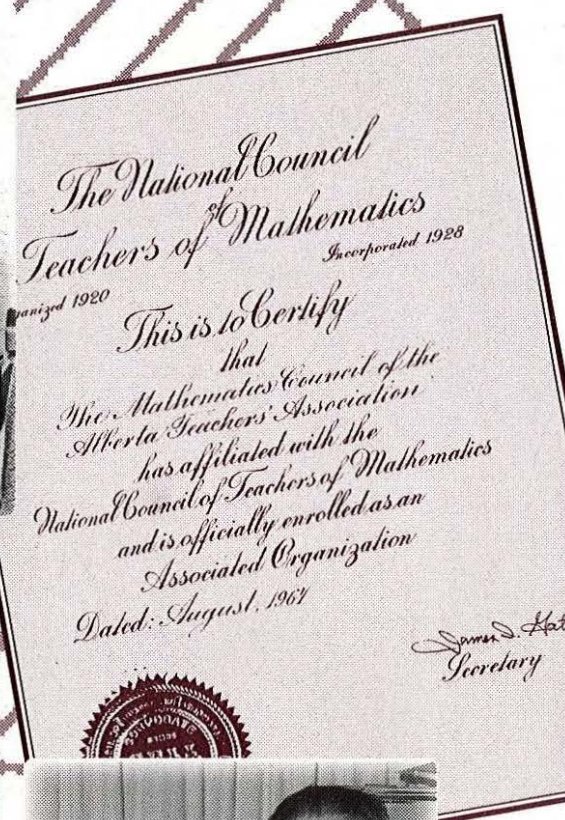
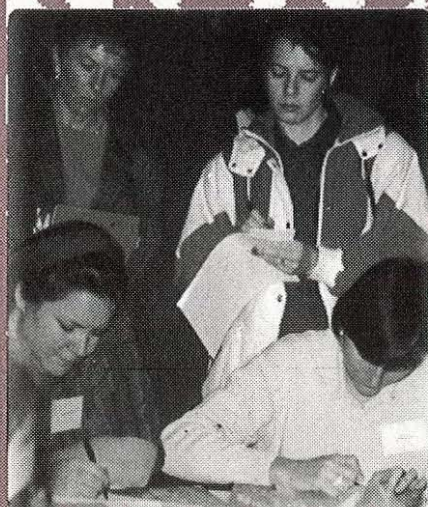
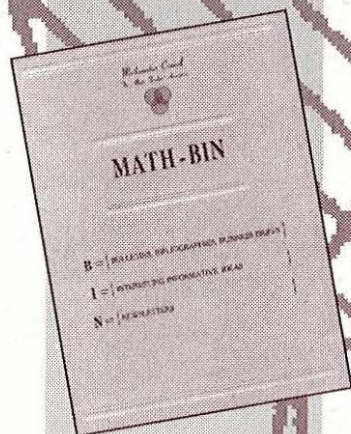
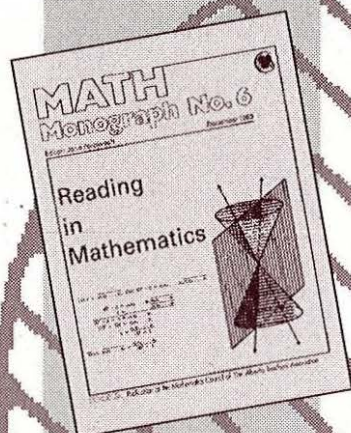


Thirty-Four Years and Counting



The History of the Mathematics Council
of The Alberta Teachers' Association



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T447

Thirty-Four Years and Counting

The History of the Mathematics Council of
The Alberta Teachers' Association

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Foreword

FOR THE EDITORS, WORKING ON THIS SPECIAL HISTORICAL JOURNAL has been a “labor of love” as well as a fascinating trip down memory lane—between us we have served 31 years on the Mathematics Council of The Alberta Teachers’ Association (MCATA) executive.



Preparing this issue has taken us much longer than we anticipated—many personal recollections were sent to us in 1993. What was particularly difficult and time-consuming was gleaning information from scattered bits and pieces of old MCATA files, and searching our own memories and those of our colleagues to fill the gaps in the written records. [We have some recommendations for the current executive regarding record keeping that might be started now, which would make the next issue—*Fifty Years and Still Counting(?)*—easier to put together.]

We focused on a mixture of personal recollections and the usual dates and events expected in a conventional history, partly because of the gaps in information available, but mostly because MCATA’s history is really a story about people.

One thing we have realized is that MCATA’s success and strength over the years have been a direct result of the calibre and commitment of the people who served on the executive and of those who took on special projects or wrote for the various publications. Although these people were mainly busy teachers, they devoted countless hours to MCATA. You might ask, “Why did they do it?” The rewards seem to have been a belief that their efforts would contribute to better mathematics learning for Alberta students, a personal sense of professional growth and, not least of all, a lot of fun!

So we dedicate this first history of MCATA to all those who have served the Math Council over the past 34 years. Your efforts have been successful—MCATA is one of the leading mathematics teachers’ organizations in North America. MCATA publications, because of the hard work of the various editors, have gained international recognition. We hope that recording the achievements of this lighthouse organization will challenge future executives and members-at-large to keep the Mathematics Council of The Alberta Teachers’ Association a major force in mathematics education in Alberta.



The editors of this special historical journal thank all those who submitted articles related to their own experiences with MCATA or reported on a particular historical area of interest.

We’d like to thank the many people at Barnett House who helped our idea come to life. A special thanks to Publications staff Lisa Pashniak, Kate Ballash, Penny Harter and Heather Parker, Designer Yuet Chan and Archivist Lisa Maltby. They tackled the difficult and challenging project with enthusiasm and dedication. Without their expertise and guidance, this special publication would have been impossible.

We hope you enjoy reading this historical document as much as we enjoyed putting it together.

—Joan Worth and Art Jorgensen

Editorial

Thirty-Four Years of History

On executive for 19 years—the longest serving member!

1975–83 *Secretary*

1983–86 *Newsletter and Journal Editor*

1987–88 *Vice President, NCTM Representative*

1988–95 *Newsletter Editor*

AND WE HAVE ONLY JUST BEGUN.

The Mathematics Council of The Alberta Teachers' Association had a noble beginning in 1961. Since that time, it has undergone many changes in terms of membership and in the activities it has promoted or participated in.

Annual conferences have been a highlight of the Council, being held throughout the province from Edmonton to Medicine Hat. Numerous mini-conferences have also been held in communities large and small.

MCATA has always had just cause to be proud of its publications. *delta-K* has been published regularly since 1971, under the editorship of such capable people as Ed Carriger and John Percevault to name just two. Monographs, such as *Problem Solving in the Mathematics Classroom*, have gained international status.

The Council has always had two concerns, namely, increasing membership, which has ranged from 500 to 1,000, and providing those members with desired services. With close to 15,000 mathematics teachers in Alberta, our goal is to have at least 10 percent of them as members. Therefore, we ask that each current member attempt to sign up an additional teacher.

With regard to service, please let us know what else the Council can do for you. Also, your executive members are all hardworking teachers who are volunteering their time; therefore, they are always looking for help from members-at-large.

As we look forward to the next 30 years, what will MCATA's future be? Will it grow and prosper and continue to be a voice to be heard, or will it wither and die? It is really up to the members. Today's executive members, like those of past years, will do their best. Then they will move on and pass the torch to you. Personally, I have a great deal of confidence in our members and believe that MCATA has a bright future. Let's make it so.

—Art Jorgensen

Greetings

MATHEMATICS IS A CORNERSTONE OF EVERY CHILD'S EDUCATION.

Without a solid foundation in mathematics, a student's ability to succeed in daily life and the world of work can be seriously hampered.



As the Mathematics Council of The Alberta Teachers' Association looks back over 34 years of history, I congratulate each council member for your dedication to this important endeavor. Your commitment to professional development; a lively exchange of ideas, resources and technologies; and the promotion of high standards and teaching excellence is commendable.

Thank you for your contribution to the growth of mathematics teachers and students in Alberta—past, present and future.

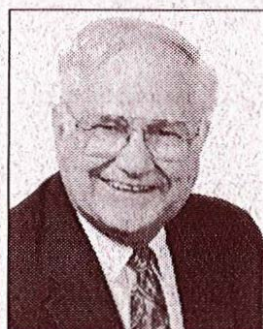
—Halvar C. Jonson
Minister of Education

I AM PLEASED TO BRING GREETINGS AND CONGRATULATIONS to the Mathematics Council of The Alberta Teachers' Association from your colleagues across the province. This historic publication is a celebration of 34 years of history—34 years of professional development for teachers, 34 years of helping to provide excellent education for Alberta students, 34 years of contributing to the high quality of Alberta's public education system.

Specialist councils have had an especially critical role to play in ensuring and promoting the outstanding standards of teaching and learning that are part of the tradition of The Alberta Teachers' Association.

Best wishes to the Mathematics Council as you continue to benefit Alberta's math teachers and their students.

—Bauni Mackay, President
The Alberta Teachers' Association



IT IS GREAT TO GIVE GREETINGS TO THE MATHEMATICS Council of The Alberta Teachers' Association in your 34th year during the National Council of Teachers of Mathematics' (NCTM) 75th anniversary celebration. Originally from Hamilton, Ontario, I look for opportunities to participate in activities in Canada, to go home again! This year is also the 50th anniversary of the Canadian Mathematical Society (CMS), and I plan to attend the summer meeting in Toronto. The Canadian Forum in May is being supported by NCTM through a \$10,000 (CA) contribution.

