

## MATHEMATICS/COMPUTER SCIENCE AT WABASH COLLEGE

an opinionated quasi-history

Paul T. Mielke, W '42

Anyone who is seriously interested in our history should be acquainted with the excellent work entitled *Wabash College, the First Hundred Years* by James I. Osborne and Theodore N. Gronert, which was published by R.E. Banta in 1932 and indexed by P. Donald Herring in 1985. References to it will be denoted by “OG, page xx”. Thus, from OG, page 14, we have, “At the meeting of the founders in his brother’s house, it was John Steele Thomson who read the scriptures and offered the prayer. Elected a trustee, he was chosen by his fellow trustees professor of mathematics. He took up his duties as teacher at the beginning of 1834, the third professor on the college list.”

From the 1837 catalog we have that the curriculum of 1834 required of freshmen two terms of algebra and one of “Euclid”, in the second year trigonometry and “mensuration of heights, distances, superficies and solids”, and in the third year “differential and integral calculus (or French or Hebrew options)”. At least a year of mathematics was required of all students until 1968.

Here is the professorial succession beginning in 1834:

1834-1843. The Reverend John Steele Thomson

1844-1853. William Twining, M.A., Professor of Mathematics, Natural Philosophy (i.e. Physics) and astronomy

1853-1878. John Lyle Campbell. A.B., Wabash, 1848

He taught mathematics in this period. He was an Associate Professor in 1853, promoted to Professor in 1856 and to “Baldwin Professor” in 1863. He also taught Natural Philosophy and astronomy from 1849 to 1902.

1876-1891. Jacob Norris, M.A., Professor of Mathematics.

He could quite properly be called the first chairman of the department, since it had, for the first time, more than one member.

1881-1916. James Harvey Osborne, Associate Professor, then Professor of Latin and Mathematics

1891-1901. Duane Studley, B.S.

From OG, Pp. 236-37 in reference to the year 1901, “A change in the mathematics department had been foreseen ... of Professor Studley’s distinction as a scholar there had never been any question, nor of the fineness of his character. But rightly or wrongly the opinion had been formed, and had solidified and spread until it was general among students and young alumni, that his standards of student accomplishments were quite impossibly high. His name had become the name of a bogey, with which prospective students were frightened away from the doors of the college; and with which actual, or at least presumed, students were hypnotized into a persuasion that mathematics was a science forever denied to them...Professor Studley, therefore, was persuaded to resign. ... and so, in a happy hour for nearly thirty years of Wabash men, Dr. Kane got hold of ‘Craggy’ .” One ought to read all of Chapter X of OG, which contains this episode about Studley and the following account about Cragwall.

1901-1922. Jasper Asaph Cragwall, M.S., Professor of Mathematics

Again from OG, Pp. 237-238: “At Wabash, he was from the beginning a very successful teacher of mathematics. He had great skill at lightening quadratic equations with lucid and humorous analogy...then, he brought to Wabash a way of getting on easy and friendly terms with students. He did not stand much on his professorial dignity. And his friendliness...went out to all. The college became much more democratic after his arrival...; and though doubtless there were other forces working in the same direction, it would be hard for anyone who was in Wabash in the early years of the century to believe anything else than that ‘Craggy’s’ personal influence had much to do with the change. To generations of students he was the ‘Grand Old Man of Wabash.’ ” As a memorial to his greatness the college named its computing center after him in 1970.

1907-1908. Alva Herman Ford, A.B., Wabash, 1906

Assistant in Mathematics

1909-1916. Howard F. Ashby, A.B., Wabash, 1909

Assistant, then Associate Professor of Mathematics

1920-1958. George Ernest Carscallen, A.B., Wabash, 1906; M.S., Illinois

“Carscy” was hired as an Associate Professor and was never promoted. Read Byron Trippet’s evaluation of him on Pp. 101-103 of *Wabash on my Mind (WOMM)*, where he asks, “How good was Carscy as a mathematician and teacher? I am not sure.” I am sure, for as a Wabash freshman in 1938 I studied analytic geometry and elementary calculus with him. I learned very early by coming to him with a question that he was excellent in a one-on-one encounter. I learned and adopted this technique from both him and Polley. I vividly remember his joy in it when, as a student in his mechanics class, I showed him my solution to the problem of the escape velocity of a projectile fired from the surface of the earth. Then, of course, we were colleagues between 1946 and 1958. He was an excellent problem-solver. I could always depend upon him to best me on problems in combinatorics or probability.

