

Mathematics at Binghamton: the early days

Professor Emeritus James R.F. Kent talks to Ross Geoghegan

RG: I'm talking to Jim Kent about the early years of the Mathematics Department at Triple Cities College, then Harpur College, then the State University of New York at Binghamton, now called Binghamton University. Jim, I thought I'd begin by asking you to tell me how you came to Binghamton. What was the professional background?

JK: When I finished up my Ph.D. program at Illinois I went to the University of Arkansas. I was an Assistant Professor there for three years before World War II. In World War II I joined the Canadian Navy and after four years in that episode I was offered a renewal of my Arkansas appointment at a slightly increased salary, but also I was made an offer at the University of British Columbia which was a better and larger place with a graduate program, everything one would desire at the level of Assistant Professor. So I took that position at the University of British Columbia and was there for two years in Vancouver. Then I was made an offer to come to Triple Cities to head up the Mathematics Department they had begun organizing there in 1946, Triple Cities College of Syracuse University. It was a branch college, a four year undergraduate school. The college had only been in operation for two years when I came in 1948. The reason I came was because I had already been at Syracuse as a student way back when, and in the 30's, when I was at the University of Illinois, I used to teach summer school at Syracuse University. So I knew the Mathematics Department there very well, and I guess that is why they asked me to come and head up the branch college at Triple Cities. I had never seen the Triple Cities College. Of course that was only a temporary college, temporary campus. I had never seen that.

RG: That was in Endicott?

JK: The original campus was in Endicott, yes, in the Colonial Building with prefabs for additions and it was very primitive. When I started in the Mathematics Department in 1948 what they needed was a four year program, 3rd and 4th year undergraduate courses. So I set up that major program in Mathematics and the faculty there was just myself and Miss Wright, who was an Assistant Professor, and Felix Bernstein, the famous Felix Bernstein of the Schroeder-Bernstein theorem. He was a pretty old fellow, nice old guy but he was sick and he wasn't able to stay more than a couple of years. When I came he was already in the hospital and so we had to have a substitute take his courses over.

RG: Did you ever know Bernstein personally?

JK: I knew him personally here, yes. We had a lot of very nice talks and I was really quite honored to be the head of his department, and he seemed to appreciate my cooperation with his troubles and the fact that he had to teach only undergraduate low level mathematics courses. There was no graduate program in those days at all and poor old Felix Bernstein had to teach college algebra; the highest course he taught I guess was first and second year calculus, nothing further. I was starting up this 3rd and 4th year program at that time. We had mathematics majors from the very beginning who did a very good job. They were good students in those days, mostly GI's who were very anxious to get ahead and get into a line of work. Some of them went into teaching, some of them went into college professor teaching and did a nice job, we had some very fine students in those days even in the temporary campus. We had trouble getting faculty though, because the faculty, people who we interviewed, people whom I

interviewed for the additional positions here in mathematics, didn't appreciate the ruggedness of that campus. Mostly they said to me "contact me again when you get your new campus". So I had to look elsewhere. But we did get some good faculty. I forgot to mention that along with Miss Wright and myself we had a fellow whose name was Ethan Allen, no relation apparently to the Vermont Ethan Allen, but he was a good teacher, of course he was teaching only first and second year courses; he had a Master's Degree, as did Miss Wright. But after I came we needed some people to help me out with the upper courses. I was able to get a fellow named Albright from Syracuse who had just graduated under Loevner up there. In those days Loevner and Lipman Bers were there. They had a very fine Mathematics Department.

RG: The famous Lipman Bers, right, yes.

JK: Yes, yes. Lipman Bers and Loevner and a couple of others who were very fine research people. Albright was one of Loevner's students. He was good. He specialized in probability and statistics which I didn't have any special interest in at that time; that development was later. But Albright did a nice job of teaching with us for three years, and following him, I found a fellow named Emerson from Wisconsin, one of Langer's students. He can tell you all about Langer. All you need to know about Langer you can get from Emerson. He stayed for four years and then went to Kansas, the Emporia campus at Kansas. During this time we developed a good undergraduate mathematics program: at the upper levels we had good students. I also conducted a senior seminar and we had some very fine papers by some of those senior students. I was amazed. Some of them did a very good job of presenting, just like you would at a colloquium. In fact, a couple of them were so good that I had the students repeat them for the mathematics faculty colloquium. One of them was on Fermat's Last Theorem which I thought was excellent. I still have a copy of it in my office which I thought ought to be published. He presented it beautifully in front of the faculty. Of course in those days it wasn't solved.