More and more, mathematics educators "south of the border" are recognizing the great potential for leadership in Canada. Canada has strong affiliated groups, MCATA among them, that are very active in promoting good mathematics and mathematics teaching throughout the provinces. Canadians are chairing and serving on NCTM committees and task forces; at least one

sits on the Board of Directors. MCATA has provided and continues to provide outstanding leaders in mathematics education.

More and more, we are recognizing that the National Council of Teachers of Mathematics is truly a North American Council. Best wishes and may you give another 34 years of outstanding services to the young people of Alberta!

—Jack Price, President
National Council of Teachers of Mathematics

THE MATHEMATICS COUNCIL OF THE ALBERTA TEACHERS' ASSOCIATION proudly presents *Thirty-Four Years and Counting*.



Congratulations to Art Jorgensen and Joan Worth for the outstanding job they have done in collecting, compiling and editing submissions for this 34-year history of the Mathematics Council. Thanks must also go to publications staff at Barnett House for the enthusiasm and energy, not to mention the endless hours of work, they expended in putting this together.

As you browse through this special publication, you will see many familiar faces—perhaps some of your former teachers, your mentors, your colleagues, your friends—these are the people who have been leaders in mathematics education in our province. Here they share with us their memories of the Mathematics Council's activities over the past three decades, as well as their perceptions of changes in the teaching of mathematics. Thank you to all who took the time to remember, to reflect, to search your files for photographs.

The greatest strengths of MCATA have always been the dedication and expertise of its members. *Thirty-Four Years and Counting* shows us how far we have traveled and pays tribute to those who have led us. Enjoy this look back at our history and celebrate with us our achievements.

—Wendy J. Richards, President
Mathematics Council

Provincial Executive Members 1961-62

President

John Cherniwchan, Clover Bar

Past President

T. F. Reiger, Picture Butte

Vice President

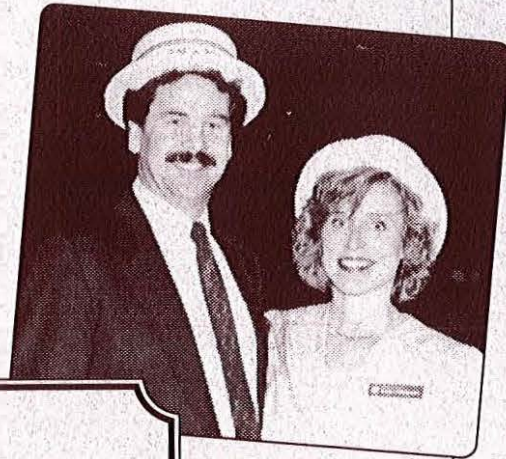
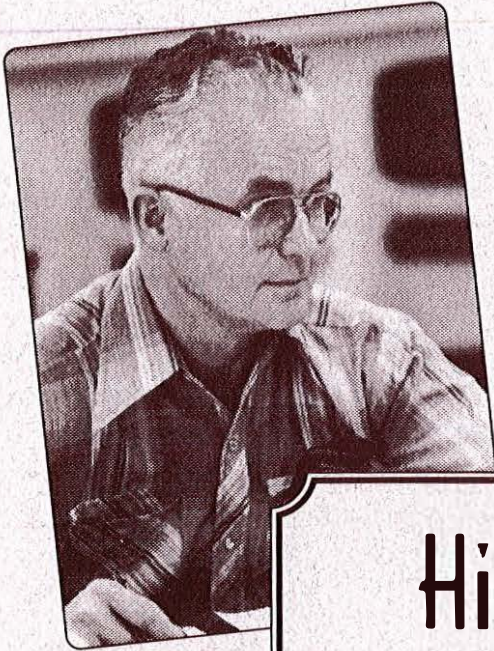
Eugene Wasylyk, Thorhild

Secretary-Treasurer

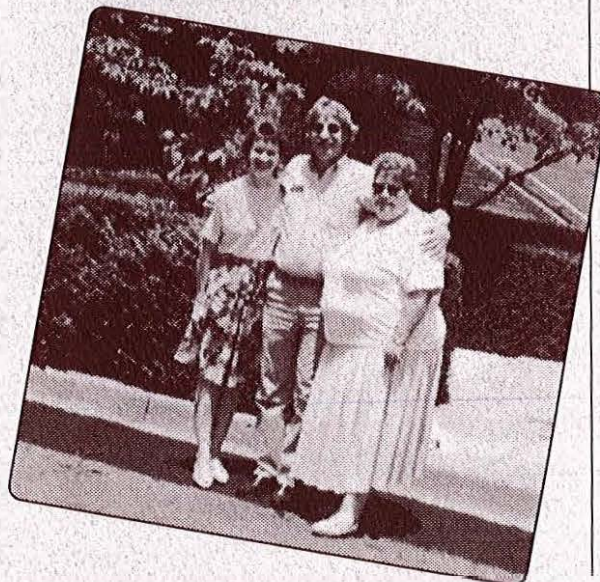
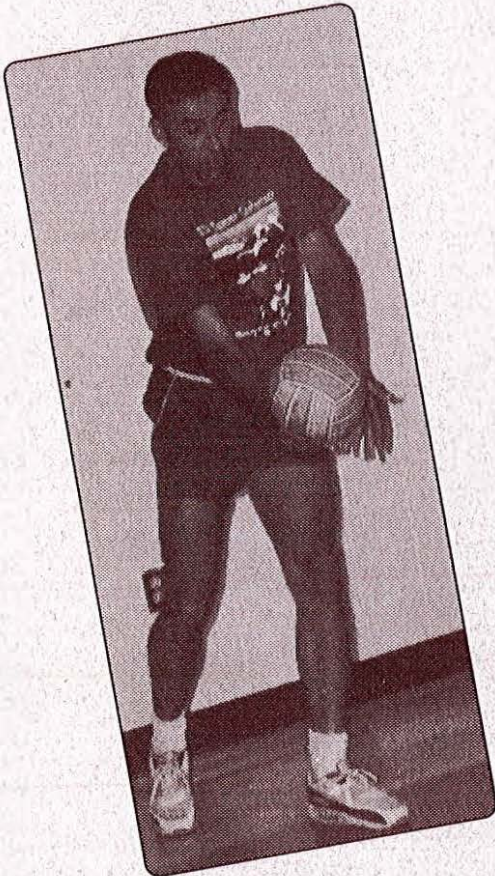
Olive Jagoe, Calgary

Provincial Presidents

Fred Tarlton	1962-63	K. Allen Neufeld	1975-77
Tom Atkinson	1963-64	Robert Holt	1977-79
Len Pallesen	1964-65	Lyle Pagnucco	1979-81
Ted Rempel	1965-66	Gary Hill	1981-83
Marshall Bye	1966-67	Ron Cammaert	1983-85
Gus Bruns	1967-68	Robert Michie	1985-87
Murray Falk	1968-69	Louise Frame	1987-89
Jim Kean	1969-71	Marie Hauk	1989-91
Richard Daly	1971-73	Bob Hart	1991-93
W. George Cathcart	1973-75	Wendy Richards	1993-95



History





The Alberta Teachers' Association Develops Specialist Councils

c. 3000 BC

Ancient Babylonians use cuneiform (wedge-shaped) symbols

◀◀◀◀◀◀◀◀

◀◀◀ ◀◀◀◀◀◀◀◀

for their number system based on 60.

The Babylonian base-60 system persists today in the division of hours and degrees.

Ancient Egyptians use hieroglyphics to write numerals.

1 ne 2 3 4 5 6 7 8 9 10

This section originally appeared as Chapter 1 of A History of the Health and Physical Education Council of The Alberta Teachers' Association by John Takahashi and Marion Irwin (Edmonton: ATA, 1986), pp. 1-2.

HISTORICALLY, THE ALBERTA Teachers' Association has always had among its objectives the advancement and promotion of education and the raising of the status of the teaching profession in the province.

The seed from which specialist councils developed was sown at a 1958 meeting of the provincial inservice education committee of the Department of Education. This committee, first established in 1957, was organized to consider what could be done to sponsor and motivate inservice education activities and to coordinate the efforts and activities of the various groups.

From the discussions that took place, it soon became evident that there was much interest in expanding inservice education programs, especially in the subject fields. Many school boards were thinking of offering courses for teachers. The Department of Extension of the University of Alberta had proposed noncredit courses for teachers. The Faculty of Education was looking at the organization of summer seminars in selected subject areas.

The Alberta Teachers' Association representatives, as a result of discussions, conceived the idea of specialist councils. It was considered desirable for the welfare of teachers and the teaching profession that the major inservice education activities for teachers be organized, or at least

coordinated, under one large umbrella. This would prevent disorganization of the profession. If the teaching profession was to grow in status and prestige, the profession would have to organize and conduct its own inservice programs and activities and not expect, nor tolerate, outsiders doing these things for it.

The Provincial Executive Council of The Alberta Teachers' Association, therefore, decided that the only group which could, and should, take on the task of initiating special interest groups of educators was the professional association.

Alberta teacher representatives to the provincial inservice education committee of the Department of Education prepared a general plan for establishing specialist councils which was presented to, and accepted by, the Provincial Executive Council of The Alberta Teachers' Association. The Council then named a committee to bring in detailed proposals. The proposals presented by the committee were studied and approved, with minor modifications, by The Alberta Teachers' Association curriculum committee and the Provincial Executive Council.

The following resolution authorizing the establishment of specialist councils was passed at the 1960 annual general meeting of the Association:

Resolution C47-60-Be it resolved, that the formation of the specialist councils be approved for the purpose of improving practices in the various specialties.

Following the 1960 annual general meeting, Provincial Executive Council adopted a model constitution for specialist councils and passed a resolution governing their organization and operation.

