Oral History Interview, Howard White
Transcribed up to 1:22:26

BH: My name is Trudy Bellardo Hahn, and I'm here to conduct an oral history interview with Howard White, and we're in the Rush building at Drexel University, in his office, 214A. The date is October 16th, it is now about seven minutes after 10am. And the purpose of this oral history interview is to be a life history, including Howard's childhood, early family, schooling, higher education, but with an emphasis on his professional work and career.

So, let's start with early.

HW: Okay.

BH: You were born.

HW: I was born. I was born in the [?] Hospital in Salt Lake City on June 15th 1936.

BH: From a family of Latter Day Saints?

HW: Yes. Not really strict or zealous ones, but yes. On both sides, both my mother's side and my father's side, I descend from Mormon pioneers. All of them polygamous, so I am the fruit of that. One of the fruits. One of the many fruits. (laughs) My early childhood, well, my entire upbringing, was in Salt Lake City.

BH: What did your father and your mother do?

HW: My father was mainly a bank teller, through the years I lived with him. We were not at all affluent; we were hard-working, lower-middle-class. My dad was white-collar, but we were certainly low-income. And my dad worked for a bank in downtown Salt Lake City as a teller. My mother worked on and off as a stenographer and typist, especially during the war, when women were able to get employment readily. She was also a housewife.

BH: How many siblings did you have?

HW: I'm the oldest of four. I have two younger sisters and one younger brother. I did grow up with two of the siblings; the fourth sibling, my youngest sister, was 17 years younger than I was, so I was pretty much gone from her life while she was growing up. But I did grow up with a younger brother and sister. I was mean to them in just the way an older brother should be, and all of those things. I remember bits and pieces of World War II…

BH: So you were born in…

HW: '36. So I don't remember the Depression, although certainly the late '30s played into the '40s, and the standard of living did not improve during World War II for most families. For instance, nobody could get cars when I was a child. All the metal was going toward the war effort, so you couldn't buy a new car. My family didn't have a car until 1950. We didn't even have metal toys, I mean, things like wagons and skates and bikes. If you didn't have them from the '30s, you didn't have them, because they weren't made available during the war, they weren't on sale.

BH: It gives you a perspective on today, doesn't it?

HW: Yeah, it does indeed. The world has changed enormously in my lifetime in all kinds of ways. I think my childhood was reasonably happy; I don't remember any major traumas. I went to an elementary school within walking distance of my house, from kindergarten on through sixth grade. My family did have a couple of brief periods in Oakland, California when I was very small; I think my dad went down there both times hoping to get better work, more pay, to get a better job. But for reasons I'm not quite sure of, neither of those trips to Oakland, those stays in Oakland, really panned out, so we came back to Salt Lake when I was about five, so really most of my memories are of Salt Lake, growing up in a neighborhood right near Temple

Square, going to this elementary school. It was one which was one which I could come home for lunch. I was a smart kid, and I happened to be in a second grade class that had a third grade class consolidated with it; both groups of students were in the same classroom with the same teacher. And because I was good at schoolwork, my teacher, in the middle of the year, said, "Howard, go over to the third grade side." And she put through the paperwork, and so I was promoted to the third grade. The only memory I have, that sort of speaks to the kind of kid I was, the teacher somehow brought up the word 'encyclopedia,' and the teacher said, "Do any of you know how to spell 'encyclopedia'?" and I raised my hand, and I spelled it correctly as a seven-year-old. So I'm verbal. I'm a verbal kid, I'm not a math kid. I loved to read; I made many trips to the Salt Lake Public Library. I read dog stories and sports stories and baseball stories. But I would say that the main thrust of my life was always toward reading and writing, memorizing speeches. My mother was kind of like a stage mother; because I was a bright little boy, she would have me learn recitations to give in church, or poems to give at a school program, things like that. In just about every respect other than being always a year younger than my fellow students in elementary school, I had a perfectly normal childhood. I grew up in a sort-of tough neighborhood with a lot of mean kids who would shoot rubber guns at you; these were wooden guns that had long elastic bands made out of inner tubes, and they would shoot those at you and the inner tube would fly at you. It wasn't like the zip guns of juvenile delinquents later, but it was kind of a rough neighborhood in some ways.

BH: You had to learn to watch out for yourself.

HW: You did, you did. And I was not a mesomorph kid, a big, tough kid; I was not particularly good in sports. I loved sports, but I wasn't one of those rough, rowdy boys. I was more of a goody-goody little scholarly boy, and [hailed?] by all. (laughs) No, I actually had a lot of good friends. But I'm just saying it was a normal American childhood, and quite a happy one.

I went to junior high, right near this same house. It was even closer than my elementary school, and I remember there, this is to continue the theme of writing, I actually wrote a play in the ninth grade, it was called 'The Quizzical Kingdom of Quay,' and for some reason, I had sort of stolen material from 'The Red Shoes,' the ballet movie…

BH: You were inspired by the movie.

HW: Well, sort of. I learned early on to steal certain things from movies for my writing, which I think a lot of kids do. They steal them from other novels, or from novels or short stories or from movies. So in the ninth grade, I guess I would've been twelve, I had this play produced; the teacher actually cast it and produced it. I played the evil spirit, or something like that. And then in high school, again I was always a year younger than everybody, but at 14 and 15 I wrote assemblies… Do you use that word? I don't know. They're like programs for…

BH: the entire school.

HW: the student body. They called them assemblies because all the students assembled to watch. Things like the Travelling West High Assembly, which was sort of an amateur musical comedy, I wrote the script for that. And my favorite subjects in high school were English and journalism, and I was on the school paper, and the teacher who influenced me most was a guy named [Earl Harmor?] who supervised our high school paper. I remember one girl said something like "[Earl Harmor?] is God, and Howard is his prophet," which was not really true, but it was a silly thing. I wasn't nearly that devoted to [Earl Harmor?], but he did influence me in the sense that he encouraged me to write humorous sketches and straight news stories. He was a good teacher, and he brought out the best in me. I remember we were reading things like *All the King's Men*, which is somewhat unusual for kids 15 and 16 to be reading, novels like that.

This was the day of signet books when big novels would come out for 50 cents or 75 cents, big fat novels like *All the King's Men* and the *Naked and the Dead*, people could get them cheaply, and even at that early age we were reading them. And then my mother, who was sort of like a stage mother, she worked at the time for the Board of Education in Salt Lake City, and she found out about a Ford Scholarship Program, it was a program sponsored by the Ford Foundation in New York City, and it was a program whereby students in high school could substitute their senior year in high school with their freshman year in college. In other words, you wouldn't be a senior in high school; you'd go directly to college. And so, even though I think the deadline was passed, because you worked at the Board of Education, the deadline for application had passed, because she worked at the Board of Education and was able to get permission for me to take the test, and so I took the test, and I got into that program. So I actually started college when I was barely 16.

BH: Wow.

HW: And graduated when I was 19. So then I was two years younger than everybody. So that accelerated youth probably had some good effects, but it also has bad effects. A lot of people will say, 'you shouldn't get ahead of yourself like that, maybe you're able to handle it intellectually, but socially you're not really able to function as well as you should.' And that's true. I would say they have a point.

BH: So, from high school, you went directly to college.

HW: I went to the University of Utah; that was kind of expected. My parents were delighted to have me go to college, but unlike people I've met here, people who work here in this College, my parents didn't think, "Oh, we've got to get him into an Ivy League School." People I talk to here, they set that goal. To me, that's sort of an eastern thing, or at least it's an upper-middle class thing, to think that your children must go to really good schools. And my parents had been of the generation that was just devastated by the Depression. When my parents would have gone to college, the Depression was at its lowest peak. It was like 1932, and they didn't get to go to college, neither one of them. So they were very eager to have me to go to college, but that meant the University of Utah, not, you know, Columbia or something like that. So anyway, I went to the University of Utah (who just beat Stanford, in football.) [laughs]

BH: [laughs] For the record.

HW: I went there, and I majored in English, again the literary bent is coming out. I scrupulously avoided math.

BH: Had you decided by this time that you just weren't any good at it, or it just didn't interest you?

HW: Well, actually I just shied away from it, the way many humanities types do. I think now that if I'd had better teachers, and if I'd maybe been less lazy, I could've learned a lot more math than I in fact did.

BH: It's more just a mindset.

HW: It's a mindset; I think if I'd been in the present generation where mathematical equations can be visualized with animated figures, you know, you put in some data and actually see the curves that are generated, and things like that. If I'd had that kind of instruction, with a teacher as good as [Earl Harmor?] , my English teacher in high school, I probably would've loved math. At least I'd been less fearful of it, less put off by it.

But anyway, at University of Utah, I majored in English. The Ford program I was in required me to take a wide range of electives during my first two years. But, they didn't require math. You could either take math or a foreign language, and I took French and then Italian

rather than going into anything to do with math. But again, they were happy years. I had a lot of really good teachers at University of Utah. To this day, I read novels, poems, plays. I don't regret having majored in English at all. Because it is a permanent resource. If you learn a lot of poems when you're young, and read a lot of plays and novels, it's a lifelong patrimony on which you can draw.

BH: So now, it would be, you are 19 years old, and graduated from the University of Utah, what year would this be?

HW: I graduated in the summer of '56, and I was immediately hired as a graduate teaching assistant to teach freshman composition. It's a common thing…

BH: At Utah?

HW: At Utah. Well, everywhere. People who major in English, if they want to go on to graduate school, and want to get work, they very often will be assigned freshman composition classes. So that's what I did for one year at University of Utah. I taught freshman English. I was younger than some of my students, but it didn't hurt me any. I did learn that I don't like to read lots of themes, you know, twenty-five themes a week is hellish. And I've had quite a few experiences since then, having to read lots of papers, and I never really enjoy it. We were strict graders in those days; we were sort of mandated to use the full range of the A through F scale. In the kinds of classes that I taught, and my fellow graduate students taught, by far the most common grade was C, meaning an average composition. It was very rare for us to give Bs, and particularly rare for us to give As. We almost never did that. These were classes of students who weren't at all gifted in writing. They were people who had to take freshman English. We were getting the lower tiers.

BH: So am I correct that, as soon as you graduated from the University of Utah in 1956, you immediately applied for and were accepted to the graduate program in English?

HW: I guess I… I think several of my fellow English majors had been recruited into teaching freshman English, and I just sort of drifted into it the way they did.

BH: Were you also taking classes, were you part of the program?

HW: Yes. I was taking classes in various literary topics. I remember I took a class in Anglo-Saxon, that I wasn't very good at. And we had a class for graduate students that was supposed to teach you how to use the library, and it wasn't a very good class. But I always loved the classes that would teach you great writers. Over the years I took a class in Conrad, and in Melville, and I had one in Faulkner. I took a class called 'Shakers and Shapers' that had people like Yeats and DH Lawrence, and that was taught by a poet, [Brewster Easland?] from the University of Utah. Gerard Manley Hopkins was one of the poets who was taught. I loved all that. And to this day, I have a whopping big library. I've got about, I don't know, thirty-five hundred books, and many of them are books that I still have from those college days. Lots of novels, poems, and plays. And literary histories.

BH: You were just a sponge for all of this.

HW: I was, I was. I've always loved it, and always will.

BH: Did you earn any special honors?

HW: I graduated with honors. I had kind of a less than stellar freshman year, going to college as early as I did at 16. I was able to handle the subject intellectually, but the sudden freedom that one has, the freedom to cut class, I let that get the best of me in the second and third quarters of my freshman year, and my average went down in those quarters, and even though I was straight As for several quarters on, I just missed the Phi Beta Kappa high honors bar, so I graduated with honors.

BH: So now you're in graduate school, and you're teaching freshman composition…

HW: That was one year.

BH: One year. And you got a Masters in English?

HW: No, I didn't. I got married at the end of that year. I got married right after I turned 21, and immediately moved to San Francisco with the thought of going to San Francisco State to get a graduate degree. San Francisco State had a wonderful faculty. And if you were a California resident, which I became after one year in San Francisco, you could go for astonishingly low prices. The tuition for a semester at San Francisco State when I was there, '57 through '59, was like twenty-eight dollars and fifty cents.

