NINR History Project Telephone Interview with Dr. Elaine Larson Conducted on August 19, 2009, by Philip Cantelon

- **PC:** I'm speaking with Elaine Larson, L-A-R-S-O-N, on August 19th, 2009. Do I have your permission to record the call and use the information in the book?
- EL: Yes.
- **PC:** Thank you very much. Are you or the university currently working on any NINR-sponsored research projects?
- EL: Yes.
- **PC:** And briefly?
- EL: Well, let's see. The PI of a training grant to train interdisciplinary group, pre- and postdoc training, in preventing antimicrobial resistance. And I'm co-investigator on two projects that relate to aspects of resistance. I have a couple of projects that are in the just-in-time mode. One of them is a center grant to prevent infections, and I think that's it. Do you need more specifics? I can look up my other support.
- PC: No, that's okay. Could you speak directly into the phone? I'm having trouble picking—

- EL: Okay. I'm speaking directly into the phone. Is this helpful?
- **PC:** Yes. Thank you. A soft voice and I'm digitally recording this, so thank you. Over the past let's say twenty or twenty-five years, have you noticed any changes in the kinds of research work being done by nurse scientists?
- EL: I'm not sure I've noticed a lot of qualitative difference, but I think there are, at least in my opinion, an increasing number of highly competitive nurse researchers, both on the biologic end but also in terms of the qualitative sciences, like phenomenology and ethnography, etc. I think that NINR tends to be, as NIH is, a little bit more on the biologic end rather than on the more sort of social sciences qualitative end. And actually I think there probably are more studies that use mix methods, a little bit of both, sort of qualitative and quantitative methods.
- **PC:** Has that been fairly regular over the years? I guess I should ask when you got your first NINR or NCNR grant.
- EL: Actually my first one was about eight years ago or so, but I actually had been a researcher funded by other agencies for twenty-five years or so, and I actually testified in the House and the Senate on behalf of NCNR before it was even formed. So I've been involved since the 1980s.

- **PC:** What group did you represent when you testified?
- **EL:** The tri-council which is—you're familiar with that term?
- PC: Yes.
- **EL:** So I was testifying on behalf of the tri-council before NCNR started, and then when it moved from a center to an institute.
- **PC:** You were where when the tri-council recruited you?
- **EL:** First I was in an endowed chair at Johns Hopkins University, and then I was the dean of the School of Nursing at Georgetown University.
- **PC:** When it became an institute?
- EL: Yes.
- PC: So you were at Hopkins when it—
- EL: Was a center, yes.

- **PC:** —in the eighties. Did Jan Heinrich recruit you?
- **EL:** Yes, among others.
- **PC:** Have the interest changed over that time, that is the interest from the nursing science aspects?
- **EL:** Yes. But I just need to tell you in all honestly, I actually have funding now six grants from NINR.
- PC: Okay.
- EL: Has it changed? You asked that before, and what I said was not so much. But actually as I think about it, I think there is more mix methods, that is I think there's more credibility on qualitative methodology, and a little bit more mixing of the biologic and the social sciences than there used to be. It used to be that researchers were either sort of biologic and very quantitative or qualitative and more like the social sciences. Now I think that many of us have sort of crossed over and have developed much more interdisciplinary programs of research. Especially since the NIH roadmap, in the last five or six years there's been a huge burgeoning of interdisciplinary work with more PIs being nurses than there used to be, which is terrific. So almost all of my grants I would say—every one is

interdisciplinary, that there's at least one co-investigator from some other discipline. And I firmly believe that you do better research when you've got different perspectives.

- **PC:** And this has been a change
- EL: Yes. The trend I think over the last five years, and I think that is in large part because of the NIH roadmap. And the NINR has been very actively involved and supportive of the whole idea of translational and interdisciplinary research. So I think that that focus is, it's not new, but it's expanding, and some of it is just new nomenclature for the old things like, you know, the interdisciplinary things. But nevertheless, I think that's more of a focus than it used to be.
- **PC:** I know that Ada Sue Hinshaw always used to say we need more interdisciplinary. It seems to be a steady drumbeat from the director's office. But the question has always been, were there enough well-trained nurse researchers to carry forth with that.
- EL: Right. I think that the focus of NINR has been increasingly on training and helping the pipeline as well. But our new training grant—not new. We've had this training grant for a couple of years now, and I believe that the one we have may be the first one that is funding interdisciplinary pre- and postdocs. In other words, they're not necessarily nurses. So we have housed in our School of Nursing pre- and postdocs in microbiology, epidemiology, computational biology, as well as nursing. And I think that's pretty

innovative and pretty exciting that NINR had the foresight to invest in pre- and postdoc training even among people who aren't nurses.