RG: If I may ask you about that, did any of the students from those early days go on to become mathematicians?

JK: Yes, there were several people. There was a fellow, a local man, named D'Aristotile. He is still on the faculty, I think, at SUNY Plattsburgh. He has published a few papers. A very fine job. There was another fellow, I can't remember his name, who did an excellent job. He went to Yale. As I said, these fellows when they were here as undergraduates were excellent students and had all kinds of potential for research and teaching.

RG: Would I be right in saying that you have been talking about the years up through about 1952?

JK: This is up to 1955 or somewhere around there.

RG: Before we move on to later periods can I ask you a little bit about life in the department in that early period? First of all, I have heard from your contemporaries in other departments that the President, Glenn Bartle, dominated this campus. And my question is: did Bartle take an interest in, or interfere in if you want to put it more negatively, the mathematics operation, or did he regard that as something outside what he was interested in?

JK: Bartle was a great friend of the Mathematics Department right from the very start. One reason was that one of his sons, Bob Bartle, his only son I guess, was a mathematician. When I came here Bob was a graduate student at Yale working with Jacobson. He got his degree, I guess, about a couple of years after that and he has made a name for himself throughout the American Mathematical Society, he was Editor

of the Reviews for a while, and he was at the University of Illinois as a very fine professor there, and then went to Michigan. I guess that was his position there as Editor of the Reviews. He is retired now.

RG: Bartle's son you mean?

JK: Yes, Bartle's son is old enough to retire now. He was an undergraduate when I first came here so that tells you how long it has been. Glenn Bartle took a great interest in mathematics because of his son, I think. He didn't know much mathematics himself because he was a geology specialist and they don't care as much for mathematics as say in physics or chemistry, but Bartle was always very friendly with the Mathematics Department and we never had any trouble with him at all. He was paternalistic I think in general as the president of the campus but he never picked on mathematics. Never.

RG: Was there a Physics Department right from the beginning also?

JK: The Physics Department began the same time the Mathematics Department did.

RG: Right. But was there much contact between your department and the Physics Department in those days?

JK: I think the Physics Department developed a little slower than the Mathematics Department. I can't remember exactly, but the year after I came, Penfield came here in Physics from Syracuse and he set up the Physics Department.

RG: Yes. So what I am wondering is, did your small group in the Mathematics Department mix with the non-math faculty in general?

JK: Oh Yes. In those days the campus was in prefab buildings and our offices were all mixed together. Right next to me was the Head of the English Department, for example. So we had quite a mixture of faculty there. The other side of me was the Head of the Biology Department and we had a nice relationship there also. So we were really intertwined in our activities in those days between departments. This was up until you say 1952.

RG: Well I was guessing 1952.

JK: In 1953 an interesting thing happened. The other college which the state took over in those days was Champlain College up in Plattsburgh. They folded. They closed that campus and offered the faculty there positions at what was then Harpur College. This was in 1953. The Head of the Mathematics Department up there was Howard Eves. Howard Eves was very anxious to retain his position as Chair so we had a little difficulty there as to who was going to be Chairman of the combined college here.

RG: How many of them came down here from Champlain?

JK: Several faculty came down here. Max Cole for instance in Chemistry.

RG: No, I meant how many from Mathematics came down?

JK: Oh, just one from Mathematics, Howard Eves.

RG: So how was this resolved?

JK: It was resolved by Bartle who came to my aid. He said: "Howard Eves can come as a full professor, there is no problem about that, but you can retain that position." Howard Eves was very interesting, very helpful, a good mathematician. But he only stayed for one year. He dated one of the co-ed students here and he finally married her and went to the University of Maine and was there for many years. He is retired now. So he found his wife here in the Triple Cities in only one year. I haven't heard from him lately; he is in Florida I guess. His field was geometry.

Now the next year to take his place after he left I got a fellow named Gillette to come here. He was a geometer. And he stayed for only one year. And then the year following that I got a lady Mrs. Kinsolving whose husband was over at Cornell. She was a geometer; her field was Finsler Geometry. I am not sure you know what Finsler Geometry is.

RG: That kind of thing has rather come back into fashion again now so I know a little more than you would think about that, yes.

JK: Very good, Ross.

RG: These metric geometries are all back through the work of Gromov.

JK: In those days Finsler Geometry was not well known.

RG: Right, well it's still not, but that kind of thing, differential geometry without the differential, pure metric geometry is rather in fashion at the moment.