BH: Oh wow.

HW: And I remember one semester because I wrote a paper that the head of the communications department really liked, she had my tuition bill paid, so again it was just very, very cheap. I wish I got my Masters degree there. I was drafted while I was sort of working on my thesis, and a number of events… It'd be too long and complicated to…

BH: You were married and you still…

HW: I was working in a meat packing plant to earn a pitiful salary, and I was going to school at night, and so on.

BH: But you still got drafted.

HW: Yes, I of course wanted to stay out of the draft as most college kids in those days did, as most kids did, unless you really loved the military, and I had no ties with the military at all. But I had wanted to fulfill my obligation by joining the National Guard. In those days, that entailed serving for six months on active duty at a place like Fort Ord, California, which is just about one hundred and some odd miles from San Francisco. Six months there on active duty, and several years on reserve. You'd go, I think, once a month or something like that. Well, I joined the National Guard, and I was waiting to be sent to Fort Ord, I was going to meetings in San Francisco, I was working at a job, going to school, also going to these Guard meetings. And after a while I got this notice from some superior office that I was underweight for my height. I was as tall as I am now, but I was really skinny in those days, just like a toothpick. So, I'm underweight for my height, and they discharged me.

BH: Wow, wow. But that doesn't happen very often these days.

HW: No, they discharged me, but, then I promptly got drafted. I couldn't serve six months on active duty, but I could serve two years on active duty. And in those days I was not aware of remedies I might have sought. Actually I think I have had a legal case, but I didn't know how to interact with lawyers, I just went. I tell my kids this story, and they like this story, that I got my draft notice, I was at the Oakland induction center, and they gave me this very rapid physical, and I had several interviews and so on.

BH: And they didn't have any problem with your weight.

HW: They didn't have any problem with my weight. And so, just before we were supposed to take the oath, you actually take an oath and step forward to show that you're willing to serve; just before that, I talked to this Captain, and I explained to him that I had been discharged for being underweight for my height, and it seemed very unfair and strange to draft me now. And the Captain said, "White, you've got a legitimate bitch. Now get over there," pointing to the line where we all had to raise our hands, take the oath, and step forward. And the next thing I know, I'm on the bus for Fort Ord for two years. I mean, for a two-year hitch. So I served at Fort Ord for one year; guess what they had me doing? Not bayoneting the enemy or anything like that. I get down there and I went through the usual infantry training for eight weeks. And then for my

second eight weeks, where you get specialized training, I was in Army clerk school, where you type and be an Army clerk. I could already type very well, but the Army doesn't really…

BH: has it's training program.

HW: Yeah they just put you where they think you might go. And it turned out that that very school that offered the Army administration course (that's what they called it at Ford Ord), they had decided they wanted to have a week's instruction in English grammar for the soldiers, both enlistees and draftees, who were going to become company clerks. And they were looking through their files and they thought "Oh, this guy's taught freshman English at the University of Utah, and he's got a college degree." And that was sort of unusual, because most of the Army draftees and enlistees are high school graduates at best. You don't get a lot of college graduates, or they didn't. And so anyway, they pulled me and made me an English teacher at the Army clerk school, so I did that for six or seven months at Fort Ord.

BH: It sounds like you were destined ultimately to be a teacher.

HW: It sounds like it, yeah it sure does. And then, I got orders to go to Korea. The Korean War was long over…

BH: What year would this be?

HW: This would be 1960. Late 1960 I was ordered to Korea, and the Army clerk school that ran this administrative course, they tried to get me pulled from the shipment, they called it, they tried to get me pulled from having to go to Korea so that I could stay at Fort Ord teaching English, teaching grammar in the clerk school. But it didn't work, and so I went to Korea for a year, and there, after a short interval, I got on an Army newspaper, because, again, I could write. So I spent my second year as a draftee writing for a newspaper in Seoul. A very good duty, and I got a couple of trips to Japan out of it, and that was nice.

BH: So this really wasn't a traumatic experience; this was actually a great adventure.

HW: No, no. Not traumatic at all. It was. It seemed hard at the time. I was separated from my wife for about fourteen months. While I was in Korea, the Berlin Wall went up. Actually I was in Japan on leave. They had a big crawl on one of the buildings, you know the old-fashioned electronic headline, crawls, and the big headline in a Tokyo newspaper was that the Russians and the East Germans had put up this big wall, I guess I should say the East Germans had put up this wall under Russian instigation, and because of that, tensions ratcheted up and Kennedy, who was President at the time, extended all of the periods of service of people in the armed forces. So I thought I was going to have to serve at least six months more. But as it turned out, the tensions subsided rather quickly, and so I didn't have to serve six months extra; it turned out to be something like two months extra. So then I was back in San Francisco and I hoped to start the Masters degree up again at San Francisco State, but the teacher that I'd been working with was gone on some kind of leave, and it just didn't work out. I had to get a job. As soon as I got back, my wife got pregnant, and I just had to redirect my life. And the job I got after a few months of unemployment was once again being a writer on a weekly newspaper, this time for the Oakland Naval supply center. And of course the experience I had in Korea was directly relevant to that kind of writing. It's not a great kind of journalism, you know, it's house organ journalism, and it's really low on the totem pole of journalism. But there weren't a lot of jobs available in the San Francisco Bay area that involved writing, or at least not while I was looking. At that time, it wasn't like New York; there wasn't a big publishing industry there. Jobs on the newspapers were very hard to get. I was lucky to get what I got. It was a civil service job. And it turned out that I could perform that job very capably, and I stayed with it for five and a half years. And during that period my first two children, both girls, were born. But after five and a

half years, I was burned out, and the Vietnam War was on, and I was not really happy with the Vietnam War, politically I was a left liberal, a typical Bay Area resident.

BH: With your Mormon background.

HW: Well, actually by then I had completely dropped out of the Mormon Church. I actually left the Church as a teenager. It just wasn't for me. I've never regretted that; I'm not really cut out to be a Mormon. I'm cut out to be a non-Mormon, very definitely.

BH: So, this would be the time when, mid-sixties, late-sixties here?

HW: Yeah. It would've been, yes; '67

BH: There were war protests going on.

HW: The war had started to heat up in about '64. The Vietnam buildup in '64, I remember, because I was working on a Navy newspaper. At that time the Oakland Naval supply center was a huge port for [?] shipment of goods to Vietnam. We were supporting the Vietnam War. I faithfully performed all my duties as a journalist, it's basically writing copy, mostly for civilian workers, not naval personnel, but civilian workers, at that Naval base, explaining new aspects of the health plan, and we're talking about the new IBM 360 computer that we had to manage the in-house logistics of moving supplies around, it was that sort of thing. I wrote easily and faithfully for all that period, and I was just increasingly disillusioned with working for the Navy. So, in '67, my particular cohort of draftees became eligible for the first time for the GI Bill. Until then, the only people who got the GI Bill were people who had served in Korea or elsewhere during the war. But in '67 they said, "Ok, we'll allow people who served in any capacity during, say, 1960-61, which was my period, we'll allow them to get GI benefits." So I said, "Hey, I'm going to switch careers, I'm going to go back to get my library degree," and I went up to Berkeley and…

BH: And this was suddenly…

HW: This was in '67

BH: But you just introduced a new path; how did it come to you that you wanted to get a library degree?

HW: Well, this is the typical path into library school, as you know, most of the people that go into library program come from the humanities. So, I had that English major background, a writing background in low-level journalism, a great love of libraries.

BH: But you had a terrible introduction to library instruction, you said.

HW: How do you mean?

BH: You said when you taught a course in…

HW: Well that was a, that was very perfunctorily taught. The guy teaching it didn't really have his heart in it, his assignment…

BH: It didn't really turn you off from libraries at all.

HW: No, no. From the age of seven or eight I've loved libraries, and had books of my own. My parents gave me books, some of which I still have. I still have *The Scottish Chiefs*, and *Robin Hood*, and books like that my parents gave me for Christmas. I just said, "Here's an opportunity to go to grad school at Berkeley, I could perhaps pursue a subject degree," but I really had to be practical, at that time I already had two children, and librarianship seemed like a good option. I went fully intending to become a librarian. And I started the winter quarter of 1968, that was my first quarter there. And my very first day I went into a classroom in [?] I believe, a giant building on the Berkeley campus, and the teacher was Pat Wilson. And I really liked that class. I didn't get to know him at all there, I didn't know that he had this book, *Two Kinds of Power*, or anything about it, but I did really enjoy his lectures and I liked other aspects of it. I liked the

basic reference course, that was very fun for me, it was all easy. I'm not bragging, it's just, as you are doubtless aware, it's not as demanding as a curriculum in math or something in the hard sciences.

BH: Right, right.

HW: But it was really interesting. This was the time when libraries were just beginning to move into the age of automation. This was 1968, and there were already publications on the library of the future, and digitization, the Library of Congress was moving toward MARC, MARC records, etc., etc.

BH: OCLC

HW: OCLC. Well, that was still somewhat in the future.

BH: It officially started in 1967, but it didn't become...

HW: Right. You're right. I didn't mean that… It was still sort of a local thing with the Ohio library, so it hadn't blossomed into anything like what it is now. But anyway, Wilson was a good lecturer, several of my other teachers were very good. I had a teacher in reference named Mary [Wally?] and she talked about how it's good for a reference librarian to have a "scrapbook mind." That's a kind of mind that picks up things without effort and stores them away automatically, that's exactly the kind of mind I have. I've got the kind of mind that automatically remembers things like authors, titles, movie directors, movie stars; anything in the arts, I pick up. And I'm interested in a lot of things, so I pick up smatterings of the sciences, the social sciences, great philosophers, great sociologists and political scientists.

BH: It just sticks.

HW: I pick it up automatically without any real effort. I just read widely, and read a lot of book reviews. So, I'm well suited to be a reference librarian. I never did become one, but that's what I thought I would be. And I went through the Berkeley program. I had started it when I lived in San Francisco, and I would commute over to Berkeley, but during the first few months in the Masters program, I moved with a friend, and my family, of course, to a house in Berkeley. So then I was right near the campus and everything became a lot easier. I had about a five-year-old and about a two-year-old when we moved.

BH: It's a challenge to go to school.

HW: Well, it is, it is.

BH: By the way, Howard, at any time if you want to take a break, if you're thirsty or anything like that…

HW: I'm still good.

BH: Sorry about that little bing-ing, that's my cellphone.

HW: My high-decibel hearing is not too good, so I don't even notice it.

BH: I just want you to be comfortable, and know that we can take a break any time if you feel like it.

HW: Sure. I had intended to get my library degree and then look in the job market, all over California, and maybe even beyond, to get a job as a reference librarian. And I guess I kind of thought that I'd like academic librarianship, as many English majors do, but public librarianship attracted me too. I'd been very happy in using certain public libraries in San Francisco. I lived right near the Presidio branch, which is the library branch that Richard Brautigan used in his novel *The Abortion*; I don't know if you know that novel?

BH: No.

HW: Brautigan, the arch-hippie writer, he lived more or less across the street from me, although I never knew him. For several months he lived with his girlfriend on California Street, right near

me. And anyway, we shared our library, and he wrote the Presidio branch of the San Francisco public library into his novel *The Abortion: An Historical Romance*, that's the full title. But I went there, and I also went to the Western Addition branch, which was equally close in the other direction. And I had those two models in my head. The Western Addition branch was interesting because it's on Eerie Street, and it's right at the confluence of Japan town, where you get a lot of Japanese people working and living, and the black neighborhoods in San Francisco, the Fillmore district. That's changed a lot now, I mean San Francisco has gotten so expensive to live in that a lot of the people who used to live there when I was there are long gone. But anyway, that particular branch, Western Addition, was trying very hard to be relevant, as they said, to the black neighborhoods, the Japanese neighborhoods, and the white neighborhoods. And I thought they succeeded. They were really doing a good job.

BH: They wanted to connect with their communities.

