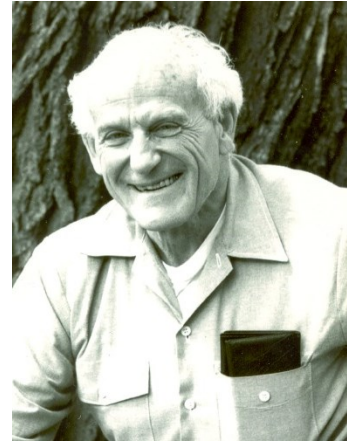


Herbert L. Pick, Jr.

- Born July 18, 1930 in Newark, New Jersey; died June 18, 2012
- Spouse: Dr. Anne Pick
- B.A. in Sociology (1952) and Ph.D. in Experimental Psychology (1960) both from Cornell University



Major Employment

- Assistant Professor to Associate Professor to Professor, Institute of Child Development, University of Minnesota: 1962-2012
- Adjunct Professor, Department of Psychology, University of Minnesota: 1968-2012
- Adjunct Professor, Department of Kinesiology, University of Minnesota: 1987-2012
- Director, Center for Research in Human Learning, University of Minnesota: 1972-1978

Major Areas of Work

- Learning, perception, spatial cognition

SRCD Affiliation

- Governing Council member (1979-85)

SRCD ORAL HISTORY INTERVIEW

Herbert L. Pick, Jr.

Willard Hartup
University of Minnesota
May 4, 2004

Hartup: People want to know primarily about how you got into the business that you're in, where you think it has taken you and taken the field, where you think your most interesting contributions have been, and if you had some things to do over what might you do over. As most historians are inclined to do, they view a person's professional life in the context of life more broadly speaking, so grist for this mill is everything, including some information which people would like to have about the context in which you grew up and something about how it might relate to what your interests later became. Why don't you just take it over and tell us a little bit about your family background?

Pick: Let me start off by saying that when you and Thelma posed this possibility to me, I thought, This is ridiculous; I don't have anything to say. But then I started thinking about it and the idea of somebody being interested, or at least interested enough to interview me about my history—I began to get very excited about doing it. So anyway, I'll probably tell you more than anybody cares to hear.

The first question on the schedule had to do with my family background, so let me talk for a couple hours about that. My mother never went to college, or maybe she went to a year of college. She grew up in Richmond, Virginia. And my father went to Cornell University, which is probably why I followed in his footsteps there. My parents were very interested in education, but not from the point of view of, I think, abstract intellectualism, but just that that was the thing to do. And so I grew up thinking, of course, I would go to school and try to do well in school and they would give me a lot of reinforcement for that, but never probe very deeply into what I was thinking or what I was doing in school, but always encouraging me.

I went to a private high school, which I think was a fairly rigorous education. And then I went to college because that was the thing to do. And I started off, went to Cornell, started off in engineering physics and after two years I found I didn't care for it very much and it didn't care for me very much. I was working very hard and not doing particularly well. And I had taken some electives in sociology and I was very interested in social problems in the country and the world, prejudice and things like that, and I thought specializing in sociology would be a way to make a contribution to solving those problems. So I switched to sociology and sort of focused on social psychology and had an instructor who I liked very much, Bill Lambert—

Hartup: Yes, I knew him.

Pick: —and he excited me about social psychology and, matter of fact, was one of the only professors I had as an undergraduate who invited his class or students to his home, and that impressed me very much. So after I graduated I went in the Navy for three years.

Hartup: Now, those experiences are frequently formative for men, especially in our culture. Glen Elder and his associates did several studies about those kinds of experiences. Was it in your case?

Pick: The Navy or Bill Lambert? Lambert I think was, because I found that while I liked my particular work in the Navy, which was being an engineering officer, it really firmed up my idea; I wanted to go back to school. So I didn't know what graduate school was all about, but I knew I didn't like the style of the Navy—the military style—at all, even though I liked my work. And so I thought a lot about going back to school in the time while I was in the Navy and, in fact, I knew there was nothing while I was in the Navy that would make me stay in there longer than I had to except they did one thing, the only thing they possibly could have offered that made me pause for a minute, and that was my last year in the Navy they gave me the possibility of going to university as an ROTC instructor, and that made me stop for a whole day and think about it. But I still decided not to and I applied for graduate school in a few places. I applied to Harvard and to Illinois and to Cornell and—in fact, my home port was Boston, and then I went to an interview with Roger Brown I think and I was very excited about going there, but they didn't accept me. But Cornell did accept me in psychology and I had decided to try to pursue social psychology within psychology, because the shift from engineering to sociology was too much, and I thought psychology would be a little bit more on the technical side. I didn't know what sociology was like then.

Hartup: Did Cornell admit students at that time to work with particular people?

Pick: No, they didn't. I think maybe they did particular areas and there were two people in the psychology department who did social psychology or could advise you or be mentors. One was Bill Lambert and I was really excited to go back and work with him, and the other was Richard Walk. And when I got back I started graduate school in the summer and I got to Cornell and went to Bill Lambert and he was much too busy to take on an additional person, so he suggested I go talk to Dick Walk, which I did. And he was very helpful and encouraging and so he took me on as an advisee. And I forget exactly what I did that summer, but in the fall he offered me a research assistantship working on a grant with him and Jackie Gibson. I'm going into detail about this because it was pivotal, yes. It was a project concerned with the effect of early experience or early visual experience on the rat's later perceptual development. And also, he told me at that time about other things that he was doing. One was what his dissertation at Harvard had been on, the continuity/discontinuity controversy in learning theory. I didn't know what that was all about, but he gave me his thesis and some articles to read and I didn't know, as I started to read them, why would anybody be interested in this at all. But gradually I got sucked in or hooked and shifted over to experimental psychology from social psychology and never did any more social psychology. But I worked on their research project for a year or two and, as I said, that was pivotal. That influenced the rest of my life.