The following proposals were included in regulations and/or the model constitution governing specialist councils which provided the working relationships between specialist councils and the Association:

1. Specialist councils were to be semi-autonomous organizations for the purpose of improving instruction, the curriculum, and teacher competence.
2. Membership was to include all interested educators (teachers, Department of Education personnel, university educators) in an effort to coordinate the work of different factions. Membership was to include teachers from all grade levels so as to maintain the necessary unity in the profession and to maintain the desirable coordination of subject matter through the grades.
3. Specialist councils were to be left free to organize and conduct activities consistent with their constitutions and the policies of the Association.
4. Guidance and help as well as liaison with the Association were to be exercised in the following ways:
 - all representations to other bodies were to be made through the Association;
 - amendments to specialist council constitutions were to be approved by the Provincial Executive Council of the Association;
 - the Association would provide financial assistance; and

- the Association would provide a liaison representative on the executive of all specialist councils.

During the summer of 1960, applications were received for the organization of six councils: School Administration, English, Mathematics, Modern and Classical Language, Science, and Social Studies.

Provincial Executive Council approved these applications and named provisional executives at its September 1960 meeting. In October 1960, applications were received and accepted for the formation of councils in business education, home economics, and industrial arts.

During the winter of 1960-61, the provisional executives of all nine councils were busy planning inaugural conferences, the annual conference being one of the requirements of specialist councils. At these inaugural conferences, the adoption of a constitution and election of officers established the formation of the Council and made it eligible for assistance from the Association.

Early in 1961, the Alberta Guidance Council and the [Health and] Physical Education Council applications were received and approved.

In the fall of 1984, there were 20 specialist councils of The Alberta Teachers' Association. Most of the councils meet their responsibilities through the following major activities:

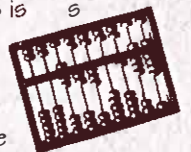
1. Holding annual meetings and conferences
2. Producing publications (journals, newsletters, lesson aids, special projects, executive handbooks and so on)
3. Holding regional conferences

c. 1700 BC

Numerical, algebraic and geometrical systems are in place in Babylonia (Hammurabi dynasty).

c. 500 BC

Bead-and-wire abacus is in use in Egypt and the Roman and Greek empires and later spreads to Orient (common in China by AD 600).



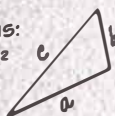
Greeks develop base-10 numeral system, use 27-letter Greek alphabet to represent numbers.

c. 500 BC

Roman numeral system uses letters as symbols for numbers.

Pythagoras:

$$a^2 + b^2 = c^2$$

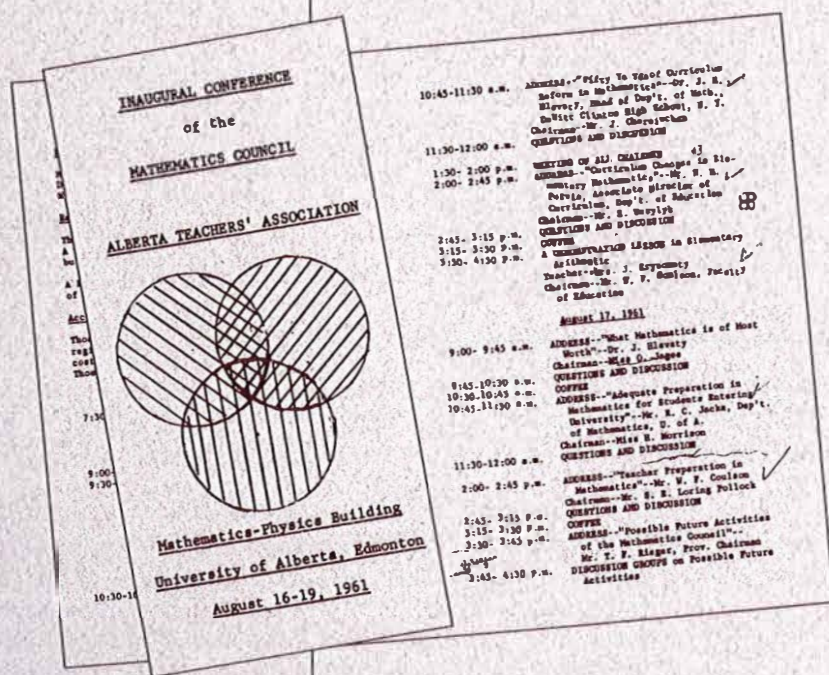


4. Doing field service (institutes, conventions)
5. Putting on workshops and seminars
6. Sponsoring short courses
7. Organizing and supporting regional councils
8. Doing research
9. Making recommendations on policy, curriculum content and materials, facilities, staffing, professional qualifications and working conditions
10. Reporting on new programs and continuing education opportunities offered by outside sources

The institution by The Alberta Teachers' Association of specialist councils has had considerable impact on education in Alberta. The publications, inservice opportunities and conferences of specialist councils have been of an unusually high standard. The opportunities provided by councils for professional interaction and professional growth have been a positive outgrowth of the concept. The success of specialist councils rested specifically on the shoulders of Alberta educators who have commendably met the challenge.

[As of spring 1995, there were 23 specialist councils.]

MCATA's Formation and Inaugural Conference



THE FIRST MEETING OF THE provisional executive of MCATA was held on October 29, 1960. Present at the meeting were T. F. Reiger (chair); L. D. Nelson, S. E. L. Pollock, Max Wyman, Helen Morrison and L. J. Scott (secretary). The meeting was devoted to discussion of the proposed constitution for the new council and initial plans for the inaugural conference. This group met again in March and May 1961 to finalize the constitution and the conference details.

The following are the Report to Executive Council on the Inaugural Conference, submitted by T. F. Reiger and an article from the *Edmonton Journal* (August 17, 1961).

Report to Executive Council

The Conference was held August 16, 17, 18, 19 in the Mathematics-Physics Building of the U. of A. Sixty teachers registered for the Conference. Seventeen of these had accommodations in the University residence.

The main speaker was Dr. Julius H. Hlavaty, Head of the Mathematics Department, DeWitt Clinton High School, New York City. He is very prominent in school mathematics. At present he is a member of the Board of Directors of NCTM and Director of the Mathematics Commission, CEEB. He addressed the Conference three times and was very well received.

Other speakers were: N. M. Purvis, Department of Education; R. C. Jacka, Department of Mathematics, U. of A.; W. F. Coulson, Faculty of Education; S. A. Lindstedt, Faculty of Education; L. W. Kunelius, Department of Education. M. T. Sillito attended the Conference on August 16 and 17.

Other features of the conference were: a demonstration lesson in elementary mathematics, two films, group discussions on future activities of the Mathematics Council, a computer demonstration and a panel to evaluate the conference.

A constitution based on the approved model was adopted. Officers elected were:

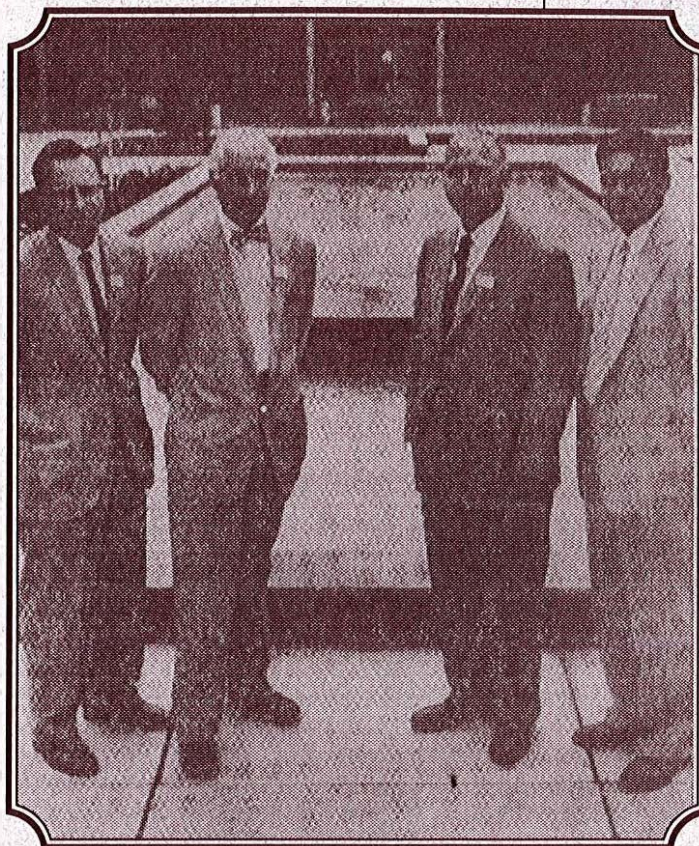
President:	John Cherniwchan, Clover Bar
Vice-President:	Eugene Wasylyk, Thorhild
Secretary-Treasurer:	Olive Jagoe, Calgary
Past-President:	T. F. Reiger, Picture Butte

Five directors are to be appointed. These together with the above officers will constitute the Executive Committee. The membership fee was set at \$5.00.

The Council plans to issue a newsletter.

Respectfully submitted,
T. F. Reiger

"Math" Talks Begin



COUNCIL MEETS—John Cherniwchan of Clover Bar High School, left, was nominated Wednesday as president of the Mathematics Council of The Alberta Teachers' Association. The council this week is holding its inaugural conference at the University of Alberta. Seen with the nominee are special guest speaker Dr. J. H. Hlavaty, head of the mathematics department, DeWitt Clinton High School, New York; T. F. Reiger, who was provisional president of the organization; and University of Alberta vice-president Dr. L. H. Cragg, who addressed the gathering. Sessions will continue until Saturday.