HW: I remember going to that Western Addition library to hear a guy, he used to be Leroy Jones, now what is he, a [?] rocker or something, he's changed his name. He gave a reading there while I was there. So anyway, I had that willingness to become a public librarian.

BH: Doing public services.

HW: Yeah. Doing public services, not so much cataloging, I mean I could've done cataloging. I had a bit of experience doing cataloging as a part-time job at Berkeley. I worked for a while in the anthropology library at Berkeley, and one of my duties was certain kinds of cataloging there. So, you know, I had quite a bit of experience in diverse aspects of librarianship. But after taking my Masters degree in 1969, I was immediately recruited into the doctoral program.

BH: Okay.

HW: I should say that toward the end of my studies as a Masters student, I was recruited into the doctoral program. And I think one of the main reasons for that was that, after enjoying Pat Wilson's course, my very first course, it was called, I think, Bibliographic Organization, or something like that. Anyway, I took a seminar with him, and I did, just on my own, a national survey of people in the small business administration and how they were handling technology transfer. I made up the questionnaires, I mailed them out to about thirty different small business administration offices around the country, and I pulled together all of this information and worked it into tables and so on, and did a paper for Pat Wilson's seminar. That's not the kind of thing that Masters students ordinarily do, so obviously I was sort of academically inclined…

BH: You had a researcher's mind.

HW: Right. And it also helped that I had a lot of training in writing, and could write clear English, and knew how to put together a coherent paper. So I think Pat was probably instrumental in getting me into the doctoral program. He certainly encouraged me to apply. And the reason that a lot of people were encouraged to get into the doctoral program was that, under Title 2B of the Higher Education Act of 1965, a lot of federal money had been made available for doctoral study in library and information science. I think the federal government was seeing the new wave of librarianship and information management, the new demands on libraries, I should say. The coming automation, and so on. And they were encouraging people to take their doctoral degrees. And so there's this money at Berkeley, I could continue the GI bill for a little while, and the federal money, I believe, paid for a three-year fellowship, something like that. If you were really good, you might've completed a doctorate in three years. I didn't go that fast, but that was in part because I had a family. I had two daughters when I moved to Berkeley, and then while I was there my youngest child, my son, was born, and I was enjoying Berkeley a lot, and so I didn't try to rush through the degree. As my fellowship ended, under the Title 2B

funding, I got a job with Harold [Willenski?], who was a professor in the sociology department. And he had a grant from the National Science Foundation to study welfare states. His project was called The Welfare Warfare Project, and he was looking at things like expenditures in the rich countries of the world on pension plans for the elderly, in the US that would be Social Security, versus spending for military purposes. And he was doing a cross-national study that involved statistical data and quantitative social science analysis, and also qualitative data that he got from interviewing people. And he made me his research assistant. I had taken a class with him, I had read his book called *Organizational Intelligence*, which is still a really good book, on how information flows, or doesn't flow, in organizations. He had a sociological analysis and it's still a brilliant book. Anyway, I took this course with him. I wrote the best blue book in his take-home exam, and so he said, "Howard, I'd like you to work for me." And I went to work for him on that project, and I became kind of his general factotum. I would go to the library and get the statistics we needed, like pension expenditures in the rich countries of the world, I'd look in OECD or UN documents, and things like that, and get the raw data. In those days, we had to punch it on cards and then I would run SPSS tabulations. Because another skill I picked up at Berkeley, as part of extending myself beyond just the library world, I took courses in survey research and statistics. I finally got over my aversion to anything quantitative. And I really liked it. I had to work hard; I'm not gifted in that area, but I worked hard. I learned a lot. I took classes in the sociology department. I learned a lot about social science data archives, which I'll come to in a minute, and then I was working with [Willenski?] putting into practice a lot of those things I'd learned. And I would get his data, and I would use SPSS to analyze it, and he would crank that into his manuscript. And then one summer, he funded me to go to London and help him do some interviews of statisticians and people who were in one way or another connected to the British welfare state, and so all of this was sort of coming together in a way that gave me some valuable academic skills.

BH: Yeah. You've mentioned Patrick Wilson several times. Were there other faculty in your doctoral program, or other doctoral students, who had an influence or meant a lot to you at that time?

HW: Well, the two people that sort of introduced me to information science, although I didn't really think I was going to go that route, I mean I always saw myself more or less in librarianship as opposed to what was understood as information science at the time. The two professors there that did influence me were William Cooper, who was well known in information retrieval, and Bill [Maron?] who was also very well known in information retrieval. These were both important pioneers in the history of things like probable indexing, which is now really major in information retrieval circles. I took classes with them; I can't say they really influenced me the way Pat did, but Pat was a philosopher, and he was very interested and good at clarifying concepts and coming up with what, to me, were useful distinctions, ways of understanding user needs, analyzing the concept of user needs, and taking questions like the authority of information sources, and he could develop wonderful analyses of that. And I ended up taking, I guess over the course of five years at Berkeley, over those years I took quite a few classes with him. I also co-taught a course with him.

BH: Oh, I didn't know that.

HW: Yeah. It was a seminar, a very small one, but during that time, during the period I was his advisee in the doctoral program, and under his supervision for my thesis, he became the acting Dean of Berkeley. And then became the Dean. They gave him the permanent appointment. So he was very busy on other fronts. But I worked with [Vic Rosenberg?] on a paper. I was Vic's

grad assistant for a term or two, and he had me go out and collect some information on film services as a way of doing reference librarianship. Film services, or maybe audiovisual services, in hospital settings. I went down to Kaiser Hospital in Oakland, which is where my son was born, and they had this outreach program for all their patients and family members and so on, and they would give you brochures, but they would also give you tapes and cassettes and things like that, and I wrote a paper for Vic on that, and we got it published, and I worked with a guy named David Nasatier, who was part of the sociology department at Berkeley.

BH: [N?] is N-a-s-s…

HW: No, Nasatier. I believe it's a Sephardic name, I think his people are Sephardic Jewish from Spain, or something like that. But he was the manager of the Social Science Data Archive at Berkeley. In the sixties, there was this big movement to collect data that had been gathered through polls or academic surveys, collect it and put it in a repository, maybe clean it, get rid of mistakes in the data, and make it available for secondary analysis, for re-analysis by other people, either for teaching purposes or fresh research. And I immediately saw the connections between that and academic librarianship. And so that's what I actually wrote my doctoral dissertation on. Pat was my supervisor, but Harold [Willenki?], the sociologist I mentioned, he was on my committee, and I maintained ties with David Nasatier, Charlie [?], and a number of sociologists at Berkeley. So, anyway, I wrote a thesis trying to bring together concepts from social science data archiving, and academic librarianship, and how the two could become closer and more mutually reinforcing. That was my dissertation.

BH: It's still an issue for academic libraries.

HW: Yeah. Actually, academic libraries have never gotten into it as much as I thought they would, partly because it just requires skills that typical humanities-trained librarians don't have. There are librarians at places like Yale, UCLA, a few places where the data librarian actually is trained in a library school. Judith [Rowe?], at Princeton, when I was active in the data archive movement, she wasn't herself a librarian, but she had ties with the library community. She had ties with Sue [Dodd?], who was a woman at North Carolina who was writing about cataloging machine readable data, cataloging polls and surveys and census data. And Sue [Dodd?] actually wrote, or helped write, the chapter on cataloging machine readable data files for the Anglo-American Cataloging code. So, pulling together these two communities was my goal. But even now, academic libraries are not really part of the data archive.

BH: They're not really embracing the big data movement. They talk about it, but…

HW: Yeah… There are exceptions. Somebody like Carol [Palmer?], you see her at all the conferences talking about data curation, she's at the library school at the University of Illinois, and she comes from a humanities background, but she's one of these people who has broadened out to become familiar with, and even expert in, data management in a lot of fields, including the hard sciences. She's a wonderful example of a truly versatile person, the sort we need more of in librarianship. But anyway, that was kind of my world when I came to Drexel. The social science data archive…

BH: So you got your, just for the record, you got your PhD in 'seventy…

HW: '74. Summer of '74.

BH: And you were hired immediately…

HW: I was hired immediately. I had a couple of nibbles from… Well, I was invited to interview at Florida State, and at Western Ontario. And both of those wanted you to pay your own way and then get reimbursed, and I was a poor graduate student with three kids, and I didn't have a lot of money. And [Guy Garrison?] at Drexel invited me to come for an interview, and he not

only was willing to pay my way, I found out, when I got my ticket, he had laid on a helicopter flight from Berkeley to the San Francisco airport. So I didn't even need to go to the San Francisco airport. [Guy?] really knew how to do things. He had a wonderful office manager, maybe it was the office manager. So I interviewed at a strange time. I interviewed at Drexel in May, right as I was winding up my doctoral studies, and getting ready to go on the job market, well I had started on the job market, in late May, which was not the time they usually hire people. And I had my interview at Drexel. [Guy?], I guess he was really eager to fill the position they hadn't been able to fill, they had been trying to get a black woman for the post, they ended up getting me, which was an irony.

BH: Tall, white, skinny.

HW: Tall, white, male. Right. From Utah. But anyway, he said, "Oh, you don't have to give a talk." I probably am the only candidate in living memory who, when he's invited to a job interview, wasn't even asked to give a talk. But see, I guess, he saw my resume and I had a good skill set. They wanted somebody to teach social science resources, and I could do that. And they wanted somebody to teach a course that bounced around, nobody was really able to do it well. It was called Measuring Library Use. And I had, experience not just with statistics, but with SPSS. I was the one who brought SPSS into the curriculum here, through that course Measuring Library Use. And then later we incorporated it in a course called Quantitative Methods. I designed that course and taught it for a while, and got SPSS into that, then [?] took it over and taught it very successfully for many years. But anyway, I had good skills that [Guy?] was looking for. He said, "Can you do international and foreign documents?" I didn't know much about that, but I'd been working with [Willenski?] on his statistics for cross-national comparison, so I knew about UN documents, OECD documents, and you know, like most library types, I'm a quick study of shallow bibliographic data; I can pick stuff up fast about the world of British official publications and French government publications. So I taught that course for a while. Because I had these skills that mapped right onto the courses they wanted taught, they hired me.

BH: And there you were.

HW: There I was.

BH: So you came into the school in '74, what was it like then? Who was here? What was the culture?

HW: Well, [names?]. Katherine [?] was the Dean. It was very much a library school. And all the library types, Rosemary Webber did the school library program. All the library types were kind of leery about these new people, like Charlie [Meadow?] and [Belford Griffith?] coming in, who were very definitely not library types, and of course that happened in every library school in the country. They all went through that transition. Columbia, you know, every single one of them did.

BH: So you were seen as one of them?

HW: I think so, I was teaching on the library side…

BH: You were teaching in new ways.

HW: I did bring SPSS in, and in the Social Science Resources class, I did bring in data provision for the social sciences. I mean, I taught the standard reference books, and abstracting and indexing services, and I had students look up reference questions. It was a typical course, but it did have that component of social science data, which probably differentiated my course from the equivalents at other library schools. But, you know, Katherine [?], she was old-fashioned.

BH: She was the Associate Dean?

HW: She was the Associate Dean. Very old-fashioned. Rosemary was old-fashioned. Ray [Barber?], school librarian, very old-fashioned. We had a media center downstairs, not much in the way of computing. Let me just mention, for computing, we'd go over to [Unical?], which is the science center, and it's now part of Drexel, I think Drexel has taken over the building, but we used punch cards and a main frame, just the way we had done at Berkeley for quite a few years, into the early 'eighties. We were going to [Unical?] and running jobs on a mainframe with punched cards. So that was the computer climate when I was here, and the Resource Center was teaching things like how to thread a projector, things like that. [laughs]   You know, films and film strips.

BH: And in '74 you had not yet started any doctoral students through. There was no doctoral program yet?

HW: Well, [Tony Carbo ?] had just gone through, I think, when I arrived. I think she had completed the program, I'm not sure whether they actually awarded her the degree in '74, I think it was a little bit later. But she was the very first student, and I believe she was [Belford's ?] student. And she had, I think, completed all her coursework and her dissertation.

