

Interview with Kathy Harris 1-23-2013

CAF: OK. This is January 23rd, 2013. Present is Carol Fowler, Donald Shankweiler and Kathy Harris

OK So you started to tell us how you came to Haskins Laboratories. Can you tell us what happened when you arrived there?

KSH: Yes. I had an interview with a date. And I went and stayed with George's parents and George on the island where they lived. And I got up on the day of the appointment, and it started pouring.

I had put on my best clothes, but in those days, my best was none too good, and I didn't have a raincoat. And it poured. It was just in torrents. So by the time I arrived at the Laboratory, I was, you know, I was soaked. Frank said that he'd never seen anyone so wet in his life.

And it sort of broke the formality of the occasion alright. I mean he practically had to wring me out. But besides that, I soon realized that he had, he'd reviewed... He wanted to hire somebody and he'd reviewed the available stock of graduate students at Harvard. For obvious reasons, because that's they'd... and I had done a lot of work... This kind of gets to the funding question. Stevens had a huge grant from the Bureau of Ships. It was war work. And they were interested. They were...

DPS: You mean S. S. Stevens

KSH: S. S. Stevens. They were developing ship to shore communications and submarine to shore communications. And so they ran endless tests of various ways of manipulating the speech. But they never... It was sort of funny. They never considered the possibility of looking ... Well Stevens was not a very flexible man. And they never considered the possibility of breaking it down into its phonetic entities.

CAF: So what kind of manipulations would they have done?

KSH: Peak clipping; center clipping.

CAF: And this was just to reduce the amount of information that had to be transmitted?

KSH: Yes.

CAF: Uh huh

KSH: And also what kind.. what the relative reduction in intelligibility was of various manipulations. It would save a given number of bits.

CAF: But utterly insensitive to the structure of the signal itself that was being manipulated.

KSH: Yeah. Absolutely. But nobody... then George Miller got interested in phonetics. And he wrote a book called *Language*. Have you seen it?

DPS: Yes. Used it in teaching for...

CAF: Yes. Yup. I did too.

KSH: It's quite a... it's a useful book

CAF: But was he.. He was at Harvard at the time?

KSH: Yes. He was a junior fellow. Not a junior fellow. He was a junior faculty member. Or rather, he didn't teach much; he had a research assistantship. But he

was fairly restless. And he did not, I think, mesh well with the rest of the department.

And he got very much interested in probability theory. And he got interested in Fred Mosteller who was teaching philosophy...probability theory. And he [Miller?] was running an informal class with various of us graduate students. And he suggested that we take up this course that Mosteller was teaching. And I think I was the only one who did. But I've seldom had a better course, ever.

CAF: And is that how you developed the procedure later for predicting discrimination from identification?

KSH: Yeah I got...You know...The book he was using, and I've forgotten whose book it was, was a book on logic. And we learned all about the divided middle and all that stuff.

DPS: Feller? Feller's probably

KSH: Yes. It was Feller. But I worked problems with it. And I was quite good at it. It just clicked me.

And did you know that Zero Mostel was Fred Mosteller's brother?

CAF: No! Hah

KSH: There!

CAF: So he just cut his name off a little bit.

KSH: And he loved baseball. Mosteller loved baseball statistics. And he..and baseball manipulations. He investigated the question of whether baseball players actually do have hot and cold periods.

CAF: Yeah. I remember that issue. Did he come to a conclusion?

KSH: Uh. He thought probably it was mostly injuries. That is, people were not getting closely examined. But anyway, I really enjoyed that course.

CAF: So when Frank was looking for grad students at Harvard, what was he looking for them to do?

KSH: Oh. He just thought that they would be well trained in the general area of phonetics and so forth.

CAF: Oh. So now...

KSH. Because really Pierre [Delattre] was extremely limited. I mean he was interested in teaching French. But he wasn't a phonetician really.

CAF: But why would Harvard be a good place to get training in phonetics? Was it...

KSH: It wouldn't particularly. But on the other hand, where else would be?

Al was a psychol.... Was an exp...Was not a psychologist, but was certainly a learning person.

CAF: Right. He was a psychologist

KSH: He had some training in that. And of course optics, which as of course his physics field

CAF: Who are you talking about?

KSH: Frank

CAF: Frank. OK. I thought you said Al.

DPS: So the people who were there in the group when you arrived were Frank and Al and Pierre.

KSH: Frank, Al and Pierre were a very tight group.

DPS: Anybody else?

KSH: They really didn't have anybody else that was senior. They began ...After a while Frank began teaching at Columbia. And there he knew John Lotz.

CAF: Who did come to the Labs, didn't he?

KSH: Well, he didn't come; he didn't stay. He sort of used to come by and have tea with us.

DPS: He was a very sociable man.

KSH: Yes.

DPS: But, did you get the impression that when you first came to the.. that Frank had already checked you out? That he had already done his homework?

KSH: Yes.

CAF: Yeah. Apparently other people said this. Leigh Lisker said that in the transcript.

DPS: Leigh Lisker said it, yeah.

KSH: He said that he had checked me out?

DPS; No, not you. He said that he had checked Leigh out.

CAF: That you think you are coming in kind of cold, and you're not. Because Frank has already..

KSH: Well, Frank would not have...yeah

DPS: So were you offered the job immediately?

KSH: Oh yes.

DPS: And that seems to be the pattern. Leigh was and I was on the same day that we arrived.

CAF: on the spot

KSH: Yes. He was...He was a very careful man, Frank.

CAF: He did his homework.

KSH: He hired George too.

CAF: To do what?

KSH: Oh. We had a freight elevator. You know [to DPS] in the...well you remember. And the guy...The freight elevator. You could take the freight elevator away from the floor where it was shining a light. And this guy had come in. He'd been very slow getting anything done. And he'd come in to catch up. And he pressed the button, and the elevator wasn't there when he stepped in.

And he fell on his head. And our janitor of that period, an Italian kid who wanted to be an opera singer heard moaning from the shaft. And of course the guy, well the guy owed Frank a lot of time. And on the other hand had pretty serious injuries. And they sort of balanced each other. They settled eventually.

CAF: Who was that? Who was it that fell on his head?

KSH: I don't remember his name. George probably has all of the records of the trial. I'll ask him.

DPS: So it went to trial

KSH: Yes, I think it did, but again I'll check that with George.

CAF: Oh and that is how George happened to be hired.

KSH: Yes.

CAF: So Frank and Al and Pierre were there at Haskins and what year was this that you were hired. 1950...

KSH: You know...I'll get hold of a copy of...Freddie wrote me up in great detail because she was trying to get me an honor.

CAF: at the Acoustical society maybe.

KSH: And to do that you had to convince...If you wanted to get somebody through...you had to be pretty convincing that they had engineering tendencies.

CAF: I see. OK so we can get something from her.

No I just wondered how far.... They were using the pattern playback; they were looking for speech cues when you were hired. Because what I remember from the transcripts and I think I remembered anyway that you were working... One of the first things you did maybe was work on fricatives?

KSH: Yes. Now, I was trying to remember. Ruminating on all this. They believed Their mission was to get the cues for speech at some level in every class. For example, Leigh took up wrly. And they had been very hesitant about fricatives because, as I say, naturalness was the bug.

CAF: And you couldn't do a good fricative with the Pattern Playback. Just put little dots down on a

KSH: Yes. It is always voiced.

KSH: And I can't remember how I thought.... Except we had a splicing block. You could splice pieces of tape together. And I know also again I am missing a name... For some reason Mormons have a history in speech research. Smitty Stevens was a Morman

DPS: Right

KSH; And a previous Mormon in the late twenties who worked at Bell tried to find out...He actually had taken up phones one at a time. I don't remember his name. I think we have his book at the Labs.

