normal way. No—but I always had an interest in science. Both of me—though my dad was a journalist, he was very good with numbers. And my mom was—had an intrinsic curiosity. Although her education was rudimentary, I

don't think she ever finished high school. But she was very bright and very much interested in everything. And that led me to an interest in science. So I think science was sort of my specialty going through high school. But with the good fortunate that my father being a journalist, and author was an excellent writer, and he worked hard to instill writing skills in me. And those over the years here at UC have proven to be very valuable. Becasue writing is something we sometimes forget that scientists do, but they absolutely need to. And I have that sort of the background. But from there, and in high school, I chose to go to Cal tech, which is a very much a science and engineering school for my undergraduate education.

ME: And was, you know, growing up was College in an expectation that you would attend.

BA: There was absolutely no question we were going to college. Yes.

ME: Did your—I know you mentioned that your mother most likely didn't finish high school? Did your father go to college?

BA: Yes, he went to DePaul University in Indiana, where he got his degrees in English and Journalism. And then started in the practice of journalism.

JH: So once you're at Cal tech, what made you decide to say pursue your career and keep going to get a PhD?

BA: Well, like many students, I bounced around with, with a few different majors at Cal tech while I was there, I started out in math and realized pretty quickly that wasn't going to work. So I switched ultimately to chemistry. And, you know, I think I would—was by no means a stellar student there among the group of students at Cal tech, but in my senior year, I got into undergraduate research. And I got involved with the research project with one chemistry professor. And that really got me thinking about research as a career, and in the sciences to be a research chemist really means a PhD.

ME: Then with your kind of collegiate career, undergraduate, graduate, and post doctorate, how were you supported by, you know, as a student, you know, any mentors or, you know, how were you helped along your path?

BA: Well, when—in graduate school, you work with a faculty member very closely. And although I sure didn't know a lot about what I was doing when I got to graduate school, and there was a group of us who came in in the fall of 70 at the same time, there was a big scramble to find a research mentor and a research group for your graduate studies. And it happened over just a couple day period. And to be honest, I was very, very fortunate to land in the group, run by George Pimentel. And he turned out to be an excellent mentor, both in research and in how to be a professional scientist. So he really helped me

along the way. But although I learned to do research there, it's certainly true that I was not prepared to go out and lead someone else doing research. By the time I got my PhD. And that's really in the sciences when a post doc is for. So I got a postdoctoral position at the University of Virginia, had a very, very different mentor there, Lester Andrews, who had a totally different style than Pimentel. And I had to make the switch gears quickly, but it taught me the different ways to look at how to lead a research group how to mentor, as well as get more seasoning in terms of doing research. So the two of them, George Pimentel and then Lester Andrews, were invaluable in getting my career started.

ME: What were some of your early research interests?

BA: Well, within chemistry, there's a whole range of, of opportunities and possibilities. My interest started out very quickly and stayed with sort of the interface of chemistry and physics, which is to say physical chemistry, It is more about measuring and understanding the properties of molecules and how molecules react, whereas an organic chemist, for example, would be interested in making new molecules. So chemistry in the sort of people who make molecules, and people who study and analyze molecules, and I was much more of the study and analyze side. And that just that my, I think my mental, you know, indicate—predilections.

JH: And how did you end up at UC after your postdoctoral?

BA: Well, this was in the mid 1970s, there had been a big boom in university hiring in the 60s, especially in the sciences, which I would—I think is attributed to the Russians launching Sputnik in, in the late 50s, and then the US trying to catch up in in science and engineering. And that—so there was a big growth in the 60s. And then as we got into the 70s, and all that hiring pretty much stopped. So it was not many job openings, and a lot of competition. So I was really on the job market two years, I had a number of interviews around the country, maybe five or six each year, I had one job offer, which, for better or worse, I turned down. And then—because it didn't feel like the right fit. And then I think the last job interview I had was in the spring of 1976, here at UC. And I told my wife, as soon as I left, 'this was the place.' Just felt right. And apparently they thought so also, because they, you know, within a couple of weeks, I had a job offer here. So it was really market driven. A PhD to me is a, what I would call a national degree, you can't necessarily dictate where you're going to end up. And you just follow where the jobs are, where you might get an offer. And here it was Cincinnati.

ME: And when you were hired at UC, what were you—what were you—what was your initial role? You know, what classes were you teaching?