- **PC:** Not only the foresight but the political guts to pull it off.
- EL: Exactly, yes. And the thing that's wonderful is that even if we're not increasing the pipeline of nurse researchers per se, we're increasing the pipeline of people who have a very solid respect and understanding of the contribution of nurse researchers, so that when they go into their own fields, like computational biology or epidemiology, they'll seek nurse researcher collaborators. I think that's just terrific. And I do think we do have the first ones. You can verify that with the institute. But I just find this so exciting that they would do that.
- **PC:** It used to be that there was all kinds of pressure or complaints, I guess, maybe more than pressure, if NINR set up its own intramural program, that it would take away from the extramural program.
- **EL:** I don't think so. The people that are able to come and be part of the intramural program are simply not the same people who will be looking for advanced research training where they are. It's two different populations.
- **PC:** That's the first I've heard of that. Could you explain that for me?

- EL: Sure. There are people who are, for a variety of reasons, committed to or wedded to a geographic location, and for a variety of reasons are not able to be present at the clinical center or at the NINR. But they're very committed to academic research careers and very committed to tenure track positions where they are. I really think that it serves two different purposes.
- **PC:** What's the advantage to going to NINR then or the NIH to do intramural research?
- EL: It's a terrific advantage to be able to network and meet people in the national arena and understand the whole federal grants process. That's a huge advantage. But there are advantages both ways. So I would say the disadvantage is that a lot of people simply cannot do it, and it is partly a practical problem given the fact that most nurse academicians still are women and they have kids and they have families and they simply can't leave for a year or six months or even three months sometimes. That doesn't mean that they're less committed to their work. It just is a different kind of a situation.
- **PC:** The NIH was many years ago not a haven for women anyway.
- **EL:** Right. Yes. But I think the issues are more issues of feasibility. And there are men as well that simply for a variety of reasons cannot or choose not to leave their academic setting to go off for other training. So I think you need both.

- **PC:** In terms of appointments and promotions, is a postdoc at NIH or NINR considered a positive thing?
- EL: A postdoc somewhere, yes. Yes, it would certainly be considered to be an advantageous thing, and actually here at Columbia in our School of Nursing, we don't hire new faculty anymore without postdocs on the tenure track because they simply can't make it. But we don't necessarily weigh more heavily—we probably would weigh more heavily on any postdoc of high caliber, so that would definitely be NINR, but it might also include the top places such as Penn or the University of Washington or UCSF. You see what I'm saying?
- **PC:** Yes. Very much.
- EL: And that we would weigh more heavily than Akron, Ohio, or something.
- **PC:** Well, I won't tell you where I'm from. [Laughs]
- EL: Okay.
- **PC:** I'm not. [Laughs] Have there been changes in the nursing curriculum over the past twenty, twenty-five years?

- EL: Are you talking about undergraduate or—
- **PC:** Graduate really. Well I suppose undergraduate, too, if you're trying to feed people in more quickly.
- EL: A couple of changes. One is that more schools are offering BSN straight through to Ph.D. programs, whereas it used to be that you'd have to have a BSN and then you'd have to practice for a while, then go back for a master's, practice for a while, do a Ph.D. Now for those rare people who know when they go into nursing that they really want to focus on research, there are a number of schools that are offering the straight through. It doesn't have as much clinical experience, but for people who know they want to do research, it's an advantage. So that's one curricular change. There are also a lot of schools now offering a second doctoral degree that's not a research degree called either the Doctor of Nursing Practice or it has a variety of names. But I think there have been concerns that these clinical advance degrees might take away from the research doctorate in terms of people's interests. We don't know yet. It's still a little early, but our experience is that they haven't really taken away from the research focus doctorate because people who are really interested in research are not going to switch to a clinical doctorate. And people who are really interested in a clinical advanced career aren't going to do a research-intensive degree anyway.