CAF: There is a guy named Harris

KSH: No Harris was my contemporary. People used to ask me if I was married to him.

DPS: Are you talking about Fletcher?

KSH No, not Fletcher.

DPS: He wrote a book on speech and hearing in the 1920s.

KSH: I don't think it was Fletcher. I'll think of it. I think I have ways of getting at it. But anyway, he looked at... Well and of course Cyril Harris, who I knew quite well. Because Maude's[daughter of KSH] lifelong friend was Cyril's daughter. And Bob Schackne who was Mia's father was a CBS broadcaster. And we knew them all very well. And the Cyril Harris's liked to invite me to parties because Cyril is interested in the things he studies and it was hard to find somebody who could chat with Cyril.

CAF: So that was you.

KSH: So I was always invited and I liked Cyril. His wife is awful nice.

But anyhow, this book looked at speech as consisting of two pieces. The part that was considered really part of the vowel and the burst or frication, etc. And , I observed in looking at them...We had then oh.. .. In those days we had, you may remember it Donald, we had a spectrograph that came from Bell that was a spectrograph except that it recorded on film so it was...

DPS: I remember it

CAF: So then the Playback could play back straight from that spectrograph, right?

KSH: Yes, it could. And I remember looking at them and seeing that the part that was the frication usually had a little space before it went into the vocalic segment. And so I used to like to...I think looking at that it occurred to me that I could cross splice them.

But that's only my remembrance as of now. I don't remember saying Aha! one day. So that's how I knew.

CAF: So I didn't remember that you used cross splicing. So you used cross splicing to compare whether it was the fricative vs the transitions were important?

KSH: Yes. I just recorded samples of them and cross spliced them.

CAF: So your work, because fricatives were not the forte of the Pattern Playback, you didn't use the Pattern Playback very much for that work.

KSH: I didn't use it at all. We had another synthesis device which we used very little and for a very short period that showed that you could...on that machine where you could synthesize frication honestly.

CAF: There was something called an Octopus? Is that what you mean?

KSH: It was called something like that.

CAF: It was called that because there were 8 dials that you had to set.

KSH: Yes. That was it. But anyway, I used that later on and discovered that theta in some sense has no frication.

CAF: So theta and /f/ were different from /s/ and ...

KSH: esh. But also theta ...you cannot identify. ...Later on Ken Stevens and a student of his who is the son of a dress designer.

CAF: I don't know who that would be.

KSH: I think he went back into his mother's business. But at any rate, he was hell bent on showing that there was a theta frication, but there isn't any. All you have to do is produce something that can be identified as frication and it doesn't matter what its spectral composition is.

CAF: Right. I guess it makes sense in terms of how it's produced. That there is nothing that makes...amplifies any frication that you produce. It's right at the edge of your mouth.

KSH: Yeah. But I remember also in this book (that's what I was getting to) of the late 20s that this man wrote showed... and it was the only sound that was like this..That it improved when you made it ...when you reduced its amplitude. And this was very discouraging to the engineers, because they assumed that you could improve the transmission of every sound....

CAF: Right. By making it louder

KSH: Well anyway, that is my history with fricatives. And then of course the modeling; I just know how to do it.

CAF: Yeah. I know Al admired that. A lot.

So then how did you switch to the EMG project that was so momentous in your career, I would say, because it really changed the direction of your research. How did you get involved in the EMG research? And then the other question, I think it's down here [on our list of questions]. Were you the one who thought about importing EMG from other usages of it than speech?

Was it Frank?

KSH: Well the history of that, it was not original with me. Peter Ladefoged had been to Japan and he decided that he needed a career for Vickie [Fromkin]. I presume that's what he thought. But anyhow. So he had been in Japan and he had met Minoru Hirano who was the great man in Japanese otolaryngology. And he taught Vickie...They had ... the Japanese had been using hooked-wire electrodes to study individual laryngeal muscles. And Vickie did a little work with them. But she didn't like it. She liked a much broader stroke kind of work. And EMG work is essentially tedious in the extreme. And she just didn't like it. And, as I recall, her later work was on the deaf child.

CAF: If you mean Vickie Fromkin

KSH: Yeah

CAF: Speech errors is how I think of her. She wrote a nice book; she had a huge collection of speech errors that she... (glear plue sky)

DPS: She got into aphasia too.

KSH: Yes

And the wild child

CAF: So then how did you find out about Ladefoged. Or how did somebody find out about Ladefoged.

KSH: Well I read Vickie's paper.

CAF: Ah. I see

KSH: And then she quoted a man named Basmajian who wrote a book [*Muscles alive: Their functions revealed by electromyography*] in which he simply described...Well he was interested in neurological diseases in muscle. And he sort of developed techniques or fooled around with techniques for every muscle that he could get at. So I thought we could use it.

[phone rings]; end of KSH1.

KSH2

KSH: Anyway

CAF: Basmajian book

KSH: Basmajian book. That was during...Anyhow. Then Osamu [Fujimura]...Again, I am lacking the date....I have to get this thing from Freddie [Bell-Berti. I've lost my copy or maybe given it to Laura [Koenig] I gave a lot of my sort of incidental stuff away. But anyway...What was I going to say...

CAF: You started with Osamu Fujimura and EMG?

KSH: Oh yes. Osamu got me a trip to Japan. I don't know how he did it. But...

CAF: Now where would he have been then. He was in Japan then?

KSH: No. He was at Bell. Anyhow... And George and I had never...We had been broke while we were in graduate school. We had never been anywhere out side the United States and Canada, I guess. And we then had two children and nobody had been to Japan. We packed them up and took them to Japan for a month. And you know it was a great experience of all of our lives. And the children of course had bright red hair. And the Japanese had never seen them, so they were a howling social success.

DPS: What year was that Kathy; do you remember?

CAF About how old were the kids?

KSH: The kids...Louise was six. No...five I guess.

DPS: That should date it roughly then to...

KSH: I can find it... Anyway Minoru told me...He incidentally came back a couple of years ago with his wife, and they stayed with us. But at any rate Minoru told me much later that he was then in the midst of a departmental quarrel and was feeling very forlorn. And I showed up and said: You can use this EMG stuff. So why don't you come? So then he came. And then Jim came.

CAF: Jim?

KSH: Hirose

CAF: Oh! Hajime!

KSH: Hajime Hirose.

CAF: How long did Osamu [an mistake, meaning Minoru] spend?

KSH: They both spent about two years a piece as I recall

CAF: So was Osamu the first Japanese person that we...

KSH: No. Osamu had no connection with us. I just knew him. Minoru Hirano was the first person. And then Hajime Hirose

CAF: Hirano was the first Japanese person.

KSH: And then Jim Hirose

CAF: I remember Jim Hirose

KSH: But anyway we started doing EMG. Of course this work was of no interest whatever to Al. Which is unfair sort of. But you know I was getting it funded.

CAF: Don't you find that ironic though. I mean...I wasn't there at the time, but I thought he was interested in the EMG work until it stopped being of value in evaluating the motor theory. And then from then on he just didn't care, did he?

Despite being a motor theorist; he did not care.

KSH: No he didn't care. And he didn't like physiology

CAF: Yeah I think that's right

KSH: And he didn't like...Well, it was Frank's thing much more than it was Al's. But it wasn't his either.

CAF: Well it was really yours, I think, wasn't it?

KSH: It was really mine.

DPS: But Frank supported you in it.

KSH: Oh yes.

DPS: But he didn't... But using EMG was not in any way his idea.

KSH: No. Except that he thought it would be useful for the motor theory. I didn't think so, because I was heavily influenced by Peter who had meanwhile sort of...

DPS: Now which Peter

KSH: MacNeilage

CAF: Now he and you and Frank were involved directly in attempts to test the motor theory. Is that right?