BA: It was interesting. I, my first assignment, as a brand new faculty member in the fall of 1976, was a class of 600 freshmen in general chemistry in Zimmer auditorium. And if that's not enough to scare anybody. However, I had a senior colleague in the office next to me, who said, 'this is nuts.' And he said, 'we're not gonna let you do that.' And he took the course over for me. So instead, I ended up teaching a

much smaller, junior level, physical chemistry course, that first semester. The only thing I hadn't planned on the first day of classes, we were living at—in, in an apartment out on the west side. And because we didn't want to buy a house right away, and I'd been coming into work every day, getting the lab started and getting organized, and so forth. And then first day of class, I drove into campus, and could not find a single place to park anywhere. I was about an hour before class, and I kept circling and looking and panicking, that I wasn't into it, I finally parked some distance away had to sprint to campus and just got to the class at the minute where it was supposed to start.

ME: And then what have been, you know, moving forward in your time at UC, what are some other classes that you've, you know, progressed into maybe here?

BA: Well, in the early years, I did teach quite a bit of freshman chemistry, which I actually enjoy doing. I think it's a place where you can have a lot of impact on a lot of students because the classes are large. But if you do it well you can really, I think have an impact and provid a positive image and feeling about science. So I taught a fair bit of freshman chemistry, and the rest were primarily junior level physical chemistry, and occasionally an advanced graduate courses in my specialty.

ME: And, you know, since you've been here, what have what have been some research assignments or some papers or theories that have been some of your more notable work or some?

BA: Well, that's, you know, you know, that's not in the eye of the beholder for sure. And, in fact, if one doesn't get research assignments, you come up with your own research ideas, you promote them first to graduate students who will generally be the ones working on it. And secondly, to the funding agencies to try to raise money to pay for the research. Cause research in chemistry in the sciences is expensive. And bringing in grant dollars to pay for that research is something that we are expected to do. So I've had a number of interests over the years in that arena, I think the early years sort of built on my training at both in Virginia and at Berkeley. Some work on hydrogen bonding, and some other, you know, carry overs. And then in later years, I got more interested in things like the role of ozone in the atmosphere. And the, you know, some of the atmospheric chemistry that people propose was going on, but hadn't been able to observe. All of this from the fall of 1970, and the start graduate school, through today revolves around a single primary technique, something known as matrix isolation. And that combined with infrared spectroscopy, as a detection technique, really have driven the work that we're doing. And that technique involves trapping very reactive molecules at nearly absolute zero. And then using spectroscopy to characterize and understand the molecules that would never exist for any length of time at room temperature.

ME: And how is technology over the last, you know, 40 years changed how research is done?

BA: Hugely. There is no question at all about that. The infrared spectrometer that we use, back then the these were old two bit instruments, and you had to know to electronics to try and keep them working.

The ones that was here, when I came here was an old instrument that I, you know, it was given to me as a hand me down, and I had to keep going. And it was what's known as a dispersive spectrometer. So we had to shine light off of a grating and get a diffraction and then send that. And since about the early 1980s, they developed what are known as Fourier Transform infrared spectrometers that are much faster, much more sensitive, allow signal averaging, and digital storage. So if we went out to my lab, you would see that in the early years, or there's probably a pile about five feet high of spectra from an old chart recorder off those first instruments. And since we went to everything digital, those have just sat there and, you know, really haven't been used again at all, because we've published what we could from that. So that's one aspect and has changed and made life ever so much easier. The other aspect of technology, and really, a combination of technology and the advance of science, is that quantum mechanics, which came along in the 1910s 1920s, has been developed further and further to the point where we can use the methods of quantum mechanics to calculate the structures and the spectra of possible molecules from first principles to compare to our experimental results. And that has been a great tool. So the development of the software that allows that plus computers to have the speed to be able to solve what are incredibly complex mathematical problems, which I just set up with a few clicks of a mouse. And, you know, in the 80s, it was, you know, you could do it very slowly, because PCs hadn't—had very little memory and very little speed. And nowadays, I'm running some right now on my laptop. And for the more complex jobs, we, you know, send them remotely up to their house supercomputer for the computational work. So that, that has made a huge, huge difference in how we think about what we do and what we're able to do.

ME: And I guess, moving you know, away from research more into the classroom environment, how has that changed in the last, you know, few decades?