- PC: So it's sort of the difference between the applied work and the research work—
- EL: Yes.
- **PC:** —and those people are pretty different, generally in any other fields. Some people want to teach and others want to practice, and I don't think that overlaps much in any field.
- **EL:** Right. But there were concerns at first that that might happen, and I don't think it has, so that's good.
- **PC:** What has been the impact—would you judge the impact of NINR has been on nursing research?
- EL: Oh, I think without NINR we would still be in an infancy. Most of the research that nurses do is simply not of interest to the other institutes. Now I do have one grant that's funded by NIAID, and some of our faculty have things through NIA or NIMH, but in general the majority of the funding for nurse researchers comes from NINR. So we would be nowhere at NIH if it weren't for the institute.
- PC: At NIH. What about anywhere else in terms of policy and such?

- EL: We have AHRQ, the Agency for Healthcare Research and Quality, but they have very limited funding. And the other options for me which were available to me before NINR were either industry, which is fine if you happen to be studying something of mutual interest to industry, or foundations, which is fine if you happen to be studying something that's in their portfolio. But there just aren't that many options for many people who are nurse researchers. It's been a godsend for us.
- **PC:** You mention a number of different groups here. Who would you say are the big players in nurse research or nursing science?
- EL: You mean individual researchers?
- **PC:** It can be individuals, associations, groups, anybody. If you were to say, here are the people who have had the most impact over the past ten or fifteen years—
- EL: One way to find out would be to see who's won the Pioneering Spirit Awards through the CANS group, the Council for the Advancement of Nursing Science, and the NINR. They have every year for the past five or six years given an annual award. So in terms of individuals, I would look at those. I won one one year with Nancy Fugate Woods from University of Washington. So I would just look to see who those people are because they're certainly some of the leaders. In terms of clinical nursing research, there are a couple of professional organizations that offer small-to-medium modest-sized grants.

One is the Oncology Nursing Society and that has about 20,000 members I think, and they have a pretty nice grants program. And then the other is the American Association of Critical Care Nurses. They again have 10,000 or more members, and they have a Nurse Researcher Award every year, and they also offer small grants, like \$15,000 grants. So they've made their impact. And then of course the American Nurses Foundation, but their impact has been—they offer very modest grants like \$2,000-\$5,000. I had one when I started out and it was really terrific. A lot of people start out with that kind of funding. And then finally Sigma Theta Tau, and they offer small grants as well, and that helps get people started. So all of those things have been available for some time, but they've been very small amounts, and they're for the new researchers as they're getting started.

- **PC:** Are those grants generally taking more of a risk on people?
- EL: Well yes. They're not looking at the top-notch people who can write a wonderful NIH grant. They're much less competitive, so people just starting out who've never written a grant before have a chance with those organizations and that serves a really important purpose. The other group is AORN, which is the Association of periOperative Registered Nurses. They also have a small grants program. Those three professional organizations have the best grants programs among the professional groups for nurses.

- PC: And then the big foundations like Robert Wood Johnson?
- EL: Yes, right.
- **PC:** Do they set their own agenda?
- EL: Yes. By that you mean—what do you mean?
- **PC:** Like many foundations were interested this year in receiving grant applications for such and such.
- **EL:** Yes. They do, but often like with AACN, the critical care nurses, I'm working with one of our young new faculty and she's submitting a \$15,000 grant. They have a grants program so you can submit anything you want, whereas the oncology nurses, they usually have a set of priorities each year so you have to submit based on their priorities.
- **PC:** NINR has always had a set of priorities.
- **EL:** Sure. Of course. But some of these smaller grant programs don't. They just will take anything.

- **PC:** And then NINR has also tried, and I'm not sure how successful they've been, in getting people to write innovative grant proposals that are sort of away from what . . . I shouldn't say the mainstream, but from what their priorities for the year are, that there's always a set aside for that.
- EL: One thing I have to say about NINR, which is somewhat different than the other institutes, is that NINR is in fact, in my experience, more willing to take risks. As you said, to look at things that are innovative, whereas some of the other institutes, frankly, you have to have the study done to show that you can do it before you can get money to do it. You know what I mean?
- PC: I do.
- **EL:** And that's absolutely true. So that I also think is wonderful for NINR, that they are able to take more risks, or willing to. This interdisciplinary training program is an example.
- **PC:** Even though NINR has promoted interdisciplinary grants all along?
- **EL:** Yes, I know, but this is also investing money in people who are going to be researchers who aren't nurses. Now that's pretty out there.
- **PC:** Yes. I'd use the term gutsy, but yes.