KSH: Well, I wasn't really, because I didn't think the motor theory...Because I didn't think that EMG was going to get us anywhere [in testing the motor theory]. Al and Frank were both not thinking of the way that EMG works. EMG does not provide..present a picture with the phones mapped out up in the head someplace.

CAF: Right. That was the hope. So

DPS: So you never were sympathetic to the idea that EMG would get at the motor commands

KSH: No I didn't think so

CAF: So your name would not be on any of the...I don't even know...

KSH: I was on the first one. But they put it on as a gracious gesture.

CAF: I see....And certainly Peter MacNeilage came around to your view that it wasn't going to be useful for that purpose. How did he come to leave...He went to Texas right after that?

KSH: Yes.

CAF: How did he come to leave?

KSH: I don't know.

DPS: How did he get there? How did he come to the Lab

KSH: I don't know

DPS: It wasn't your initiative.

KSH: No it wasn't

DPS: But you were already there when he came of course.

KSH: Yes. And I knew..I knew the people in his department. Because they were. all Harvard ...A lot of them Harvard people.

DPS: He was a Hebb student

KSH : Yes. He is.

CAF: Now wait Donald. Didn't you tell me that Peter was in the department at Barnard at the same time as Michael [Studdert-Kennedy]?

DPS: After he came...

CAF: After he came to Haskins... So where did he come from?

DPS: McGill

KSH: He came from McGill

DPS: That's where he got his PhD. He worked with D. O. Hebb. On what I don't...Well no! He did a thesis on ...Didn't he do a thesis on Haskins work? He did! Cause he didn't have his PhD when he came. But I just don't know whether he got data ...

KSH: I don't remember ever working...

DPS: He didn't have his...I remember that he got his degree after he was there.

KSH: Funny. I didn't know that. Actually, I knew D. O. Hebb, because he came while I was getting my PhD. He was on leave at Harvard.

CAF: The only person ever to resign from the Society of Experimental Psychologist was D.O.Hebb. I really admire him for that.

DPS: Sometime you tell me why

CAF: Because he thought there were so many other people...You know it is a very small organization. And there are so many other people that are highly qualified that don't get in. He didn't think that there was any particular reason why he should be in it. And I kind of like that.

KSH: You know one of my sadder disappointments with Al. But it did not occur to me yet that I deserved notice if I can put it that way. But at any rate. Al called me into his office. Fresh back from that society meeting. And explained to me why I could never belong.

CAF: Well they didn't have girls at first.

KSH: No they didn't have girls. And Al explained to me that it would be...that the conversation was too vulgar.

CAF: Well exactly! That's why they didn't want women. They wanted to sit back with their cigars and swear and stuff and that was completely inappropriate for the gentler, delicate sex.

KSH: Yes.

CAF: But anyway, do you think that Peter did his dissertation research at Haskins?

DPS: Well that is what I am wondering, but I really don't know.

KSH: But I wonder how. Because I didn't coincide...I didn't collaborate with him in anyway.

CAF: That's funny because I thought that you guys worked on that EMG motor theory project together.

KSH: No. No except that I did... Yes, I did interact with him on proposing the cluster work, I think.

CAF: Good idea.

KSH: But I don't remember that he...I don't remember thinking of him as my student in any sense or even of my being very helpful to him.

CAF: OK. So he remained a student of Hebb. But he may have done his dissertation work on something that Hebb wouldn't have had much input on if he did. Well, let me find out. I mean, Peter is still around. We can ask him.

DPS: Well we can look up his thesis topic. That should be easy to find.

CAF: But it sounds like you knew right from the start that the value....So what I had thought, and I think I am wrong, was that EMG was imported to test the motor theory. When it didn't work out, you realized it would be good to use it for this other purpose of actually studying speech production. But it sounds like right from the start you thought it would be great to use to study speech production. The heck with the motor theory.

KSH: Yes.

CAF: Yeah. OK

That is why these conversations are useful. I make a lot of things up in my mind.

KSH: And also by that time...As I say, one thing about Al and Frank, and Pierre certainly, was that they were none of them interested in the source function. I mean they were not interested. Of course the otolaryngologists wanted to work on the laryngeal nerves.

CAF: Right. Oh you say they weren't interested in the source function, meaning the larynx especially. But I thought Al anyway just wasn't interested in production in general.

KSH: Well again I think he was ill suited to it. Because again. it just

CAF: He didn't want to be down in the trenches, right?

KSH: Yeah.

CAF: Ok. So you mentioned...You said: We began to get funding. When did you first get funding for doing production work?

KSH: It's funny. Of course, I think for a number of years I was considered Frank's assistant. And I gradually began to realize that I knew more about the work we were doing than he did. But he had lots of other worries. I mean he ran the lab.

DPS: He wrote all the grants and everything in the beginning.

KSH: At some point, I think I was pregnant with Louise. But we were still in New York. And I think the Japanese were there too. Because I can remember at one point,

Jim [Hirose] had inserted an electrode in me [pointing to the larynx], and this is a sensitive place. And I passed out. And Jim said...Louise [Maude?] was visiting the lab that day ...and Louise [Maude?] walked into...

DPS: She witnessed this?

KSH: Well she walked into the back room. You remember that dirty dusty back room on my floor, the third floor. Your floor too.

DPS: Yes

KSH: Well at any rate, there I was, my daughter was,...stretched out upon the floor. Maude still remembers it. Jim said to her.. It was Jim by that time. Mommy's taking just a little nap

CAF, DPS: [laughter]

CAF: I;m glad she saw it that way.

DPS: So what was your first grant support that you got.

KSH: Oh. I was coming to that. This was the only seed I remember from that. We were initially funded by the Dental Institute.

DPS: mhmm But Frank wrote that grant.

KSH: Yes. Frank wrote it and I was the associate director, I think. But at any rate Frank told me years later, because he was very gentlemanly as you know, that the elderly dentist who came in directing that grant, said you've got to get rid of that woman. She's pregnant now, and she 'lljust leave.

CAF: Oh. Of course.

KSH: And I was pregnant.

CAF: But you didn't leave.

KSH: And I at that time tried to stay in touch with dental research. I remember reading endless papers on the Posselt space. It is the space you can move your jaw in. And it's different for the great apes and for humans. There are two facts that you never knew.

CAF: No! But it's consistent with Phil Lieberman saying that the vocal tract adapted itself to speech not just to eating.

KSH: Yes

DPS: What is the space called?

KSH: Posselt [spells it].

CAF: That reminds me that we have to talk to Phil Lieberman too. He was there.

KSH: And also I remember, they used to invite me to dental symposia by oral surgeons. And you know they used to restore...They restore, you know, one-eyed children. And I used to go to these. They always take many pictures. And I remember trying to sit behind someone so I did not have to look at this kid with the one eye.

CAF: You mean born with one eye.

KSH: Yes and they would restore

CAF: A second eye?

KSH: They'd put in a false eye some times. Not pleasant pictures. And they'd take you through all the restorative work they'd...But anyway. They didn't know anything about speech by and large. On the other hand, the otolaryngologists from Japan...I have never met a smarter group of people. Ever.

CAF: So were the first issues on production that you worked on on production: larynx studies.

KSH: Well. Certainly they wanted to and we did. But I can't remember what we did first.

CAF: Whose idea do you think it was to put electrodes in the tongue? Because you did that way back.

KSH: Well we thought we do it...Well, first we had a suction machine, remember? The first big study we did on EMG was Freddie [Bell-Berti]'s thesis.

CAF: Ah. Now, wait. So I am trying to remember her dissertation. Was it velum movement?

KSH: It was velum. There were a lot of questions about how to restore the velum. This actually was work that got applied by dentists. The question is...Do you remember the talk...The period when there was a lot of talk about whether velopharyngeal closure was entirely due to the levator vs whether the other walls contributed. Well Freddie's work was to look at velopharyngeal closure in those members of the staff at the lab that she could get to take it up. And she showed that of course it's everything.