BA: Well, multiple ways. I think number one, of course, is technology. There are a lot of things you can do now that we never used to be able to do with with chalk on a marker—on a chalkboard, especially with my handwriting, we are limited. And now, as we've evolved first often to have slides that we could put up or overhead projection, and now to PowerPoint, and embedded videos and everything else. The technology has opened the doors for us to do a lot more—to be more visual with the work that we do. I think that's one aspect. But the other aspect is how we think about how we teach. And as it was sort of described to me in the late 90s, the model for hundreds of years in what's known as the sage on the stage, we stand up there, we lecture, we spew information, and we hope the students somehow catch some fraction of it. And now the thinking is much more what they call the guide by the side, which is to say, interactive student participation. Much less lecturing, more small group work, interactive work, things of this sort. So philosophically, there's been a change, which is—for an old timer as hard to do. And it's way, because we're so trained to lecture and to talk at the students rather than to engage them and get them talking, you know, interacting and talking back to us. So both technologically and philosophically, things have changed. And then, in some ways, curricular has, you know, ideas have changed as well. It used to be that we taught our, particularly our majors, the five subdisciplines of chemistry, you took courses in analytical you took courses in P-Chem, and biochem, organic, inorganic.

And that was sort of a lockstep curriculum. We've made several changes over the years in that. And we now teach two one-credit courses that are required that teach how to be a professional, how to develop professional skills, soft skills that need to go out into the workforce, besides having the core knowledge of chemistry. So we spend a lot of time with our students teaching these things as well as the chemistry itself. And the other aspect is the role that undergraduate research plays in the curriculum. When I started out, it was something that well, yeah, you could do that. And a few hundred graduates did it, but it wasn't really a point of emphasis. Our emphasis in that increased in the early 2000s. And when we switched to semesters, what now, six years ago, we decided to make undergraduate research mandatory for everyone majoring in our department. And that's a different skill set, but a type of training that the real world wants out of chemistry majors.

JH: So I guess kind of—where do you thing we should go? Just down to the next one? Okay. Do you believe that the students or the faculty in administration has more to do with like the overall environment of the campus?

BA: Ah, that is a loaded question. Certainly—the students have a role, students have changed over my 47 years here. And that's, you know, that's not a bad thing. But the students of today have grown up differently with different experiences, different skills, different interests, and they expect different things from the faculty. So in that sense, the students have driven part of the changes that have happened. I think faculty are still very—at least in our department, which I know best, are still very research oriented. We—research is a major expectation of faculty and chemistry, both in terms of productivity, you know, publications, and also securing grant funds. But in the early days, research was much more thought about as acquiring basic knowledge and understanding of nature. And now, in more recent years, the focus has been much more on shorter term applied research. What can this do for me in the next few years? What can we do to patent things, you know, technology transfer says much more emphasis on those sorts of applied aspects of research rather than fundamental research, which was what I was trained to do and what I think was going on here, more in the early years, and then the administration has changed, the tone of the university has changed substantially as well. It was, in many ways, a fairly quiet city university, when I got here. It was still city at that point in time. And now it's a major national university. And one that is much more financially driven, money driven, at least more openly than it had been in the early years. And it's not alone by any means. My son and daughter are both in academics, and I hear about their universities and what's happening, and it's no different that there's much more emphasis on financial accountability and cost saving, and so forth than I recall in the early years.

ME: Then, you know, looking at this, how, as the way that you interact with students changed, you know, he, we talked about the research the classroom, but just overall, you know, interacting with undergraduates or even graduates, how does that change?

BA: Well, first off, obviously, email, it was a game changer for everybody. Because teaching 400 freshmen in general chemistry in 1980, involved going to class, doing what you do lecturing, holding office hours, period. In terms of student interactions, and certainly I always welcomed office hours. And I was always frustrated that not many students ever came to office hours, when I really felt that would be every—in everyone's best interest. Some did repeatedly, but many never did. Nowadays, I know I haven't taught freshmen chemistry in some number of years, I hear that, you know, people teaching general chemistry, you know, on the order of 100 emails a day, from freshmen in a class, just keeping up with answering those is a major time consideration. And I'm not sure quite how they do it. And then you throw in other forms of social media, certainly Twitter, and things like that. And the means of interaction is very different. However, again, being an old timer in a mental sense, if nothing else, I believe in what's on the floor over there, which is a welcome mat from my office. And I'd much rather have people, whether it's students, faculty, administrators, come in and talk face to face than to use, you know, electronic forms of communication. I think we can say much, much more in person face to face then that I realized that that isn't the way many students and faculty are trained to function these days.

