Elling: The topic is computer assisted education, and we would like to have some comments from you about your involvement in the Stony Brook project. Perhaps we could begin by asking how you initially got involved in the "experiment" at Stony Brook.

Russell: I arrived at Stony Brook in the Fall of 1965, and shortly thereafter the Department of Germanic and Slavic Languages, newly split off from the Department of Modern Languages, was visited by representatives from IBM, who explained that they were convinced that the computer could be used as an instrument to help in education and specifically in language education. The then-chairman, Seymour Flaxman, gave this job over to Ferdinand Ruplin, who pursued it, principally by teaching two different sections of beginning German, and having one of the two sections participate in a computer lab, doing written work on the computer, having the computer correct it, and the like. The computer was an IBM 1800 with a 1500 CPU, it was located in the basement of what was then called the Social Sciences Building, where there were 32 stations. Experience taught that a system worked better with a maximum of 20-24 students on-line at a time. The system allowed you to operate in two modes, author
mode and student mode. Author mode would let you actually do programming, recorded by and into the computer; student mode was what we would now call "read only," or write, but not write to the program.

The experiments proved successful, although it was a limited success because IBM had simply taken over drills from a then fairly popular textbook by Professor Harold Von Hofe. The result was that the students were doing drills which they had already done in class or at home.

Elling: That's "drill and kill" overkill?

Russell: It gets even worse when you use TA's, because out of lack of experience they sometimes rely solely on drills from the book or: thank God for the computer, we don't have to think up anything there. But it was obviously successful-and incidentally for Stony Brook history, these were Tuesday-Thursday-Saturday classes, back when we had those. The class which went to the computer performed markedly better, not only in writing, but also in reading. This was a surprise: since it was a writing drill, one would expect writing to improve, but reading also showed significant gain. At Stony Brook, we were happy enough with the results that we made it a requirement for all sections. In that first year, in 1965, we did not yet have an in-house computer. The drills were run in the instructional resources center on teletype machines connected to the IBM headquarters in Valhalla, New York. If you've never used a teletypewriter, you may not know how noisy they are, and six or eight of them in a small room is very noisy. Nonetheless, as I said, even that experiment proved the usefulness of computer assisted instruction.

Elling: And also students enjoyed doing it, even though there were less than perfect conditions for them?

Russell: The conditions were actually fairly good, in spite of the noise; one feature they enjoyed was that they could write either 80 or 160 characters of comment, or whatever they wanted to, at the end of each lesson. It was interesting for us to see what came out of this. There were the usual number of dirty words; there were attempts at using other foreign languages, just to show whoever was reading this, the little man in the machine,
that the person knew three languages! Paranoia also made itself quite clear: some students really thought there was someone in the box who was smarter than they were—which may have been the case, one never knows; but paranoia was a significant factor in these comments. That was a feature later abandoned, I think regrettably, for research reasons.

A few changes we suggested to IBM to improve their program were, first, to remove it from an established text—not that the Von Hofe text was bad, but it created the problems I’ve already mentioned. We suggested that the computer course or whatever you want to call it should be a generic one following the canon which is fortunately used in the area of German studies to teach German language. Unlike the case with Romance languages, there is an almost predictable pattern for introducing new items of grammar in German. This makes it very easy to write a generalized program, readily usable by practically the whole field of beginning German.

Elling: Did you not write a program yourself, you and Ferd?

Russell: Ferd and I wrote the text for a program for IBM. The drills, although they came in various disguises, consisted essentially of a given sentence, the instructions for how it should be transformed, and then the answer with its corrections as necessary. There were various modifications on evaluation of the student’s responses. Initially IBM had what may be described as the "caveman approach"; that is to say, the student was supposed to work until he or she got the right answer. Well, this proved fairly disastrous. Ferd and I suggested to IBM that a student be allowed a maximum of three attempts. If he or she had not finished it correctly at the end of the third attempt, the correct answer would be displayed briefly, and the student would be released to the next question, and the "problem" item would be recycled later in the session. Another change was that IBM had, I think, ten items in each drill; for the bright student this seemed a rather high number. Therefore another change I think we suggested, although maybe IBM did, was that if a student got five items correct in a row, a choice would appear, "Do you wish to continue the drill or advance?" We also proposed a new type of drill, in addition to the substitution-transformation which could be used in various guises, as I said, for translation or for fill-ins or for gender or for the proper question
word—they're all basically, in terms of programming, the same one. We suggested item ordering, whereby the student would receive five elements of a sentence in random order and be told, for instance, that the sentence should start with an adverbial phrase. The computer would scan these from left to right and when the student had an item out of order a corrective message would be displayed until the correct answer was achieved.