DPS: That It's what?

CAF: It's everything. You don't just use one muscle to open and close the velum

KSH: And then there were a lot of papers. I've forgotten that woman's name or where she was...Ah how did that go? There was a question as to whether the closure was entirely due to active contraction. Or whether it was some of it passive movement, because things are attached to each other.

DPS: So you were Freddie's mentor. So you had in the meantime acquired an academic connection.

KSH: To Freddie?

DPS: No

CAF: How did you become her advisor. Did you have a university affiliation by that time?

KSH: Oh she joined me.

18:03

CAF: So you were entirely at Haskins at that time?

KSH: Yes. I wasn't...I had decided early on that I would just work at Haskins, because I wanted to have kids, and I thought I couldn't do everything, and then they were beginning to talk about putting together the graduate school [CUNY], and a man named Mo Bergman [?] hired me to teach one course in the masters program at Hunter. And I did it for two years, and it was a lot of work. And it paid very little, and I quit. And by that time they got their act together really. So they actually had jobs. And Frank, ever the pragmatist, went and chatted with the provost of the embryo graduate school and got him to agree to hiring me..to giving me a full-time job although... as a full professor. And that was the time of the so-called Melani decision.

CAF: Which is what?

KSH: Well, a group of women at Brooklyn College led by one named [Lilia] Melani. There was a special category of professorship which paid \$20,000 more than the other ones. And there were 3000 people at the professorial level in all of City University and two of them had this special category. And I discovered that my... A man, Arthur Bronstein in fact, well he knew that my chairman had put Harry Levitt up for this special category. But failed to mention it to me. So this annoyed me.

I don't remember. I felt as though someone had put matches under my fingernails. I've never been forgotten how angry/ I was. And the man who was chair of the graduate school at that time called me up and said: By the way, did you know... So eventually, they put us both up. Meanwhile unbeknownst to me, Al had put up Michael [Studdert-Kennedy] from Queens. And I felt awful about that, 'cause I liked Michael. And I...But, well anyway.

CAF: So how did it come out?

KSH: I became the distinguished [professor].

CAF: Alright!

KSH: Early on as a matter of fact

CAF: So you were hired as a full professor at CUNY, thanks to... Your initial rank was full professor?

KSH: Yes.

CAF: neat!

DPS: That would have been 1970?

KSH: '70, I think. [The judgment in the Melani case was made in 1983, but the suit was initiated about 10 years earlier: <http://archive.psc-cuny.org/MayWomen.htm>]

DPS: But I remember that you were at Hunter now. I had forgotten that. Because I guest taught one of your classes. But that was a part time job for you.

CAF: Just a course.

DPS: Just a course

CAF: And how does Freddie fit in? Was she a student at Hunter? Was she a student at CUNY?

KSH: Well then she went into the doctoral program. When we had one. But she still needed a job. She told me the other night, and Frank hired her.

CAF: So Frank hired her when? So this is after she did her dissertation?

KSH: No, before she did her thesis.

CAF: OK. So I remember a beautiful paper that Freddie wrote that was published in 1980 that was maybe following up on her dissertation that was about different velum heights for different oral segments. So very high for stops and a little less high for fricatives. And then a relation between vowel height and velum height that probably is passive, right? It is just the velum getting pulled around by the tongue or something. Right? I mean, probably you are not on purpose having your velum more open for an /a/ than an /i/.

KSH: I've forgotten now why. I've forgotten how it goes.

CAF: It's a lovely paper though. In the Norman Lass book.

KSH: It's a lovely paper. Well, all of her work of that period was beautifully done.

CAF: She was just an absolutely outstanding researcher in my opinion.

KSH: Mine too. And you know as things have worked out for her. She really made that department over.

CAF: Do you mean where she is now. [St. John's]

KSH: Well, where she is at the moment on leave.

CAF: Yeah. We should contact her. Is she feeling OK despite this chemotherapy?

KSH: I talked to her a couple of days ago.

DPS: So we can call her.

KSH. Oh yes, she's home.

DPS: We'll get her number from you, maybe

KSH: I've got her number.

CAF: So just trying think of the students that I saw as you serving as mentor. There was Larry [Raphael] and Freddie [Bell-Berti] and Carole Gelfer. Now was she a student of yours?

KSH: yes.

CAF: OK. And Suzanne Boyce a bit later

KSH: Yes. Suzanne...Radcliffe has a very intelligent program, where, if you're an undergraduate and you're thinking of becoming a graduate student, they will offer to find someone for you that's in the field. And you can go stay with them for a while and ask them what it is like. And that is how I know Suzanne.

25:24

CAF: But she was...

KSH: She was an undergraduate at Radcliffe.

CAF: At Radcliffe. But wasn't she a graduate student at Yale?

KSH: Yes, I think ...Was she? Yes. Yes she was.

CAF: So this is kind of how I think of you. That you had a number of people that I would say you served as mentor who technically speaking were not your students, but because they can't.... So Rena [Krakow] is another example of a Yale student. And Betty Tuller. Right? Another one. She was a student at UConn, but really was your student.

KSH: Yes. And Eric Bateson

CAF: Eric Bateson. The incredible Eric. Yeah. So it seems like, among the people at Haskins, that you were a mentor to a lot of people....I tend to think of the young women, but there were as you say there was Larry and there was Eric as well. You must have been easy to work with. Or stimulating to work with or something.

DPS: I can vouch for that.

CAF: Yeah?

DPS: She was very good to me when I started. We were doing this very tricky work on dysarthria and stuff.

CAF: So what was the dysarthria work that you guys worked on?

DPS: Well, Kathy... that was one of the things that Kathy was interested in. She was interested in aphasic speech and so forth. And we both were consultants at the NYU aphasia center. Speech pathology people. Martha Sarno.

KSH: Yes.

DPS: It must have been you who got me...I just can't remember how I got hooked up with Martha in the first place. It must have been you.

KSH: I can't remember how I got hitched up with her either.

DPS: You mean it was me? (laughing) No.

KSH: No, it was somebody else.

Who was the man that...the woman that had the aphasia recovery...Martha Rubin. You remember she had the aphasia recovery project. In charge of aphasia therapy down there.

DPS: It was Martha Sarno

KSH: Martha Sarno. Martha Rubin is somebody else.

DPS: Yeah. It's just how each of us met Martha Sarno is something that I have forgotten.

KSH: Yes

DPS: And anyway we both worked with her for a couple of years and her population and we studied... In fact we did the first EMG study ever I think of a...

KSH: Of an aphasic

DPS: of an aphasic. And it was published in the...

KSH: And actually it was a rather well-known paper.

DPS: It's still cited.

KSH: Yes.

DPS: Published in the Journal of Physical Medicine and Rehabilitation

CAF: Now had you done some aphasia work with Brenda Milner?

DPS; No. No that was strictly work with the seizure patients and they were not aphasic. Some had very minor...

KSH: I always thought of you...Well you knew more about aphasia than I did. And was longing to find out. No, but there was another guy at NYU who had that program.

DPS: You're right!

KSH: He lived in the... up along the Hudson

DPS. Gerstmann. Lou Gerstmann

KSH; No. Not Lou Gerstmann

DPS: No? He had been with her and that didn't worked out very well.

KSH: Well, I can believe that.

No, this was a guy, he was a European, and I knew him because I used to babysit for him when I was at Radcliffe. He was sort of a...He's a sort of thin, rat-faced man.

CAF: And he was a Harvard person?

KSH: Why was he up there? I can't remember why he was in Cambridge.

DPS: Well, I'm lost now.

KSH: And he had a huge population of patients who had been war damaged.

DPS: Oh. Davis Howes.

KSH: No, not Davis Howes.