- **EL:** Yes. I think it's just terrific.
- PC: In looking at these groups, who would you say, if you were rating let's say on one to ten, the groups on the impact they've had on shaping nursing science in the last twenty years? When you talk about individual researchers, I'll translate that into a group and say it's a university or schools of nursing.
- **EL:** Are you giving me a list of options or do you want me to just name something?
- **PC:** In transcending or descending order, who do you think could have or has had the most influence?
- EL: No question that it's been NINR. Robert Wood Johnson has been terrific because in early years, in the 1980s, they funded a program for clinical nurse scholars, and they actually provided funding for about fifty nurse researchers, and I think that really got the ball rolling as well. I was lucky enough to be in the first cohort of that group, and they funded that program for about nine years, something like that. It was a shame that it stopped because they continued with the clinical medical scholars, and that has also built a huge cadre of medical clinicians who are also researchers, and it did the same thing for nursing. I just thought that was an unbelievable program.

- **PC:** Did it stop because of NINR?
- EL: No. It just stopped because the staff at Robert Wood Johnson who were kind of the proponents were not as actively involved, and new administration had different priorities.It just stopped because of different priorities.
- **PC:** Within the foundation.
- **EL:** Within the foundation, yes.
- **PC:** What about schools of nursing? Have they had an impact on all these things?
- EL: You mean in terms of the education or in terms of support for faculty?
- **PC:** In support of nursing researchers and growing support for that. In part, do they change the curricula to match the changes in nursing science? Are they following or leading it?
- EL: I would say in general the schools tend to be more following than leading, and it has to do with where their income comes from. In schools where they have a long history of faculty with funded research, they have more infrastructure to provide support. In schools, and I'm afraid it's the majority of schools of nursing, that don't have a long history of nurse faculty with funded research, they don't have indirect costs that can help

provide infrastructure to support faculty. For example, when I first came to Columbia, this was ten years ago, there was only one faculty member who had ever had an NIH grant.

- PC: In Columbia.
- EL: In the School of Nursing because the focus was on clinical practice. Now we have a huge infrastructure with several full-time staff just devoted to helping faculty get their grants together, we have a mentoring program, we have senior faculty who can serve as mentors for new faculty, so we can provide the infrastructure. So in a way it's a vicious circle. You can't really be a leader in providing support to faculty doing research until you've got some already happening. Do you know what I mean?
- PC: Yes.
- EL: So the schools that have a long, long history now I would say were up there with the schools that are known for solid research programs. But you cannot have a solid research program without some infrastructure, and that doesn't come until somebody gets some grants. The main thing is mentoring. Even if you have new faculty coming in with Ph.D.s who are well prepared at a research-intensive institution, they still need a huge amount of mentoring to get to the point where they have a fundable grant. So you've got to have researchers who are able to mentor new people.

- **PC:** One of the things I noted is that you've served on a lot of committees and groups over the years. It strikes me that this was not always a role nurses were in. Especially after you came to Washington in the early nineties, you started appearing on a lot of these panels.
- EL: Part of that is just convenience because if you lived there, you're cheap and you're fast, I'm sure. But for me, one of the great door-openers was that I'm a member of the Institute of Medicine. There are a lot of nurses who are, but I've been a member since '83 and that opened a huge number of doors for groups that nurses don't often have a chance to be in, and I'm just very, very grateful for the time that I have been with the Institute of Medicine. I was on their council and I've been on the National Academy of Sciences' review board. It's the same as having infrastructure. You just have the opportunity to develop networks, and it's terrific.
- **PC:** This was not always true before then?
- **EL:** Right. I think that especially since the nineties there have been more nurses involved in groups outside of the nursing discipline.
- PC: What would you say have been the great successes of NINR?

- EL: Besides just bringing nursing to the table, nursing research. I mean the biggest thing is that there was essentially no presence at NIH of nurse researchers. Frequently even before there was an NINR, there were nurses obviously who had funding from various institutes at NIH, but they weren't recognized as nurse researchers. They were recognized for either the fact that they had physiologic expertise or in my case my doctorate's in epidemiology. So nursing was pretty invisible, and it wasn't because anybody was trying to hide anything. It was because the other institutes don't consider nursing as a body of research. And one of the big issues when we were testifying in the House and Senate was what in the world is nursing research anyway, and how does it differ from other things, and I think that still comes up all the time.
- **PC:** It certainly does.
- **EL:** And in fact I don't think we have a terrific answer. Part of it is just that nurse researchers ask more I would say clinical or pragmatic questions to apply the same kinds of science that other disciplines do, but to the practice of nursing. And that's a little bit of a circular definition by itself I realize. But for example, my research in dermatology and hand hygiene and so forth has to do with the practice of preventing infections and the fact that nurses are the mainline people who do that. So it is a little bit circular, but I still think there is a thing called nursing research.