I guess a couple other things happened in graduate school that had a big subsequent influence. One was we had to take two foreign languages and I had a lot of German from high school and

undergraduate school. And I passed the reading exam in German and I needed to start a second language from scratch, and so I took Russian and the Russian course was one of these very intensive ones where you had a class every day and conversation, and then twice a week an extra hour in grammar. After I finished that I spent so much time in that year just doing that course that I passed the reading exam. I decided I couldn't drop it, so I continued to do all the Russian courses the rest of my time in graduate school. When I was finishing up graduate school they had just concluded an academic exchange program, and it was just starting and they were looking for people to go over to the Soviet Union for a year and that seemed quite exciting to me, because I didn't believe our propaganda about the Soviet Union and I wanted to see what that was like. Plus it just sounded like an exciting cultural experience.

Hartup: Yes.

Pick: So I applied for that and they tentatively accepted me, except they said my Russian wasn't good enough, and if I would get tutored for the summer before I went in Russian and pass the exam they'd let me go.

Hartup: In all of that did you have any exchanges with Urie Bronfenbrenner?

Pick: No. Actually I should mention Urie. I didn't have any exchanges with him about Russian or the Soviet Union. My only experience with him had been as an undergraduate and after I shifted to sociology I took a course—I think it was in personality development—that he taught. I think it was the best course I ever had in college and I got a D in it. But it was a wonderful course and he was a very terrific instructor and that's all I knew about Urie until years and years later when we became friends about the Soviet Union and also child development generally. But being at Cornell, even though working with Dick Walk and also with Jackie Gibson, my emphasis was on learning and learning theory, and he would ask me when I got my PhD what my theory was. It was learning and learning theory, but you couldn't go through Cornell without getting exposed, at least by osmosis, to perception. And I never took a course in perception, but Jimmy Gibson had a seminar that was just continuous year after year. People sat in on the seminar and I sat in some and mostly I didn't know what they were talking about, but I gradually absorbed some of it. And there were a couple of other people at Cornell besides Walk and Jackie Gibson and Jimmy Gibson. Robbie McCloud was a philosophical psychologist also interested in perception, and Julie Hochberg, who was the second perception person there. They all had some influence on me, especially Robbie McCloud. I took a minor in history and systems and he was my minor advisor. I really enjoyed that. So I went to the Soviet Union, and after a while there having a terrific time, I got worried about what I was going to do for a job when I got back. And I had talked a little bit to Dick Walk before I left, and he said, "Well, we'll see if we can find you a job," and that was all I heard and I began to get very worried.

Hartup: Had you done your thesis by that time?

Pick: I finished my thesis, yes. The way that exchange worked the Soviets thought that they could send anybody. It didn't make any difference whether they finished their graduate work. Our side was a little bit more formal and they said, "If you had your PhD and you weren't a graduate"—this exchange was for graduate students, so they wouldn't let you go if you had your degree. So I finished my thesis, did my thesis defense, and then I didn't do the paperwork. So I was still technically a graduate student and that was all right with our side. But anyway, when I was in the Soviet Union—I actually was on a trip to Leningrad—I got a telegram from the University of Wisconsin saying, Would you be interested in a position teaching perception at Wisconsin? And I was really excited to get that and I was so excited that I decided I would send them an answer saying I accept. But I wasn't sure they offered me the job. They just said, Would you be interested? and maybe they were just too embarrassed or something when I said I accepted to say, There's no offer. But anyway, I was very relieved. In the meantime—

Hartup: This is about when, about 1960?

Pick: That was in 1960 exactly, yes. It was the year the U2 was shot down over the Soviet Union, towards the end of the year I was there.

Hartup: But what did you do specifically in the Soviet Union? I know you met a lot of people and of course it's had tremendous consequences for the things you've done later. But what were your principal activities during the year you were there?

Pick: My advisor over there was Leontiev and I guess he suggested I work with a graduate student that he had at that time. He took two graduate students, but one was important later, Julia Gippenreiter, and so he sort of put me under her supervision, although the research that I did there was not anything she was doing. It had to do with tactual perception, tracing over forms and eye movements. So I had that kind of research project. Then I went to seminars and lectures and courses. I didn't really take any courses, but I sat in on a lot of things and as much as I could I went and met people. And so one of the seminars I took was with Luria and that was very interesting. He would talk about some ideas he had about brain function and then he would bring in a patient who had some problem and he would put them through a lot of tests, sort of finger tapping tests and touching points of your body and doing other things, and then he would diagnose what was wrong with them in the brain and then they would go have an operation. And then he would bring them back and explain what they'd found in the operation and sort of say, "You see, we were right," or something. But when he would put them through all these sorts of neurological tests in front of us he would then turn to me with a twinkle in his eye and say, "See, we don't use tests in the Soviet Union." Tests were forbidden, and he did this neurological diagnosis, which were sort of artful tests as far as I could see, and presumably his students in the class were learning these things. But he was good; he was gifted and an artist. I saw what the students could do after they watched him and quite often, at least from what he said, he was right about his diagnosis and the basis of these tests and what they found when they did the operation.