JK: Well in those days the big fashion was projective geometry and affine geometry. I taught a course here in geometry, several courses in geometry. One of them was on non-Euclidean Geometry. That didn't go over so big with some of our students because they were kind of hidebound by their previous teachers in school, I guess, who led them to believe that Euclidean Geometry was the only one possible. And so I had a little difficulty, I must admit, with some of these; even the better students sometimes were a little bit dogmatic about Euclidean Geometry. Geometry was an interesting subject in those days. But I gather it has been pretty well superseded.

RG: Well again, non-Euclidean Geometry is back; hyperbolic geometry is very much back, yes.

JK: Well, good, the cycle is operating.

RG: Right.

JK: We didn't have any topology in those days until Dick Wick Hall came and that was in 1955.

RG: He was a student of Whyburn I think. Isn't that right?

JK: He was a student of G.T. Whyburn of Virginia. Dick Wick Hall was very well disposed towards the Whyburns, G.T. and his wife. I think his wife is still around. I am not sure. Dick Wick Hall did a fantastically good job of course here. He was here about 30 years I guess.

RG: He came here from the University of Maryland—am I right?

JK: Yes, he was at the University of Maryland.

RG: That was a big change for him to come from a big university to a small college.

JK: Yes, especially since the college was still in the prefab buildings over in Endicott. But Dick Wick was a good sport as we all know and he saw things in the future that some of us were planning and we were planning to have a program here, even in 1955, which involved graduate work, graduate work in mathematics. First of all a Master's Degree and then eventually the Ph.D. In those days we didn't have any graduate courses at all. The first one we had in mathematics I taught in 1961. I will never forget that because Nelson Rockefeller was the Governor at that time and he came to visit the college and I was introduced to him as the first teacher of graduate work at Harpur College, or the State University at Binghamton as they were about to call it. Nelson Rockefeller was very impressed. He told Bartle he was glad that graduate work was beginning here and he wanted to know what courses were being taught. So I told him that the only courses that were being taught at the moment were one in English and one in Mathematics. And I was teaching the one in mathematics and one of the fellows who used to be up at Champlain College was teaching the English graduate course. This was the beginning of the Master's Program in Mathematics at Harpur College. And Rockefeller was very impressed and he shook my hand and he said "Go to it boy". The only exchange that I have ever had with Nelson Rockefeller. I was introduced to him and Dr. Bartle told him that I was teaching the first graduate course at the college and Nelson shook my hand and said "Go to it boy". I never forgot that. That was his reaction to the introduction of graduate work. Just "Go to it boy".

RG: Now at that time, that was 1961, was a formal Master's Degree being offered?

JK: I guess not, well it was in progress, because this was a course for graduate credit in complex analysis, I was teaching the course. It was a year course. It was the first. Now Dick Wick Hall must have been teaching a topology course I guess the next year. But this was the beginning of the Master's Program and I don't remember, I don't know when the first Master's Degree was conferred in Mathematics. You will have to look that up. I am not sure when the Master's Program in Mathematics was completed to the point where people were graduating with a Master's Degree. It was a few years after that though. It must have been about the time when the college changed its name to the State University at Binghamton; that was 1965. So at that time we had a Master's Degree but we still didn't have a Ph.D. program. That came later, in '68. I think Louis McAuley was the one who set up the Ph.D. program in Mathematics.

RG: Yes, in effect. He came in '69. I thought it had just formally started one year before Louis McAuley came, but you're right, he was essentially the founding chairman of that program.

JK: Yes, I had the chairmanship until 1964 and then Ziebur took over. He had the chairmanship I guess for 3 years and then Helen Beard. She hired Professor Kappe in those days. That was in the late sixties I guess. Louis McAuley must have come about that time.

RG: Now before we go beyond the late sixties can we just go back a little bit. Have you any stories to tell? Were there any interesting characters in the department? Was it a very staid place? A fun place? What was the atmosphere?

JK: It was a healthy mixture I would say. I can't think of any specific incidents. The group had good morale. Difficulties of course along with that. But I would say that it was a perfectly normal kind of development for a place which was originally a liberal arts college and gradually developed graduate programs.

RG: Now, as it became clear that there was going to be a Ph.D. program was there opposition to that

among the mathematics faculty of that time or was everybody in favor?

JK: I think in mathematics everybody was in favor. You would have to check with Louis McAuley about that, but it seems to me that everybody in mathematics was interested in the graduate program. That wasn't true of some of the other departments in the college. But in mathematics I don't think we had any opposition towards developing a graduate program. Maybe you could ask Ziebur about that.