ME: And then, just to kind of bring it back a little bit you mentioned, you know, in the 60s, when there's a big emphasis on science, you saw kind of an upward trend in terms of any science or mathematic field.

BA: Right.

ME: Have you seen any trends like that in recent time with chemistry or some other sciences?

BA: Yeah, I would say after that Sputnik boom, and then really quite a low for, let's say, the 80s and 90s. Then as we moved into the 21st century, the emphasis on STEM education got, you know, much, much greater than it had been more students who are interested in STEM fields and the university was investing more in STEM fields. I was undergraduate director in chemistry for 13 years. When I took over that—this job in 2003, we were graduating a rolling average of about 18 chemistry majors a year. The last three years I did it, the rolling average was 62. So tremendous growth in the number of people interested in STEM. And with that the support that the university was putting into the STEM fields, sometimes to the dismay of the non-STEM fields, which is understandable I see both sides of that, that it's simply—that's where the societal demand was. And with that was also very much enhanced focus on diversity, and bringing students from underrepresented groups who are underrepresented in science into science, because there were very few African Americans, Hispanics majoring in chemistry, almost, you know, uncountably small numbers per year. And with the changing demographics in this country to continue to fill the pipeline and demand for scientists, at the industrial level, we need to recruit—bring in and support more students from underrepresented groups. So that's been, again, a major emphasis of the last, let's say, 15 years. Women as well, there—but we've always been close to 50% female, in terms of numbers of chemistry majors. That's not been an issue. But by the time they move up the pipeline to the PhD, and then to academics, the numbers really drop off.

ME: So you talked about growing the department, what were some other major challenges that you, you or the department faced while you were at UC?

BA: I think that one thing we always faced was budget. I don't think I could recall a year from 1976 onward where we didn't have an annual budget cut at the college level. And of course, at the college level means passed down to the various departments. When I came here, in 1976, faculty in particular in the sciences are giving—given some sort of the startup package to buy some equipment, and so forth. I was given what in today's standards was a very small amount of money, I think it was $12,000, to get up and running and get research going. And about spring of my first year, I spent maybe 8000, 8500 of that. My department had came and said, 'well, we're running out of money. Could you give us the rest of it back?' What do you say? So that was my first experience with the budget cut. But every year through thereafter. And certainly, I was assistant head of the department for five years, and department head for 10 years thereafter. And every year there seemed to be a 1% 2% budget cut. Now, since we moved to performance based budgeting, which presumably you've read about, we don't hear the word cut anymore. What we hear rather than our threshold has gone up how much we have to bring in. And it's the same thing. It's just in different language. But there's always been this challenge of enough money to do what we want to do and what the university expects us to do. Along with that, the idea of startup funds, which isn't so relevant in the humanities is very relevant. And now today's startup packages are running $750,000 up to $900,000. To start, yeah, numbers in that range. And where's that going to come from? Chemistry certainly doesn't have it, the University struggles to find it. So that has been a limitation to our ability to hire new faculty members. When I got here, we had about 27 tenure track faculty in chemistry. We grew a little bit in the 80s, and I think our peak number was in 1991. We had 31 tenure track faculty. Two years ago, we were down to 18. And that gives you some idea. We knew that some of that was going to happen because we had this very strange demographic bubble among our faculty with a cluster of senior faculty in the sixth—in their 60s and early 70s. And a cluster of young people and nothing in between. And now everyone in that upper cluster, save one has retired. And so we have a lot of hiring to do to rebuild. But without access to startup funds. It's really hard to do. So that's you know, that's one challenge that we've had as, as a constant challenge. Another perhaps is that, recruiting graduate students. Simply because graduate students drive our research. We, as faculty become managers, whether we like it or not, that's what we are. And we are expected to come up with research ideas, and research money, and then guide students to do the research, and teach them how to do research, so that they're prepared to do it when they graduate. That requires quality graduate students. And there's a huge competition nationally for good graduate students. And so we're always competing, our stipends are always a bit lower than places up the road that we won't name and things of that sort. But that's another challenge we faced and we, you know, we face every year we do the best we can.