Alright. I 'm lost

KSH: But Davis worked with him at one point

DPS: Teuber?

KSH: No, he was European; Germanic

DPS:Well, Teuber... That was Teuber

CAF: Hans Lukas Teuber?

KSH: Hans Lukas Teuber. That's how we both [began?]

KSH3

CAF So one question I just wanted to ask was about the various Presidents of Haskins. When you first came, Frank was the President, right?. So Caryl Haskins had already stepped down

KSH: Yes. Frank was certainly...Caryl was almost...he was around very occasionally and we had very occasional contact with him. He had a secretary who..., a woman named Mrs Bissel..

CAF: Do you remember her, Donald? No?

CAF: Before your time probably.

KSH: And one day Frank was away and I was trying to find out..I needed him badly for something, and I went in and I looked at the calendar on Caryl Haskins' desk because I thought I might find out when Frank would be back. And this woman caught me at it.

CAF: Oh, snooping!

KSH: Snooping. And she said: You have no right in these walls!
But then by that time Caryl was not very...

DPS: Well he didn't take a personal interest in the speech research at any time did he, as far as you know?

KSH: Not really. I remember they used to give me...books every Christmas
And the books were selected in any field of science at all, sort of at random. And we had a lunch at the Yale Lawn Club once a year

CAF: Yes. I ate there one year. It was a board meeting I think. It was a board meeting that we had at Haskins and then we had lunch the Lawn Club.

KSH: Yes, Did you have those swans made of puff pastry?

CAF: I don't remember the swans. Possibly. So Frank was President. And then during your time Al was President.

KSH: Yes.

CAF: Did you notice any change in the way that the Laboratories was run? I'm asking this because, Caryl Haskins... the most famous...The quote that is taken from his writings most frequently in my experience is one where he talks admiringly about the lone scientist sort of walking by the riverside and thinking great thoughts. And, you know, this is where...how great science is done. And I think of the Presidents of Haskins trying to let people of talent do their work. And I just wondered: Did you notice any change in how the Laboratories was run as Frank gave way to Al gave way to Michael?

KSH: Well, I remember... I 'm very conscious of the fact that I was never told what to do.

CAF. Yeah. I mean... That's one of the...

KSH: I don't remember anyone telling me what to do. I mean none of them [did]

CAF: That's what I mean. I didn't notice any change. I was pretty junior when Frank stopped being President and Al took over. But I just remember it that way. That they were very careful about who they brought into the Laboratories, but once they brought them in, it was kind of: Do your great work.

KSH: Yes. And Al, although I was well aware that he was totally uninterested in my work.

CAF: Right.

KSH: But I never felt that he was trying to push me to do his work. Not ever.

CAF: Yeah. It's interesting to me, because I have a very kind of romantic view of Al. I'm just a hero worshipper in his domain. But I know that I'm not exactly right about him. You know, he had very, very strong theoretical commitments, and I know that he couldn't have cared less about your work. So it's nice to hear that he didn't try to squelch it.

KSH: No.

DPS: Well he did though. At the end of his career certainly say that he believed that gestures were the ultimate goal of speech research. And I mean you can find that in the tapes. His...The tapes...

CAF: But what's the relevance of that?

KSH: Well, it wasn't..you knew he wasn't interested in my work but he never tried to get me not to do it.

CAF: Right. But why did you bring up gestures Donald?

DPS: Well because that I think that Al was converted to the view that that's what we needed to be studying ultimately.

CAF: Oh. Oh. So you think that he kind of came around.

DPS: I think he came around. But ..

CAF: That's interesting

KSH: That is interesting. And Frank never...Frank always thought that Al was the greater theoretician.

DPS: Yes, he deferred to Al, but they have a very interesting back and forth on those tapes from 1989 [oral history recorded by Pat Nye, available on Haskins website]

KSH: Oh. I'll listen to them.

DPS: Al actually tries to get Frank to take some theoretical credit. And...

CAF: I never quite believed that. I mean I thought it was Al...I thought it was Al being polite, although I could be completely wrong about that. But you are right. He kind of says: This was really Frank's idea.

DPS: I think it was genuine.

CAF: Yeah.

KSH: Funny I didn't [unintelligible]...My only troubles came very late in my career when I lost the grant at one point.

CAF: A64?

KSH: Yes. And Pat told me that I was welcome to enter the Laboratories, but they wouldn't pay me any more.

CAF: But they did. Didn't they fund A64 out of endowment funds for a while? I just remember..,

KSH: They probably....I was furious because I just thought... because Pat didn't want me to use the computer. And I thought...I pointed out that they had the computer 100% of the time. And, you know it didn't cost them anything. But Pat couldn't see that.

CAF: Oh. He was a very conservative guy, I guess.

KSH: I consulted Frank about this point, because it seemed to me that it made no difference. And then we got the grant back because a small group of us were, as I recall...we didn't sleep at all for two weeks. And we had this very early word processing and we had a programmer who had gotten the computer to act like a word processing program. And a student of mine, who was not...who has taken up domestic life period, called Abigail Riley, had worked for the editing office at the Acoustical Society, and she wrote well, and she knew how to use processing, and she did all that. And she just came in and worked like all the rest of us. She was not getting a nickel from Haskins in any way.

CAF: Bless her heart.

KSH: Yes, but that's the only person that I ever had real disappointments with that I can remember

CAF: Pat

KSH: I don't remember that I... I really didn't like Pat at that period.

CAF: I liked him a lot. I just ...I felt badly for him working at Haskins, because I think he was the most loyal person that you could have. He worked his heart out.

KSH: I'm sure he was, and I'm sure his troubles with me were not personal. It was that he thought in terms of you know you assign the cost of the machine...[unintelligible] paying for

CAF: Oh. I see. There was no way to do it. Right. That's where Phil [Rubin] was a better administrator than Pat. Phil would find a way, and Pat would just say: It can't be done. Sorry.

DPS: Well, that's what Al had against Pat I think, that Pat was always saying no to him.

CAF: It's true.

KSH: Yes and he was, I'm sure.

CAF: Al invited me to have my dissertation published as a Status Report, and Pat said no. Too expensive.

KSH: Exactly the same.

DPS: So he had his... there were two sides to Pat, I agree.

KSH: But I would certainly agree at this point in time. And you know I think after I got it [the grant] back, he called me and congratulated me.

CAF: Sure. Yeah.

DPS: Yeah.

KSH: Al didn't oddly enough. No, Al did. Frank did not.

CAF: Not that's the surprise, isn't it?

KSH: I think he was just preoccupied or something

CAF: Or maybe he just assumed you would.

KSH: Al did call back and congratulate me heartily. And Pat did.

DPS: But I gather from the other tapes, those old tapes [1989] that Frank was not really involved in your research as a co- investigator after about 1962.

KSH: No. Well, toward the end he was less He used to go to miscellaneous lectures at Yale at the end of his career. He was just not...involved. And he got...

DPS: No, but that was a long time before the end of his career. Yeah. I mean he..

CAF: He was president for another...let me see,

DPS: until 86

CAF: until 80...no, no, no 75. He was... 1955-1975, was...

DPS: That's right

KSH: He was a very... heaven knows. Well, he is again a man I think that was undervalued.

DPS: Yeah.

CAF: You think he was? I thought that people kind of really revered him

KSH: Well, people really revered him, but in public.... I mean, in the Acoustical Society for example, he never...He got one.. He...They never gave him...

CAF: the highest award

KSH: the highest award. Now to be sure...when they might have, he was terribly busy. I mean, he did an awful lot around the Labs.

CAF: Yeah. I mean, Donald says that he wrote grants right at the beginning.

DPS: He wrote all the grants

KSH: All the grants

DPS: Until some time in the early 60s as far as I know.

KSH: This grant that that I lost that we recovered by reapportioning the sections, he.... was the first I think that ...he had no part of writing with me.

