IN MEMORIAM

PAUL MASON BATELDER

Paul Mason Batchelder was born January 10, 1886 in Portsmouth, New Hampshire, the son of Charles Edwin Batchelder and Nellie Mary Dearborn Batchelder. (He was the fourth of five children in the family.)

He attended the public schools in Portsmouth and took the classical route (Latin, Greek and French). When he graduated from the Portsmouth High School in 1904 he was the class valedictorian and he received a gold medal which he cherished and kept in his safety deposit box until the day of his death.

In the fall of 1904, he entered Dartmouth College, still intent upon a career in some aspect of linguistics, and began studying German as well as the languages he had earlier studied. In his junior year at Dartmouth, he switched from languages to physics. Having had no analytic geometry and calculus, he saw he would be ill-prepared for advanced physics courses, so he took analytic geometry and calculus in the summer. When he graduated from Dartmouth in 1908 he was the valedictorian of his class and also class orator.

He stayed at Dartmouth one extra year as an assistant in physics, and then entered Princeton University. Here he received the Master of Arts degree in 1910. As a prerequisite for further advanced work in physics he had again taken additional mathematics courses. He was most fortunate in that one of his mathematics teachers was George David Birkhoff. Birkhoff had just recently established a worldwide reputation as a mathematician by proving a fixed point theorem conjectured by Poincaré of France but unproved by any of the European
mathematicians. Prior to Birkhoff, all American mathematicians of any recognized stature had received a portion of their training in Europe, but Birkhoff had received all of his training in the U.S., and thus Birkhoff is often referred to as the initiator of an American School of Mathematics.

So, Paul Mason Batchelder came under the inspiring influence of George David Birkhoff and he shifted his emphasis from physics to mathematics. Indeed, when Birkhoff left Princeton in 1912 for Harvard, Batchelder followed him there.

In 1913, Paul accepted an Instructorship at Northwestern University in Evanston, Illinois. But after two years there, he returned to Harvard, completing his doctorate in 1916. His dissertation was entitled "The Hypergeometric Difference Equation".

In the fall of 1916, he was appointed Instructor in Mathematics at The University of Texas. He remained here in Austin after his retirement in 1954 with the rank of Associate Professor. He was away for the year 1924-25, as noted below, and for some special summer assignments at the University of Chicago in 1917, 1919, and 1920. In 1924-25, he filled a temporary vacancy in the mathematics faculty at Brown University.

In 1927, the Harvard University Press with the cooperation of the National Research Council published Professor Batchelder's book, AN INTRODUCTION TO LINEAR DIFFERENCE EQUATIONS. This book embodied parts of his Harvard doctoral dissertation. For many years the subject of difference equations was a neglected area. However, the methodology needed in solving difference
equations is of extreme importance in the formulation of algorithms for computer runs needed in the solution of certain differential equations. Although it is a far cry from Professor Batchelder's treatise to the computer programming room, his book was reissued in 1968 in paperback form partly because of the new interest in difference equations as a tool in computer programming.

Professor Batchelder's classroom interests were in the fields of number theory, astronomy, and teaching techniques in geometry and algebra. For many years he was an editor and a frequent contributor to the TEXAS MATHEMATICS TEACHERS BULLETIN. From 1929 to 1943, he was chairman of the Department of Pure Mathematics.

On occasion he gave invited addresses to the Texas Section of the Mathematical Association of America and the Texas Academy of Science. Two such addresses are listed in the bibliography.

Soon after he came to Austin, Professor Batchelder started becoming a campus institution and an Austin man-about-town (but not in the vernacular sense). In the twenties, the Department of Pure Mathematics was housed in the Old Main Building. It became customary to refer to his colleague, M.B. Porter, as Main Building Porter and to P.M. Batchelder as Pure Math Batchelder. Because of his sandy hair and complexion and because he frequently taught trigonometry, Professor Batchelder somehow or other acquired the nick-name COSINE RED. It was rarely, if ever, used to his face; and on all occasions when anyone used that name to members of this resolutions committee it was always used with a
certain amount of respect and affection.