BH: So there already, in a sense, was a doctoral program.

HW: There was, but it was very small. And for quite a few years, there were only a small number of students in the program.

BH: It was starting to grow when I came in '79. I started in '79.

HW: It was starting to grow then, when you and [Barbara Rush?] and [? from Brazil], I think that was a somewhat bigger cohort. But for quite a few years, we would have maybe only one or two people get their diplomas, because they had actually completed all their work, filed their dissertations in the library, and that sort of thing.

BH: When did you first have somebody that you thought of as "my doctoral student"?

HW: I guess it was Kate. Kate [?].

BH: So I guess it was in the 1980s.

HW: Early '80s. I can't remember. She had started with [Belford?] but there was a certain friction there, you know Kate is prickly, and she felt [Belford?] wasn't always a congenial choice for her. So, I inherited her from [Belford?] because I'm gentle and mild and meek and wishy-washy and easily buffaloed? [laughs]

BH: [laughs] This is all on the tape.

HW: Yeah. Kate thought I'd be a wonderful supervisor. But no, we got along fine.

BH: I want to go more into how you worked with the doctoral students and your research, but can we stop for a minute… So here you are in a new place at Drexel, in a new academic community, but did you maintain some connections with the world of practice, with librarianship?

HW: Well, I went to ALA and things like that, and I know lots of librarians, I would talk to librarians here at Drexel, at [Penn ?]

BH: I seemed to notice in looking through your publications that, intermittently, you would write something that was clearly an evaluation of a library program, or co-author…

HW: I did. I talked a lot with [Mike Halperin?] who was head of reference here at the time, and also he was the business librarian for a while. He went on to become librarian of the Wharton School. But anyway, he and I talked about ideas for measurement at the reference desk, and I gave some workshops in that. I remember giving a workshop, a two-day workshop, in Measurement at the Reference Desk, at a big ALA convention in Detroit. Mike agreed to come in on that for one of the sessions, it was a two-day lecturing thing, so I brought him in.

BH: Is this measurement of reference service?

HW: Yes.

BH: So it also got into measuring collections?

HW: Well, that was a bit later. That was more in the 'eighties. But I was interested in just general skills of librarianship because I had a baby-level statistical background. I had actually worked out schemes for measuring various activities at the reference desk, and I showed how you could gather data, not only gather data, but actually analyze it, again with SPSS. I was trying to teach things like how you can use [Yule's Q?] in a four-fold table. I remember in 1976, I was invited to talk about measurement at the reference desk, for a gathering of librarians in New York City. I can't remember exactly what it was, but they were meeting at a hotel, and there were fifty or sixty of them, and we all met in this big room. And I was there to talk about my scheme for measuring reference desk activities. And I had this little workbook that I devised for our own students to use for them. And I gave my little presentation, in those days we only had overheads, not PowerPoint. But I actually talked about [Yule's Q?], which is a little four-fold table, and q is a measure of association between two variables, each of which have two values. And I think most of the librarians going there, they thought of measurement at the reference desk as things like marking four reference questions, and then when you get to the fifth, you put a little line down through the four, and then you count that at the end of the year.

BH: Or ready reference, directional…

HW: The standard distinction was reference question or directional question. And I actually had that, that was one of my variables in the [Yule's Q?]. Anyway, I actually talked about a very simple statistic, and I worked really hard to make it, I thought, crystal clear. And I can remember the actual reference librarians sitting in the front row, they were staring at me like the crowd in the Producers during 'Springtime for Hitler.' You know, I was actually trying to teach them statistics, and the shock on their faces was very scary to me, you know, I tried so hard to make it…

BH: It wasn't one of your teaching triumphs.

HW: Well, I think it was…

BH: Do you think there was anybody out there who got it?

HW: I don't know. It was just so unusual for these people, they came to a big program on reference measurement, but again, they would think of that in terms of classifying questions in terms of reference questions or directional. And then they would talk about, "Well how do you…" They would have examples of reference questions versus directional questions. They would spend a lot of time on that. And so I was trying to take it a little bit farther and give them a way that they could analyze their data. And I tried this workbook out with classes, and the classes seemed to get it okay, but they were just not used to having anybody actually talk about real measurement.

BH: Maybe it's something like in your earlier career when you were not interested in math; it was more of a mindset.

HW: Oh yeah. But, you know, that same workbook was used for years here. I used it, when I say workbook, it was about a 12-page, single-spaced handout, and it took you through the steps of gathering very simple data at the reference desk like reference or directional, student or faculty, you know, I can't exactly remember what the variables were in [Yule's Q?] table, but let's just say it was whether you've got a student or faculty member asking the question, and is it a reference question or a directional question? And I was trying to show them how you could see whether there was a pattern, whether students tended to ask reference questions to a

significantly greater extent than faculty did, or something like that. It wasn't like I had a whole bunch of complex formulas, or didn't plug in numbers, usually people like me, or standard humanities types, they can understand something if you plug in the numbers and work through it. And I did all that. But still, they just were shocked. But anyway, that was one of my early experiences with interacting with the people. And I just tell that because it's funny to think of those people being like the audience in 'Springtime for Hitler.'

BH: So in these early years as an untenured assistant professor, of course you've got your research going.

HW: Yeah.

BH: And the early publications at that time were focused on…

HW: Social science data archives.

BH: And I can't remember now, from your list of publications, who were you collaborating with?

HW: I did it all by myself. I had already published something on the film services in a health library when I came here, and I'd already published a couple of things on data archives, and then while I was here, I edited a theme issue of the Drexel Library Quarterly. Do you remember that, the Journal we used to have?

BH: I do.

HW: I edited a theme issue in that, on machine-readable social data. And I edited a big reader in machine-readable social data, a book of readings, of diverse aspects of this new world. It was a series, edited, I think, by [Paul Wasserman?]? I'm not sure, maybe he was just one of the contributors. Anyway, it was a series for people in schools of library and information science. So I edited that, and I got a paper into JASIS&T and all. There was a big gap, I published almost everything in 1977 and then I went up for tenure in 1980, and I hadn't published anything in the meantime, so [Carl ?] gave me a hard time about that; he was on my committee. But I had a lot of stuff in the pipeline, because after publishing quite a bit on social science data archives, and meeting a number of people in the field, joining the professional association (which is called [IASIST?], it's still going,)...

BH: International Association of Social Science?

HW: International Association of Social Science Information and Technology? I think that's it. They manage polls, surveys, census data, things like that. Anyway, after publishing four or five things in that area, including a book, I felt I had said pretty much all I could say, and so in the late '70s, I learned online searching, sort of through Charlie Meadow, Meadow was the online searching guy at the time. Through his offices, I took some workshops and learned a bit of it, and I began to get into co-cited author searching, which was at the time rather avant garde. And the reason I got into citation data was the proximity to ISI, and the way we had this historical tie with the students of [?]. And [Belver?], of course, had the tie with [Henry Small?]. And so there were a number of confluences there. But I was moving away from, after three or four years, doing publications in social science data archives. I was moving into some other fields. And one of them was the author co-citation analysis. I also, because I could analyze other people's survey data, that's a skill I learned at Berkeley, secondary analysis of survey data by others, I got this big survey from Temple. Temple has their social science data archive, and they had the survey that was commissioned for the Commission for Obscenity and Pornography, it was a US government commission to study obscenity and pornography. And the Commission commissioned this big survey, which was carried out by the survey team at Temple, and the data were at Temple. So I re-analyzed the data looking at one particular question that had to do with

whether, if you were a librarian, would you want to remove objectionable materials from library shelves. And there was a lot you could do in studying library censorship with that one question. It was a very rich survey, there were a lot of variables. So I analyzed that, and I had a paper that was published under the title 'Library Censorship and the Permissive Minority.' It was a survey of roughly 3,000 American adults. It was a nation-wide survey. The thing I was focusing on was this question about would you want a librarian to move objectionable materials, or would you not want them removed? And by objectionable, they gave examples to show what they meant. So I had that going, and then I had a paper in the works on how results in an online search could be presented in a better, more meaningful way than just by recency, you know, sorts are usually by accession number. And I said, "Why don't you sort them by the journals that had the greatest yield." Put the most productive journal at the top of the sort, and then the next most productive. That's the Bradford distribution, and I called that paper 'Bradfordizing Search Output: How It Would Help Online Users.' These are all papers that I had, sort of in the pipeline when I went up for tenure. 1:22:26

and I guess the most important one by far was the one I had done with Belver, the very first author co-citation map.

BH: That was published in JASIST?

HW: That was published in JASIST. That was my second publication in JASIST because I had already published something on machine-readable social data files. It was called "Towards a National Systems for Social Science Data File." I already published in JASIST, but this was the second one. There were actually two papers. There was one on how to do a co-cited author search and I used the example of some sociologists who worked in the field of social indicators.

BH: Right.

HW: And then I published – soon after that, I published one with Belver on mapping a field using co-cited authors and we mapped information science. Both of those co-citation papers came out in '81.

BH: Right, so again, coming back to the sort of climate and the culture and politics of the school. Belver, then really was a supporter, a mentor?

HW: Belver was certainly an influence. He was able to pick good problems and he had already laid a very good foundation for co-citation analysis in his work with Henry. Their unive(?) analysis was always the paper, it was co-cited papers that Henry would map and Belver would [Ding] also map using the ISI data. [Ding] You see, Henry had privileged access because he was the Director of Research at ISI. He had privileged access to the files. I had no such access, so I learned using Dialogue to go into social psy search or psy [?] search and do author co-citation, which was easier to do than paper co-citation online. It was easier to do quickly. For technical reasons, authors are just easier to work with and right about the time I was first getting into author co-citation analysis, I went to the ASIS&T convention in Minneapolis. I met Charlie Bourne, who is your colleague. He's your co-author, right?

BH: Right, that was '79.

HW: Yeah. Right, it was '79. Charlie, at that time, was working at Dialogue. I had known him at Berkeley. I hadn't had a course with him, but he and I were on friendly terms and knew each other. And I told him about this work I had been doing with co-cited author searching and he said, Well, you know, if you use this command called the special in-house command. Did I tell you about this?

BH: At the time you did.

HW: Maybe, I did.

BH: For the record. [Waves towards the camera]

HW: Just briefly. It's called – Use this command called Intersect. It had a period before it. Dot. Intersect. Using that, you can add together several pairs of authors, co-cited authors at once. And that made everything much faster. That was the way - I think - we gathered the data for the first paper in which we mapped 39 information scientists. See, you know, the formula for doing any sort of analysis of pairs is n times n minus one divided by two. And so, every time you add a pair to the overall [Ding] analysis, you add a huge – or another bunch of numbers and pairs you have to get. It is a little hard [laughs] to talk about this without having a blackboard.

BH: [laughs]

HW: Anyway, having that intersect command greatly speeded up the online searching. So we were able to get our square symmetric matrix of co-cited author pairs much more easily than if we had to do it one at a time.

BH: Right.

HW: And so that was the big technical breakthrough. We used that happily for about three years and then Dialogue – see, word of it leaked out and other people started using it and it degraded the search system. [Laughs]

BH: Too much resources.

HW: Yeah, it's resource-intensive, so they killed access to Intersect. I don't know, they probably kept it under some other names or in-house command, but we could not do it anymore. But that was a great help in getting the author co-citation work underway. Another nice thing that I remember from that, I would really write all – I would sort of do all the work on those papers. Belver was nice in that he gave me first author on all of those papers that we did together because I would write them all and do most of the analysis, but I had – you know – people at Berkeley that would not give me first author, if even I wrote the whole paper. I won't mention names, but they would put their name first even though I had done everything.

BH: Yeah.

HW: Belver was good about that.

BH: Well, if he were here to talk, he would probably say he needed people like you to do the first drafts.

HW: Yeah, yeah. Well, it wasn't first drafts. It was everything. He might add a paragraph, like in the author co-citation.

BH: Did he read and comment on the paper?