Carscy was financially generous to the college, creating trust funds in each of the departments of Biology and Mathematics, “to be used in these departments by the trustees...upon the advice of the faculty of the respective departments to promote the scholastic standards in these fields.” (quotation from his will).

1916-1917. William Prescott Hill was Instructor of Mathematics before going off to WWI.

1919-1920. Emerson Charles Denny, an IU graduate, worked with Hill who had returned as an Assistant Professor while Cragwall took a leave of absence.

1928-1935. Mrs. Neva Chapman. Assistant Professor of Mathematics and German

The first woman to teach mathematics in the college.

1929-1966. Joseph Crawford Polley, A.B., A.M., Yale, Ph.D., Cornell

Crawford came to Wabash as Professor and Head of the Mathematics Department. His tenure spans the modern era of mathematics in the department. He was one of the great teachers on a distinguished teaching faculty of the decades 1930-1960. He was also the first Wabash mathematician to achieve measurable national stature. He served from 1951 to 1954 on the Board of Governors of the Mathematical Association of America and fifteen years as Secretary of the Indiana Section of that association. He was Secretary of the Wabash College Faculty from 1946 to 1966. When he died in 1989, I was privileged to arrange a memorial service for him in the Chapel and to deliver a eulogy, a copy of which accompanies this history.

The staff in 1928 before Polley came consisted of Cragwall, Carscallen and Chapman. The curriculum consisted of the following 17 courses:

- A Solid Geometry
- 1,2 College Algebra and Trigonometry
- 3,4 Analytic Geometry and Calculus
- 5,6 Differential and Integral Calculus
- 7,8 Differential Equations
- 9,10 Analytic Mechanics
- 11,12 Theory of Equations
- 14 Descriptive Astronomy
- 15 Mathematics of Finance
- 16 The Teaching of Mathematics
- 18 College Geometry

Courses A, 11, 12, 16 and 18 were not offered every year.

In 1929 there began a gradual but steady increase in mathematical excellence in the college. The low enrollments of the depression and war years 1930-1945 inhibited this progress, but it was then stimulated by the universal interest in science and technology of the post-war years 1945-1964. One evidence of this quickening interest is the roster of 25 of our department’s graduates between 1938 and 1967 who earned Ph.D.s in mathematics and related disciplines:

- V.G. Robinson, ’37, Purdue, statistics
- P.T. Mielke, ’42, Purdue
- H.H. Fox, ’43, Illinois
- R.L. McCormick, ’50, Purdue
- J. Stodghill, ’57, Brown

C.E. Weil, '59, Purdue  
 F. Nussbaum, '60, Northwestern  
 M. Plummer, '60 (Physics), Ph.D. in Math at Michigan  
 D.E. Smith, '60, Wisconsin  
 P. Vincent, '60, Stanford, Economics  
 T.M. Supel, '61, Minnesota, Economics  
 R.G. Voigt, '61, Maryland  
 J.W. Daniel, '62, Stanford, Computer Science  
 G. Jouris, '62, Purdue, Statistics  
 N. Woo, '62, Washington State  
 D.K. Kukral, '64, Indiana  
 J. Gaiser, '65, Indiana  
 R. Schnackenberg, '65, Wisconsin  
 L. Haugh, '66, Wisconsin  
 A. Ridolfo, '66, Iowa State  
 D. Swinehart, '66, Stanford, Computer Science  
 A. Luhahi, '67, Cincinnati  
 R. Sheese, '67, Illinois, Psychology  
 F. Siegel, '67, Illinois, Economics  
 M. Zoracki, '67, Rensselaer

This list is a trifle ahead of the department staffing story, so here is a continuation of that.

1943-1945 and 1946-1947. Verne Gilbert Robinson. A.B., Wabash, 1937, M.S., Kentucky, Ph.D., Purdue, 1960

Verne came to teach languages in the college in 1943, but he was quickly recruited by Polley to teach mathematics. His interest in mathematics was rekindled by Polley. It was his opinion that Crawford was the finest mathematics teacher he'd ever known. So he went to Cal Tech in 1945 to continue graduate study in mathematics. He didn't enjoy that, returning in 1946, which is when I met him, and we shared an office together in Goodrich Hall. It was the beginning of a fine, lifelong friendship. He joined me at Purdue in graduate studies, and was awarded a Ph.D. in statistics there in 1960. He spent the rest of his career in government service.