The inaugural conference of the Mathematical [sic] Council, Alberta Teachers' Association, opened Wednesday in the University of Alberta Mathematics-Physics Building.

John Cherniwchan of Clover Bar High School was nominated by the council nominating committee to replace T. F. Reiger as president. Mr. Reiger has been head of a provisional executive.

c. 450 BC

Zeno's paradoxes

300 BC

Euclid develops
deductive system of
mathematics.

c. 300-200 BC

Hindu
mathematicians
use number system
based on 10, have
symbols for 1 to 9.

Other members nominated to stand for the first elected executive were Eugene Wasylyk of Thorhild, and Miss Olive Jagoe of Crescent Heights High School, Calgary.

The conference received greetings from many dignitaries, notably John A. McDonald, president of The Alberta Teachers' Association.

Eleven such councils have now been formed in the province in the major educational instruction areas.

Dr. L. H. Cragg, vice-president of the University, who also lectures in chemistry courses, told the convention that as a scientist he is

compelled to realize that mathematics is the key to science.

Guest speaker at the conference is Dr. J. H. Hlavaty, head of the mathematics department at DeWitt Clinton High School, New York.

Dr. Hlavaty is presenting papers entitled Fifty Years of Curriculum Reform in Mathematics, What Mathematics Is of Most Worth, and Implementing Curriculum Proposals.

The conference continues until Saturday.

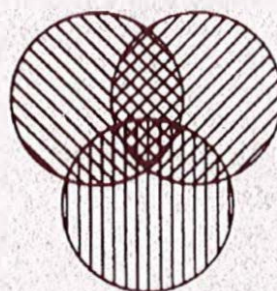
Reprinted with permission from the Edmonton Journal, August 17, 1961.

Council Logos

THE STRIPED, VENN-DIAGRAM logo has been a Mathematics Council identifying symbol since the very beginning. About 1961, "new math" programs were introduced in elementary and junior high schools (in Seeing Through Arithmetic and Seeing Through Mathematics series respectively). Venn diagrams were used extensively, particularly in junior high school math, so it was certainly a design of and for the times.

The three circles represent students, teachers and the mathematics curriculum, with the intersection of the three representing MCATA. This logo is still seen in the masthead of the Council's newsletter.

The Council's MCATA letters logo evolved over the years and was first seen superimposed on the Venn-diagram logo. This letters-only logo later became a stand-alone symbol and can be found on such documents as the Council's letterhead and membership brochures.



MCATA Overview

WHAT FOLLOWS ARE descriptions of some of the activities MCATA has engaged in over the years—not a scholarly history! The information has been gleaned mainly from executive meeting minutes since 1961 and from available annual meeting and presidents' reports. When gaps in the information appear, they are usually because the minutes are not very detailed on that particular topic.

After reading all those minutes, one has to be impressed by the time and effort put in by MCATA executive members—some members for many years. Any successes MCATA has had are due largely to the dedication of these people.

Over the years, "service to members" has been a major concern and topic of discussion at executive meetings. The most consistent and ongoing services have been the publications and annual conferences. Some discussion about publications (what kind, how many, editors, topics, reprinting and selling) has occurred at every executive meeting; conferences have taken slightly less meeting time.

In the early years, curriculum changes provided both a need and an opportunity for council activities in addition to publications and annual conferences. Summer workshops at every level were nearly a yearly event in the mid-1960s. Films were circulated throughout the province, and regional councils were established. Affiliations with the National Council of Teachers of Mathematics (NCTM) and the Canadian Association of Mathematics Teachers (CAMT) were formed. The first NCTM meeting in Alberta was held in Calgary in 1966.

In the 1970s, Math Kits replaced the films on circuit around the

province. The introduction of the metric system prompted another summer workshop and formation of the "Metric Missionaries" teams. Mini-conferences were promoted, display booths were organized for use at conventions, and two more NCTM meetings were held (in Edmonton and Calgary).

During the 1980s, mini-conferences continued to be sponsored. A good deal of service to members focused on publications and annual conferences. The publications were becoming longer and were appearing more regularly. Annual conferences also became longer and attracted more people; another NCTM meeting was held in Edmonton. Position statements on current affairs were prepared.

Also during the 1980s, the executive started to use telephone conference calls and to hold one-day meetings, with the exception of an annual two-day "Think Session" or "Thinkers' Conference." During this meeting, the executive met in small committees which held discussions and made recommendations to the whole executive. In 1982–83, executive committees were Conventions, Membership, Current Affairs and Publications. In 1987, the committees were Conferences, Membership, Publications, Future Projects and Position Statements.

In the 1990s, the Thinkers' Conferences have played an important role in establishing policy and direction for MCATA. The mini-conferences continue to gain popularity and cover a wide variety of topics. In 1995, the executive committees are Membership, Publications, Conferences and Issues.



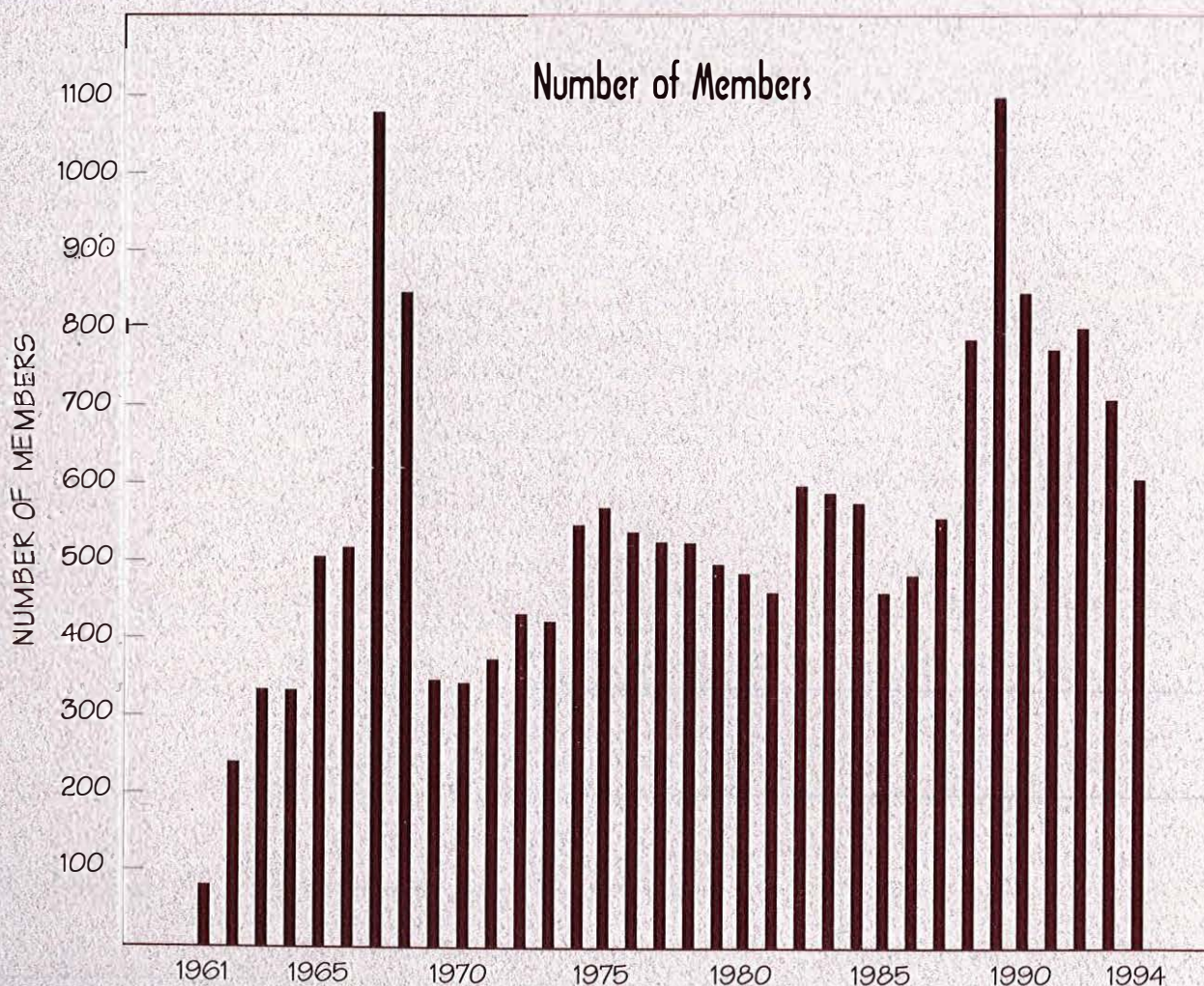
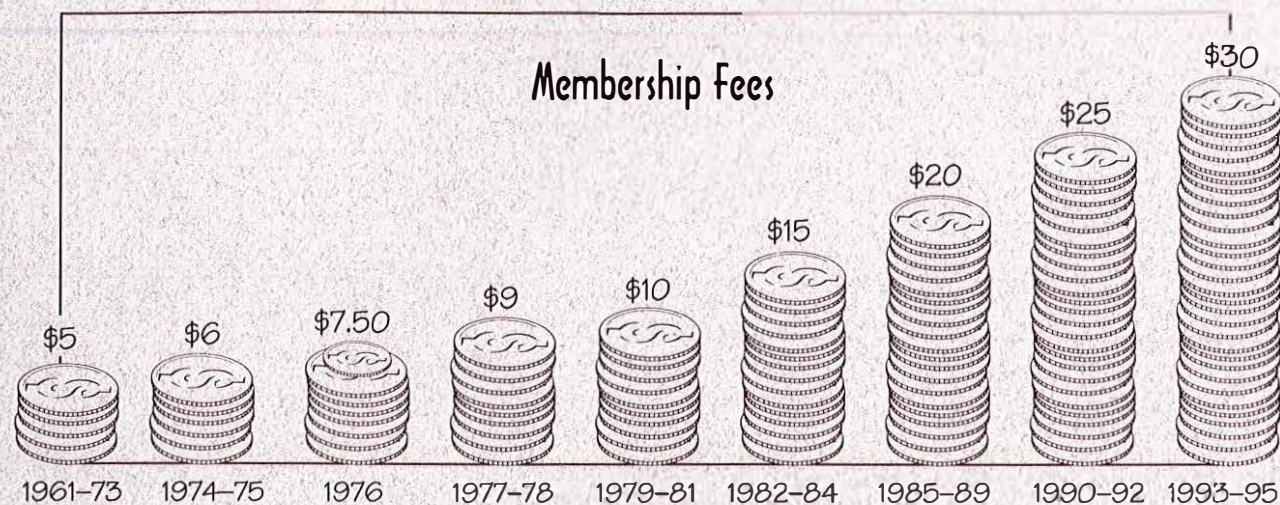
**Anyway You
Figure It . . .**