Hartup: Herb, what other experiences in Russia were formative during that period?

Pick: A couple people that were very interesting. One was—well, I mentioned Luria, and another one was Zaporozhets and he was one of their leading developmental psychologists at the time. He was a very easy guy to talk to and a very welcoming guy and, again, for my future, development—his particular interest was in perceptual and cognitive development. He headed up an Institute of Preschool Development. And when I first was thinking about going to Russia and, as you might expect, it's—well, psychology is Pavlov. It turns out that for them Pavlov was a physiologist. While psychologists knew about him and his work, he wasn't an important person for their development; much more important was Vygotsky. He was a teacher of Leontiev and Luria and Zaporozhets, so I was immersed in these descendants of Vygotsky, although I didn't know it at the time. That is, the ideas that I got from them were all grandchildren's ideas from Vygotsky. And then some other ideas I became acquainted with there were from Bernstein. Bernstein was a physiologist also, but he was an anti-Pavlovian physiologist, which wasn't a very politically good thing to be at that time. But his ideas had a big impact on me and they do to this day. And I might say more about that a little bit later.

Then I came home and I went to Wisconsin. At Wisconsin, as part of their job offer, my job was to teach perception and I had to learn perception. As I mentioned earlier, I never had a formal course in perception. But I found I liked that much better than learning stuff that I had in graduate school. And I gradually came to consider myself a perceptionist, although when Jimmy Gibson heard I was teaching perception he laughed heartily, but I hope at the time he died he was more serious about the possibilities for me teaching perception.

Hartup: Well, we both know he was. You had some well-armed developmentalists as office mates in Madison, too.

Pick: That's true. My office mates there—well, one, the main office mate I had, was Mavis Hetherington and she and I became very good, good friends and actually did some research on perception together, which I think she suppresses.

Hartup: Yes, earlier in her career she had a background in experimental psychology.

Pick: Is that right?

Hartup: Yes.

Pick: I don't remember that. Another interesting famous person who was an office mate was Harry Harlow, though he didn't use the office very much. And we used his desk in the office mostly to sleep on. He didn't care for that very much when he would come over to the office, but he never said too much about it. Mavis—besides doing research in perception, Mavis and Leonard Ross and I started a study of discrimination learning with retarded children. And Mavis remembers, and correctly actually, that she would work with the retarded child in front of the apparatus, whereas Len and I were afraid of the retarded children and we hid behind the apparatus and ran the machinery. But I was there for two years and it's curious to me how I got to Minnesota.

Hartup: And how did that happen?

Pick: Because of this work with retarded children I attended a conference that they had in Madison on retardation, or maybe it was on learning processes and retardation. And Harold Stevenson came to the conference and I happened to be sitting next to him at lunch and we got to talking, and he told me that they were having—up in Minnesota—the next fall a conference on cognitive development, to which two Russian developmental people were being invited. And I asked him who they were and it turned out they were people that I knew, and I said, "Oh, that's wonderful. I'd love to see them," and he said, "Well, come to the conference," and so I came to Minnesota to this conference. And as happened very often at that time, Soviet scientists who were supposedly coming to foreign countries to conferences couldn't leave the Soviet Union. The government wouldn't let them leave and that happened for this conference here at Minnesota. And so I got here and Harold said, "They're not coming. Would you talk about their work?" I said, "What?" I knew their work to some extent and I knew generally something about the Soviet work on cognitive development, so I said, "I'll try to do that," and I did. And apparently I did it well enough that Harold said, "Would you think about coming up here to work?" And I said, "Well, I never had a course in developmental psychology," and he said, "That's okay. None of us has, and we'll teach you about development, but come up and interview and see if you like it and if we like you." So I came up and interviewed for the job.

Hartup: Because I remember interviews in those days were rather informal.

Pick: Yes. I don't remember the interview, so it must have been informal.

Hartup: Well, I remember mine here and I remember meeting you during it, but I didn't give a talk or anything. I just talked to people and that was it.

Pick: Yes. I think that's what happened to me too. And Minnesota offered me a job, but that also maybe is an interesting thing to mention. At Cornell there was—actually like at Minnesota—there was a psychology department that didn't have any developmental stuff in it. And there was a department of child development and family relations in the ag school, and the graduate students in psychology—and maybe the faculty, but certainly we as graduate students—at Cornell had a snotty attitude towards people in child development. And so that hung over when I was offered the job at the Institute of Child Development at Minnesota. I said, "Do I want to leave a really good experimental psychology department and come to an institute of child development?"

Hartup: Yes.

Pick: But when I got here and talked to people I found that people were so enthusiastic about their work and doing such interesting work that that feeling went away. At Wisconsin there was a very good

experimental psych department and individually the people were very, very nice and friendly, but somehow they created a terrifying atmosphere for young faculty there, and the enthusiasm and warmth of the people at Minnesota just won me over completely. And so I came up here and I've never regretted it.

Hartup: Right. Why don't we talk a little bit now about the playing out of the most important themes in your research? I think it would probably be—or your scientific interests in general—I think it would probably be helpful if you could sort of trace these, not in detail from year to year necessarily, but as you worked broadly into issues and changed emphases in your work. In other words, sort of trace the main continuities and discontinuities in work you've done now in this place.