1946-1947. Paul Theodore Mielke, A.B., Wabash, 1942, Sc.M., Brown, 1946, Ph.D., Purdue, 1951.

I was in the first graduating class of Frank Sparks's tenure as president. The morning after commencement, June 7, 1942, he and Mrs. Sparks kindly drove me to Union Station in Indianapolis to catch a train for Providence, Rhode Island, where I spent two years in graduate study and teaching in a Navy V-12 unit at Brown University. In 1944 I enlisted in the U.S. Marine Corps. Upon my discharge in October of 1945, I came to Crawfordsville for a visit. Dr. Sparks's door was open, so I knocked and was welcomed warmly by him. Upon expressing my uncertainty about returning to Brown he said, "How would you like a job?" My immediate response was, "When do I start?" I began as an Instructor on February 1, 1946. Such a hiring procedure was typical of Sparks. In 1947 I resigned in order to pursue graduate studies at Purdue.

1947-1948. Norwood Robert Hughes, A.B., Wabash, 1937. Instructor

1948-1967. Theodore Bedrick, B.A., M.A., Ph.D., Brown

Ted came as Professor of Classics, with a strong mathematics background. He served as Registrar from 1972 to 1984. No one has ever served the college so well in so many ways. Don Mitchell observed him both as student and colleague. He took courses in analytic geometry and calculus with him and says he was a patient teacher whose door was always open, and that he was especially good with the elementary courses.

1948-1957. Benjamin A. Rogge, Ph.D., Professor of Economics, later Dean.

1950-1952. Mielke again

Having completed my formal studies at Purdue, I returned as Assistant Professor and, during that first year, completed writing my dissertation, receiving the Ph.D. in June, 1951. Then later that year I made the mistake of assuming that the Korean conflict was putting us into WWII, so I resigned again, this time to take a job with the Boeing Airplane Company in Seattle. My replacement, John Lawrence, brought a brilliant and refreshing

iconoclasm to the college and a new approach to teaching elementary mathematics.

1952-1956. John Leslie Lawrence, M.S., Michigan

I have written elsewhere about Jack on page 63 of the Spring/Summer 2002 issue of *Wabash Magazine*. In 1952 all Wabash students were required to take Math 1,2. By 1953 Jack introduced a Math 1 syllabus that embodied a rigorous structural approach to mathematics based upon symbolic logic and elementary set theory. A pioneering effort, it anticipated the so-called “New Mathematics” of the schools by at least six years, was endured gamely by at least two generations of Wabash students, and was finally eliminated in deference to the needs of other departments for a course in applied mathematics. I enjoyed teaching Jack’s course. It taught me all that I know about symbolic logic. Jack took a leave-of-absence in 1956 to continue his graduate studies at the University of Michigan. He didn’t return. The remainder of his professional career was spent with the IBM Corporation where, among other things, he founded and was first editor of the *IBM Systems Journal*. When he left, the staff consisted of Bedrick, Carscallen, Mitchell and Polley.

1955-1958. Don Travis Mitchell, A.B., Wabash, 1954, M.S., Purdue, Instructor

Don admired Jack Lawrence and enjoyed teaching his course. He was a great help to me in learning to teach it. Incidentally, he was so good that he was essentially junior author of Jack’s syllabus, teaching courses from it as a senior, writing exercises for the text, and helping produce the syllabus.

In turn, I got Don interested in computer programming. I vividly remember his readily grasping the general idea of a stored program when I stepped him through a one-card binary loader, which was the way one got information into a computer before the existence of operating systems. It was something that I had learned as a Boeing dynamics engineer.

After getting his master’s degree at Purdue, Don followed Jack into a career with IBM. He has been another lifelong friend. Together we wrote the encomium for Jack mentioned above.