**Membership
in MCATA
Adds Up!**



Facts and Figures



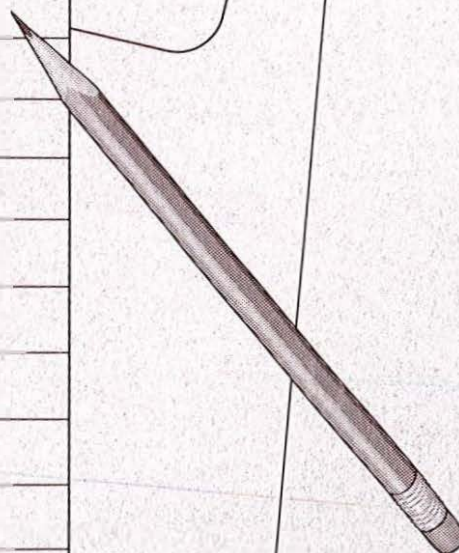
Sample Conference Fees Over the Decades

Year	Member	Nonmember
1962	\$0	
1968	\$4	\$1
1975	\$10	\$5
1983	\$45	—
1993	\$90	\$60
		\$115

Sample Budget Balances Over the Decades

(Not including ATA Grant)

Year	Balance
1962	\$1,131
1970	\$2,058
1978	\$6,014
1987	\$13,500
1994	\$12,769



Summer Seminars

c. 300-200 BC

Eratosthenes (born c. 275 BC) investigates size of the earth using circumference. Final result only 80 km off modern measure.

Archimedes (287-212 BC) computes π (pi) to be between $223/71$ and $22/7$ (or 3.14).

AD 200

Computing trays are in use in China and Japan.

THE FIRST SUMMER SEMINAR WAS held at Alberta College in Edmonton from July 3 to 10, 1962, immediately prior to the second annual conference. The planning committee consisted of Mel Sillito, Tom Atkinson, Gene Wasylyk and John Cherniwchan. The seminar was designed for elementary teachers facing implementation of the "new math" curriculum following the provincial authorization of the textbook series *Seeing Through Arithmetic*. The conference was a success with 157 teachers attending; a further 50 teachers had to be turned away. Of those who attended, 67 stayed in the College at a cost of \$28 for the week. The registration fee was \$5, which included MCATA membership. Lecturers Merrill Hill and Ray Cleveland were provided by the textbook publishers, W. J. Gage and Co. The six local instructors were N. Purvis, H. Ross, J. Kirkconnell, H. Oldham, E. Palmetter and J. Kirkpatrick.

In July 1963, a junior high seminar was held in Edmonton, and an elementary seminar in Red Deer. Both seminars were one week long.

In 1964, junior high seminars were held in Edmonton, Red Deer and Calgary.

In 1965, no MCATA summer seminars were sponsored, in view of the special summer short courses offered at both provincial universities.

In 1966, following the 1965 publication of Alberta Education's "Review of Secondary Programs," the Department of Education and the University of Alberta sponsored summer seminars for secondary teachers with a focus on background mathematics. The council executive decided that teachers needed work

on teaching techniques as well, so one-week seminars were planned for the first week in July: the elementary seminar was in Edmonton and the secondary seminar in Red Deer. Fees were set at \$10, plus membership. The elementary seminar, directed by Joan Kirkpatrick, was held at Concordia College, where most of the 175 teachers attending stayed in residence. Merrill Hill was again the major speaker, courtesy of Gage. The secondary seminar, held in Red Deer and directed by A. Evanson, had three local teachers conducting sessions for the 61 teachers who attended.

In 1967, the executive planned one-week seminars in Calgary, Edmonton and Medicine Hat, including elementary, junior high and secondary levels at each centre. The seminars were to be held the first week in July at no cost to MCATA members. During the executive meeting planning discussion, it was suggested that the Department of Education should assume the responsibility for providing courses in the teaching of mathematics, for all teachers, and if necessary that courses be made compulsory! No report was available on which seminars were actually held.

Early in the 1967-68 school year, the executive conducted a questionnaire to ascertain teachers' needs and interests to get direction for organizing summer seminars for 1968. No details of the results are available, but, in March 1968, the executive decided that summer seminars were no longer serving the function intended, in view of the large number of teachers attending university summer sessions.

The next summer session was held in July 1974, again in response to curriculum changes—this time the

introduction of the metric system. Joan Kirkpatrick directed a metric workshop for elementary teachers from July 3 to 5 at Concordia College in Edmonton. The workshop

sessions were conducted by the elementary mathematics consultants from Edmonton Public Schools. About 100 teachers, mostly from rural Alberta, attended.

Film Circuits

BETWEEN 1964 AND 1972, FILM circuits provided a major source of members and money, as well as a service to members.

Math 341

Math 341 was a mathematics course at the University of Calgary, developed by Sid Linstedt. The course was originally on videotape for use on TV. At the annual meeting in April 1963, the executive was directed to investigate the possibility of obtaining the "TV series on mathematics." At the 1964 annual meeting, the executive reported that the videos not only were expensive but also could not be enlarged enough to be useful for viewing by a large group.

In September 1964, Allan Gibb proposed that the course be put on 16-mm films and circulated throughout the province to centres where at least 15 people interested in junior and senior high mathematics would meet once a week to study two or three of the films. The executive approved this plan, and Len Pallesen was empowered to put the proposal into effect. Len was a fast and efficient worker: by November, 50 films were ready, and 14 centres were set

up to view the films. The plan was for MCATA to break even on the venture, but, in September 1965, the net balance in the film account was over \$2,200! The records do not indicate the viewing fee, but it did include MCATA membership.

In the first year of the project, MCATA gained hundreds of members, boosting the membership to a record 501. Needless to say, the executive decided to make the films available for the 1965-66 year.

Applications went out to all superintendents and to all secretaries of the ATA locals. Len again coordinated circulation. That year, there were six viewing centres (Edmonton, Calgary, Grande Prairie, Cold Lake, Jasper and Edson), and the balance in the film account in August 1966 was over \$2,300.

During 1966-67, three viewing centres were organized. Marshall Bye became film coordinator, and a committee was set up to view the films and break them into smaller sets so that teachers would not be tied down to a long series. However, there was little interest in viewing the films in 1967-68, and the executive meeting minutes of April 1968 were the last to mention the Math 341 films.

AD 300:

Mathematics is a cornerstone to advancement of the Mayan culture.

c. AD 600

Hindus invent the zero symbol. Hindu-Arabic numeral system considered the greatest because of the principle of place value and the use of zero.

Films in Mathematics for Elementary Teachers

In October 1966, the executive approved the lease-purchase of the NCTM Elementary Film series, to be set up on a circuit similar to the Math 341 circuit. The films were paid for over three years. The series was "designed to provide inservice education for elementary teachers to assist them in coping successfully with the 'new math' programs." The films were 16-mm sound and color, with running times from 21 to 30 minutes. The 10 titles were

1. *Beginning Number Concepts*
2. *Development of Our Decimal Numeration System*
3. *Addition and Its Properties*
4. *Multiplication and Its Properties*
5. *Subtraction*
6. *Division*
7. *Addition and Subtraction Algorithms*
8. *Multiplication Algorithms and the Distributive Property*
9. *Division Algorithms*
10. *The Whole Number System—Key Ideas*

The 224-page text correlated with the films was available for purchase. Joan Kirkpatrick was appointed elementary film coordinator; the viewing fee was set at \$5 for members, \$10 for nonmembers (which included membership). Two films were viewed together, once a week for five weeks. In the first year of the project, 31 centres were organized throughout the province; 663 teachers (500 new MCATA members) viewed the films, and 603 bought the textbook. The Council netted \$4,500. In a report on the film project at the 1967 annual meeting, it was noted that "a substantial

profit was realized, although the film circuit had been intended only as a service to members. The money has helped finance publications and the annual conference."

The minutes of the February 4, 1967, executive meeting included the report that some dissatisfaction had been expressed regarding the requirement that viewers be or become MCATA members, but the executive stuck to its guns on that decision, considering "the massive organization required in setting up the circuit, making transportation arrangements between centres, and ordering and mailing out the textbooks" as a service to members.

Howie Riggs was named elementary film coordinator for 1967-68. Following more reports of dissatisfaction regarding the viewing fees, the executive decided after lengthy discussion that, for this year, the fees would be \$50 per centre, plus \$1 for members and \$3 for nonmembers. Thirteen viewing centres were organized, and the annual profit was over \$2,500.