Pick: Yes. Well, as I mentioned, in graduate school I started focusing on learning theory, but then that research project that I did with Walk and Jackie Gibson had to do with learning, but it was perceptual learning, the role of experience on perceptual development. And that theme has infused my research for a long time. When I came up here I started doing research on perceptual development, but I'm not sure why I was interested in the relation between the different senses, intersensory perception, and things like that. So my early work here had to do with that and either it was stimulated or soon stimulated itself an interest in the role of experience on perceptual development, that is, the effect of visual experience on later visual experience or the lack of visual experience on later perception. So I became interested in how blindness affects perception, how blind people perceive things as opposed to blindfolded sighted people, showing the role that visual experience plays in actual perception. So that was where intersensory perception came into this or interfaced with the perceptual experience question. And so I began studying questions about comparing blind and sighted people with that kind of issue in mind. One aspect of perception of blind people that attracted my attention was how they get around, how they find their way. And that was also stimulated and motivated by—and this was in the late '60s—but student activism. Our graduate students were grumbling about what use is all this psychology that we have, and when I would teach a perceptual development course they would ask me that question and I'd say, "Well, what could be more practical than understanding how visual experience or the lack of it affects our ability to find our way around in the world?" And they said, Well, how? You tell us how. And I said, "Well, I don't know the particular literature on that, but I'll find out. I'll look it up over the weekend and we can talk about it in class on Monday." So I started to look for information about that. There wasn't any. In spite of 150 years of research on perception, there was nothing that had been done on this practical problem of perception, how you find your way. And so I came back a little embarrassed and told the students that and said, "Well, let's solve that problem," and I began a big project that lasted quite a few years. It still is going on in some of my research on wayfinding and spatial orientation and spatial cognition.

Hartup: Readers of these archives, if anyone ever looks up mine, will find a recount of exactly the same experience, that is, where I got into my major field of research as a result of a student asking me, "What do we know about peer relations?" and when I went to look and I couldn't find out very much about how and what kids learn from each other.

Pick: That's terrific. I didn't know that.

Hartup: Go ahead.

Pick: Well, so that came and continued and it spread out in, I think, an interesting way. There was a man here at Minnesota in computer science, Bill Thompson, who was interested in the development of spatial cognition from the point of view of how can you get robots to find their way around the world. And we began to collaborate and then collaborated for quite a few years when my students and I would tell him and his students how people did it, and they would see if that made sense for computers to do it and vice-versa. And that was, I think, a neat collaboration.

From my graduate student days I had retained an interest in the role of experience on perception and perceptual development and in perceptual learning. And the paradigm for doing that was to distort perception and see how people adjust to that. And I found it's just a fun problem if you—everybody knows about the experiments where you invert the visual field or reverse it. Those are dramatic things that people started doing 100 years ago. One problem with that is your subjects get sick when you do that repeatedly. But there's a milder distortion that theoretically is interesting, which doesn't make people so sick, and that's using prisms to displace the visual field to the left or right a little bit. And because people don't get sick you can study the effects of that and figure out what's happening as people adjust to that. And one of the theoretical issues that come up in that is: what's the role of feedback in enabling you to adjust to change of experience like that? So that was a second theme in my research, which also continues to this day. So when I think about the two issues that I mentioned, the role of visual experience among blind people and adaptation to distortions, I try to think about these in relation to perceptual development. Even though very often I'm not working with children, I am motivated by developmental questions about the role of experience on perception. So it may be a rationalization, but that's how I think. It's still something about development. But adapting to distortion is just a fun problem, I think, when it engages people easily and there's a lot of interesting theoretical questions that come up when you study it. And the one theoretical question that I find the most motivating now is the following: how do we adjust to inverting the visual field to displacing the visual field? Put abstractly, that's not such an interesting question. What intellectually is interesting about it, and I've been finding the following: it's a tool to study how the perceptual motor system is organized, because what we can do is put somebody in the circumstance where we've altered the relation between what they see and what they do, and they adjust to that. But what have we changed about the person? Given a particular kind of experience, have we changed only things that are relevant to that specific experience, when they move that arm with those muscles, or have we changed something very, very general whenever they're behaving in space, so that no matter what they're doing in space they'll show that change? And so what we have done to answer that question is basically to adapt somebody to some kind of change relationship, and then do transfer tests to see what it transfers to and hoping that that will tell us how to—

Hartup: And is that a different paradigm that you used with respect to that issue from those you used when you first took up these questions?

Pick: Yes. You ask about whether looking at the transfer of adaptation was the same paradigm that I used when I started. And I think the question may have been the same, but we didn't look at transfer very much at the beginning. We just tried to analyze what the adaptation itself was. And so that does try to get at the same question, but it's just by looking directly at what had happened. And one thing about this theme when we started looking at transfer, the results pointed us in the direction about what had adapted, what the person was like that adapted to some kind of change relationship. We have begun to find that what has changed is everything that has to do with the functional activity that the person was exposed to. So, for example, if the person was reaching for something when we displaced the visual field, anything that involved reaching no matter how the reaching was accomplished showed that adaptation. So normally we reach with our hands, but if we reach with our feet, that would show the adaptation; if we reach with our nose, that would show the adaptation. However, if we walk somewhere or try to throw a ball somewhere, that didn't show the adaptation. So the function of reaching was changed. If we had adapted somebody and the activity they were doing was walking, anything that involved moving from place to place was changed, whether they crawled, or walked, or hopped or whatever, but not things that involved throwing, or pointing, or other things. So it seemed like somehow at least the adaptations of these changed relationships was tapping in at a level of functional activity. Well, it turns out that my old Russian friend, Bernstein, had suggested something like this in his theorizing back in 1930 to 1940 where he talked about the perceptual motor system being organized at different levels, and an important level for him was a level of function or a level of action. And his work had influenced the other Soviet psychologists coming from Vygotsky, so Luria had that idea, and Leontiev and Zaporozhets as well. So there's sort of a reconvergence of my past history in this kind of research that was motivated by something quite different.