DPS: Did we have something from the Dental Institute before the first A40? Before the ...The first A40 was 1965. End of 1965

KSH: No, I don't know...I don't know.

CAF: And what went on between...So yours [Kathy's] was A64 and A40 was A40.

That means there were 24 funded somethings in between. What was all that stuff?

KSH: Well, we had secret money.

CAF: Yeah? What did we do with it?

KSH: Oh. It was coding money

DPS: Yeah.

CAF: What does that mean?

DPS: Well, it was money that came from the CI... clandestine organizations like the NSA and the...

CAF: Did we do spy work?

DPS: No, but it was yeah coding stuff.

CAF: Coding means cryptography or something?

DPS: Well, things that are relevant to encr..... encrypted speech.

KSH: They used spectrographic encoding.

DPS: Yeah, and that's how we got Ignatius, because he was...

CAF: He was a spook.

13:01

DPS: And Ignatius...I remember...I met Ignatius when he came up with...what's his name... his boss from the NSA. on a site visit. The site visit was all low key and low pressure. I remember they...we just sat around a table and chatted a bit, you know. At least that's the way I perceived it.

KSH: I remember after my first trip to Japan, Frank came to me one day, you know the way he used to come into a room very quietly, and he said...By the way a Miss Somebody or other wants to speak to you about... You shouldn't ask her questions. She will ask you questions. And it's going to be about the Japanese...what the Japanese interest is in our work.

DPS: But...Yeah, so the Japanese...I mean you really hooked in the Japanese. Because there was a long succession of people who came without...unbroken succession. Right? Starting with Hirano and I can't remember who the last one was. But it went on for how long a dozen years at least, I don't know.

KSH: Longer.

DPS: Longer, yeah, OK.

KSH: Because the last one was the only one I had no contact with. I'd by that time...Vince had come, and I was getting out of Vince's way.

DPS: Were they all coming from the same place, the same institution in Japan?

KSH: They were all from the University of Tokyo.

DPS: The otolaryngology department.

KSH: Except for...Minoru Hirano. Not...Wait a minute, there are two people whose names I get mixed up. Anyway, the one that Ladefoged worked with came from the south. The southern island. And he was, I think, he was considered hot stuff by...Osamu [Fujimura], and I think he may have...You know Japanese always rank everybody, and I think he may have outranked the people in Tokyo.

CAF: So one question you had had Donald was: Why did we switch over from EMG to using palatography and other technology. Was it that...

KSH: Who?

CAF: Why Haskins would do it, especially you. Why you switched off of doing EMG work to using other technologies

KSH: Well you could get different information.

DPS: Yeah.

CAF: Right. And was it....So were you recognizing that you need kind of more coarse-grained information than just muscle activity? Or was it that it wasn't as painful?

KSH: No. It was that the speech apparatus is buried in the middle of the tongue. I mean you can't get the same information...Tongue contact is sometimes very informative. For example, the third dimension does you...

DPS: So it was the contact, the timing of the contact of the articulators that you couldn't get with EMG.

KSH: Also you couldn't tell...what the shape of the tongue was, you couldn't tell whether the sides were raised or lowered.

DPS: So with tomographic methods like EMMA you can get this information.

KSH: Yes, sometimes.

CAF: But there was time before EMMA. I'm thinking we used electropalatography. What else was there before EMMA came along?

KSH: That was...how Dani wrote her thesis. That was one reason.

CAF: Dani..

DPS: Byrd.

CAF: Byrd?

KSH: Yes.

CAF: Now I don't remember what her thesis was. [Dani Byrd got her BA and MA from Yale (both,1990). She got her PhD from UCLA in 1994 working with Patricia Keating ;Dissertation Title: *Articulatory Timing in English Consonant Sequences*. She used EPG. Any collected at Haskins?]

KSH: It was a palatographic study.

CAF: Was it? I mean, Daniel Recasens is Mr. Palate in my mind.

DPS: Well, she was your...she worked with you mostly too, didn't she?

KSH: Yes.

CAF: Oh. I just completely missed that.

KSH: But she wrote her thesis with Peter [Ladefoged]

CAF: Well she was a...Wait... Yeah. She was...she was an undergraduate at Yale, right? And then a graduate student at UCLA? Dani? Have I got that right?

KSH: I can't remember whether she was at Yale first.

[Dani was an undergrad at Yale, PhD student at UCLA, then did a post doc at Haskins, 1994-1997; then stayed at the Labs as Senior Scientist until 2002 when she took a job at USC; her cv is on line: http://www-bcf.usc.edu/~dbyrd/byrd_CV.html]

CAF: I think she was a Louis [Goldstein] student and then she went to UCLA.

DPS: Yes, she was a Louis student.

KSH: Yes, but she also worked with Peter

No, but then she was hired by Peter, I think. [Not accurate]

DPS: She was hired by Peter. I thought she was a Louis student at Yale. And that's where she got her PhD.

CAF: Maybe that was it. OK. So Louis PhD then UCLA for her first job, now USC [NOT ACCURATE]

KSH: And Peter had had a lot of experience with palatography. It was a very Edinburgh technique.

CAF: So it was while she was a Louis student that she worked with you and... I just didn't remember. I must have been mostly at Dartmouth then. I just didn't remember that she used palatography.

But what else was there? So Freddie helped to invent the Velotrace. That wasn't used a lot, I think because it was so unpleasant.

KSH: No you couldn't get it fitted on many people without their dying.

CAF: Right. But what else was there before EMMA? Maybe not much.

KSH: Not much. As I say, there were a bunch of studies in the literature that used things like palatography. Because...And you remember Peter was the consultant for Pygmalion ...for My Fair Lady. And they had all those various things.

CAF: Oh right, right. Whose student was Daniel Recasens? Was he a UConn...He was a UConn student, wasn't he? So Ignatius or Arthur?

DPS: Ignatius I think

CAF: He really used the palate.

KSH: But Daniel...I think Daniel had a degree in Europe.

CAF: Did he?

DPS: No, I think he got it at UConn

CAF: I know he was a UConn student. He could have gotten two, because some Europeans do. [from the Web: He holds a PhD in Linguistics from the University of Connecticut and a PhD in Romance Philology from the University of Barcelona]

KSH: But he was not particularly my student. Funny, no one has mentioned Tom Gay.

DPS: I was going to mention him and then I'd forgotten it.

KSH: And we also haven't mentioned Tom Baer much.

CAF: That's true.

DPS: But Tom wasn't... I mean Gay wasn't yours was he?

KSH: Yes.

CAF: He was your student?

KSH: Yeah

DPS: I didn't know that.

CAF: And was he employed full time at Haskins for awhile?

KSH: Yes.

CAF: He was.

KSH: And then he went to UConn to the medical school

CAF: Where he still is?

KSH: Yes, I think so. I haven't seen him lately. He came to Acoustical Society...no, ASHA once. And he bought me a drink and I saw him there.

DPS: His thesis was an issue of the status report

KSH: Yes, it was.

CAF: Was it? Gay?

DPS :An early one

KSH: Yes, he did some work on diphthongs, in fact following up on some work of Ilse's [Ilse Lehiste]

CAF: So I remembered Halwes, Bell-Berti and Pisoni as status report theses. I did not remember Tom Gay.

KSH: Tom Baer was a student of Ken's [Kenneth Stevens]

CAF: Uh huh. He's an eng...His training was in engineering too, wasn't it, Tom Baer's?

KSH: Yes.

DPS: I gave a talk in Cambridge [University] last summer and he was there.

KSH: Oh you did.

DPS: He was there yeah, and so was Mark Haggard.

KSH: My goodness. How is he?

DPS: Tom didn't look good.

KSH: He didn't

DPS: He was going through a divorce.

CAF: What?

KSH: He was what?