The next year (1968-69), the executive decided that the films should be distributed again as a service to all teachers, and Lynn Fossum became the coordinator. The fee was changed to a flat rate of \$100 per centre, with each centre arranging and paying for shipping to the next centre. Seven centres were established; in Edmonton, the films were shown at four places, primarily to interested parents. It was also decided that the films would be loaned free to the universities in Alberta, and the films were used at the University of Calgary and the Northern Alberta Institute of Technology. The profit for that year was \$662, and 593 textbooks were sold.

Under Lynn Fossum's direction, the films were on circuit in 1969-70 to nine centres. The profit was \$970.

AD 800

Muslim mathematician, astronomer and geographer Mohammed ibn-Musa al-Khowarizmi (a Persian) influences mathematical thought more than any other medieval writer.

His writings were the main channel for the spread of the Hindu-Arabic system to Europe.

His name gives rise to the term "algorithm."

In 1970-71, Keith Jorgensen was film coordinator, and the annual profit was \$300. For the next year, the viewing fee was reduced to \$50 per centre, and six centres were organized.

In 1972-73, the executive decided that the films should be sold and hoped to get \$500. There were no responses to this offer from anywhere in Alberta, so letters were sent to math councils in British Columbia, Saskatchewan and Manitoba. If a sale did not materialize, the films were to be offered free for use by any interested group in Alberta. The minutes of the January 1974 executive meeting contained the announcement: "MCATA will receive \$350 from the sale of the films to the University of Alberta." So this chapter of MCATA service to members came to an end after six years of the films being shown around the province to several hundred elementary teachers and to parents and making several hundred dollars of profit for the Council.

Mathematics for Tomorrow

In October 1966, at the same time as the elementary films were purchased, the executive decided to purchase another NCTM film, *Mathematics for Tomorrow*, at a cost of \$135. Howard Larson was in charge of the project. The film was made available to superintendents, with the recommendation that they encourage their boards to purchase the film.

Several superintendents booked the film, at a cost of \$10 per week or \$5 for a single viewing. The film was also used the following year, so that by 1969 most superintendents had viewed it. There is no record of what became of the film.

Undoubtedly because of the success of the film circuits in terms of service, new members and profit, the executive had committees looking for other films during the early 1970s. However, none was deemed suitable, and other forms of service to members have been focused on since.

AD 886

Alfred the Great introduces 24-hour-day measurement.



c. AD 1000

Sine theorem attributed to Muslim mathematician Abu al-Wafa.

c. AD 1100

Hindu-Arabic numeral system spreads to Europe.

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AD 1202

Fibonacci numbers (1 1 2 3 5 8)—each term (except the first two) is found by adding the preceding two terms.

AD 1269



Petrus Peregrinus invents 360-degree compass.

AD 1340

Double-entry bookkeeping originates in Lombardy.

Math Kits

IN 1971, THE EXECUTIVE authorized Stu McCormick to proceed with developing Math Kits: boxes of materials, more for display and teacher information rather than direct teaching, circulated to schools throughout the province in much the same manner as the film circuits. The kits could be requested by a MCATA member at no charge; the member was responsible for sending the kit to the next person on the circuit.

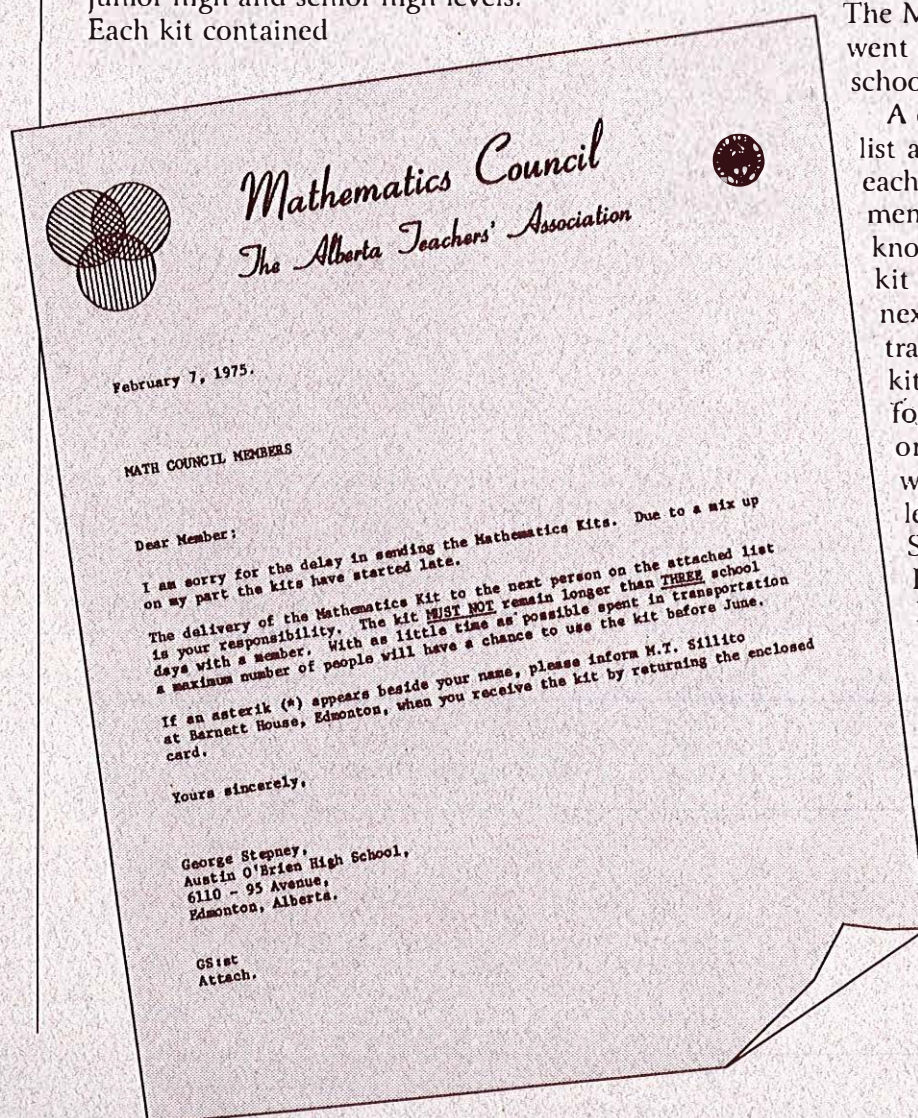
In February 1972, two Math Kits were in circulation to fill 68 requests. In 1973, the kits were reorganized into separate kits for elementary, junior high and senior high levels. Each kit contained

commercial and teacher-made materials designed to assist teachers in expanding their mathematics programs. Each kit was essentially a preview kit to provide teachers with ideas and an opportunity to evaluate materials before purchase. George Stepney took over as Math Kit coordinator in 1973, and demand for the kits was so great that a waiting list was established for fall circulation.

In 1974, Bob Holt became coordinator, and a Metric Kit was added. The four kits continued to be popular and were completely scheduled. In two-month periods, each kit went to at least 15 schools, where it was

kept for four days. The Metric Kit went out to 25 schools.

A circulation list accompanied each kit so members would know where the kit should go next. To keep track of the kits, every fourth person on each list was asked to let Mel Sillito, at Barnett House, know when the kit was received, which produced a barrage of phone calls and letters so that, in the next round,



postcards to be returned to Barnett House were included in the kits.

In summer 1976, the kits were updated, and new materials from commercial companies were added, paid for "at cost" by the Council. In 1977, Audrey Brattberg took over as coordinator and reported that kits were moving smoothly throughout the province. It was later recommended that the kits not travel for

the 1977-78 school year, as they needed repair and upgrading. In April 1978, the executive decided to send the updated kits to the ATA library, where teachers and schools would still have access to them. MCATA had handled the circulation of the kits throughout the province for six years, providing a service of particular importance to nonurban teachers and schools.

Metric Missionaries

AS A RESULT OF THE SUCCESS OF the Metric Workshop held in summer 1974 and being aware of the need for metric "awareness," the executive formed the "Metric Missionaries." These teams of teachers traveled throughout the province, with all the necessary materials to put on four-hour Saturday workshops. Fees were \$5 for MCATA members, \$10 for non-members (including membership) and \$8 for nonmembers' workshop fee only. Local organizers arranged

for the meeting place, handled publicity and conducted registration. The Missionaries coordinators were Francis Somerville for southern Alberta, Brian Chapman for central Alberta and Joan Kirkpatrick for northern Alberta. The Metric Missionaries operated for two years; there is no report of the number of workshops conducted. However, the minutes of a 1975 executive meeting noted that 71 requests for information on the Metric Missionaries had been received from all over North America.

AD 1489

Johann Widman introduces $+$ and $-$ signs in mathematics.

AD 1545

Italian Gerolamo Cardano publishes *The Great Art, or the Rules of Algebra*.

Italian mathematicians solve problem of cubic equations.

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AD late 1500s

François Viète establishes use of vowels for unknown quantities (variables) and consonants for known quantities (parameters).

AD 1612

Claude Gaspar Bachet de Méziriac publishes book of number games with emphasis on arithmetic recreations.

.....

Scottish inventor John Napier develops logarithms, a means of performing multiplication and division by addition and subtraction.

Reflections on Metric Missionaries

George Cathcart

1969-71 *Faculty of Education Representative*

1971-73 *Treasurer*

1973-75 *President and Monograph Editor*

1975-78 *Past President*

1980-81 *Newsletter Editor*

1981-82 *Journal Editor*

IN THE EARLY 1970S, MATHEMATICS EDUCATION STAFF AT THE University of Alberta were "taking over" the ninth floor of the Education Building. Our planning included designing and setting up one room as a teacher centre (a popular concept at that time) where teachers could come to interact, participate in workshops, view new teaching materials, make instructional materials and attend other professional activities.