Hartup: So you were a Russian psychologist after all?

Pick: Yes, that's right. Well, I feel right at home when occasionally I go back there and talk to these people. Bernstein's ideas have recently become very popular and important in perceptual-motor research in this country.

Hartup: Yes. I see him cited more frequently than years ago by people like Esther Thelen and her students and others.

Pick: Yes. Actually he was cited a long time ago by Jerome Bruner, but not very many people knew him or took Bruner up on that. But another person who influenced me and has an interesting connection to Minnesota is Ed Reed, who was a postdoc here. And he wrote a very important paper, a theoretical paper, in 1982 called the *Outline of a Theory of Action Systems*, which sort of elaborates on Bernstein's ideas of actions in a more sophisticated way than Bernstein did, because the field has advanced and there's more information about it. But it depends on Bernstein and Reed's ideas, I think, which are very interesting, and they have influenced me a great deal. You know, he was a postdoc with me. That's probably good enough for my research themes I am continuing to pursue.

Hartup: Why don't you say just a few words more about the kinds of things you have tried to facilitate and the kinds of roles you've had in your work and relationships with colleagues. I mean, it's been a very important contribution, I think, that you've made, not just in international relations in psychology, but to joint work where there wasn't joint work before. I mean, I expect in some ways what you've just been saying illustrates the most important thing that's come from your interactions and contacts with Russians, but I know there's a lot more.

Pick: Yes. Let me provide this background. I went to the Soviet Union that first year and made lots of contacts and friends there. Since then I've been going back every three to five years, often to do research, occasionally to teach, sometimes just to visit. And my relations with colleagues and friends got ever stronger with each visit, and also I think with the liberalization of the Soviet Union and the demise of the Soviet Union. But the people I've been able to collaborate with—particularly with Julia Gippenreiter, the person that I met as a graduate student, but also to sort of develop collegial relationships with a whole bunch of people that I've never done actual research with, but just collaborated on a conversational intellectual basis, many, many in developmental psychology, people who continue to work at Zaporozhets's Institute of Preschool Development, also developmental psychologists at the Institute of Psychology and the Institute of General and Pedagogical Psychology. I think maybe that one impact I had on them is that it felt easier after they were able to get out of the Soviet Union to come to conferences and so on, that they felt they did that more easily. Many of them came here to visit for shorter or longer periods of time, including Zaporozhets and Zinchenko, who was a sort of student of Zaporozhets's. So I think that helped. At the time that these kinds of relationships were developing between me and the Russians there were two other people in this country who were doing a similar thing and they had similar impact, possibly even more so than me; Michael Cole was one and Jim Wertch was another one. And I think at least early on we were the three people who were doing most of this.

Hartup: Well, I have always felt that what you did and what those other men did was of incredible importance to the field of developmental psychology because you didn't wait until east/west relations had thawed out to create these opportunities. I mean, you started in 1960 and most of the others started then too, and so it gave us a 30-year jump anyway, not just in the sense of us being on the receiving end of their work, but in terms of new collaborations. The field is different as a consequence. You've had a lot of other international experience as well.

Pick: Yes. Again, I think the two most important ones for me personally—one was a year teaching in Uganda and another one was sort of a continuing collaboration interaction with Dutch psychologists, particularly Ar Thomason at Nijmegen who was concerned with psychological analysis of handwriting.

That's another theme that I'm beginning to get back into right now, but that may lead me to talking a little bit about the application of research.

Hartup: Yes, that was what I was going to ask you. Why don't you talk for a little now how you came to articulate your interests and goals in what might be called applied fields like psychology, but also by developmentalists?

Pick: Well, that also was by accident. There were a couple of influences, and one literally was student activism; it led me to want to justify our psychology and my teaching of psychology and justify our studying of psychology. And there seemed to be a lot of issues that I saw in the late '70s and '80s where perceptual psychology and cognitive psychology—perceptual developmental psychology and cognitive developmental psychology—could be applied, but people weren't interested or there wasn't much activity in that direction. There was a lot of applied psychology in clinical and in personality development, but not in the areas that I was doing it. And it seemed to me there were obvious cases where it could be applied, so in the mid '80s I edited a book called *From Research to Application*. It wasn't all about developmental psychology, but a few co-editors in the book—one was Harold Stevenson, who was doing learning and learning theory stuff related to development, and the other was Al Steinschneider, who was very active in research on SIDS. And so they helped get together a bunch of contributors, people who contributed chapters in different areas where their basic research in learning, perception, cognition could be applied. I think there was one chapter by Lew Lipsitt on conditioning of infants and how that might be applied, and one author [Pat Broen] on communication disorders here at Minnesota, who to me exemplified a really neat union between basic research and application work. She, in helping children overcome speech disorders, utilized distinctive feature theory from psycholinguistics, but at the same time her practical evidence fed back to the theory of distinctive features, because the psycholinguists were having an argument about what set of distinctive features was psychologically real. And she could use her clinical evidence to suggest to them what kind of theories worked in the clinic and that impacted some of their arguments about which theories of distinctive features were real.