DPS: Yeah.

CAF: From Sarah Hawkins? No kidding! Oh my gosh. That's his second divorce, because he was getting a divorce from his first wife when he hooked up with Sarah at Haskins.

21:51

KSH: yes

DPS: He followed her to England

CAF: Yeah and really changed his career completely. He worked for Brian...Moore.

DPS: Brian Moore. He was at my talk.

KSH: Well good!

DPS: It was fantastic.

CAF: Quite a group!

DPS: Well who else have we left out that was your student or worked with you?

KSH: Well, I had so many forgettable students.

CAF: Well we don't care about the forgettable students.

DPS: You had a slew of them at the time of your retirement. I know. It took you years and years to work through this whole...

KSH: Well they were perhaps not my stars.

DPS: But you were loyal to them. That's the incredible thing.

KSH: Well...

CAF: Well, so I guess we're at the end?

KSH: I think we've got everything, haven't we?

CAF: The last question was: What do you wish we had asked but we didn't think to ask...anything that you thought about talking to us about that we haven't covered.

KSH: Well, Anders [Lofqvist] feels very strongly—whom we also haven't mentioned—Anders feels very strongly that the Lab owed a great deal to the Japanese which was not sort of heralded. And I think that's partly because of Al's lack of interest.

CAF: Yeah. I mean I think from the outside, they might have thought, well we got these guys because we couldn't get...we needed a medical doctor and we couldn't get a medical...medical doctors in the States to do this scut work of putting in electrodes and that's why we had Japanese doctors. But actually they were scientists themselves.

KSH: Oh yes.

DPS: That was the real reason that they were really interested physiology whereas the American otolaryngologists were interested in getting out and making money.

CAF: Right, right so let's...

KSH: I remember. The other person we haven't mentioned besides...Actually, I had a fairly good graduate program. And ...Actually, I was mentored mostly by either George Miller or indeed Ira Hirsh. They both taught me a lot.

DPS: I already certainly had respect for George Miller when I was still an undergraduate, because I had a first course in psychology at Oberlin from one of his students, George Heise,. Do you...

KSH: Oh!

DPS: Do you remember him, I suppose?

KSH: Yes, of course. I dated him for a while.

DPS: Well I didn't remember that. But he was a very nice man. He really hooked me in to psychology.

KSH: Really! He was a nice man. He was ill a lot of his career.

DPS: Yeah, he was.

KSH: I don't know what the problem was. It was skin. Something was wrong with his skin.

DPS: And he had Krohn's disease or something like that. Yeah.

CAF: How did Anders come to the Lab? I guess we could ask Anders. Do you know?

KSH: I don't know. I think he knew Kirsten Hadding-Koch.

DPS: Just on the Japanese thing. I just wanted to make the comment that in your... I came to that nice conference that was held in your honor at the Graduate Center. And the Japanese presence at that conference was really, really impressive.

All these people who had had come all the way from Japan to this...

CAF: To the Labs for a year or two.

DPS: No, who had come to this conference to honor Kathy.

CAF: Right, but were they all people that had been at the Laboratories?

DPS: Yes, they all people who had been...And I don't remember how many there were, but it was really impressive.

KSH: And it was, well it was...Given the position of...When I first went to Japan, George [Harris] went with me. And you know the people who were arranging the seating would put George at the speakers' table and me in the back.

DPS: Of course.

CAF: So, I was trying to make a list. There were Jim Hirose, Seiji Nimi, Ushijima. What are some other names?

KSH: Oh dear. One of the late ones I can't remember. I'll look it up.

CAF: OK. It will be in the status report's articles too.

KSH: The last one that's made a reputation in Japan is the one whose name I've lost. He analyzed the data from one of the last and most productive EMG runs.

CAF: I'm trying to think of the name of somebody that I met. I spent about two weeks in Japan in 1998, and they were doing...They were trying to get structural MRI of the vocal tract and to take a bunch of snapshots but to put it together into a movie. You know who I'm thinking of? It was one of the people that had been at Haskins as a Japanese doctor.

KSH: I think I know who it was probably, and I think I can't remember his name.

CAF: Yeah. OK.

DPS: We still haven't... I remember I wrote in my notebook...Jarvis Bastian

KSH: Yes!

DPS: You and he did an experiment that you know Al very much rued that never got... Jarvis never wrote it up.

KSH: Yes, now what was that experiment.

DPS: What was it. Yeah. It wasn't clear from these tapes what it was.

CAF: I remember that section of the transcript, but I don't remember what the experiment was. But it was something that he thought was really valuable.

So who was Bastian? Was he a student? Wasn't he a student? This guy Bastian?

DPS: mmhmm

KSH: Where is he now?

DPS: Well, he went to UC Davis. That's where...and he ended up studying dolphin vocalizations.

CAF: Yeah, That's right. That's what they say...Yeah.

DPS: And so...But what did he and you do that was so...?

KSH: I don't remember.

CAF: And of course we're not going to be able to find it...

DPS: And there's another thing....

KSH: Oh dear.

DPS: These are the transcripts of the tape, and I've been poring over these things. And I did want to ask you about something.

KSH: Oh. Another bit of work that I did, with Carole Gelfer actually. And it came from work that was done at MIT. It was work on declination.

CAF: Yes, that...was that her dissertation?

KSH: Yes.

CAF: Yes, I remember admiring that a lot too.

KSH: That's a nice piece of work.

CAF: Yep. And that involved...did it involve getting subglottal pressure as well as...laryngeal

KSH: Yes

CAF: Yeah.

You found it Donald?

KSH: It was important that you get subglottal pressure, because that's why the pitch falls.

CAF: That was the question. Is it something that you are doing on purpose with your larynx or is it just that you are running out of air, which was my preferred...explanation

KSH: It 's both.

CAF: No doubt both. That's always the answer.

DPS: Well here's Frank. I have to build up to this mysterious comment that he made, Kathy, 20 years ago,

KSH: OK.

DPS: but... They're having a conversation, Al and Frank, and Frank says to Al... And Al had just said that....he'd been talking about his version of the motor theory. And Frank says: I took it seriously to the extent of saying, well if that's the case, then why do we...why not do the experiment on the production side? And you have always had very good taste in the selection of problems and so on. But you were not really interested in following through and going to look at production if you think it is motor. And that puzzled me. And that's Frank. And then Al says; While I was interested at looking at it only to see the correlates. That is, I wanted to see...I wanted people to do experiments which would show that, when the perception remained invariant, it was because the articulation remained invariant. And that is what interested me. And remember we sort of tried to argue in the early days...and very naively as it turned out because we were talking about what happens at the periphery and of course there's not invariance there. And that was one of the discoveries in the articulation work. And this is Al talking. And then Frank says: I don't remember it quite that way, but.... And then you (KSH) interrupted or something and you said. I think that we got zapped unreasonably. I will go on to that point some time.

CAF: And then you don't.

DPS: And you never...I don't know what you meant. And I would really like to know.

KSH: I think I was probably referring to the paper of Peter's [Peter MacNeilage, 1970] in the Psych Review.

DPS: Oh. Well that's worth knowing.

CAF: I've got to look at that paper, because I remember it as not about Haskins, but just a very nice theory of speech production.

KSH: I must look at it again too, because it was a very...it was beautifully written.

CAF: It was a good...You could see that this was a guy with a big... with big ideas.

KSH: But then later, I know that Michael [Studdert-Kennedy] told me that he couldn't work with Peter any more, because of something else that Peter had taken up.

CAF: How far back are you talking? So...

KSH: You remember he went when he went to the west coast [the Center for Advanced Study at Stanford]

CAF: They were trying to write a book together and they couldn't do it.

KSH: They couldn't do it. He and Bjorn [Lindblom] and Michael.