HW: Well, let me put it this way. He would certainly set the general line of analysis. His grad student was the one that first got us into using Pearson Ars[?] as our measure of similarity. You know that ledger[?] became very controversial. That's the Drexel method. That is a big no-no now. You are not supposed to use Pearson Ars[?], but Belver was the one that initially started that. The very first author co-citation map appeared not only [coughs] in JASIST, but in an anthology of information science that Belver edited for knowledge industry [?] and the choices that went into that map, the authors that went into that map actually came from the index of Belver's book. People that – you know – appeared a lot in the index – well maybe not – maybe he didn't use that, well, people that had authored papers in that book and I added Pat Wilson because I thought he should be in there and Belver did not even know him.

BH: Different worlds.

HW: Different worlds, exactly. But I added two or three. Belver picked thirty or so out of the total set of authors. He sort of set the guidelines for research. He had the money. He had a grant that helped us have grad assistants.

BH: So these were very important contributions.

HW: Oh, absolutely. I don't think that I would have done that kind of work without Belver. He got it started. He had the whole intellectual framework developed because of his prior work with Henry. And as Henry says in his paper – Henry and Belver – Belver was really supposed to be working on all this great example of the Australia antigen [?] papers that Henry and Belver had analyzed and Belver would never write his part of the paper, so here comes Howard and he is eager and he is willing to write.

BH: Good writer.

HW: Good writer, so Belver kind of moved over to writing with me instead of writing with Henry, which probably would have been even better in the sense of perhaps more significant research. I don't know. It's hard to say. Belver, you know, was close friends with Derek Price. Belver sent the first author co-citation map to Derek and Derek said in his reply, This is the best paper I have seen in a very long while. I was really delighted that Belver shared that with me. That's like the laying on of hands. That's having your work confirmed by somebody.

BH: Derek J. de Solla Price

HW: By somebody who is an intellectual [unintelligible]. [laughs] I am trying to do my New Jersey accent. [unintelligible]. I met Derek through Belver and I cannot say that he was any more of an influence on me than his influence on everybody, but, he's like you know, he's like the daddy of the us all, even Belver and Henry, I guess, drive all the way from Derek.

BH: Well, in looking at this list on the handout that I created. And in the meantime, we might take a break.

HW: Okay, maybe we should take a break. I'll just get a drink of water.

BH: Okay, I was going to say. I listed all the co-authors that I could find from the bibliography.

HW: Yeah, I'll be happy to talk about that.

BH: Wanted to see if there was anybody in particular that had – we already talked about Belver a lot.

HW: Yeah.

BH: Let's see if there is anyone else on the list that you want to elaborate on.

HW: Let's see. Co-authors. Well, Kate is the big one.

BH: Why don't we take a break. We are taking a break. 20 of 12. We will be back in a few minutes.

BH: We are back now. It is almost a quarter of 12 and we will resume. And so I'd like to hear about your research or co-authors and influences.

HW: Well.

BH: Also, we skipped over some other professional activities and awards listed there. So any time.

HW: Okay, let's see. What are you looking at on the professional activities?

BH: At the bottom of page three.

HW: The bottom of page three.

BH: The research award. The best paper award.

HW: Oh, well. Yeah. They come later. I was sort of talking about the early years when I was working with Charlie and Belver. Maybe I should segue into the work with Kate, as I have said.

Kate had been working at the Biology Library and came to Drexel because she was told that Belver could help her with a study she wanted to do at the Biology Library at Temple. And he, after talking to her, said, you know, you really should come join our doctoral program because what you want to do is bibliometrics. And Kate, you know, was suddenly introduced to this whole new world. But, she came in the – I don't know exactly when it was, it would have been the early 80s. She was very good in her coursework and she was recruited by Guy[?] to teach. [unintelligible] once or twice. Teaching Sci-Tech[?] resources. Things like that. She became part of our research team.

BH: And again, that's Chris [?]?

HW: I'm sorry, yes, that was Chris [?]

BH: He was on the faculty and then he went off to India?

HW: Ashram? No, he was in an ashram here in the United States.

BH: Oh, was he?

HW: If ashram is the right word. He joined sort of, I think a Hindu holy order of some sort.

BH: Buddhist or something.

HW: He's from India. I believe he was Hindu. It was somewhere like in Maryland or Delaware or some place not too far from here. But it wasn't, as far as I know, in India.

BH: He had been on the faculty. Chris [?].

HW: I'm not sure I've got the chronology exactly right. It's not too far off. Kate joined us in the early 80s. She was drawn into the doctoral program by Belver and you know, because of her obvious skills, she was used more and more in projects. In the early 80s, we got a grant from National Library of Medicine to study the coverage of the medical behavioral sciences.

BH: Includes a huge crowd[?].

BW: By Medline. Yeah, it had several different parts and Kate was brought into that as a graduate researcher. I think that she was still taking her doctoral study then. Anyway, maybe I should say that, at some point there, Chris [?] decided to leave the faculty and Kate was a very good fit to take over for him. Guy, you know, asked her as soon as Chris told him that he was going to leave. I think Guy said, I'm going try to get Kate to replace him and he asked her to join the faculty and she did.

BH: Even without a helicopter ride.

HW: Even without a helicopter ride, yes, in her case, it was just a short automobile ride over. Maybe even a subway.

BH: But Guy knew how to go after the people he wanted.

HW: He did, he did. Well, she was pretty happy here. She and I always got along very well. I don't think that we ever had a really cross word. I should mention that she's always been wonderful to work with. When she and I do things, she often does contribute some of the writing. She didn't on the paper for which we got the Best Paper Award. She's co-author on that because she did a gigantic job of online searching. She gathered all the data for that using techniques that had gradually evolved here at Drexel. The Intersect command we couldn't use anymore and we weren't programmers. We couldn't ourselves, download data the way people do now with Web of Science. They will download data or either they or programmers or they will get programmers to analyze their downloaded data. That was not really an option when we were working. At least not for us. So anyway, she did a huge complex job of data gathering for the big study of information science. The "Visualizing a Discipline" study that we published in 1998. She didn't do writing on that, but on other things we worked on, she did indeed contribute. For instance, the two ARIST reviews, she was very much a contributor on those. But, she's

always been very good to work with. She's very technically competent. Driven by her, in her fires to always do excellent conscientious research work. So, she's certainly been a valuable colleague. I don't know –

BH: You worked – one of your co-authors was Marcia Bates?

HW: Well, Marcia, I knew at Berkeley. She and I went through the doctoral program at roughly the same time. She was a couple of years ahead of me. She graduate two or three years before I did. Maybe two years. She and I were just friends from that experience, but then later as I [Ding] became established here at Drexel, she and I got very interested in what you might called foundational concepts for library and information science education. She had written, for instance, a long paper called "Rigorous Systematic Bibliography" that was based directly on Will – Pat Wilson's work. Two kinds of power had come up with a useful way for analyzing the structured bibliographies and bibliographic practice. You know, the use of bibliographies. And Marcia wrote a popularization of that. Pat, some people is somewhat hard to read. I don't know, I've heard people say that. To me, he demands. He is a philosopher, but he's not deliberately obscure, he's just very high brow. Anyway, she wrote a paper popularizing Wilson and I knew about that and I knew about her search tactics and I did tactics papers. All of these are –

BH: Berrypicking

HW: Berrypicking. Right. I'm not sure that Berrypicking had came out when we first started talking about our – maybe doing like a joint book on foundational concepts in our field. Berrypicking came out in the summer, I recall, of '89. I think that we were talking about a possible book before then.

BH: Okay.

HW:. And [coughs] I saw some manuscripts of hers in draft and I rewrote it a bit and sent it back to her. These were contributions of hers that I thought would go into our book, but it turned out that she published those unpublished manuscripts in journals and so, I wasn't able to use them in the book, but then I came up with the idea of taking some things she had already published and rewriting them somewhat. Just more cosmetic. Editing for – maybe – cutting a bit here or there, clarifying something. Maybe working in a few more examples. Things like that. But anyway, the book we eventually did was called *For Information Specialists: Interpretations of Reference in Bibliographic Work* and for that, I wrote a lot of – well I wrote entirely new material on my own, six, five or six, five – maybe – large chapters. I took some of Marcia's stuff that she already published and rewrote it a bit and then I decided to try to get Pat to give us some unpublished stuff of his – Pat Wilson – and he was okay with that. So put it all together and it is a somewhat sprawling book, but I think that it is packed with good ideas. It's got a lot of very good stuff in it and in many respects, it hasn't dated. Although unfortunately, it came out just before the Internet boom. It came out in '92 and you know, the Internet kind of took off right after that.

BH: The World Wide Web.

HW: The World Wide Web, yes. In some ways, the book looks dated because we don't talk about the World Wide Web at all, but things like – both the discussions of classic online searching using Boolean operators and the nature of bibliographies and what's really going on when reference librarians answer reference questions. You know, we have, I think, a very good analysis of those. The field is changing now so much that it may be that reference librarianship as we were writing about will pretty much disappeared, but for its time, it was – I think – a very good synthesis[?]. I've had people tell me that they absolutely loved it and of course those are the people I love in turn. [laughter] And I've had people say that it's dry as dust and just typical

library science crap that they can't make anything of it. It just depends on whether you have a taste for discussions, for what we thought were penetrating discussion of the real nature of what's going on in librarianship.

BH: Professional practice, right?

HW: I think a lot of people just – including many people with library skills – they're bored by that. They don't want to think about librarianship in that way. They just want to get their tickets punched, as the expression goes, and become librarians. They would never go into the Zs in the Library of Congress stacks and look –

BH: Read.

HW: at books on librarianship. I go over to the Zs every now and then and I have my whole life. And I never see anybody in there, I think, maybe twice in my life, I've seen people in there and they're never my students. When I was at Berkeley, they had their own library school library and I used to go in there, browse, and now I've browsed all over Berkeley. Berkeley has about twelve or so big good libraries and I would browse in all of them.

BH: Yeah, yeah. You would see me in the Zs and other people like me because of our history.

HW: Yeah, well, my young colleague, Jenna Hartel[?], she was upset when she looked in Amazon and saw a kind of snotty review for my Bates-Wilson book for information specialists. Somebody was – you know – saying that it was boring and if you like library science stuff, you'll like this [laughter] but otherwise, it's very dry. I can't even remember, but it was words to that affect and Jenna was incensed because she loves that book, so she wrote a good review. [laughter] I've heard other people say, Oh, I just love that essay 'External Memory,' Elizabeth [?] just said she just loved the final chapter, which is long and complicated, but I'm trying to cover a lot of different aspects of our field, trying to mark out what is librarianship, what is information science, how do they differ from information systems. I was really sort of writing it for what was then the curriculum, you know we had the systems program, but we also had the library and information science program and I wanted to link it to publishing and archives and all of those things.

BH: Which has never been cleanly sorted out.

HW: But I think that I pretty well cleanly sorted them out early [?] I give people a much more explicit and detailed account than you usually find in our field. That's why Elizabeth, Dean of the school, or Director of the school, liked it. But, to other people, that's all just dry as dust. [laughter]

BH: Other influential people, other than before.

HW: Well, let's see.

BH: Or is there anybody from the co-author list that jumps off. Somebody influential?

HW: I got to get the co-author list. I had a very pleasant experience in Australia, several of these co-authors are, or were at the University of New South Wales. In 2007, I was invited down there because the Australian government, emulating the British government, had started a big national program by which research departments in Australian academia would be evaluated using performance measures and funding for the departments would be based on that.

BH: Oh.

HW: It's like, you know the RAE, the Research Assessment Exercise in Britain?

BH: I don't know that.

HW: Well, it's a big program that's been running for many years and people have a long thought to get citation measures into it, but citation measures are vigorously resisted by many people. Not just humanties-types who, by and large, hate anything to do with citations in the

bibliometrics sense, but a lot of scientists don't like it either. And Australia was doing exactly the same kind of thing. They know call it ERA, it's Excellence in Research in Australia and had a different name before that.

BH: Trying to measure productivity.