After that book came out—not as a consequence of the book particularly, but just temporally—I began to get phone calls and questions from people who had either legal problems, product safety problems, or other questions about how perception/cognition impacted some real problem that children had. And sometimes I could give them advice or suggestions. Sometimes I actually did experiments to help them, but I didn't feel terribly comfortable. I wasn't trained to do that sort of thing. But in some cases I felt I could do it, but I sort of wanted to see if we couldn't make it more reasonable for our students to do such things when they finished. And the students themselves were very anxious to be able to do something really helpful for children. And the cognitive students weren't getting that very much and so partially, again, my work was a result of their activism. And, in this case, other faculty members were interested in helping them do it, too. We put together an applied developmental curriculum that students in the institute could take and, after a couple false starts on our part, and then getting through the university bureaucracy, which took a year or two, we established a program, where students—not in place of their basic research training, but overlaid on top of their basic research training—followed a track where they were encouraged to get some experience to think about their basic research in the context of useful applications.

Hartup: Well, I think the one thing that has always impressed me about your contributions to the applied field as compared to those of a great many other people is that they more directly related to the solution of problems of one kind or another in the daily lives of people rather than to issues of public policy. That is, I don't associate much of your work as being directed toward making contributions to policy change, but yet the substantive nature of what you do in the applied area is, of course, related to policy and related to everyday living. I don't know if that's a reasonable observation or not.

Pick: Yes, I think that's right. It's certainly true that our contributions intersect in the public policy direction of—

Hartup: Well, there are not enough people working in that field. But of what there are I guess I was trying to imply relatively few people or fewer people who are taking the stuff of science and making a direct attempt to utilize that information in some way or another that does practical good for people.

Pick: Yes. I hope that's true.

Hartup: Let me ask you a question that's on our schedule that I think is always difficult, but I'm going to ask it anyhow. You have published a great deal over the last 45 years. If a student, say, 25, 30 years from now were to be wanting to get the essence of Herb Pick and what his contributions to developmental psychology were, what would you suggest as the best thing to read of your work? A single publication that you think captures more of what you've been talking about than any other.

Pick: That is really hard, because I don't think I'm very good as a theoretician, and so there's no general theoretical position that I could directly—

Hartup: How about an empirical study?

Pick: But then if you think of empirical studies I'd say if I have any strength it's being able to come up with good experiments. But they're sort of in narrow areas. That makes it hard to say one good one.

Hartup: Well, can you give me a couple?

Pick: One semi-theoretical paper, which has some empirical studies, is something I did fairly early at a Minnesota Symposium on Child Psychology, and I think it was called "Systems of Perceptual Motor Development," something like that.

Hartup: That was somewhere between volume six and ten?

Pick: Yes, I was going to say seven, something like that.

Hartup: Okay, yes. But back probably in the '70s.

Pick: Yes, when John Hill was editor.

Hartup: Yes, he did the first five I think. Anyway, it's early in the Minnesota Symposia series. Why don't you talk a little bit about the Institute and how you see it in retrospect, I guess as a place to have nourished your interests or the kinds of things that you found frustrating about this place?

Pick: The Institute has been a fantastic place for me to work. And I think part of that is the atmosphere at the Institute, or in large part for me is the atmosphere there. And that was of an anecdote that I think of often about when I first came here involving Harold Stevenson. And I came up and interviewed for the job and he offered me a job. I forget what the salary was. And so we moved up here and I came in to work and a couple days later Harold came in and said, "Oh, by the way, we were able to increase your salary \$2,000 a year," or something like that, and that characterized for me and still does the atmosphere of the Institute, that I hadn't been negotiating for an increase in salary, it never entered my mind, just that this was a way he could help.

Hartup: Yes. I remember when the salary came up the year that I received an offer and I had been teaching for eight years, so Harold's offer was actually less than what I was making at Iowa. And I said, "Oh, that seems kind of strange." He says, "Well, that's sort of the way it is. And

besides, if you move for money, you're moving for the wrong reasons anyway." So that was the end of that.

Pick: Anyway, it seemed to me that my example was very tangible, but it characterized people around here as wanting to help you do whatever would make your work go as best it could. The enthusiasm and just collegiality of the people—that enthusiasm I mentioned earlier, but the collegiality of people, again, is part of the atmosphere here. People are interested in what you're doing even if it's not in their area; they're enthusiastic when you have a success. And then it spills over into intellectual things as well. One question that sticks in my mind and has for a long time is the question that John Flavell asked me a couple years after I'd been here and he said, "Is there anything in perceptual development that indexes a discontinuity in perception, sort of like we have in cognitive development?" He was thinking of Piagetian stages I guess. At the moment he asked the question I couldn't think of any and I said, "I have to think about that, and I have to look for that sort of thing," and for many years I kept trying to find such things and really never have. Now I'm sort of happy, because the ones (stages) in cognition have gone away too.