At about the same time, the National Council of Teachers of Mathematics established a type of innovative project fund. On behalf of MCATA, I prepared a proposal for the purchase of (nonprint) metric materials¹ to be used in the teacher centre. The proposal was approved and funded to a maximum of \$1,000. Metric bathroom scales, weights, capacity measures, metre sticks, metre trundle wheels and numerous other metric measurement tools were purchased and housed in the teacher centre.

The teacher centre concept never rounded first base. MCATA picked up the slack and formed a number of teams of Metric Missionaries, whose purpose was to "convert" teachers (and others) to the metric system by providing a rationale and hands-on experiences with metric measurement. The metric materials purchased through the NCTM grant were taken to numerous places in Alberta for one-day or half-day workshops.

Footnote

1. The White Paper on metric conversion had been tabled in the House of Commons in January 1970, with the first overt signs of conversion to begin in 1975. Most players on the educational scene were actively preparing metric curriculum materials.

Mini-Conferences

IN 1976, THE EXECUTIVE BEGAN to encourage mini-conferences as a service to members, particularly outside the Calgary-Red Deer-Edmonton areas. The original idea was to use the model of the Metric Missionaries, that is, to send speakers or consultants to places, on request. In the late 1970s and early 1980s, several mini-conferences were conducted, although the information in the minutes lacks details. In 1988, the executive recommended the preparation of a mini-conference booklet to assist those interested in making a request.

Because of these and other efforts, mini-conferences, as another successful dimension of MCATA's professional development activities, have been an increasingly strong force in the 1990s. Approximately 700 teachers annually attend the many excellent mini-conference sessions provided at various locations provincewide. Edmonton and Calgary are the most popular centres; however, others have included

Grande Prairie, Medicine Hat and Lethbridge.

Mini-conferences and resource fairs are planned around emergent needs in any area of the province. Speakers cover topics from ECS to the postsecondary level and include representatives from Alberta Education, the University of Calgary, the University of Alberta and countless schools throughout the province.

An eclectic array of foci (math talk!) within the learning, teaching and assessing of mathematics have been explored. Teachers have been encouraged to reflect on their beliefs and values and, through cooperative work with colleagues, shape, mold and develop new understandings in mathematics and mathematics education.

The regenerative schools of the 21st century require all members of the learning community to improve continuously. The mini-conference structure supports and promotes mathematics teachers in their role as such reflective practitioners.

AD 1622

English mathematician William Oughtred invents the slide rule. He later introduces symbol \times for multiplication.

AD 1635

Bonaventura Cavalieri conceives geometry of indivisibles.

Convention Displays

IN THE MID-1970S, BOOTHS AND displays at teachers' conventions began as a service to members and an attempt to increase membership. Usually available were information on MCATA and NCTM membership

and publications from both organizations. Judging from comments made at executive meetings, these materials have been of interest and benefit to the teachers attending conventions and the MCATA members staffing the booths.

AD 1637



René Descartes publishes information on his greatest discovery, analytical geometry.

AD 1637

Fermat's "last theorem" ($x^n + y^n = z^n$): Fermat noted he had a remarkable proof that the theorem had no positive integer solutions if n is greater than 2. The proof was not written with the note and has never been solved.

Regional Councils

SINCE MCATA WAS FORMED IN 1961, the executive has encouraged the formation of regional councils as a way of providing service to members at a local level. Originally, regionals were given an organizational grant of \$20 and a rebate of \$1 per member. In 1971, the grant was increased to \$75 and the member rebate to \$2; in 1989, the grant became \$100 while the member rebate remained \$2. Regional organizers were required to submit a

constitution to the MCATA executive and were expected to provide annual reports and membership lists to claim the member rebate each year. "Regional Councils" was listed as an agenda item on most MCATA executive meeting minutes. The general pattern was that, in the early years of a regional, reports were made at each executive meeting, but, as years went by, interest seemed to wane, and many regionals disappeared without mention in the minutes.

- 1962 Central Alberta Regional Council formed
- 1963 Edmonton Area Regional Council formed
- 1965 Edmonton Regional split into three levels: Elementary, Junior High and Senior High
- 1967 Calgary Public Junior High Regional formed
- 1969 Edmonton Elementary, Calgary Junior High and Central Alberta Regionals still active
- 1970 Edmonton Elementary Regional disbanded, turning over its funds to MCATA
- 1971 North East Regional formed in St. Paul
North Central Regional formed in Edson
- 1974 North Central Regional disbanded
- 1978 No regionals in existence
- 1979 Southwest Regional formed
- 1993 Southwest Regional disbanded

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Contests and Awards

Contests and Examinations

OVER THE YEARS, MCATA HAS contributed to a variety of mathematics contests and examinations. Contributions of funds for individual contests and examinations were often introduced and supported at executive meetings by the University Mathematics representative. In 1979, the executive allocated \$600 for such examinations and contests. In 1995, up to \$1,000 is budgeted for contests and awards. These two contests were part of MCATA's first decade or so but are no longer supported:

- Ontario Junior High Mathematics Contest in Alberta

This support began in 1968, with a prize of \$25 and a certificate from MCATA going to the top Alberta student, certificates to the second and third place students, and a plaque for the school. In 1971, the prize was increased to \$30.

- Canadian Mathematics Congress Examination in Alberta

This started in 1970, with \$200 being donated toward prizes.

The following contests continue to receive MCATA support in 1995:

- Alberta High School Mathematics Prize Examination

In 1972, \$200 was granted to this competition. This was increased to \$400 in 1975, reduced to \$300 in 1978 and increased to \$500 in 1987.

- Calgary Mathematics Association Junior High Examination

The initial grant to this group was \$30 in 1976; this was increased to \$50 in 1978.

- Edmonton Junior High Mathematics Contest

This was modeled after the Calgary examination; the grant in 1978 was \$50, which was increased to \$100 in 1983.

Mathematics Educator of the Year Award

In 1983, the executive felt that it was time to begin recognizing MCATA members who had made a significant contribution to mathematics education in Alberta. As a result, it established the Mathematics Educator of the Year Award. The first recipient was Marshall Bye, who had put his mark on mathematics education in Alberta through his role as teacher, principal, mathematics consultant, author, conference speaker and MCATA executive member.

1984 Marshall Bye

1985 Joan Worth

1986 John Percevault

1987 Bill Bober

1988 Art Jorgensen

1989 Lois Marchand

1990 Joan Crawford

1991 Cynthia Ballheim

1992 Louise Frame

1993 Mary Anne Nissen

1994 Bob Michie

AD 1642

Blaise Pascal
invents *pascaline*,
the first calculating
machine, capable of
addition and
subtraction.

Pascal also
pioneers the
modern theory of
probability.


AD 1670

THROUGH THE YEARS, THE annual conference has been considered a major activity and service to members.

Most meetings have been held in Edmonton, Calgary, Red Deer and recently Lethbridge. There have been three exceptions. One was the 1992 conference held in Medicine Hat. Another was the 1974 conference at Jasper Park Lodge, with buses organized from Edmonton and Calgary. The other was the 1965 conference held in Vancouver, B.C.! In February 1965, the executive suggested holding the meeting in conjunction with the

NCTM Summer Meeting in Vancouver but felt a survey of the members was needed. Thus a postcard was enclosed in the *Mathematics Council Newsletter* mailed to all members. One hundred and twenty-five members responded: 85 approved of holding the meeting in Vancouver but would not be attending; 30 approved and would be attending; 10 preferred another location. The executive decided to hold the meeting in Vancouver and made the necessary arrangements. Attendance at the annual general meeting was noted as 22 members plus the executive.

From 1961 to 1966, annual conferences were held in the summer, except in 1963. That year, a Mathematics Council-Science Council joint conference was held at the University of Alberta, Calgary Branch (as it was



MATHEMATICS COUNCIL, ATA TWELFTH ANNUAL CONFERENCE

October 13(pm) & 14, 1972

CAPRI MOTOR HOTEL RED DEER

Speakers:

ROBERT WISNER	New Mexico State University
JOHN DEL GRANDE	North York Board of Education
BOBAY BORDALL	Edmonton Public Schools
THEA ARMSTRONG	Edmonton Public Schools
BOBAY BORDALL	Edmonton Public Schools
BOBAY BORDALL	Edmonton Public Schools
BOBAY BORDALL	Edmonton Public Schools
BOBAY BORDALL	Edmonton Public Schools
BOBAY BORDALL	Edmonton Public Schools
BOBAY BORDALL	Edmonton Public Schools

REGISTRATION:
CAPRI MOTOR HOTEL, Friday evening prior to the general session and Saturday 8:00 a.m. till noon.

REGISTRATION FEE (including luncheon)

MCATA Members	\$2.00
Non-Members	\$5.00

PROGRAM ALL SESSIONS WILL BE IN THE CAPRI MOTOR HOTEL

FRIDAY, OCTOBER 13, 1972

7:30 pm	Book Display	10:15	Coffee
8:30	General Session Welcome - Richard Daly, President, MCATA Address - Dr. R. Wisner	10:45	Business Meeting
		11:00	Lunches - Carousal Room Speaker - the Capriettes Prince, Dr. Robert Wisner
		2:30 pm	Elementary Mathematics Program (EMPA), Speaker - Donald and Ted Rempel
		2:30	JUNIOR HIGH SCHOOL Activity Oriented Mathematics, Rose Harvey
		2:30	SENIOR HIGH SCHOOL Maths High School Registration Program in Mathematics, Dr. R. S. Blumell

SATURDAY, OCTOBER 14, 1972

9:00 am	Elementary Workshop - Playing with Number Concepts and One Board, Roy Finch and Roger MacIsaac
9:00	JUNIOR and SENIOR HIGH SCHOOL Mathematics, John Del Grande

ANNOUNCEMENTS

MCATA MEMBERSHIP - It is not necessary to be an MCATA member to attend. Facilities will be available at the registration desk for those interested in joining the Council. MCATA memberships will be available also.