HW: Productivity and they wanted to have things like the number of papers you publish, the number of citations you get with the humanities. It might be the prestige of the presses you publish in or publish with. The number of news stories devoted to your work. You know, book reviews. There are all kinds of things you can use as performance indicators, but they were attempting to get academics to submit to these evaluation regimes and academics hate it, [Laughs] by and large, so anyways, I was invited down to Australia by Connie Wilson to talk at the University of New South Wales about citation analysis and what it could be used for and how it's not necessarily scary and you know, how it can be exploited for good purpose and so I had about five PowerPoint lectures devoted to various aspects of citation analysis and one of the things I came up with is this new measure called LibCitations, which is – and this was specifically designed for people in the humanities who rightly claim that the ISI – well the Thomson Reuters citation databases don't do a good job of covering – they're not as good covering humanities in general. They're particularly not good at covering countries like Australia or New Zealand or South Africa, you know English-speaking countries, but sort of marginal in Anglo-American, you know –

BH: They're so far away.

HW: Yeah, the Anglo-American dominance. So, anyway, my suggestion was that a really good measure that is not being used – a quantitative measure – for people in the humanities is how many libraries have purchased your monograph. People in the humanities always say, well, we're – we published books, we're not journal people – those are the scientists. We're the book people and so I said, okay, you've got one or more monographs. One of the things you can look at is how many libraries hold your monographs and it happens that the Australians have their own union catalog by which you can see how many libraries all over Australia hold monographs and so, I talked about this idea in one of my lectures and Connie and some other people at University of New South Wales.

BH: Fletcher Cole.

HW: Mary Davis, yeah, Fletcher. Is it Cole? I always forget his last name, yeah, Fletcher Cole. Mary Ann Cannon[?] and Sebastian [?], they formed a team with some research money that Connie had – Connie and Mary Davis had. We formed a team and we actually did a analysis of some data from libraries in Australia on holdings counts and it's a measure that can and should be transferred to WorldCat. I could do WorldCat of versions of LibCitations, but in going beyond just the raw counts for the number of libraries that hold your books, I used somewhat more sophisticated techniques like the percentile of your book as ranked by the holdings counts. What percentile of the overall distribution of holdings counts in a given subject area. For subject areas, we define those in terms of LC classes. We published an article on it, in which all of this is spelled out, but I'm just sort of saying that that particular team of Australians came about because I was invited down there to talk about citation analysis. You know, I talked about the standard things like the H-Index and the G-Index and a little bit on citation mapping and I tried to show that in a lot of ways, citations didn't need to be or the people didn't need to feel that citations were threatening, very often they can make your department look very good. Of course, you know, if you have quantitative measures, then inevitably, some departments are going to look better than others and that's what people worry about. They worry about the money being

taken away, so I can understand their concern, but on the other hand, if your government is going to do it, then you sort of have to adapt to circumstances.

BH: Try to make the best of it.

HW: Right, but I still think that LibCitation I did is a good one. I wrote a long article and [?] was our database person. Sebastian [?] did the actual data gathering from libraries in Australia and put it in a database that [?] created and anyway, we –

BH: I wonder, I don't want to get off on a tangent because this is really about you, but whether the fact that libraries are really having to constrain their book buying budgets.

HW: Uh-huh.

BH: And avoid duplication that there are sort of artificial restrictions.

HW: There are always those concerns.

BH: There's a union catalog from Australia, for example.

HW: Well, that's right. That might act as a damper on holdings, but you certainly don't see most monographs having about the same number of copies sold.

BH: There's still variation.

HW: Real variation. My favorite example is a British, I'm sorry, an Australian historian who wrote a book – it was on slavery, not in Australia, but in North America – in America and Canada – and if you look up her citation record. I did, I looked it up in Web of Science, in Arts and Humanities Citation Index, I looked it up in Scopus, I look it up on Google Scholar, you know in all of these things, she doesn't have much of the citation record, but if you look up this particular book, the one on slavery in North America, it's sold over a thousand libraries in WorldCat. If you can sell a book to over a thousand libraries.

BH: That's gold.

HW: People always say, oh librarians have these plans and they have to buy these books, well they don't. It's not the case that every book sells roughly the same number of copies. A lot of book are held in one copy or two copies. Others are above a thousand. Cassandra, what is her last name? I can't remember. I can't remember her last name. Her first name – this historian – Cassandra's book was held by over a thousand libraries and the most famous book in Australian history by the art critic Robert Hughes, do you know him? He used to write for *Time.* He's a brilliant art critic, but he was an Australian and he wrote a history of Australia called the *Fabled Shore* and that's held by over something like 3,500 or 4,000 libraries and it was a massive bestseller, but the libraries reflect that and here, you know, you can get the number almost instantly in WorldCat, so it's – I make a lot of arguments for it in the paper and I'm just sort of explaining there why these people are my co-authors. I worked with Michael Halperin and Tim LaBorie on certain aspects of abstracting and indexing.

BH: They're both at Penn? Or Drexel?

HW: Well, they were at Drexel when we did that. Tim moved on to St. Joseph's and Mike Halperin's since moved onto Wharton's School or the Lippincott Library at Penn serving the Wharton School. Susan Williamson and Carol Walton, they were students in the program here and I did a paper with them. I wrote it, but it was using their data. It has to do with acceptance of online catalogs and so on. So a lot of these were sort of ad hoc things and you know, when you have a couple of students with good data and you want to give them some credit and a boost.

BH: These are your mentees, those people?

HW: Yeah, with Barry Wellman. He's a very well known sociologist at the University of Toronto, he's one of the leading network – social network – people in the world. He's the one that founded the Association of the Social Network Researchers, his degree's from Harvard, but

he's been in Canada, in Toronto for a very long time. He approached me because he had a doctoral student who had all this data on a small research group – an international research group – about 16 member and they were in diverse locations, but they were formerly organized to do interdisciplinary research on human development, like childhood through old age and his doctoral student had interviewed all these sixteen people with a very detailed questionnaire that got things like well, do you email so-and-so or do you talk by telephone to so-and-so. She had all this interpersonal communication data and Barry wanted to explore the intercitation of these people, so he didn't know how to do it and his doctoral, Nancy Nazer did know – she couldn't do that. So I could do the citation record of all these people and how they intercited each other. I could also get how they were jointly cocited by the field at large, so we put that together and got a JASIST paper our of it and I was first author on that because I wrote most of it, but Barry did contribute to it and Nancy didn't do any of the writing, but I used her communication data. That's the thing that we, in bibliometrics, we so often do. We don't have – we get the bibliographic data, but not the interpersonal communication data. You know, do you have lunch with so- and-so.

BH: Do you hang out in the bar?

HW: Or do you hang out in the bar, that sort of thing. Does so-and-so, or a more realistic question: do you send papers to anybody in this group to read critically. That would be – that's the trusted assessor that [?] writes about. So anyway, she had all this data and we put her social interaction with the citation interaction and I think, a good paper and it's cited quite a bit. So.

BH: Let's go back to page three. We've got kind of up to the 1980s. At what point did you promoted to full professor?

HW: That would have been about '86, I think. I was really lucky in that I was promoted Associate Professor after three years. I didn't have to wait to get tenured. Usually, you get your promotion to Associate Professor at the same time you get tenure – after six years. And I guess because I had three children and you know, was doing okay as a teacher and researcher here, Guy promoted me. I didn't say Guy, I need the money, he just promoted me to Associate Professor after I'd been here for three years. Then I got tenure in I think it was '80 or '81 and then in '86 after I had continued to publish and give lots of presentations and workshops.

BH: [Coughs] Made a reputation.

HW: Yeah, did the usual things. I set up several lines of research and followed through on them and I've been part of funded projects, so I made full professor in '86, I think. Maybe even '87, I'm not positive about the exact date.

BH: And how did life change? In anyway at that point?

HW: I don't think. Largely, I remember '86 was a very [Ding] good year for me, as far as publishing goes. I think I published five or six papers in that year and as I started working on the books. First for information specialists, then the book on collection evaluation that I'd been working on. That's called *Brief Tests of Collection Strengths*, as I worked on those books, my paper production fell off somewhat, but I was, you know, active and publishing in various journals. I might just mention that in '83, I was invited to UCLA for that Senior Fellows program.

BH: Right. Great.

HW: Most of those are library managers, but they also occasionally invite library school faculty.

BH: Right. Just to elaborate for the record, so UCLA sponsors something called Senior Fellows and they bring together library managers and some faculty for what period of time?

HW: I think it was four weeks in our case. It was Robert Hayes, the Dean of the – I call it a Library School [?] – he was the Dean and Dorothy Anderson was the faculty member who actually ran the program and we met all day, every day for four weeks. Lots of partying on the side, but my point was that, in that, I began to develop collection evaluation measures. I got some very good holdings data that I could compare on across library bases from Bob Hayes. It was in punch card form, [laughs] you know, back in those days. And then I met some people who were connected to the Research Libraries Group and bit by bit over the 80s, I got more and more interested in how you could use, sort of simple bibliometrics on things like holdings accounts to evaluate library collections and it was that line of interest that ultimately paid off in the book *Brief Tests of Collection Strengths* and beyond that, you know, in the late 90s – no I'm sorry – in, I guess it would be after the millennium turned, I developed that in a new much better kind of collection evaluation that I call Coverage Power Tests. It makes use of certain features of WorldCat that are not much used and it's a way for academic libraries to give themselves the ratings on that scale the research library group came up with. It used to be that using WorldCat, you can get the raw data, even for the kind of evaluation I'm talking about, instantly and then they didn't realize what they have – I swear – they changed the program in WorldCat to – I don't know – speed up searches and they took away this feature that would allow you to get a holdings count distribution for a given LC class instantly, so you can still get the distribution, but you now have to do online searching for a while instead of getting it in like ten or twenty seconds. You now have to take five minutes. You can still do it.

BH: Have you ever had any evidence of how much collections librarians or library directors actually do this sort of thing?

HW: They don't do it at all. I mean, they don't do the Coverage Power Test.

BH: I mean, for, you know, accreditation visits for academic departments.

HW: Well, yeah, there's a lot of literature about those RLG levels and research library group levels and there's a more detailed form of levels that was put out by WLN,

BHL Washington Library Network.

HW: The Washington Library Network, although they're all part of OCLC now. They – you know – librarians have paid lip service to these levels for a long time, but nobody ever told them how to operationalize the levels. There is no guide like – you know – if you have such and such of a percentage of a literature, you can claim level such and such. They never had that. See, librarians – they like the idea of measurement in the abstract, but they're all English majors – I'm kidding – you know what I mean, they don't know how to operationalize anything and when somebody – you know – shows them how, then political considerations come up like well, this might make us look bad, if we're below such-and-such a library that is our rival, we don't want that. In fact, I tried to get this Coverage Power Test of mine built into the OCLC collection evaluation module that's part of WorldCat, but WorldCat has this – you can subscribe to this collection evaluation module and I went to OCLC and I said, look, I've got this really great idea and it makes you some data you've already got and blah blah blah. Made a case for it and you know, it was strictly, oh, not invented here, but beyond that, let me just say, I think, more than that, they worry about the politics of it. They worry that if people could easily get ratings like we have a level four library – research level – or our library is only 2B on the LN scale – they worry if those are widely available, that people will – I don't know -

BH: Plus, how many come into a doctoral program if they found out if your collection was [inaudible].

HW: Maybe, something like that. I think it's more the librarians, they worry about giving people the capability to do invidious comparisons.

BH: Yeah.

HW: The way they've set it up now is, you sort of do all of your evaluation in-house and you can compare to a certain extent to say the RLG.

BH: Do you think, Howard, that the library holdings, academic library holdings in particular are still a considered a measure of excellence?

HW: Well, yeah, but they just do these gross counts and I was trying to show them how within any LC class, you can or group of classes sometimes you do just one LC class like Big [?] 51 and other times, you'll do a range of classes, but within that, you can get really good strong, robust evaluation data. It's based on literatures and your coverage of the literatures and it's firm data. It's not a sample like brief [?] are just a tiny sample, but this is like population data.