But it seemed to me that people, when you give talks or talk about your work, people take a real intellectual interest in it and make good suggestions. That's true within the Institute. It's also true within the University. I mentioned collaboration with Bill Thompson earlier, but he got interested because he heard me talk about some of my work in the learning center, the Center for Cognitive Sciences. But another example of that is a collaboration I had with Jerry Seigel for many years; Jerry was very close to the Institute and people in the Institute, and yet he was in a different department and his interests were more applied than mine were, so it was neat to work with him on projects because we could bring our different fields together, but also more applied and more basic research.

Hartup: I think you're among the people whose collaborations with researchers in other departments in the University is probably as frequent as anybody in the Institute. You're right, I think, that lines across departments are fluid here and really always have been, but you have utilized them in ways that a lot of other people among our colleagues I don't think have. But I think it should be on the record here, that is, your affiliation with what is now known as the Center for Cognitive Sciences where you've been a mainstay and an important player in the development of that Center now for 35 years, that is, it began in the late '60s—

Pick: Yes, mid '60s—

Hartup: —yes, as the Center for Research on Human Learning, which—I'll just put on the record—is an interdepartmental unit funded by the National Institute of Child Health and Human Development mostly, but a lot of other grants to individual faculty or to sets of faculty members. And it has had a very active program across the whole field of cognitive psychology and Herbert's been a major player in that. Are you going to talk a little bit about the Center?

Pick: Yes.

Hartup: The Center and you, I mean, you were its director.

Pick: Yes. The first director was Jim Jenkins and it was started around 1965. And then I became director maybe in 1971 or something like that for five years. And that has been, I think, a very—as you suggest—important agent in the University bringing more sorts of cognitive perception psychologists together. When that center started it was very wealthy; the grants it had supported faculty research and quite a few student trainees. And after a while—after about 15 years—the federal agencies took away the research support but continued the training support. And that was a shock to us when we lost some of our research support.

Hartup: Well, if you remember the same thing was true here in the Institute of Child Development when NICHD was supporting a program project that both you and I participated in. That's a pretty

diverse pairing right there, and after a while they just felt they couldn't support such diverse groups of people. So here are two units within the University, and you were involved in both, that had that history.

Pick: Yes. And it seems to me that maybe the Institute handled that better than the Learning Center in the sense of when that happened I sort of jokingly facetiously said, "Well, now we'll be tested to see whether we're in this because of the intellectual stimulation or just for the funding that it gives us." In the case of the Institute, the impact didn't affect collegial relationships so much, but in the case of the Learning Center, it did. Good people—some people at least—drifted away because they weren't getting the funding support and that was a disappointment to me to see that happen.

Hartup: Well, in a way that's reasonable. A Center is not a department. The Institute is a department, and what happened was that in the '70s we were still relatively young and we had that program project grant, which contributed really nicely to—at least in my case and I suspect in yours—to our ability to explore certain areas without much bureaucratic encumbrance. But when it did go away we were at a point where, well, individual people went off and got other sources of funds to replace it. They didn't do it as a group anymore. But the Center's existence was threatened. So I see how funding would be much closer related to the ongoing existence of the Center than it would say here in the Institute.

Pick: That's true, and maybe I should be more forgiving.

Hartup: Well, no. I think the maintenance of an interdepartmental unit like that, which does not have departmental status, for as long as that Center's been going [almost 40 years], is amazing.

Pick: Well, that's true. And I think it's good. What I'm talking about is relative and so I think that's been very good for me personally and very good for lots of people, and I think the group that's in there now is just great. Let me come back to the Institute a little bit and say that the enthusiasm and collegiality that I mentioned before creates the atmosphere here. And I think at least early on we mixed up students and faculty all over the place and everybody was close to everybody no matter what their areas. I think that's eroded a little bit in recent years, and I'm sorry to see that happen. There may be a change in the field, there may be just a change here, but people are more clustered now than they used to be. And so I think the interaction is diminished a little bit and I'd like to figure out ways to get that back.

Hartup: No, that's my perception too.

Pick: But I think still we're—again, that's a relative thing. The collegiality we have is unusual for a university department. I see departments all over where they don't have that and I think we're pretty lucky.

Hartup: The other thing about the Institute is its breadth. I mean, ever since Harold was here there's been a pretty determined effort to keep the program very broad, that is, to incorporate, if we could, good people who would represent coming fields, or fields that we think are going to be important in the next decade or so. And we've been very lucky doing it, and at the same time it just hasn't become all this, or all that. It's very easy for a unit like this to—for that to happen.

Pick: Let's knock on wood.

Hartup: Yes, let's knock on wood. That's exactly right. Why don't you talk a little bit about the field in general with respect to the future, I mean, your part of it, if you want? Or what kind of position the broad field of perceptual motor development is in right now? And what do you see ahead?

Pick: That's hard. I was trying to think about that a little bit and first of all I would say that I really can only talk about my field—I'm still not a broad-channel developmental psychologist.

Hartup: I'm not either, so I don't think any of us are.

Pick: —but in perceptual development and a little bit in cognition what I see happening, and I think it's an exciting direction, is the movement towards action and I see the history of that in some of the stuff I mentioned earlier by Bernstein and the Russians, Reed, and people like that. But in experimental psychology it was a big area—motor control—that, up until a few years ago, was very sterile and people studied both in adults and in children how people made arm movements and how they blinked their eyes or moved their eyes from one place to another without much concern with what was being accomplished with the function. That is slowly changing; there is a little bit of development, say in the infant area, infant reaching, grasping things, actually in infants really looking at something rather than just looking at meaningless targets. But it's also moving in the direction of much more complex, meaningful activities. And this area encompasses perception, but also cognition and then motivation and then social as well.