1957-1985. Paul T. Mielke

In 1956 Byron Trippet began his presidency. That summer Crawford and Mildred Polley attended the summer math meetings at the University of Washington, and there Crawford invited me to return. I accepted the rank of Associate Professor with high hopes for Byron’s presidency, and I looked forward to the pleasure of working with Polley, Carscallen, Bedrick and Mitchell.

1959-1960. Richard Bruce Hickman, A.B., Wabash, 1956, Instructor

1959-1961. Jack Richard Stodghill, A.B., Wabash, 1957, Instructor

We needed replacements for Mitchell, who had just left. Hickman and Stodghill were both brilliant students and admirers of Lawrence. Dick was doing graduate work at Illinois during this period. He subsequently earned a Ph.D. and spent most of his professional life at Lawrence Livermore Labs. Jack was a graduate student at Purdue, ultimately earned his Ph.D. at Brown, and spent his professional career at Fairleigh Dickenson University, where he was chairman.

We were a thriving department then, with some fine students, among them Clifford Weil, ’59. I mention Cliff in particular because in his senior year he and I enjoyed a one-on-one seminar together. Polley had set the precedent for me with the same device in my own senior year. Weil went on to a Ph.D. and has spent his career as Professor of Mathematics at Michigan State, where he has produced a few Ph.D.s himself. He has said to me that he used the one-on-one seminar often as a result of his Wabash experience.

I used the one-on-one seminar frequently. At one meeting with Brad Mullendore, ’69, the discussion led me to a discovery that resulted in my publishing one of a few papers, this one entitled *Rational Points on the Number Line* (*The Mathematics Teacher*, Vol. LXIII, No. 6, October 1970).

In their Sophomore year Ted Wiese and Phil Vincent of the class of 1960 were having trouble with calculus because during their freshman battle with Math 1 they became uncertain of what they had learned in high school about algebra and trigonometry, so I conducted a special seminar for them and a few others on such matters. Wiese, by the way, is not listed among the Ph.D.s from his period on page 3 above. He became a Fellow of the Society of Actuaries and has had a successful career as a CPA and money manager. In kind remembrance of my counsel there is a brick dedicated to me by him in the forecourt of Forest Hall.

1961-1963. Robert Edwin Zink. B.A., M.A., Ph.D.

Bob was a Professor of Mathematics at Purdue when I met him at meetings of the Indiana Section of the



MAA. We became friends and enjoyed playing golf together. On one of those golf outings I became aware that he was feeling some uncertainty about his career, so I invited him to consider teaching at Wabash for a spell. Crawford agreed. It was a delightful two years. Everyone at the college reacted warmly to his wonderfully humorous style, and he was a great mathematical colleague. I remember with appreciation his taking over from me the ongoing one-on-one education of James Wilson Daniel, '62. Daniel has had a wonderful career at the University of Wisconsin and the University of Texas at Austin, where he was chairman of the mathematics department and now conducts the Texas actuarial program. In the process, he has become a Fellow of the Society of Actuaries. Wabash awarded him an Honorary Sc.D. in 1987.

In 1962 President Trippet stunned me with the suggestion that I replace Polley as chairman. I demurred, asking if I could try to find someone else. He agreed, so I first asked Zink. His response was that I was Crawford's natural successor. Besides, though he'd enjoyed his stay with us, it had proven to him that he could do his best work in a university setting, so he would return to Purdue, where he remains a stalwart friend of the college.

We made three more tries. Following those failures, I became chairman and was promoted to Professor in 1963. Before that happened I was charged with finding new department members:

1962-1999. Robert Lee Cooley, B.S., LL.B., M.S., J.D., Ph.D., Purdue

Cooley became Professor of Mathematics and succeeded me as Department Chairman in 1979.

1963-1990. William Clement Swift, Ph.D., Kentucky

The longevity of both of these men, and of others that follow, reveals a sense of family that developed in us. Swift became Professor of Mathematics and, with David Wilson, authored a book on finite mathematics that was the text in Math 12, a syllabus for which first appears in the 1975-76 catalog. The course was aimed at "the general student and prospective social scientist". I enjoyed teaching it, which taught me all that I know about game theory. Bill was acting Chairman in 1969-71. By the way, Math 109, The Principles of Finite Mathematics, is listed in the 2002-2003 curriculum as the new name for the old Math 12, and the description there is the same.