The computer proved very popular, more popular than the classes, I would say; students simply did not miss the computer; they liked it, they felt they learned from it.

Elling: I was wondering, in fact, whether there were any anti-computer sentiments expressed.

Russell: Maybe one percent of students, again, people who felt that there was somebody really inside the box-paranoia to the extreme! There were one or two students who simply couldn't take it; they were excused.

Elling: Were people from other departments involved in the experiment?

Russell: In the initial experiment, French was also included. Among our faculty, Sandy Petrey had some drills with some French students, but apparently he wasn't satisfied with it. I don't know who at IBM was responsible for the French drills, but they ended up having a notebook in the student's hand, which he or she read, and then the computer asked questions; it was a clumsy arrangement, I'm not sure it was a fair test. The German was much better administered.

Elling: William Morris from Psychology was involved, wasn't he?

Russell: Yes, Bill Morris, Ed Adams, and a Dutch woman from IBM, whose name escapes me just now. Bill was not from Psychology, he was from IBM; he joined our faculty later, after leaving IBM. Ed Adams was the man at IBM in charge.

Elling: So originally, it was only Stony Brook faculty from German and French.
Russell: German and French, right, and then really only German, once they were here, although the facility at Stony Brook was used for other courses. Nursing used it, and Anthropology had a course—but then, Anthropology is essentially a language course!

Elling: Was there any test group other than what you described earlier, that Ferd had one class of non-CAI and one class in the computer program? Was there any comparison with the Audio-Lingual Method?

Russell: No. The testing was done in the late sixties, and ALM had not really arrived. The comparison between computer and non-computer classes was done in more than one year, although I don’t remember how many years, but essentially it was so popular...

Elling: When I came, actually to relieve both you and Ferd of a part of your teaching load, which is why I was hired, by the Research Foundation, I remember sitting down at the computer and using some of the material. And doing rather poorly, because I knew too many alternatives that the box didn’t know.

Russell: Yes, that’s the trouble with a native speaker!

Elling: Now, do you think that in today’s programs we are more flexible in anticipating such problems, that if someone knows an answer that’s different from the computer, that the computer can accept it? Is there more that we can do today on that score?

Russell: Yes and no. Obviously, computers have gotten bigger, memories have gotten bigger, there’s so much memory that programming need not be compact as it had to be in the early days simply because of the limits of memory. Obviously we could build in two, or three, or five acceptable answers for any given problem. The trouble is, well, it’s an unnecessary effort to put in five answers for a program. Either the problem is too complex, or we’re anticipating native speakers, and we should not be teaching the native speakers. We’re happy as it is to have one in the classroom occasionally, as a Judas goat. Another factor in the popularity among students: I think any language teacher learns after maybe a month of teaching that, once people are beyond puberty, they learn deductively and not inductively. Our students do not learn language the way
we learned language. And a computer is a handy device for giving them a rule, letting
them work with it and seeing that it works. I think this is the major reason that
students love the computer.

Elling: And that’s still true today. There’s no difference, really, in that sense. With all the
advances we’ve experienced in other technical help, that’s still basically the objective.

Russell: That’s still the attraction of it, and the immediate correction, and being able to
do it whenever you want to; and if the program is smartly written, you’re not being
condescended to, and it is a very comfortable medium for learning reading and
writing.

Elling: Are you still using the programs that you and Ferd developed, or are they
different ones, commercially made?

Russell: What we are using at present in the Department here are commercial programs,
which come along with almost every textbook these days. We use class time for the
computer, and I personally consider it pedagogically wrong. We are essentially losing
an hour of class time, and we are using drills that are already in the book. As Ferd and I
used it, it was simply an assignment when the lab was open 20 hours a week.

Elling: Once again back to Von Hofe!

Russell: although since it is computerized, that is a great advantage over simply the
printed page, since you can interact, obviously.

Elling: Was the Stony Brook administration a positive partner in this at the time?

Russell: Yes and no. They were chasing other game, of course; foreign languages are sort
of at the bottom of the heap, as we all know, and have been here since I’ve come. At the
very first financial crunch in 1972—it happened about 1970 but it caught up to the
Legislature in budgets about 1972—the first item to go was the computer, of course. We
were not consulted. Someone from the Administration called me up and said, "Oh, by
the way...... Even though it was almost paid for, i.e., about $90,000 of $100,000, it was returned to IBM simply so that the university could dispense with the technical assistants.

Elling: How foolish.

Russell: And we had no computer until 1978, when a former student, a math and German major, Joanne Comito, came by to see me one day and said, "Hey, I think everything you were doing on that machine over there, you could do on a personal computer." I said, "Talk to me, Joanne!"

Elling: Good for Joanne.