RG: What departments in fact did have this opposition then? I am curious. I hadn't heard this.

JK: Well in those days some of the other subjects. It seems to me that in Geography they didn't have any Ph.D program.

RG: And they still don't.

JK: They still don't. Well from the beginning, in some of the social sciences and possibly some of the humanities, I am not sure about the language programs there, but some of those departments may have had opposition in the faculty towards developing research and graduate programs.

RG: During the decade of the fifties, if I can just stray outside the Mathematics Department for a moment, who were the dominant personalities on the campus, in the college?

JK: One of the dominating characters was Bernie Huppé, Professor Huppé in the English Department. He was Chairman of the Division of the Humanities and I think he controlled things pretty autocratically. There is a book called Harpur College in the Bartle Era which you should read. It devotes about 100 pages to the arguments and fights that went on throughout the college in those days because of Professor Huppé's ideas about general education. The general education program was in full blast in those days.

RG: And did it have a mathematics component?

JK: No, the mathematics department was reluctant to join that program because it expected the mathematics department to develop general mathematics programs for everybody under the sun which made it very weak mathematically speaking. We couldn't put any rigor in the mathematics. We couldn't expect anybody to develop mathematical proofs or anything like that because that was not popular.

RG: Huppé wanted the Mathematics Department to have a sort of a popular culture course, did he?

JK: Yes. He had his disciples. There were many people who agreed with him on this. We had an advocate in Albany, Ruben Froden. You can ask Professor Stewart Gordon who was Dean here. He'll tell you all about Froden. Froden was one of the advocates of general education. I think it was because of Huppé's relationship with Froden and the general education experts that we had this difficulty between departments here, among the various departments, on the question of general education, because the general education program expected people to take low level courses in almost everything and this was a little bit too superficial, they thought.

RG: Would it be fair to say that in those days if you were for the general education program you were against the development of a research and Ph.D. granting institution?

JK: Yes, you might say that.

RG: Was that the distinction between the generalists and specialists?

JK: That was our feeling in mathematics. That if we had a general education program taking the place of something which we thought was more important, mathematically, even professionally. If you wanted a good job, a good mathematical job in those days, you were expected to have a good solid major in mathematics, and some of the courses would not have been taken if the student was expected to take a lot of general education courses. Also, the general education course which we developed in mathematics, rather reluctantly, was very superficial and I would say not rigorous enough to be called mathematics. So eventually after that era was over, we developed something which I think the general education people would have liked a little better than the standardized mathematics major: we had a course in finite mathematics, which of course is a new field of interest, combinatorics and things of that kind, game theory, and courses of that kind were of interest to other people, such as in economics and political science. So the finite mathematics course was taught here for many years after that general education program was pretty well gone. The finite mathematics program has I guess continued to be of interest to the other departments.

RG: I'd like to jog your memory on a story that Allen Ziebur told me about somebody in the early years who, as I understood it, was part-time in Physical Education and part-time in Mathematics. Perhaps I have got it wrong. Do you know the story I am talking about?

JK: Yes, I'm afraid I do. And it is documented in that book that I mentioned, Harpur College in the Bartle Era. Dr. Bartle was very fond of giving faculty other jobs to do, as one would be expected to in a small college. And one of those things that he required the faculty to do was to take committee chairmanships, things of that kind, and also to work with other departments and help them do their job. Well, he thought that since I was a bachelor, I would be a great choice for the faculty advisor to the cheerleaders. In those days there was no women's physical education at all. There was men's physical education but no women's. The nearest thing we had to that was cheerleaders. So he required me to be the faculty advisor to the cheerleaders. I had to take the girls on trips with the basketball team, sometimes in the most awful winter weather. I drove a station wagon and the girls were in there and we sometimes got stuck as you might expect. This was the big joke: that the head of the mathematics department was also the head of the women's physical education department. I said no I wasn't. I was simply faculty advisor to the cheerleaders. So they said, well now, what are we going to do with all of this mail that we get for the Director of Women's Physical Education? Will you accept this? And I said: well I don't think I have to do anything about it; it's mostly advertisements for women's clothing and appropriate equipment for the cheerleaders. So as far as the mail service was concerned, I was the Director of Women's Physical Education. This was part of my job, I guess, as a faculty member. Not as a mathematics faculty member, but as a faculty member of a small college which had a nice basketball team with some charming cheerleaders to go with it.