1963-1966. William S. Devenney, B.S., Colorado State. Instructor in Mathematics and Supervisor of the Computing Center.

The Computing Center was founded on February 7, 1962 in the basement of Goodrich Hall using a paper-tape IBM 1620. I was its first Director, but upon assuming the chairmanship in 1963, I decided to leave the computing to others in order to concentrate on teaching mathematics and administering the department, so we hired Bill as Supervisor. It was a good choice. He did a fine job and was delighted with the new quarters that we occupied in Baxter Hall in May of 1964. He was so good that Donnelly's soon wooed him. He came to me with the news, and I advised him to accept the offer on the grounds that it was a fine company that offered him a higher salary with greater possibilities for promotion. We were sad to see him go, but his appointment at Donnelly's led to a lifetime computing career for him and a return to his home in Colorado. I wrote to Bill, sending him a preliminary copy of this history. He said in response, "Consider adding the contribution of Jasmine Robinson to the organization. She helped many students to understand the old technology of punched card processing and made them comfortable in the computer room. She was very instrumental in the initial success of the computing lab." The point is well taken. Jasmine was with us for 28 years. When she retired in 1991, I was privileged to speak at her farewell party. A copy of my remarks will be added to the CD I am preparing. I will note here also that upon her retirement, the men of the Malcolm X Institute named their computer lab after her. That name carries over to their beautiful new facility.

In the Fall of 1963 the staff numbered six: Bedrick, Cooley, Devenney, Mielke, Polley and Swift. The curriculum consisted of the following courses:

1. Modern Introduction to Mathematics (Lawrence's syllabus)
2. Elementary Functions
- 3,4,5. Analytic Geometry and Calculus
- 7,8. Advanced Calculus
- 9,10. Probability and Statistics
11. Methods of Applied Mathematics
12. Introduction to Abstract Algebra
13. Elementary Topology

- 14. Foundations of Geometry
- 15. Selected Topics (Independent Study)
- 15c. Programming for digital computers

Math 15c was the college's first course in computer programming.

The 1964-65 catalog shows some curricular changes:

- 1,2. Principles of Mathematics. Lawrence's syllabus plus elementary functions including trigonometry
- 3,4,5. Analytic Geometry and Calculus, including multivariate calculus
- 6. Ordinary Differential Equations
- 7,8. Advanced Calculus
- 9,10. Probability and Statistics
- 11,12. Abstract Algebra
- 13,14. Topology and Modern Analysis
- 15. Foundations of Geometry
- 16. The Theory of Numbers
- 17. Linear Algebra
- 18. Methods of Applied Mathematics
- 19. Functions of a Complex Variable
- 20. Functions of a Real Variable
- 21. Computer Programming
- 22. Independent Study

Because of high demands on the staff, each of the one-year sequences 15,16; 17,18 and 19, 20 was to be omitted one year out of three on a cyclical basis. Among these demands was conducting the mathematics portion of the Honor Scholarship exams each Spring. Elsewhere I report on taking those exams myself in 1938, and we continue the tradition today. The staff have been cooperative, and the exams have become a very important part of Wabash's modern success in recruiting students. Many other ongoing traditions started in this period:

- 1. Mathematics Colloquium, conceived by Swift and started in 1964, continues bi-weekly.
- 2. Weekly luncheon department meeting.
- 3. Participation in the Putnam Mathematics competition of the MAA. Swift was the first trainer.
- 4. The Indiana College Mathematics Competition, started by us in 1965, is now a permanent official activity of the Indian Section of the MAA. My history of it will be put on a CD.
- 5. The Problem of the Week, another Swift contribution.
- 6. Annual picnic. We withdrew from the Goodrich Hall picnic, which was held at Turkey Run and featured games in which we were not interested.
- 7. Exchange colloquia, notably with DePauw, Rose-Hulman, Earlham, Franklin and Lake Forest.

An addition to the faculty in 1965 brought the department list in the 1966-67 Catalog to seven for the first time: Mielke, Bedrick, Cooley, Devenney, Polley, Steinhoff, Swift.

1965-1970. Richard T. Steinhoff, B.S., M.S., Purdue, Instructor of Mathematics

Steinhoff was in graduate study at Purdue when he came. He suffered thesis difficulties with his major professor there. By 1969 I was on leave-of-absence with CUPM in California, where I was able to make a contact for Dick that resulted in his enjoying an excellent lifelong career in teaching at Modesto Junior College. He earned his Ph.D. later at Purdue and wrote at least one successful text on elementary mathematics.