DPS: Yes, yes. Right. We were talking about them on the train. But what...Had Peter and Michael collaborated at Haskins Labs on something?

KSH: Not so much.

CAF: I think they were just buddies. That's what I think.

DPS: Yeah.

KSH: I think they were buddies too.

CAF: I think they were kind of soul mates as people.

DPS: Uh huh. I didn't...Yeah.

CAF: So I thought it was that, by this time, Michael had been influenced by Michael Turvey and Scott Kelso and, in his...and Articulatory phonology, and Peter had gone off and worked with Bjorn and they were still very much auditory theorists. And I thought they just couldn't write a book together anymore

KSH: I don't know.

CAF: Because their theories had diverged so much.

KSH: But I can remember Michael telling me that he 'd had to give up the book. That it was not possible.

DPS: Yeah, I know. I know that's the case.

CAF: Yeah. We'll interview Michael on that. Get the [...]

DPS: Alright. Well...

CAF: But we never got to the... you never found the pages on the Bastian study to...

DPS: Oh. The Bastian study. ..I can't find that...Oh here is it. Wait a minute.

KSH: What are you doing with this material?

CAF: Not sure. We say we're writing a history of Haskins Laboratories. We haven't figured out who our audience is yet . Are we just preserving it for people at Haskins. Are we thinking of something bigger. But it's fun.

KSH: Yeah.

CAF: It seems... I feel as if Haskins Laboratories followed a beautiful kind of evolutionary path from the reading machine to speech perception to speech production to reading. And it's just nice to chart that evolutionary process. You know it was not a bunch of random developments.

DPS: We'd like to make the story accessible to people who are not in the field. But I don't know whether that's a realistic hope or not.

CAF: We're not sure who would be... want to read it.

DPS: Yeah.

KSH: You know it's amazing to me...how...well...how we've gone...we've lost some audiences and I don't know why. Well I do know why; there are reasons always. But when I first was at Harvard,,,ASHA...I didn't really know that ASHA existed. And indeed there were very few people at ASHA that knew anything about real speech. And then there was a period sort of...I did get invited to do things by ASHA people for a while. But now, its gone again. I mean...

DPS: You make a comment somewhere on the tapes that and I don't remember where. There was... that either you or somebody suggested that there was a certain amount of insularity at Haskins Laboratories. And you mentioned work that was going on that was in parallel with some work at the Labs that wasn't really being discussed at Haskins. You mentioned Ken Moll.

KSH: Oh yes. I know what that was about. Ken Moll had...was actually I'm al.. he's a man that was wrecked by a desire for money. He's a bright guy.

DPS: Yeah.

KSH: And he was interested in cleft palate. And Iowa did an enormous amount of work on cleft palate.

DPS: Right

KSH: And it was part of the speech production...It was part of ASHA's responsibility. And they often had men, men...women...but mostly men for some reason who were working on velopharyngeal closure. He developed movement work mostly on cleft palate. But they did a number of perfectly rational experiments. The problems with them...The problem with them. .. The problem was that they could only use a given subject for a very short period of time. So you couldn't really develop a study.

DPS: What technique were they using?

CAF: Was it cineradiography?

KSH: Cineradiography

DPS: Oh

KSH: Cineradiography. They had to abandon it. And Ken Moll was the head of a group that did several studies that I remember admiring.

DPS: I remember him. He was a graduate student at the same time I was. But I was in psychology and he was in speech and hearing sciences. But I remember him.

KSH: Did you think well of him?

DPS: Yeah. He was a smart guy.

KSH: He was a smart guy, yes.

DPS: But I haven't followed his career afterwards.

KSH: He became a Dean.

DPS: He became a Dean. At Iowa.

KSH: At Iowa.

DPS: Is he still there, I wonder?

KSH: He is probably retired.

DPS: Retired, of course. Of course, he is as old me, so he's got to be retired. Silly question. See I don't think of myself in the retirement camp. It's funny.

CAF: There was an article interviewing Peter Alfonso, speaking of Deans. He's a Dean at URI.

KSH: Where is he?

CAF: He's at University of Rhode Island.

KSH: Oh he is.

CAF: And I think he's stepping down, not because he wants to. But there is some reorganization or something. And I think it said that he was 70 years old, but he felt like he was not ready to retire. So he's going back into academia, I think that's what it said . At URI.

DPS: Well I did find this Jarvis Bastian reference. And Frank says that you, Kathy, were mentioning...This was one of the early production things. Wait a minute. And certainly we followed it up, I don't know how soon, with a straight production experiment with transillumination. Which has been done two or three times in the Laboratories here. Very crudely initially. But even crudely showed perfectly well that the matter of the timing of the glottal closure was what was critical here. Critical to...Remember this was in the setting of VOT... VOT stuff, alright.

KSH: We ought to pull it out. Because Laura [Koenig] does work in that area...and if it's a good, great experiment, she ought to know about it.

DPS: So then Al says: Now Kathy was in connection with the voicing distinction or what was it with... that you did this wonderful set of experiments with Jarvis Bastian that combined everything. And was never published. And we couldn't get Jarvis to publish. Remember what we did?, he says. We had the acoustic variation, we did identification, we did discrimination, we did mimicry. With the measures of the acoustic results and what the articulators were doing.

KSH: It sounds like a fine experiment.

CAF: Sounds like a great experiment, yeah

DPS: [Al:]Was it voicing that we did this on? And you said, Yes. And then Alvin said: A beautiful set of experiments and I still weep when I think it was never published. And Frank says: we did them carefully. And you [KSH] said: Yes, I spent a lot of time on it.

KSH: Oh.

CAF: And you don't remember.

KSH: I don't remember. It's absolutely gone.

DPS: Yeah.

KSH: I'll try to find it. Let's try to find it. As I say at the very least...

DPS: It must have been a voicing experiment that involved mimicry. Which would have been interesting.

CAF: Yeah. Novel

KSH: And it must be...Yes it was probably something about the question of the distribution of what times you could...what delays you could produce...

DPS: Right. How random is the selection of times that languages employ. Or is it based on something physiological that...

KSH: Yes, that must be what it was. And I still have called up no images yet. But let's try to find it, or I'll ask Laura if she came across it. She's a very studious..

CAF: But if it' wasn't published she may not have had the opportunity

KSH: But on the other hand, there may have been...she's the kind of person that will have found a scrap of paper.

CAF: I see.

KSH: I wonder where he is. He too may be gone.

[Prof Emeritus, UC Davis]

CAF: I almost think I looked him up on Google. And you're right. He's known for work with...dolphins...or some kind of such marine organism.

DPS: Yeah. And there's just one other thing I want to mention before we go. That's an analogy that you made that I thought was really interesting. Page 125...

KSH: You say here; How did scientists at Haskins get their research plans vetted? They didn't

CAF: They didn't. That's a great answer. Yeah. That's how I see Haskins. Just a...Not a top down place at all. Ideas sort of bubble up from the bottom and get pursued if they are good.

DPS: I don't really remember how you got into this but you talked about a sock puppet.

CAF: Shari Lewis.

DPS: Shari Lewis. She had a sock puppet on her hand.

KSH: I was always talking about that sock puppet.

CAF: Lambchop

DPS: It entertained your daughter. But it occurred to me to think, you said: That supposing you wanted to figure out how many fingers she has. Why, It looks like she can do everything with this sock. In fact, she's got...inside is a bunch of forces attached to levers. And if you observe the motion of this thing carefully, you could perhaps infer the structure of her hand. But it would be far easier if you looked at the muscles. And therefore why don't we look at the muscles. The structure of the muscles must be simpler than the structure of motion of the sock puppet.

I thought that was a very...real interesting.

KSH: yeah. It is as a matter of fact.

CAF: It is. Good job!

DPS: OK.

CAF: Think we're done?

DPS: We could keep you here all night, but I don't think we should