- **PC:** What would you say are the great disappointments or failures in the past twenty-five years?
- EL: That we have failed to attract enough new people with a passion for nursing research into the discipline. The workforce in general is aging, but specifically the research workforce is aging and so we're losing a lot of nurse researchers who are ready to retire, are in their sixties, and I don't see a pipeline of passionate young researchers coming into the field. And I'm afraid that part of it is because quite frankly the regulatory system is so daunting right now that researchers look at what they need to go through to get funding to even start, and they're just—it's not just regulatory but the funding mechanisms and so forth, and they just give up. If you look at who's getting grants, and please don't tell NINR this, it's mostly people like me for which I thank God and thank everybody else, but it's really hard for a new researcher to write a grant that's of the level that passes review. I didn't start out writing grants like that either. So I think the idea that we're going to give some priority to new investigators is a really good one, even though I don't want to lose grants myself. I think that we've got to make room for the new generation.
- **PC:** So it's really been the grant issue, not the—it's easier to get clinical jobs and less worry.
- **EL:** Yes. People see what it takes to get started in an academic job as a researcher, and they think, I don't know if I can do it. I think I'm going to fail, and they just get scared off.

- **PC:** What would you see as the directions for the next ten or fifteen years for nursing research, both the problems and the possibilities?
- EL: Boy. What comes to my mind is not specific areas, content, or topics. What comes to my mind more is what we were just talking about and that is building a cadre of new passionate nurse scientists who are going to carry forward in whatever topic. And that I think means that there needs to be closer collaboration between NINR and other research funding groups and the schools of nursing who are training nurse researchers so that the schools are on top of what needs to happen, which is more interdisciplinary training, more translational training, and more faculty who are far enough along in their careers so that they're willing and able to mentor new people. So I think what happens still is that you spend most of your career having to get your own funding, and you're not in a position to provide the mentoring for the new people coming along. So we've got to get mature faculty earlier in their careers so that they're willing, not just able but willing to mentor new people and share.
- **PC:** Does there have to be some spadework done in the review panels as well?
- **EL:** I really think so. My sense is that the review panels are still from the old school where they want a sure thing, they don't want to take a risk, and sometimes I even get the feeling that rather than trying to sort of facilitate, they're in like a gotcha mode. Like I don't appear to be a good reviewer if I don't find a bunch of things wrong. I'm the chair

of an institutional review board, and I get sometimes the same thing from our reviewers with the IRB. You know what the IRB is?

PC: Yes.

- EL: That they don't look like they're doing their job unless they can find problems. Even when we have an NIH-funded grant waiting for the IRB approval, there are some people who think, I've got to find something wrong with this, and that's just not the kind of—what we need is more of a mentality of let's get this science moving along and let's facilitate it and help people.
- **PC:** In other words, find a way to get it done, not find a way not to get it done.
- **EL:** Exactly.
- **PC:** It's often easier to do the second.
- EL: I think in all fairness, those of us who do review were told that there's limited funding and we have to be careful and spread out the scores and all those things, all of which is true. But the reviewers still are very, very traditional, for the old school. Like don't take risks.

- **PC:** Do you see any other trends in terms of areas of change? I know you were active in HIV a while back.
- EL: Honestly, trends come and go. My own personal experience and my belief is that the most important thing is that you are addressing a problem of public health significance, and your passion and your ability to show why it's important is much more important than just switching to go with whatever is the disease or concern of the month. Do you know what I mean?
- PC: Yes.
- **EL:** For example, I've always been interested in hand hygiene. Well that comes and goes, and it's a very sort of homely kind of a thing.
- PC: I'm sorry. I didn't hear—
- **EL:** Hand hygiene, transmission of disease. It comes and goes in terms of its popularity, but I can make that relevant to practically any disease. And so it's more that the researcher is able to interpret their passion in a way that shows other people how important it is, given that it is important. Obviously if you're studying something that occurs twenty times in a century, it's probably not. So I think it's more important for people to identify what it is they care about, and identify how it relates to priorities as they come and go.