RG: I want to ask you about the library because I know that this was your special project. It has always been my impression that the fact that we have a good mathematics library is largely due to you. Could you tell us a bit about that.

JK: It was very interesting. When I came here, as I said, we were a branch of Syracuse University. We had our own library in the prefabs. We had a pretty good library in those days in some fields. When the State took over the college from Syracuse University they bought the campus and all the furniture and they made an offer for the library books which was not big enough to suit Syracuse University. Syracuse thought they should have been offered more for their library books. Syracuse assumed that a cataloged

library book was worth more than a brand new book uncataloged. The State didn't agree with this. When you added it all up, the library we had under Syracuse University was, I think, overrated by Syracuse, and the State would not go along with this. So when the campus was transferred to State auspices the library did not go with it. Syracuse University sent down a bunch of trucks and loaded our whole library into these trucks and took it back to Syracuse. Which of course would make a lot of duplicates as far as I can see. I don't know what they did with those library books. I don't know whether they kept them on the shelves up there or not. But we had to get a whole new library. And so the State realized that we needed a library. In desperation they gave us an awful lot of money to buy new library books and do it quickly. So I went to bat for mathematics. I knew a lot of library books and journals would have to be acquired pretty quickly to support our mathematics program. They gave me a nice chunk of money for mathematics and, I went ahead and ordered a bunch of library books which I knew would be valuable to us. You might call them the standard textbooks and reference books for library study and research, and also a bunch of subscriptions to journals. I mean we needed a lot of our journals. The state gave us money for that too. I think we got a mathematics library which was much better than the library of any other department in the college, as far as I know. And I was very pleased that they were able to provide us with all this money to get mathematics library facilities. I was interested in developing a good mathematical library for this college.

RG: Is this the reason that the library has so many journals back to volume 1?

JK: Yes. Ever since that era we've been, I would say, usually well provided with funds for mathematical acquisitions. So, right from that time on I was interested in getting complete files of all the mathematical journals that we could possibly arrange for, right back to volume 1. It was important I thought, to get a complete file of the American Journal, the Acta Mathematica and the Bulletin and the Proceedings of the Society and all these standard journals. Also the German Journals. In those days you had to know German to study mathematics. Maybe those days are gone forever. One of the things we had to have in those days was a reading knowledge of German.

RG: We have Crelle's Journal back to 1824 or something?

JK: Crelle's journal and the other one.

RG: Mathematische Annalen?

JK: There's a whole bunch of them.

RG: So were you buying these back issues of journals even in the years at the end of the forties? When did you do this big buying?

JK: I think it was, let's see, in 1950. The State University was set up in 1948. But this college was not taken into the system until 1950. And, as I say, it was in those days that we lost our original library and had to acquire a whole new one. So it was from 1950 on, throughout the 1950's and 60's, I was able to develop the mathematics library.

RG: And did you ever run into opposition from the administration that you were buying too highfalutin a library for an undergraduate college?

JK: Yes, I had to fight them. I said: we expect in the future to have graduate work, there is just no question. Dr. Bartle championed us on this. We were going to have graduate work, graduate programs in

mathematics. And in those days we didn't have any, and some people said that we should not have any because this was just a fine liberal arts college, undergraduate liberal arts college like Swarthmore. This was our public Swarthmore, and we weren't interested in getting graduate study, so why do you have to have all these research journals? I said: for one thing, the faculty want to read them. It isn't just the students who want to read these journals, it's the faculty and to have these journals is important for faculty use, no matter whether the college is small or large or undergraduate or what. The faculty should be reading these journals. And so that is one argument that they finally agreed with.

RG: Certainly, I think I often tell the younger people here who don't know you because they've come since you retired, I often tell them that it was your initiative really that made this library as strong, it's a very strong math library now, and under siege at the moment financially, but that's another story.

JK: I am very sorry to hear that you have to cancel a lot of those journal subscriptions, because I took a lot of pains to develop the files of these journals as completely as I could.

RG: Well we have been allowed to buy some new ones, new journals that didn't exist in your time, but things don't look terribly good for the future. However, let's dwell on the good things. So is this a good stopping place or are there other things you would like to add before we turn off the tape?

JK: I must admit that I feel very, shall I say, proud that the Mathematics Department has developed as it has. It is just the very thing we hoped for in those days. To have a Mathematics Department which had as members research professors, and other people who are interested in mathematical study and it has developed beautifully since those days.

RG: Jim Kent, thank you very much.

17 April 1995 (Prof. Kent passed away on December 3, 1997, at the age of 85)

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