ME: So taking it on a more kind of, like university wide, you know, away from the chemistry department, what have been some major changes that you've seen in the last 4—40 years? And did they happen fairly quickly? Or was it kind of a slow and gradual change? That can be demographicwise, that could be—

BA: Yeah. Well, I think most of it is evolutionary slow rather than rapid. Obviously, one major change has been the physical plant. When I came here, there were large asphalt, parking lots covering a fair bit of campus. The campus green by Lindner was one big asphalt parking lot at that point. And the common joke was that UC stood for ugly campus. Honestly, it was, not only a lot of it was asphalt and crumbling roads and buildings, but there was no maintenance of landscaping. And you know, so in that sense, it was sort of an ugly campus. Then, President Steiger, who took over in the early 80s had a vision that he was going to lead a transformation of the fiscal plant of campus. And that happened over probably a 15 year period, which I've always joked and said that UC stood for under construction. But now you see what we have today, what came out of that extensive process of tearing down rebuilding, renovating, beautifying, it really is a very nice physical plant. The price of that is debt service. Which is to say that you don't buy all these nice new buildings by putting up the money up front and say, 'here, we want this building.' You take out debt—bonds, you float bonds to raise the money to do the construction and renovation that you want. And then over a 20 year period, you have to pay those bonds back. So when Steiger stepped down in about 2000, Nancy Zimpher became president. And there was one more building on the drawing board at that point, I was to be built within a couple of years. And that was a social science building for all the social sciences in arts and science. She came in learn quickly about the budget and the extent of our debt service. And she canceled the building. And to this day, political science and sociology are still up in the tower and psychology is over in Edwards and, and so forth. So that building never happened because of the debt service that the university had incurred through that phase. And then in recent years, we've gone back to some construction, some over the Med Center and of course, the new build—business building. That will be very nice. And then where it goes from there we will see. But since you may have seen the article back in the fall that Crosley Tower was rated one of the ugliest academic buildings in the country. There is now a strong movement afoot to move everyone out of Crosley and to demolish Crosley. And so that's going to involve some combination of renovation, maybe construction, and so forth. And that planning process started though intensively in the last couple of weeks, and we'll see where it leads and how fast that leads us there. But that's certainly one global thing that's changed around campus over the years.

ME: And then, you know, in those, you know, 40 years, what do you think has been the most transformative period? You know, if you had to look at—you know, you mentioned the 80s, you know, obviously, the early 2000s was a huge kind of change for the university as well.

BA: I, you know, that's hard to say, I think one of the—I think the change in the physical plant had a major impact on the institution. The change in presidents first Zimpher, briefly, Williams, and then Ono, really had, you know, their vision of what the university was going to be, I think had a major impact on how we think about things. I think at the same time, the debt service that I mentioned, from all the construction, has really held back because of resources, the way that the facultycould evolve, grow, and at times be compensated. So there was a price and trade out there. But I certainly think that construction period and, and the mess we went through for a long time, has transformed the campus and what people

see when they come to campus. I think the other transformation that's happening that concerns me a great deal is in the way that faculty—some faculty aspects are handled. Which is to say that when I came, and probably through the 80s, we were 100% tenure track faculty. And that's the way it was. However, as these gentlemen know, there has been a growing number of educator faculty, that maybe started in early 2000s, faculty whose focus is on teaching only, and who had no tenure and no opportunity for tenure. So their contract, three year contracts, maybe five, but they're been here a while. So now we have a polar faculty, those who are tenure track, and those who are educator, working together. And in the ideal circumstances, they do that pretty effectively. In some environments, that doesn't go very well. Fortunately, chemistry, it goes very well. And we've resisted hiring any more than we absolutely had to. But there's been a lot more and more pressure to hire educators, particularly with the increased enrollments at the university at the price of tenure track faculty.

JH: So you mentioned that the change in the physical plant of campuses, like obviously, effectively a great deal, how is this affected the area around the university?

BA: My kids would answer that better than I because they grew up knowing the old perimeter of campus, and it was very rundown as well, you know. Anyone who's been here for some time, and you guys, are you from Cincinnati?

ME: I spent the first five years of my life here.

BA: Okay.

ME: My parents lived here from the 80s and 90s. So they very much—when they think of UC, they think of the older—

BA: Yeah, you probably don't remember much of that?

ME: No.

BA: But certainly, the Calhoun McMillan area was totally different, rundown—rundown buildings, empty dirt, lots, pyramid of crime. Stratford heights didn't exist. At that point, the housing area, it was all rundown as well. And it wasn't a place that a lot of parents particularly coming from suburban settings, wanted their students to go. So the idea of transformation was not only the campus, but enough of the perimeter to provide the environment for parents who want to send their students there. And since the UC has, as I understand it, I'm not going to know the details. Some of the debt service we've incurred has been in these perimeter areas, not just on campus itself. And so they've contributed to that development. And obviously, what we have on all sides of campus Burnett Woods is still Burnett Woods, but the other three sides of campus it's greatly changed over the years.