BH: I think what I'm thinking now is looking forward from 2013 forward whether or not the ability for libraries and individuals to just get an electronic copy of a book almost instantly or next [?] for Amazon.

HW: Yeah, the world is changing so much that maybe the level –

BH: And big academic libraries are cleaning out huge areas of their collections to make room.

HW: Librarianship is just changing so radically that maybe all of these ideas are sort of generational with me. In other words, the new breed of people developing library systems and –

BH: Methods of evaluations, yeah.

HW: Yeah, well actually, [Dings] I think that the idea of the [Ding] degree in which you cover a given literature – that you can make it readily accessible. I think that's still a valid idea because you can't get, in any given library, you can't get access to the entire world's collection. We still have a lot of – most of our services are subscription-based, which means that some libraries have better subscriptions than others. It's certainly true that no library now buys all the monographs that are out there and some have deep rich monographic collections in certain areas. Even – you know – looking just at, say electronic holdings, they have deep rich collections and other libraries don't and so if you want to – you know – do objective collection evaluation, you could use that Coverage Power Test. Maybe adapt it a bit. It works perfectly even though the measurement [Dings] is not confined to just the world of books, so I don't know, that particular idea hasn't spread like wildfire, but in part, it was because OCLC reprogrammed their search module and made it a little bit more difficult to gather data, but one of these days, I'm going to publish the work that I – I teach a course called Research Collections in which I have the students do my style of collection evaluation and just parenthetically the students love it. I got better reviews in that class than I ever got in anything else. They – I'm showing them to use – how to use WorldCat in ways they had no idea they could use it and it goes beyond the collection evaluation module. The collection evaluation module is good, certainly we wouldn't want to see it disappear, but I let them pick a subject they are interested in, define it in terms of an LC class or range of classes and then evaluate four or five libraries of their own choosing and we get really good results. I mean, they are highly intelligible. I've now taught this method to – I don't know – maybe a hundred students and they – I get these notes and it's an online course, so I see almost none of these people, but – you know – they'll say, this is the best course I've ever had at Drexel and it's just because I'm showing them –

BH: You're empowering them to do –

HW: I'm empowering them to do analysis – it's kind of fun, it has that – you know – that contest aspect of it. Who's winning? Who's ranked highest? Is Harvard better than Yale? You know, that sort of thing, but it's also something that they can take out into the job world, so anyway.

BH: And they'll be the ones to develop it fresh for the 21ˢᵗ century.

HW: Yeah, I got this, I just recently started getting emails from this doctoral student in Australia and he's on his own somehow found out about – well I published an article in *College and Research Libraries* on this, but he got into this and maybe found a couple of my students' projects that have been put – they've put on the Internet and he just loves it and now, he wants to interview me and he wants to do his doctoral dissertation in Australia using this LibCitation – no, I'm sorry, this is Cover Power Test, using the Cover Power Test methodology, so anyway, you know, every now and then, I get a disciple-type [laughter], which is wonderful.

BH: Yeah and from – from anywhere.

HW: Yeah.

BH: Well, that is the good thing about the New World and how easy it is to communicate internationally.

HW: It's just amazing. This morning, I had to email a woman in Germany. I spent the last three months – the summer – in Germany and there's a research professor at Social Science Institute and I was emailing her about the check that they were going to pay me [laughs] because it hadn't come in yet and anyway, I sent this thing to Germany and ten seconds later, I get back a message from Germany and boy, that's different from the way it used to be.

BH: Yeah. Yeah.

HW: You just – amazing.

BH: Yeah, in a good way.

HW: Oh, in a good way, absolutely. I could, let's see.

BH: At this point, I'd like you to decide if there's some other aspect to cover.

HW: Well, most know about the climate culture – culture climate and politics at the school. One thing that I often say about Drexel – and I've probably said it to you more than once – this school seems to be in many ways, a pretty happy place to work, even though we have very diverse faculty and it's getting more diverse, the faculty seems to get along pretty well. I noticed that early on, under Guy Garrison, there were the occasional squabbles, but every faculty is going to have that. This was a happier school than say, Berkeley was, or the example of an unhappy school that I always think of is Maryland back in the 70s. Mary Lee Bundy and Paul Wasserman[?] were supposed to be at daggers drawn and things like that.

BH: You hear about people who didn't never speak to each other and things like that.

HW: Yeah and at Berkeley, I think their people like Pat Wilson, Bill Cooper, Bill Maron[?], they were all on pretty good terms, but they didn't really – I don't know – I don't think that they interacted much. They were all kind of distant – you know – each one in their own little tower, domain and I wouldn't say that was an unhappy place, but it wasn't probably as happy as Drexel [laughs].

BH: Yeah, I sensed that even when I was a doctoral student and in the years afterwards, there was a lot of mutual support and celebration.

HW: Right, I think under Dick [?] that there was a lot of conflict because Dick didn't really like [laughs] library and information science. He didn't really – that was his field, but he was very interested in money and when he was here, the only part of the school that promised big bucks was the Systems side. You know, there really isn't a lot of grant money or at least in the 90s, there wasn't a lot of grant money available for library projects and there wasn't a lot of grant

money available for information science, so yet Steve [?] were working here as a systems person and Steve was able to bring in big grants and that was all Dick really cared about and as a result, the library and information science side kind of withered and the faculty got really small. I think when I left in 2001 when I retired, well David had been here for a little while – David Fenske[?], but now, toward the end of my stay here, we were down to maybe a dozen faculty members and under Fenske, it's something like 45 or so.

BH: 47.

HW: 47, just astounding.

BH: And now, it seems even bigger with the Cotton[?] celebration.

HW: Yeah, we've got a thriving online library program and maybe the sessions are big.

BH: Yeah, the library and information science is the cash cow.

HW: Yeah, at least that's what I heard. I mean, I think the recession is maybe cutting in a little bit, but it seems to be doing very well. We've got all this grant money now and now the school is really important to Drexel, you know with the new title. David has just played his cards marvelously. Again, there are conflicts that are – squabbles as I call it – but as far as I know, the faculty, this broad diverse faculty, they seem to get along pretty well. I don't hear of people hating each other.

BH: Yeah, yeah. What about the politics of the school versus Drexel University. Has the climate changed over your time?

HW: On that head, I can't remember a lot of what went on, but I do know that we had trouble getting our name changed to the College of Information Science and Technology. You know, the school's been through several name changes since I've been here and the librarian-types in the early days were always worried that the library would be taken out of the school name and it was eventually.

BH: But the students still refer to it as library school.

HW: Well, I do.

BH: No, my students who are taking my classes.

HW: Oh, yeah yeah. But, we had trouble with the change to College of Information Science and Technology because the word technology at Drexel means engineering and the engineers were unhappy with it. I know that in the run up to that, people would say, let's call it the School of Information Management. Well, the business school owns the word management, you know. You've probably heard all of this and maybe you went through it – you were at Maryland, right? You probably went through things like this.

BH: Yeah.

HW: I think that every school of this nature in the country.

BH: Yeah, Maryland, for a long time, they ended up with Information Studies.

HW: Yeah, we had studies for a while.

BH: Did you?

HW: College of Information Studies, I'm pretty sure. CIS was College of Information Studies. You can still put in www.CIS and get this school I think. Just to mention that, we had the usual turf fights, and it's all over what your name is and people want to safeguard their –

BH: Brand.

HW: Their brand or their holy words. And so I'm delighted that they were able to get this powerful new name, Computing and Informatics, that sounds. And they are big, David has grown the school. So, you know, back in Dick [?]'s day, there were the occasional rumors that oh, we're too small and we're going to go under. Guy Garrison worried about that because when

we just had a library school here, we were vulnerable and that's why he foresightedly instituted the Systems program. That was his baby for a while and then Dick came along and built on the systems side, but sort of let the library and information science side wither.

BH: Yeah, there was a time in the 1990s when I was a little ashamed of admitting to people that I was at Drexel.

HW: Yeah, now, hell.

BH: Now, I'm very proud.

HW: Yeah, big –

BH: Very proud to be back on the faculty.

HW: Big powerful faculty.

BH: Yeah.

HW: So, there's that. Let's see.

BH: Other than names that are appearing here as co-authors and so on, you mentioned Derek J. de Solla Price as being sort of the grandfather of it all, but were there other people out there in the field who had a big influence on your thinking?

HW: Well, Henry Small would be the most immediate one. He's co-cited a lot with me. [laughs]

BH: But, you never co-authored with him.

HW: Never have. No, he really works pretty much, the science front. He's done a few thing, he did one or two papers in social science. He did one with Diane Crane and he, of course, history is his field. That's a humanities, but by-and-large, he works the science front and he tends to work with papers as his unit of analysis. He certainly – he created the matrix – the intellectual matrix in which both Kate and I operate.

BH: What about Gene Garfield? Did he have any influence?

HW: Not directly. I'm friends with Gene and I certainly revere his skills as an entrepreneur and it's very unusual for people to have academic skills as he does and he is a bibliomatrician.

BH: And a very prolific writer.

HW: I think that a lot of his columns were ghost written, but you know, he's quite capable writing a paper on his own and I mean, he was turning out a column a week and running a big company. I don't think he could do that himself.

BH: He had staff too. [laughs]

HW: But certainly, he created the organization that is the foundation of all our work. We couldn't operate without the citation indexes and it's really just like the citation indexes are to us what the telescope was to Galileo. I mean, Derek Price makes this point that science really advances when it gets new instruments from technology, but technological developments make new kinds of basic science possible. [Coughs] That's certainly true with the mention of creation of the citation indexes.

BH: Right. In 2005, you got the Derek John de Solla Price Medal with Peter Ingwersen?

HW: Yes.

BH: And looking back here at the previous awardees of that Price Medal, were any of these people – a couple have been mentioned already – but were any of those influenced.

HW: No, not really. I read Bertram Brooks – or Bertie Brooks as Belver used to call him. Many of these are European and several of them are mathematicians and that's a great regret. When I'm born again and the next turn of the karmic wheel because I've been really good in this life, God will make me a mathematician. He'll give me some basic math skills. That will be a big help, but you know, I just can't function on the same field with people like Egghe and

Rousseau. I wish I could, but they – I've read a bit of Peter Ingwersen, but I didn't know him until I actually met him, I guess, in Sweden there when we got the prize.

BH: Ah, okay. He was closely connected with folks at Rutgers. With [?] and –

HW: Nick Belkin.

BH: Nick Belkin.

HW: You say, Peter was? Yeah, yeah.

BH: He's been good friends with them for a long time.

HW: Yes, that's true. We're cognitive information scientists.

BH: What about this group in general? This International Society for Scientometrics and Infometrics? Have you been connected to them at all?

HW: No, not – not really. I was a reviewer, a referee. I guess I still am a referee for Scientometrics and I get these little notes from people abroad. I've met these people, but I can't say that I know them well. I met –

BH: [unintelligible]

HW: Well, only in a very general way. I'm sort of a different from most of them in that, again I think it's the humanities background coming through. I'm not as quantitative as a lot of them and I tend to work in the humanities and the social sciences and I spent a lot of time crafting papers so that – you know – I worried about the writing in them in the way a literary person does. Pat Wilson was like that too. He couldn't imagine these people in science who just will write something very casually and say, oh well, I'll let a graduate student revise it and put in the citation.

BH: An editor to clean it up. Yeah.

HW: Yeah, yeah. Both Pat and I are really keen on good writing cause we come from the humanities tradition where that's important. I think one of the reasons that I got that award was just that a lot of my work in citation analysis is readable and clear, you know. I – in China, I was amazed. People acknowledged when I was over there, I have to be over there in 2009 and Gene Garfield and David Finske and a number of other bibliomatricians. And Chinese students would come and they only wanted to have your picture taken with you. They want to ask you for your autograph [laughter], which to me, is incredible.

BH: Aw, shucks.

HW: Yeah, so what I was going to say is I've had people in China tell me that they like what I write because I'm clear. I'm easier to –

BH: Easier to communicate.