Hartup: Has this field been hot? I mean, what has been the impact of neuroscience in this area, in this field—in perception and in perceptual development?

Pick: When the neuroscience excitement started I thought it was pretty empty, that people would take the same old tests that were being studied, meaningless tests to determine what parts of the brain were active while the person was involved with them. So I didn't think when it was starting that it was doing something very useful. That's been changing. I don't know. I wouldn't say it's changed enough to push the whole area ahead yet, but at least the people who are doing things are doing much more interesting work. They're taking more functional meaningful activity and then asking questions about how a change in the function will change what's happening in the brain. And so now when I hear people talk about brain imaging work, often I find it very interesting, because it's based on real problems and real issues, and so I think they're moving ahead in the same way as behavioral people like myself are moving. And I would claim that so far they're not very far ahead of me, but we're both moving in the same direction.

Hartup: Is there less interest by university departments in hiring people in perceptual development? If you think over the next 10, 15 years, what kinds of persons will be hired?

Pick: My impression is there's less interest in hiring just straight perceptual development people, and there's less interest by graduate students in this area, and there's a lot of interest in the neuroscience, cognitive neuroscience end of things. And if they have perception interests on top of that, that's great. But I think the more basic desire is to get somebody in the neuroscience area.

Hartup: This is tape three with the interview with Herbert Pick. And we have been talking about his ideas about the future of the field of perceptual development and its relation to other developments in the field. Do you have anything more you'd like to say about that, Herb?

Pick: Well, I think I've said all I can.

Hartup: Okay. Well, anyway, you have been active for a long time in SRCD. What do you want to put on the record about your experiences with the Society and the particular time when you were a member of its governance?

Pick: Well, I must be sort of a poor organization man. I don't remember very much about the time with the Governing Council, which is the only participation in governance that I've done. The only thing I remember was when Dorothy Eichorn said that a lot of SRCD money was invested in racehorses or something like that. (laughter) So I don't know if there were big issues that I just didn't register or else forgot about soon after. I've found the organization very good just because of an encouraging

interaction amongst us. But I've been sort of sorry to see such great dominance by psychology in the organization, and I don't know how to get away from that, but it would seem to me to be—it would be wonderful if there were, as it was originally envisioned, much more interdisciplinary organization. And I think the people that I know from the medical field who've been involved in it have been very good and good for the organization and I just think good for me personally.

Hartup: Do you think there's been a change either for the better or the worse in that area over the last, say, 15 years?

Pick: It's hard for me to say. The people that I—I think I know people from the medical field who've been involved more recently, but that may be just because I know them.

Hartup: Right. My impression is that there hasn't been a lot of change in the composition of the membership. But what is up maybe is participation in the meetings of people from other disciplines, because those folks do attend. But I was just wondering whether you—

Pick: Yes. I just haven't registered that, but because I probably haven't paid attention to it. I think maybe in the governance it's been more, because now they—isn't there an effort every other year to have somebody who's a non-psychologist?

Hartup: There is, although I understand that that's been changed to some extent. I don't think they're now going to be actually alternating every other election. But I—that's happened since I was involved in governance. Well, anything else that you would like to comment? You've been thinking about this for a while and we may have skipped things.

Pick: Let's see. Oh, yes. The future of the field, there's questions. I was going to mention that from, I think, the information processing orientation of the field that followed on learning theory and behaviorism is less prominent now and that's good. The dynamical systems idea is becoming more prominent and I think it's still too early to tell if that's going to be important, but there's a lot of interest in thinking about how that might impact the idea of action, which is important to me. And then my own particular bias, the ecological approach stemming from the evolutionary theories is tied up with the dynamical systems and, again, the emphasis for me, the important emphasis for me in that they're focusing on meaningful action and activity very heavily on the perception side, but also on the motor implementation side of that. So yes, I think that's covered all the things that I had jotted down.

Hartup: Okay. Well, that's good. Well, I'm sure this will be very interesting material for people to read in future years. So thanks a lot from the Society for doing that this morning.

Pick: Oh, my pleasure.

Oh yes, Bill, one more thing. I realize that in all the foregoing I haven't said anything about Anne Pick. Anne should be doing an interview like this herself. What I can do is comment on her influence in my career. When Anne got her PhD and we moved to Minnesota we started doing collaborative research, but that joint research was derived from her thesis and from reading research that she had been involved in. We made a conscious decision to go our separate ways for fear that being the older one of the pair I would get more credit for research that she deserved primary credit for. We've always discussed our research in great detail, sometimes to our children's dismay. And we have always read each other's papers, somewhat to my dismay. Anne was a severe editor and I would get back my papers from her with red-penned comments that were reminiscent of my eighth grade English teacher. However, to the extent that my writing is readable and intelligible, and occasionally interesting, I owe it to Anne. She literally taught me how to write so I could communicate ideas. And Anne has always been more theoretically oriented than I, and she irked me often by asking why I wanted to do this or that experiment. And often in trying to explain my reasons, I came up with a better rationale than I had, would change my proposed study in a direction that made it more meaningful. In spite of such irritating questions, she really encouraged me and I am eternally thankful for that. Thanks, Bill.

(End of Interview)