Russell: And by 1980, I had taken what we did on the IBM in essence, at least the substitution and transformation in all its varieties, and written a program which we used successfully until about 1990.

Elling: You were working on the Commodores?

Russell: We started initially on the Commodore Pet, it was called, it had 4K of memory and it had a cassette drive. The Commodore Pet moved then to 16K of memory, and we said, "What will we ever do with it?" Then the Commodore brought out the 64 for only $590-64K of memory—wow!

Elling: And you bought one, you got one free, was that the deal?

Russell: I never paid for one.

Elling: Oh, you didn't?

Russell: No. I was much helped in this by one of our faculty, Ludwig Braun of New York Tech.

Elling: He was in Stony Brook's Engineering College, in the Department of Technology and Society.
Russell: In fact, he founded the department. He was very helpful, very thoughtful, great booster. Another help was the Instructional Resources Center, Ed Lambe, and when he went on leave, Malcolm Skolnik, he was over in the Medical School. I don't know whether he's still there or not. He had an M.A. in Russian from Harvard, and was interested in language and computers and so forth. A funny story, a footnote: about this time, Ferd and I got mad at the administration, I don't know what was the motivation, but for some reason we dashed off a memo to various parties saying that it was unfortunate about Stony Brook, but if you wanted to have an intelligent talk about language learning, you had to go to the IRC [Instructional Resources Center], and this ended up in the hands of our Provost, the chief academic officer for the campus, who called us in and said, "Uh, that was an interesting memo you fellows wrote, do you want to talk about it?" And we babbled away for a while and after about fifteen minutes he said, "Oh, I'd love to keep talking to you fellows, but I have something important to do." Ha! Although actually, he wasn't such a bad guy, in fact, he was one of the more sympathetic of our administrators.

Elling: You also had other languages, other than German, didn't you?

Russell: I had a graduate student who put Danish on the computer, and we had an undergraduate who was very sharp with computers who was able to burn the chips for a Danish character set, for instance. I have begun work on a program for Polish on my computer, but the person who really knew Polish, Marika Monk, left, so that sort of put an end to that.

Elling: Did media ever pick this up—through the university public relations people, was it ever something like PLATO at Illinois?

Russell: In no way comparable, of course. Pictures were taken of the computer lab, and students diligently studying at it. The Long Island AATG [American Association of Teachers of German] of course was invited to come see it and was impressed by it, as they well might be, and Ferd and I did quite a bit on the lecture circuit. I would say that about 1970 we had the best German language program in the country. We had the computer lab, we also were using the TV series "Guten Tag", that we were showing in lectures, and reusing material in the classroom; and we had a hell of a good course, not
to mention lots of enrollments. But as I say, in ’72, we had all sorts of "reforms," like getting rid of the foreign language requirement, getting rid of the computer.

Elling: In ’72 to ’75, we had the first major change at Stony Brook. From the Education Department being closed down, to a number of other problems, the Technology and Society program was on the chopping block at the same time; all the efforts that we had gone to were negated during those times. What are some of your fondest memories, that you haven’t mentioned?

Russell: Oh, I don’t know. It’s just fun to work with students, to see them enjoy learning. That is always a treat. One of my favorite courses to teach was the Intensive German course. My students typically went from the first Intensive semester to the fourth semester, and competed perfectly adequately with the students who had been sitting for three semesters.

Elling: Did you keep any materials from those times that would be of historic or anecdotal value?

Russell: Most of such stuff I’ve given to Mike Ledgerwood, our new language media expert, who’s collecting these things; he has a sense of the history and development.

Elling: After all, he’s going to be the one who ties it into the future in some way, shape or form. What is your perception of the Language Learning Center? Is it going in the right direction, do we have reason to hope that one day again we may, as in 1970, be at the cutting edge?

Russell: Well, the proof of the pudding is in the eating thereof as we say. When the carpet goes down, I will start getting more optimistic. When tables and chairs come in, I’ll be more optimistic; when machines go down, I’ll be even more optimistic. In the meantime, I’m retired and watching Stony Brook continue in its distinctive style.

Elling: Well, thank you very much. It has been most enlightening to relive part of our history.

Russell: Thank you for the opportunity.

INTERVIEWER’S BIODATA

Barbara Elling was born in Braunschweig, studied at the University of Utah and New York University; Distinguished Teaching Professor, State University of New York at Stony Brook. Published books and articles on E.T.A. Hoffmann, Kafka, reader response theory, Landeskunde, teacher training and functional language skills. Honors include Germany’s Cross of the Order of Merit and the Florence Steiner Award for National Leadership in Postsecondary Education; forthcoming a study on E.T.A. Hoffman’s reception in 19th-century German histories of literature.