HW: Yeah, I'm sort of easier because I give lots of examples and I'm not – you know – going from equation to equation in a paper. They like that and they can sort of learn what they want from my papers and I've had other people tell me that. In Vienna, ISSI this year, a woman from Brazil came up to me, Oh, I love your paper. That's so clear. That sort of thing. I think that's really my claim to fame. I am sort of creative. I've done like LibCitations, author co-citation analysis, Coverage Power Tests, and a lot of work sort of teaching materials for library and information science, but it's mainly because I've got that writing ability that, I think I've done well. Gotten a good reputation.

BH: Well, you've been retired now since 2001, you officially retired?

HW: Right, right. 2001.

BH: But you've continued to teach.

HW: Online. I teach a course called Research Collections in the online program and I think, perhaps a little more notable is that I've continued to publish. I've published a lot since 2001.

That Distinguished Professor Award from Drexel, for distinguished research professors or something, that gave me some funding to develop this author web. It's now called author web. It's gone through a number of names like author link [ding], it's an instant – it's a system for instantly mapping 24 other authors who are co-cited with some seed author that you name in the humanities. We got from what was then ISI ten year of arts and humantiies citation index data and Xia Lin and Jan Buzydlowski wrote the programming, so that we've got this little system for – you can say Virginia Woolf or [?] or [?]. Any big name humanities and we can instantly do these maps. They are little pathfinder networks or [?]-featured maps or these pennant diagrams, which is another thing I came up with.

BH: What have you published on –

HW: And then, you can, using those maps, you can retrieve the data – retrieve the bibliographic data like you could if you're interested in who cites Virginia Woolf with Julia [?], you just click on Julia, assuming Virginia Woolf is your seed author, you just click on Julia [?] and that forms Woolf and [?] into an added pair and you just say, Go Get It. That's the name of the button. [Laughs] And it'll get all the papers that co-cite [?] and Woolf and you can find out the exact works that are co-cited. It's a nice retrieval system.

BH: That's what you published in 2003 with Buzydlowski and Xia Lin?

HW: Yeah, we've got about ten publications and actually I'm [Dings] still continuing that. I'm building on that work in this new work I'm doing in Germany. I've got ties now with the Social Science Institute there and I've also got very interested in relevance theory from Linguistic Pragmatics, that's sort of been my obsession [coughs] for the last decade. I won't try to describe that because – I mean, I won't try to say that much about relevance theory except that it's a part of Linguistic Pragmatics that Steve Harder actually introduced into our field back in '92. He wrote a long paper in which he draws on, it's a famous book by Dan Sperber and Deidre Wilson called *Relevance* and you know, relevance in document retrieval is a key notation, but people in our field, except for maybe a few unusual types like Pat Wilson, they don't write very well about relevance, they sort of treat it as a primitive that everyone intuitively understands and Sperber and Wilson have really done good work in analyzing what relevance is, its various components.

BH: Very complex.

HW: I'm sorry. What?

BH: It's very complex.

HW: It's complex, I mean I don't want to try to get off in that now. I just want to say that I've been very influenced by them and things like the pennant diagrams come from their work. Pennant diagrams are now a part of that little author web system I was talking about.

BH: How are you spelling pennant?

HW: Pennant, it's like the little triangular flag.

BH: Oh, P-E-N-N-A-N-T.

HW: Yeah, I was in Germany and I was talking to somebody and I said, I do pennants and I realized that was a good pun like if you're a Catholic [laughter] and you do penance and I mean the little triangular flags that are created – it's anything you use as a seed that could be an author's co-cited with others or a descriptor that co-occurs with other descriptors or a journal that co-occurs with contributors to the journal. You can do these little pennant diagrams that bring out certain useful distinctions in the items mapped and those pennants were really based on relevance theory. I was trying to use relevance theory from Linguistics Pragmatics to explain why TF*IDF in information retrieval has been so popular and –

BH: I'm sorry, TF*IDF?

HW: In information retrieval, document retrieval as it's done by computer science, there's a very well known formula that's Term Frequency multiplied by Inverse Document Frequency.
BH: Okay.
HW: TF*IDF. Sometimes they just put a hyphen. TF-IDF. But that's one of the basic algorithms of document retrieval and I was trying to use relevance theory to explain why TF*IDF is so popular. What IDF actually does, giving an example. See, the computer science people, they never explain it very well or they give examples, but they are very miniscule and perfunctory and I was trying to show in depth, how this works, so I wrote these two giant JASIST papers called like *Combining Bibliometrics, Information Retrieval, and Relevance Theory* and they have the pennant diagrams and so on. And Xia Lin, because pennant diagrams can be formed algorithmically, he was able to write an algorithm to build simple pennant diagrams – that is pennant diagrams consisting of one seed name and 24 other co-cited seed names of all, these are authors in the humanities. He was able to build in a little pennant map and that too can be used as a retrieval device, so if you were in the database and we said, let's see, you and Carol Montgomery are co-cited together quite a bit.
BH: Way back in the '80s, yeah, the 80s.
HW: Yeah, I mean, your dissertations. Even now, they're probably still co-cited because they're sort of ball park.
BH: Similar.
HW: Similar, so on a pennant diagram, one of the things it would have if we used you as the seed, this probably could be done. I think your citation record and Carol's citation records are sufficient, so that we'd have fairly good data. It's not all a whole bunch of –
BH: Must be a number of occurrences.
HW: Right, if we put you in as the seed and Carol Montgomery would be – her point would be drawn toward you. Her work is relevant to yours and the term relations occurs to yours is fairly easy to see.
BH: Carol [?]?
HW: I think – yes. I'm sorry.
BH: I was going to say, it's something about Carol Montgomery.
HW: Yeah, well and I was thinking, what's her other name? Yeah, as I recall, when she published, it was under Montgomery or was it under [?]?
BH: She was Carol [?] at some point.
HW: Oh yeah. It seems to me that her online searching, her dissertation work, which has been cited a lot.
BH: Yeah and I should know that because –
HW: That's the woman I'm talking about
BH: And I've changed names too, so this is kind of confounding[?]. [Laughs] But I see what you're saying. Yeah.
HW: Yeah, anyway. She would be drawn toward you and probably – I'm trying to think – Charlie Meadow might be in it and this is not necessarily the Drexel connection, although social relations are implicit in a lot of this, but because Charlie Meadow wrote a lot about online searching, he'd probably be in there and but then, you know, it often happens that maybe Derek Price might be in there or the one I sometime see in my pennant is [?].
BH: Thomas [?].
HW: Yeah, you know, there's not much connection, but we, in a distant way, we're drawn together because we are co-cited together. So anyway, I was trying to come up with a lot of

concrete data to show these relationships and how they could be related to relevance theory from Linguistics Pragmatics and now all this is by way of saying that my most recent paper, which is now two years old, is a paper called "Relevance Theory and Citations" and I worked really hard to get it, not into *Information Science Journal*, but into the *Journal of Pragmatics* because that's a journal where I think, Deidre Wilson, the creator of relevance theory or co-creator, she's on the board and I think she refereed the paper. I don't know, it's blind refereed, but I think she did. And I had to rewrite it because I had one of the major concepts wrong, but I rewrote it and I got it published in there, so I'm trying. That's my second paper published over in linguistics. I've got one called "Discourse Analysis and Citation Analysis Revisited" in the *Journal of Applied Linguistics* and I've got this *Relevance Theory and Citation* in the *Journal of Pragmatics* and I'm really proud of that latter one because it – you know – I'm trying, I haven't gotten a lot of citations on it yet and maybe I won't. In a way, I should have published it in my own field, but I really wanted to establish at least a small presence in linguistics and have the relevance theory people know about my work because I'm really trying to link their work to our field.

BH: Yeah.

HW: So, as a result, I've gone to a couple of conferences where I met Deidre Wilson and I went to the little – they had a week in Paris honoring Dan Sperber. He's at the Ecole Normale Superieure – something like that. [Laughs] I'm blopping[?] on the name. But [coughs], one of those very distinguished research schools and he was sort of retiring, so – I mean, he's still working, but he was semi-retiring from that institute, so they gave a week in his honor and at that, I was able to meet him and I've talked a couple of times with Deidre Wilson. That's very important.

BH: For somebody who's been retired now, for what, 12 years?

HW: 12 years.

BH: Yeah, you don't sound retired.

HW: No, I love it. That's the way you keep young. It's just – absolutely. I was over working with all these young guys in Germany – all these computer scientists and I definitely realized that I'm not up to speed in a lot of – in information retrieval, there's been so much new work. Latent Dirichlet allocation and all this new stuff. All the new programming coming in.

BH: Yeah.

HW: People like Ying Ding at University of Indiana, she's – you know – a generation younger than I am and she started out doing author co-citation, but she's got formidable technical chops and she now does, she routinely builds page rank and latent Dirichlet allocation, all these new retrieval techniques, she builds it. She's working there with Connie [?] at the University of Indiana and Connie [?] has built this big workbench of programs that you can use off the shelf to do bibliometrics and information retrieval experiments and stuff. And those people – they're in my field, but I'm nowhere near as confident.

BH: Have you had a chance to meet the new faculty member here who came from Indiana? What's his name, Yan Erjia. Yan.

HW: I don't think I met him. There are several – there's this Chinese guy – Woo, is it Woo? No. Liu, I'm blocking on – there's a Chinese guy that came to us from North Carolina and he's hardcore computer science and information retrieval. I can't think of his name, it's –

BH: But there is someone who has come to revive the bibliometrics program here in the school. Erjia.

HW. Okay.

BH: Yan and he just got his Ph.D. from Indiana.

HW: Oh, okay. Well, he's worked with Ying Ding and Connie [?] and that's really a good school. Blaise Cronin[?] has done a wonderful job of recruiting excellent faculty, including really good bunch of women. They're just amazing. They're – so I'm delighted to hear that. I sort of take credit for recruiting Chaimei Chen. I went to a conference to present on author web in London in, I think it was 2000 and he was then teaching at the University of – no, [?] University in London suburbs and at the conference party, which was on a boat on the Thames, Chaomei and I were having a beer together and I said, you know, Drexel is always looking for people who can teach systems courses. He's got a Ph.D. in computer science and I said, Gee, you really should apply. You know, saying these things at conferences and you don't expect people to do it, but he applied and he got the job and now he is by far, I think, the most highly cited person on the Drexel faculty. I used to be, but he's got in Google Scholar, he's got over 6,000 citations.

BH: Wow.

HW: He's just incredible. He's editor of a monographic series. He's the editor of a journal. He published like 10 – 12 papers a year.

BH: One of those stars [Ding].

HW: He's just doing really well.

BH: It's about 1 o'clock.

HW: Yeah.

BH: Is there anything else we haven't covered that you really want to cover –

HW: Well.

BH: Before we close out?

HW: No, I'm sure things will occur to me. Let's see, I think that's pretty much it. I've talked about pretty much everything.

BH: Good.

HW: That I can think of, so we can –

BH: Well, this was –

HW: Put it to bed, as they say.

BH: Oh, I feel the same way right now as I did after Henry Smalls that I wished now that I had known back when I was a doctoral student here, oh, and getting some theories [?] - oral histories,

HW: You know, I wasn't mentored by anybody. Belver didn't really – I mean, the first six years when you're not yet tenured, nobody told me what was expected. Even Guy didn't tell me, I had this big, or I heard somehow by the grapevine, Oh, if you have one paper published a year in a good journal, that's okay and some people back in those days got tenure with almost no publications. They'd be tenured because they were good teachers and now, my god.

BH: Yeah. Yeah, but the perspective of time really helps to –

HW: Yeah.

BH: Yeah.

HW: I – looking back on it, I – Belver didn't do it, Charlie Meadow didn't do it and so when I went up for tenure, well, I spent two or three years there without getting any publications.

BH: And only [?] called you on it.

HW: Well, yeah, he – but in his case, he got tenure. He was sort of the shining light of information science and he got tenure and then published much afterward. Whereas I, little library boy, I got tenured and went on to publish a lot.

BH: Yeah, you get cited a lot. So.