ME: Then where have you lived while working at UC?

BA: As I mentioned earlier, we lived in Westwood for the first year, or actually first 10 months that we were in Cincinnati, because we wanted to see what it was like, and also to scout out neighborhoods where we might might want to live. That was a year 75—76-77. And the winter of 76 was infamous for its cold, it's -26, -28 degree weather. And we were living in less wood, our car wouldn't start. And the buses weren't running. So we walked five miles to campus. We decided we were gonna live close to campus. So we really focused on Clifton. Up north of Good Sam, near the Ludlow business area, and we kept our eyes open on for houses that came on the market. And there were several, another faculty member, colleague of mine came the same year, he and his wife bought on the same street that we're on ahead of us, and then told us about a house that was available on Terrace that was going on the market by owner and we might want to take a look at it. And that's the house we bought. So it's a little bit less than a mile from campus. And we are very happy to be close.

ME: And you've stayed there. You're—

BA: We've stayed there the entire time. Like many old brick houses, there was a lot of renovation and work to be done. And we've transformed the interior back in some ways back to what it was, but in a modern way if that makes any sense. And we're very happy there and have no, no desire to leave it.

ME: That's over by Mount Storm Park?

BA: Well, not nearly that far up. Terrace Avenue is the first East-West Street North of good Sam hospital. Okay, we're Bruegger's Bagels is on the corner. [Unintelligible] Yeah, so near Ludlow and we're on Terrace. So it's south of Ludlow is not technically Gaslight district. But it's very convenient. We can walk to everything, and we've got good neighbors and a good neighborhood. So it's fine.

ME: That's awesome. I guess, you know, getting down to some of your time at UC and some of your memories, what have been some of the best things that you've worked on are some of the best memories that you have all, all here at UC?

BA: I think the thing I remember most probably is the support I've gotten from everyone around me. It's been a very friendly, collegial place, not only in the department, but the administrators for the most part that I've worked with. It's been very supportive, and that's made doing what I do fun. And for the most part, I've had fun doing it. With research, as I said, it's an expectation that we bring in money to support the work we do, that's not easy to do. Success rates on funding are often in the 10 to 15% range. And a grant is usually good for three years, unless you're over at the Med Center. But for us, it's a three year thing. So you go through a three year cycle of asking for more money and fighting that battle. And I—so one of the great excitements anytime is getting another three year grant. So you don't have to go through that for you know, three more years. But you know, other than that, you know, there have been highs

and lows, but for the most part, it's been a really positive experience. Which is why as an emeritus, I'm still here, hanging around doing things because it's still a place I love and want to support.

ME:
So what makes you optimistic or what are some things that you see positively, you know, going up for the future, for your for the university?

BA: Well, for the future, really, of the university—It's, it's, I think, really a question of can we maintain the momentum we have. We have grown, we've improved, we've become much more national, if not International, in our scope. And that's been led by two presidents primarily Zimpher, and then Ono. Williams was only here for a brief time and I don't really want to comment on that. So really is to me, the question is, can President Pinto maintain and grow that momentum? So when Santa Ono announced that he was leaving, I'd gotten to know him personally pretty well, I was disappointed, a little worried about where the university was going to be heading. And so then the search went on for a new president. And I learned, actually, the night before it was being announced who the new president was going to be. And I was very, very pleased. And that makes me optimistic. I've known Dr. Pinto since he was an assistant professor in engineering. And I was somewhat more senior over here in chemistry, we interacted, and I've known him ever since. And so I was very enthused to see that he was chosen from among the, the names I'd heard as candidates for that position.

ME: And then maybe, you know, what are some things that you look back at UC and even currently, that you would that you would change about the university?

BA: I'm going to say something that's not politically popular. And my colleagues to my left will probably disagree. But that's what we're here about. I think one of the things that I would change is the union. I know, it's, to me, it's a mixed bag that the union has many supporters. But I think it's done some good things, I am sure. But I also think, in other ways, it's a drag on the university. And it's the drag on faculty who want to excel, in particular, and I said it wouldn't be popular, the, you know, the union, rarely supports merit increases, their interest is in raises that are essentially equal for everybody. And that doesn't, in my mind—really support excellence. It supports good people, for sure. But for people who really want to excel, it's, it's—I sense, it holds him back. And I know that our department has lost at least three very talented faculty members, because of their frustration with that, and they've gone to universities, major universities, where that is not the case. So would I totally change it, or what I do away with it, or whether I would just, if I ruled the world, change it to much more of a merit based system? That—it's hard to answer. But that's something that sort of worked in the background.