Professor Batchelder (or COSINE RED) was regarded by many as a "dry old stick". We hasten to dispel that notion. It is true that his classes had little appeal to students who were not interested in mathematics. But it is not odd and ironic that one who regards the subject of mathematics as dull should automatically classify a teacher of mathematics as dull? To show Professor Batchelder's appeal to students we note that from 1926 to 1953, he supervised the masters theses of 47 graduate students; a list of the names shows that slightly more than half were women students and if surnames are suggestive that there were several Latin-Americans in this list. His lectures were prepared with meticulous care and delivered with seldom an extraneous remark. Each sentence spoken played an integral part of the whole. He wrote rapidly in a very legible form an outline of his lecture as he talked. His students learned that his lectures were so concise that it paid to copy this outline in their notes.

One of his faculty friends was Professor Frank Burr Marsh of the Department of History. For years they took long walks together. Both men had lean, spare frames and their walking style was recognizable from a distance. Neither Professor Batchelder nor Professor Marsh were long-winded expositors. Some colleagues noted that on occasion when they had agreed to eat together, the first to arrive at the Commons would wait until the other arrived, they would proceed through the cafeteria line and generally eat together in silence.
Perhaps after the meal they would take one of their walks, perhaps not.

After the death of Professor Marsh, Paul Batchelder continued his own walks. Indeed, he became a legend in his own lifetime. Occasionally, friends in a car would stop and offer Professor Batchelder a ride when they spotted him two or three miles from the campus. He nearly always courteously declined these offers and remarked that the walk was a part of his daily routine. COSINE RED did have a retiring nature. His enjoyment of long solitary walks in no way detracted from his being a keen observer of the world around him, whether natural or academic.

It was said of him (by the local gentry) that Professor Batchelder knew the distance in paces between any two given points in the city of Austin. One Austin citizen was vacationing with his family in New Hampshire one summer. While driving along a secondary road he saw a walker in the distance ahead. He remarked to his family that if he were in Austin he would say that it was Paul Mason Batchelder up ahead. And indeed, it was Paul Mason Batchelder taking his walk while on a visit to his sisters in New Hampshire! The driver stopped; he, his family and Professor Batchelder had a chat; the offer of a lift was refused and Professor Batchelder continued his daily walk while the other Austin residents drove off in their car.

One summer a professor in the College of Fine Arts and his wife were vacationing at Yosemite National Park. There they saw Professor Batchelder and Miss Ann Batchelder, one of his sisters. The husband and wife later told
friends that this party of four enjoyed several meals together and that Professor Batchelder became to them a warm human being instead of the uninteresting and methodical person (a false image) which others had projected him to be. Miss Ann Batchelder was one of the senior librarians at the Chicago Public Library. She had planned to come to Austin upon her retirement, but she died before these plans were realized.

As noted earlier, COSINE RED was interested in astronomy. For a while, in the twenties, he shared with Dean and later President H.Y. Benedict the teaching of the astronomy courses. He wrote an article on W.J. McDonald whose bequest made possible the McDonald Observatory. Shortly after his retirement from teaching, the local student astronomy club arranged a field trip to the Observatory. Professor Batchelder asked to go along with the group -- and they came back to Austin with reports of what a lively and entertaining participant he had been on that field trip.

The following anecdote was told of Professor Batchelder as part of the folklore. One Sunday afternoon, three young instructors were in the dome of the Texas State Capitol and one of them, with a pair of binoculars, saw Professor Batchelder walking across the campus in front of the west wing of the Old Main Building. He noted the time, and several days later when he saw Professor Batchelder he managed somehow or other to ask the question: "Where were you last Sunday afternoon at 3:20 p.m.?" It is reported that the reply was something like this: "Let's see. I left my office in Waggener Hall at
3:15 -- I must have been in front of the west wing of the Main Building."

Professor Batchelder was a strong supporter of both the University Science Club and the Texas Chapter of the Society of the Sigma Xi. Until after World War II, Austin was somewhat isolated and funds to import outside speakers were limited. These two organizations had monthly meetings with interesting programs, and after the program there was a sandwich bar and punch bowl. It has been inelegantly said that certain people have a hollow leg and that the large amount of food they consumed went to their hollow legs. Members wondered how Professor Batchelder could eat so many sandwiches and keep that trim spare figure. Even a hollow leg could not have held all the sandwiches he ate!