Other staffing changes occurred. Professor Polley retired, Bedrick left the department, and, as reported earlier, Devenney went to Donnelly's. Replacements were needed. These were:

1966-2000. David E. Wilson, B.A., M.S., Ph.D., Kansas. Assistant Professor of Mathematics, promoted later to full Professor.

1966-1967. Kenneth F. Klopfenstein, B.A., M.S., Colorado State, Instructor of Mathematics

Ken's appointment was for one year. He returned to Fort Collins for his Ph.D. and a career there.

1966-1968. Muhammad Subhi Abu-Salih, B.S. M.Sc., Illinois. Instructor of Mathematics

Muhammad continued in graduate work at Illinois while with us. He returned to his home in Jordan. and we have not heard from him.

Thus, the 1967-68 Catalog lists seven members: Abu-Salih, Cooley, Klopfenstein, Mielke, Steinhoff, Swift and Wilson.

The period from 1963 to 1965 was traumatic. Read Trippet's memoir entitled *Wabash on my Mind* for a sense of the troubles that led him to resign in 1965. Apart from his personal difficulties as hinted there, he disliked the developing litigiousness in society that led to things like grievance procedures in the college. Nor did he like the curricular battles that began in 1963 and ended temporarily in 1968 with substantial changes to the great "Hoppy" curriculum of 1934. There was further fiddling until 1973. I was outraged. In 1968 for the first time in its history, the college would no longer require a student to take a year course in mathematics. As a department we were not bothered by the implied threat to our employment, for we continued to enjoy a supply of good students. The outrage was that by 1973 a student could take as many as five courses in Speech to satisfy his distribution requirements, but he could get by without taking any mathematics.

A death blow was also administered to required Chapel. As a freshman in 1938 I enjoyed going to Chapel five days a week. It gave a spirit to the college unlike anything else, and through their Chapel speeches I became familiar with professors I might otherwise not have met. By 1963 the meetings had already been reduced to three times per week. One of the agents for its demise was our next member.

1968-1973. Robert C. Johnson, B.A., M.A., Ph.D., Oregon State, Assistant Professor of Mathematics

During his stay here Bob was appointed Acting Dean of Students while Norman Moore took a leave-of-absence. Sentiment against required Chapel had been building among both students and faculty. Bob removed the teeth from the requirement by not enforcing it, so, rightly or wrongly, he was blamed by some for the change. He left in 1973 to teach at Gallaudet College. While he was here, I enjoyed an experiment with him by jointly teaching a course in calculus.

Speaking of Norman Moore, I had a unique teaching experience with him too. We sat in judgment together on the final performance of some students in C&T. One feature of the new curriculum was a course for all sophomores called Cultures and Traditions, which was designed as a common experience for sophomores intended to compensate partly for the demise of Chapel. I "taught" the course once. Another curriculum change was the Freshman tutorial. In 1975 I taught one on photography to some fine students.

From 1969 to 1971 I took a leave-of-absence to accept an assignment of the Mathematical Association of America with its Committee for the Undergraduate Program in Mathematics, of which I was Director in 1970-71. The assignment dramatically changed my professional and family lives. The most dramatic family changes stemmed from living in Orinda, California for two years. Professionally, in managing a huge government-funded program in curricular reform, I learned once more that agreement on what should be done is difficult, and that we are condemned forever to arguing about how to teach. Upon my return we were once more engaged in such argument. Ben Rogge's wit often leavened discussion. He joked that anything either he or I proposed was automatically a dead letter. We cherished President Garfield's statement, made on December 28, 1871, to the Williams College Alumni, "I am not willing that this discussion should close without mention of the value of a true teacher. Give me a log hut, with only a simple bench, Mark Hopkins on one end and I on the other, and you may have all the buildings, apparatus and libraries without him." I am preaching throughout this document that, especially since Cragwall, this college has been a model of Garfield's idea. Open office doors and one-on-one encounters are its essence.