- **PC:** I was just watching a bit on the news last night with the swine flu coming up and the importance of school nurses and washing your hands.
- EL: Absolutely. I just got a grant related to H1N1. I've never done that before, but it's relevant to almost everything I do. Once you are attuned to have your mind thinking about how does this relate, or does it to anything I do, then I think it's more important that we have passionate researchers than it is to—and certainly from NINR's point of view, they do need to set priorities. But from the researcher point of view, they need to be attuned to how what they know can contribute and what they have to offer can contribute to what are the current public health problems. So I'm looking at it more from the researcher end than from the NINR end. NINR needs to set priorities based on political, social, and medical things that come and go. The researcher needs to say, here's what I'm good at, here's what I can contribute, and how can I offer that to the current priorities.
- **PC:** In other words, it's the flexibility for the researcher to take on a different issue with the same background.
- EL: No. It's not even the same background. It's what do I need to do to make what I care about relevant, and sometimes it means—like I started out, I have a degree in micro and nursing and epidemiology. But I've had to learn a lot about ethnography and psychology.

It's not like I'm trying to fit something into what I already know. But what I care about, I can learn new stuff in order to make it relevant. So it's not just fitting it into what I already know. It's constantly learning and evolving, but keeping what you care about and your passion. If people don't care about something, they can't write a good grant.

- **PC:** If you're not able to create this new cadre, what will the role—or even if you do, what do you think the role of nursing research will be in the future?
- EL: Clearly linking with other disciplines where you can come together to make something better than it would be without coming together. And I believe that no matter what we do with our cadre of researchers. There are people who feel like their ideas are kind of their own and they should keep them close to their chest, etc. I don't believe that, as you can tell. I really think that we have to really
- **PC:** More communication?
- **EL:** Yes. The other thing is for example here at Columbia, we have three nurses on the executive committee of the CTSA. Are you familiar with the CTSA? The Clinical and Translational Science Awards from NIH. Those are highly interdisciplinary, and nurses need to jump in and contribute to those things that are not just nursing. So I think that's the way to multiply what you do is to link in with others.

- **PC:** What has been the impact of the professional journals on nursing science?
- EL: I don't think that it's expanded that much since even before NINR. Obviously if you're in an academic setting, one of the major criterions for tenure and for promotion is publication in peer review journals. But that hasn't really changed over the years that much. I edit a national journal, and we are getting two or three times the number of manuscripts that we used to, but most of them are not coming from the U.S., they're coming from outside the U.S. So I think that electronic submission of manuscripts has globalized publication. But I don't think that they've had more of an impact in this country on nursing research than they ever did. In fact, I think the publication world is also somewhat struggling to keep up, because hard copy journals, they're still okay, but publication has to change.
- **PC:** Does this have implications for a growing international aspect of nursing research?
- **EL:** Yes, in a way.
- **PC:** It's nothing that the NINR has done much with, but I expect they will.
- **EL:** That's what I was going to say. I don't think that nurses in the U.S., while a lot of us do have global collaborators, we can't get funding through NIH for most international research. So unless the funding policies of NIH change, most of the journal submissions

are coming from other countries not with U.S. authors because it's very, very difficult to get funding for international research.

PC: From anywhere.

EL: Yes.

- **PC:** So would this be something you'd push NINR into doing, or at least setting aside just like the risk money?
- EL: No, I wouldn't do that without a lot of thought because you want to make sure about a couple of things. One is that it's a true partnership, and that the other country is also doing their part, if you will. And also that it's not just us dumping on Africa. But yes, I think that NINR certainly should explore a more global reach because there are a lot of terrific nurse researchers in Scandinavia, in the Asian countries, in some of the European countries, and it's a shame to not take advantage of those possible collaborations.
- **PC:** Any other things that you think NINR, the possibilities that NINR might be doing for the next ten or fifteen years?
- **EL:** No, I think that's just the training issues, interdisciplinary, global.

- **PC:** Okay. I want to thank you very much for taking the time this morning. I really appreciate it and it's been very helpful.
- EL: Okay, good. Good luck.
- **PC:** Thanks a lot. Bye.
- EL: Bye.

[End of interview]