ME: Definitely.

BA: Yeah.

ME: And then, you know, for you, personally, what are some things that you hope to achieve, or do in the near future, that can be personally or even professional.

BA: Well both do both. But really what I'm doing now as long as I'm able to. Now, number one, my wife and I chose to retire at the same time, before we were too old so we could travel, and we were talking about the pictures on the wall, there will be many more. We're trying to aim for two international trips a year to places, some we've been, but many that we've not been to see much more of the world and try to understand much more of the world. So the opportunity to travel. And you know, we always had it somewhat in the summer. But that's for many places, that's not the best time to go there. And the academic year was, you know, you had to be here doing research and teaching. So we are free to travel when we want to the places we want for as long as we want except can't leave the dogs too long. So that is one thing that we really look forward to, as well as travel within the US. We have a grandson up in Ann Arbor, Michigan, and my son and his wife, they're our daughter in Salt Lake City. So we have places to travel within the United States. The opportunity—we're leaving on Monday, for eight days in Florida, just because we want to get away for a while and warm up. That was something we couldn't have done before retirement. But at the same time, when we're in town, I'm in here, a bit of the day, seven days a week. This is my second home. I love research. The department is allowing me to maintain my research lab at least for the visible future. And I'm in a position where I can go back to being the scientist I was trained to be instead of the manager that I became. So I'm doing the research myself and I'm having a lot of fun with it. The other thing is that I have 40 plus years of institutional knowledge and experience, and as we change department heads and departmental leaders and sometimes college or university leaders, that institutional knowledge is needed. So I try to help where I can. When I'm asked, and when I'm not asked I stay out of the way. But you know, we are right now we have a brand new department head this year, there's a whole lot to learn. There's a lot going on. And so I'm there to support him and support others, to the degree that they want me to.

ME: Yeah. So where's where the where the next two international trips?

BA: In April, we are flying to Hong Kong and Taiwan. And in October, we're flying to Israel. Yeah, so those we, we're excited about both of those for very different reasons.

ME: So outside of travel, what are some other hobbies that—

BA: The university, is that a hobby? [Laughs] Well, there's always things to be done around the house, you know, I like yard work, gardening, growing things can't do that much at this point. But there's interior work in the house to be done and, you know, crossword puzzles, and suduko, and sports events to either attend or watch, you know, part of what we enjoy about Cincinnati is the Playhouse in the park and live theater, so we subscribe to that. We subscribe—we have season tickets to the Bengals. So we have things to do outside and with with friends and neighbors. But a lot of it's still focused on the university.

ME: I was gonna ask that. Are you still committed to California teams? Or are you a full local now?

BA: We are Bengals fans. I'm still a Dodger fan. I say that quietly. But we go to Reds games. And when they're not playing the Dodgers, I root for the Reds, but I'm still the Dodgers and make your standard heart. But we have adopted the Bengals.

ME: Sorry.

BA: Yeah, [All laugh] that happens. Yeah, they do. They're good years and bad years.

ME: Definitely.

BA: Yeah.

ME: Well, if—is there's anything else that maybe we haven't touched on that, you would—

BA: No, I think, you know, I've always felt it's been a great experience. I was amazed sometimes they paid me to do it because I've had fun. And although it's not the salary level that one would make in industry the experience has been much more fun than I think working in industry would be and the answer isn't being told what they want you to do. So I have no complaints, regrets whatsoever.

ME: Perfect. That's all of our questions. Do you, Gino—?

Fritz Casey-Leiniger : Okay, actually, we should probably for the record. Off camera hard myself, Fritz Casey-Leininger from the History department. And—

GP: This is Gino Pasi from the faculty librarian.

FC: I always enjoy sitting in on these learning about my colleagues. I can

BA:
imagine they wouldn't be very interested. It's all

FC: It's all the ones I've sat in are always lots of fun.

BA: Good, good. So it's

FC: Very much enjoyed listening to, to your stories.

BA: Yes, thank you. We had a great time.

GP: Very good. Yeah. Thank you.