1968-1979. James A. Warden, Ph.D., came to teach Physics, but became Director of the Computer Center in

1969 when I went with CUPM. He and President Seymour sparked a lively development of computing on campus, a switch from IBM to DEC hardware contributing to the renaissance.

1969-1970. Paul D. DuChateau, M.S., Michigan, Instructor

Paul was supposed to be my two-year replacement, but he quit in a huff at the end of one year without informing me, making it especially difficult, for he was renting our house. We learned of that only when Carl Schmidt, a music department candidate, called to ask if the house was for rent, and it certainly was. This was a remarkable coincidence because Carl's father was a professor of music at Stanford, where our bassoon-playing son was a freshman, who made the connection and got to play with the elder Schmidt's orchestra.

1970-1971. Daniel J. Gans, M.S., Illinois, Instructor

1970-1973. Roy D. Bowman, M.A., Western Michigan, Instructor

After Wabash Bowman enjoyed a career with Lincoln National Life Company of Fort Wayne.

1973-1974. Lane Yoder, part-time Instructor

1973-1979. Richard Bieberich, Ph.D., Ohio State, Assistant Professor. Rich was the best volleyball player the college has ever seen. Legend has it that the faculty team never lost an intramural match while he played. He was a pleasant fellow with a lovely family. His son Andy, '92, was a Wabash Honor Scholar. Rich was not tenured. A subsequent successful career at Ball State was tragically cut short by cancer. I attended his funeral with Bill Swift and Lew Salter.

1974-1978. Theophil Worosz, Ph.D., Illinois, Assistant Professor. Despite the recommendation of his department colleagues, Ted was not tenured. He has enjoyed a successful career at Denver Community College.

1977-1978. Linda J. Richter, Ph.D., Illinois, Assistant Professor

Linda was the daughter of Peter Chiarulli, Chairman of the Mathematics Department of the Illinois Institute of Technology, and a friend of mine from Brown University days. She died of cancer in 1999.

1978-1998. Bonnie Gold, Ph.D., Cornell, became Professor, and succeeded Cooley as Chair of the Mathematics Department in 1990. She resigned and is now Chair of Mathematics at Monmouth College in New Jersey.

1979-1982. John Wiseman Simmons, II, Ph.D., Indiana University, Assistant Professor

1979-\_\_\_\_\_. David E. Maharry, Ph.D., UKans, Professor of Computer Science, became head of computing when Warden followed Seymour to Rollins College in 1979. David developed the program in Computer Science, which was made a Minor in 1988, when he joined the new Department of Mathematics/Computer Science.

1980-1981. Yeaton H. Clifton, Ph.D., Columbia, Visiting Associate Professor

1982-1988. Earl D. Fife, Ph.D., Wesleyan, Assistant Professor of Mathematics. Not tenured, he has had a brilliant career at Calvin College, where he has been Macintosh Moderator and Co-Director of Mathematical Archives, which has been supported handsomely by the NSF.

1984-1985. Mary B. Swarthout, B.A., Berea, Visiting Instructor in Mathematics

1985-\_\_\_\_\_. Esteban Ivan Poffald, Ph.D., USC, Associate Professor of Mathematics

1988-1989. Michele K. LeBlanc, M.S., North Carolina, Visiting Instructor in Mathematics

1989-\_\_\_\_\_. Robert L. Foote, Ph.D., UMich, Associate Professor of Mathematics. He succeeded Gold as Chair of the Department and relinquished that post to J.D. Phillips.

1990-1991. Rita Saerens, Ph.D., University of Washington, BKT Assistant Professor of Mathematics

1991-1992. Paul Silberbush, Ph.D., Pew Teaching Intern and Visiting Assistant Professor of Mathematics

1991-1992. Bennett W. Cleveland, Jr., M.S., Purdue, Visiting Instructor of Mathematics

1991-1992. Peter J. Keenan, A.B., Wabash, 1989, M.S., Houston, Instructor of Mathematics

1992-1998. Xiangfei Zeng, Ph.D., Michigan State, Assistant Professor of Mathematics. He was not tenured but has had a successful career in actuarial research at AllState.