In his set of novels about the Count of Monte Cristo, Dumas relates that the Count was so punctual that he endeavored to arrive at the fifth stroke of nine if he were due somewhere at 9 o'clock. Some members of this resolutions committee can say from personal experience that Professor Batchelder was of that same stamp. He would wait in his office until x units of time before a class bell would ring, (for he had made time-and-motion studies to determine x), and then leave his office to step inside the classroom as the bell rang. On these occasions he preferred not to be interrupted, as he proceeded on his way to the classroom with a singleness of purpose. In the classroom, he seemed to time his lectures so that he reached a conclusion (or at least a convenient stopping point) just prior to the bell announcing the end of the class period.

Batchelder felt strongly that students should USE their textbooks. He
chose his books with care, and followed them with reasoned meticulousness. But being an extremely courteous man, Professor Batchelder shied away from criticizing any textbook he was using. If there was an error in the book (and who knows of a textbook without an error?), Professor Batchelder would give an alternate discussion or proof correcting the error, but he would not tell the class that the book was wrong. His students soon learned that when the lectures diverged from the book, they were always an improvement.

Although it was not one of his favorite courses, for many years COSINE RED taught the mathematical theory of investment. Perhaps this was the dark cloud which had a silver lining: for in the quarter century from 1940 to 1965 Professor Batchelder accumulated a small fortune of a quarter of a million dollars by devoting attention to the art of investment. By direct gifts and by a clause in his will he left about half of this sum to organizations interested in the promotion of scientific research. The Society of the Sigma Xi was one of the recipients of this legacy. One is reminded of the fortune accumulated by Professor G.A. Miller of the University of Illinois (also a mathematician) in the period from 1930-1955. Or, for non-mathematicians, one is reminded of Thales, one of the seven wise men of the ancient Greek world. Legend has it that after one of his walks around his native city of Miletus he was scolded by his housekeeper for falling into a drainage ditch while observing the stars. He was also held in derision by some of the local merchants because he (Thales) had no money despite his wisdom. But Thales' walks paid off, for he
had noticed an extremely large olive crop was imminent one season, and he
leased up all the available olive presses. Then, when the olives were gathered,
these merchants had to come to Thales to get presses to produce the olive oil
for export.

About twelve years after retirement, the infirmities of age began to
tell upon Paul Mason Batchelder. He had to give up his walking, but he still
derived pleasure from listening to good orchestral music. He had never been
an active member of a church, but he was quite interested in Biblical History.
At some time or other in his life he had made extensive studies of his family
tree, and from time-to-time he worked on this topic.

He died on August 4, 1971, aged 85½ years.

Lorene Rogers, President ad interim
The University of Texas at Austin

James L. Kinneavy, Secretary
The General Faculty

This Memorial Resolution was prepared by a special committee consisting of
Robert E. Greenwood, Chairman, E.W. Cheney, W.T. Guy, Jr. and Milo Weaver.
Bibliography

Paul Mason Batchelder

BOOKS


ARTICLES

(with Mamie Birgie Mayfield) "William Johnson McDonald, 1844-1926", CONTRIBUTIONS FROM THE MCDONALD OBSERVATORY, No. 1., pp. 1-10 (1943).

"Waring's Problem", AMERICAN MATHEMATICAL MONTHLY, vol. 43 (issue #1, January 1936), pp. 21-27. [This was based on an address to Texas Section of the Mathematical Associations of America in May, 1934.]

"The Calendar", TEXAS MATHEMATICS TEACHER'S BULLETIN, vol. 16 (issue #2, May 1932), pp. 5-16. [This paper was later delivered to The University of Texas Chapter of the Society of the Sigma Xi in March 1933 and to The Texas Academy of Science in November 1934.]
TEXAS MATHEMATICS TEACHER'S BULLETIN. For many years Professor Batchelder was a contributor, a co-editor or the editor of this publication. Not all of his articles were signed, some were merely reports on the annual entering freshmen mathematics contest. The following three articles were signed:

1). "The Order of Propositions in Plane Geometry", vol. 14 (issue #1, Feb. 1930), pp. 12-16,

2). "The Teaching of Fractions", vol. 14 (issue #2, May 1930), pp. 5-7,


HANDBOOK OF TEXAS, Texas State Historical Association, Austin, 1952. Two biographical accounts,

1) Marsh, Frank Burr, in vol. II., p. 147