1996-1997. Stefan Treatman, Ph.D., Michigan, Visiting Assistant Professor of Mathematics/Computer Science

1998-1999. Allison Wolf, B.A., Macalester, Visiting Instructor of Mathematics

1998-1999. Thomas Tegtmeier, Ph.D., Purdue, Visiting Assistant Professor of Mathematics

1998-\_\_\_\_\_. Peter M. Thompson, Ph.D., Illinois, Assistant Professor of Mathematics. Peter is a chess expert. He coaches our students in the game.

1999-2000. Dan Singer, Ph.D., UC San Diego, Visiting Assistant Professor of Mathematics

1999-2000. William Markel, Ph.D., Visiting Professor from Hanover College

1999-2000. Peter Saveliev, Ph.D., Illinois, Visiting Assistant Professor of Mathematics

2000-2001. Albert Bronstein, Instructor of Mathematics

2000-2001. Damon Scott, Ph.D., Duke, Visiting Assistant Professor of Mathematics

Damon was Poffald's sabbatical replacement.

2000-\_\_\_\_\_. Michael Axtell, Ph.D., Iowa, Assistant Professor of Mathematics

2000-\_\_\_\_\_. Marcela D. Perlwitz, Ph.D., Purdue, BKT Assistant Professor of Education

Although she is not a department member, her specialty is Mathematics Education.

2001-\_\_\_\_\_. J. D. Phillips, Ph.D., Iowa State, Associate Professor of Math/Computer Science and Chair of the Department.

2001-2002. John George, Ph.D., University of Illinois, Visiting Assistant Professor of Mathematics

I received a letter from John expressing pleasure with his Wabash experience. I've included it with materials



mentioned in the addendum to this document.

2002- William Turner, Ph.D., BKT Assistant Professor of Computer Science

It seems appropriate to conclude with an update on current staff and curriculum. The staff are J.D. Phillips, Chair of Math/CS, Axtel, Foote, Maharry, Poffald, Thompson and Turner.

The numbering of courses was made consistent across the curriculum in 2000 according to the following scheme:

000—courses not counting towards the major, minor, or distribution

100—introductory courses

200—introductory and intermediate courses

300—advanced courses

400—departmental capstone courses

Here are the current offerings in Mathematics as given in the curriculum contained in the 2002-2003 Wabash College Academic Bulletin:

003. Pre-calculus

107. Statistics: Concepts and Controversies

109. Principles of Finite Mathematics

111. Calculus I

112. Calculus II

119. Introduction to Discrete Structures

217. Introduction to Statistics

221. Foundations of Geometry

222. Theory of Numbers

223. Elementary Linear Algebra

224. Elementary Differential Equations

225. Multivariable Calculus

226. Operations Research

227,228. Probability and Statistics

319. Combinatorics

323. Topics in Linear Algebra

324. Topics in Differential Equations

331,332. Abstract Algebra

333,334. Introduction to Functions of a Real Variable

337. Introduction to Numerical Analysis

341. Topology

344. Complex Analysis

377. Special Topics in Mathematics

387,388. Independent Study

400. Seminar on the History and Foundations of Mathematics

Here are the offerings in Computer Science:

111. Introduction to Computer Science

112. Advanced Programming

211. Introduction to Data Structures

271. Special Topics in Computing

311. Introduction to Machine Organization

321. Programming Languages

331. Analysis of Algorithms

341. Introduction to Automata, Computability, and Formal Languages

387,388. Independent Study

Continued—>

## ADDENDUM

Documents related to this one will be put on a CD. Examples: my history of the Indiana College Mathematics Competition, Mead Killion's Sc.D. citation labelled "meadcitation", lists of well-remembered students of mine, photographs of department members, details of the work of several staff members with summer interns, and copies of our department newsletter that we sent out between 1994 and 1997.

John Zimmerman managed the 1976 remodelling of Goodrich Hall that created the small room dedicated to George Carscallen. Something should take its place in the impending reconstruction. Notice that the room has wrap-around chalk boards. That was a remembrance of Carscy's sending us to the board to do problems.

Special thanks are offered to Beth Swift, Archives Associate, for her research and editorial help, and to Don Mitchell for his editing skill.

Finally, I thank David Maharry for a question he asked about department staffing. The answer is that 1965 was the first time we became seven, when the staff consisted of Bedrick, Cooley, Devenney, Mielke, Polley, Steinhoff and Swift. The question prompted this attempt at a history.

CHEERS! PTM, January, 2003