RECEPTION - An informal reception will be held in the Capri Motor Hotel on Friday evening following the General Session. You will have an opportunity to meet the conference speakers. Coffee and other beverages will be on sale.

A display of mathematics books and equipment will be open for your inspection on Friday 7:30 pm to 1:00 am and Saturday from 9:00 am to 3:00 pm.

FOR FURTHER INFORMATION:
Conferences Chairman: Sir McCormick, 6432 - 84 St., Edmonton, Phone 469-0972
Ditch Day, 5718 - 157 St., Edmonton, Phone 426-1161
MCATA President

ACCOMMODATION - Registrants are asked to book their own accommodation if they are staying overnight. Following is a list of addresses and phone numbers of hotels and motels.

Capri Motor Hotel,
3310 Gault Avenue, Tel: 344-2893

The Capri's rates for the conference are \$13.00 for a single room and \$16.00 for a double room.

Other suggested motels are:

Grandma Motor Inn,
197 Ross Street, Tel: 247-1551

Park Hotel,
Ross Street Downtown, Tel: 344-4121

Parkland Motor Hotel,
4117 - 58 Avenue, Tel: 346-6673

conferences were held in the summer, except in 1963. That year, a Mathematics Council-Science Council joint conference was held at the University of Alberta, Calgary Branch (as it was

Annual Conference of the Mathematics Council, ATA, will be held in July 8, 1964, at the River

EXECUTIVE COMMITTEE

Elected Officers for 1963-64

President:	Tom Atkinson Edmonton
Vice-President:	Gordon Japson Calgary
Secretary-Treasurer:	Mrs. Jean Martin Ponoka
Past President:	Fred Tarlton Edmonton

Appointed Officers for 1963-64

Elementary Div.:	Don Massey Edmonton
Junior High Div.:	Mrs. Marion Hutchinson Edmonton
Senior High Div.:	Lloyd Richards Calgary
Department of Mathematics:	Edgar Phibbs Edmonton
Faculty of Education:	Dr. Doyal Nelson Edmonton Dr. Alan Gibb Calgary

Member appointed by the ATA:
M. T. Sillito, Edmonton

then known), on the Thursday and Friday of Easter week. Beginning in 1967, annual conferences were held during the school year, in the early fall.

Until 1968, the executive essentially planned all conferences. In 1968, a planning committee was established, although the executive still made many decisions regarding fees, locations and so on.

For the last number of years, a conference chair from the designated site is chosen at least two years in advance. This person assumes primary responsibility for putting together the various committees required to put on a successful conference. The chair attends executive meetings to report on progress. Executive members are expected to take an active part in each conference as presenters or presiders. Naturally, the conference program committee has the major responsibility in putting together a program that will appeal to participants.

In 1966, 1973, 1979, 1986, 1990 and 1994, the annual conference took the form of NCTM Regional

conferences. These conferences are cosponsored by MCATA and NCTM. Historically, they have been popular with participants, who have attended in large numbers. These conferences have alternated between Edmonton and Calgary. The 1998 Regional conference will be held in Calgary.

Prior to 1985, the conferences opened on a Friday night with the keynote speaker and some sort of reception; sessions were held all day Saturday. In 1985, the conferences were lengthened by one day, and opened Thursday evening with sessions held all day Friday and Saturday, with a major social event scheduled on Friday night. However, because of the difficulty of teachers getting away from their schools on

Thursday and Friday, a move is now being made to have future conferences run from Friday evening until Sunday afternoon.

A highlight of the most recent conferences has been the short sessions, which were initiated by Diane Congdon, chair of the Medicine Hat conference in 1992.

AD 1679

G. W. Leibniz perfects binary system of notation that eventually will be used by all computers.

National Council of Teachers of Mathematics

CHANGING DIRECTIONS

Canadian Regional Conference
Edmonton, Alberta
October 20-22, 1994

An exploration of reasoning, problem solving, connections, technology, and communication in the teaching of mathematics.

For conference information telephone (403) 591-3051 or (403) 433-4002.

Developed by Mathematics Council of the Alberta Teachers' Association

AD 1687



Isaac
Newton
publishes
*Philosophiae
Naturalis
Principia*

Mathematica, his
first presentation
of calculus
(principles
developed in 1656).

Newton and Leibniz
are coinventors of
calculus.

AD 1694

Jacques Ozanam
publishes
*Récreations
mathématiques et
physiques*, the
precursor of
number-game books
for the next 200
years.

Medicine Hat 1992: We Didn't Go Down in Flames

Diane Congdon

THE 1992 MCATA CONFERENCE IN MEDICINE HAT FEELS LONG past, yet people still comment on its success and unusual format. It might have been canny strategy, but, in truth, dumb luck played a larger part.

Few planning committee members had ever attended a MCATA conference. Ideas were bandied about without the guidance (or interference) of tradition. This proved lucky when we were faced with unusual problems.

Medicine Hat offered limited conference facilities and its out-of-the-way location presaged a poorly attended event. (Someone from Edmonton wondered why MCATA was holding its annual conference in Saskatchewan.) One thoughtful executive member suggested that "breaking even" was a laudable goal. Dreading a worst-case scenario, we kept costs low by calling in favors from friends and colleagues to provide free labor. Our only lavish expense was the clay goblets given to registrants, and even those were of greater value than cost.

The highlight-almost-disaster of the conference was the Math Fair. The idea of 25 simultaneous, open-area sessions made the best use of limited space, namely, one large ballroom. It was the fair that gave rise to the conference's medieval theme: "Math Fare." This theme continued through to the social events: Mead and Greet, Aftermath and Joust for Fun.

Two weeks before the conference, the Fair speaker list was seriously underfilled, and we were panicking. We used the list of early registrants to make hours of long-distance calls to plead for volunteers. Our rule for choosing who to contact was simple: registrants purchasing dinner theatre tickets are fun-loving people who will agree to present last-minute sessions. (And they responded well to pleading and bribery.) The Fair was a smashing success, and the format has been repeated at other MCATA conferences and a teachers' convention.

A medieval feast and theatrical performance also portended disaster. We expected some heat due to the earthy nature of the script but never predicted three fire alarms. As frustrated actors froze in place, embarrassed hotel employees apologized for mischievous children roaming the hallways. Only a roomful of educators would be so sympathetic. (Later rumors suggested a faulty alarm in the kitchen was the true culprit.)

With the conference over, contented registrants headed out along the barren Trans-Canada Highway. The planning committee, with its financial statement, basked in a rosy glow. We briefly considered serving a warm dish of crow to those sceptics who had foretold failure, but we were unwilling to take the first bite.

Conference Schedule

1961	August 16-19	Edmonton
1962	July 11-13	Edmonton
1963	April 18-19	Calgary – joint Math/Science
1964	July 8	Red Deer
1965	August 27	Vancouver
1966*	August 25-27	Calgary
1967	September 15-16	Red Deer
1968	October 4-5	Red Deer
1969	September 26-27	Edmonton
1970	September 25-26	Calgary
1971	October 1-2	Calgary
1972	September 29-30	Red Deer
1973*	October 4-6	Edmonton
1974	October 25-26	Jasper Park Lodge
1975	October 3-4	Calgary
1976	October 1-2	Red Deer
1977	October 14-15	Red Deer
1978	October 13-14	Red Deer
1979*	October 11-13	Calgary
1980	November 7-8	Red Deer
1981	October 16-17	Lethbridge
1982	October 22-23	Edmonton
1983	October 28-29	Calgary
1984	October 26-27	Red Deer
1985	October 24-26	Lethbridge
1986*	October 16-18	Edmonton
1987	October 22-24	Calgary
1988	November 3-5	Edmonton
1989	November 2-4	Lethbridge
1990*	October 25-27	Calgary
1991	October 31-November 2	Edmonton
1992	November 5-7	Medicine Hat
1993	October 28-30	Calgary
1994*	October 20-22	Edmonton
1995	September 29-30	Lethbridge

*NCTM Meeting

AD 1748

Leonhard Euler publishes *Introduction to Infinitesimal Analysis*, called the foremost mathematical textbook of modern times.

AD 1794

The École Polytechnique is established, with great French mathematicians among its teachers.

Affiliation with NCTM



THE EXECUTIVE discussed possible affiliation with the National Council of Teachers of

Mathematics (NCTM) in December 1962 and agreed to get more information. In October 1963, a motion was made to proceed with affiliation, after checking with the ATA.

In February 1964, Mel Sillito reported that the ATA would encourage affiliation, and the necessary forms were sent to NCTM. In September, the reply from NCTM was read into the minutes, informing "us that our application for affiliation with the NCTM was approved by the Board of Directors, and that we [would] receive our Certificate of Affiliation at the Detroit NCTM Meeting." Plans were made to send President Len Pallesen as our delegate to the Detroit meeting in April 1965. At the executive meeting in May, Len reported he was

teachers, and our systematic handling of modern mathematics, compares favorably with the state-wide picture in any state." Since that meeting in 1965, MCATA has sent a delegate to every NCTM annual meeting and delegate assembly.

At the same time it applied for affiliation (September 1964), the

AD 1795

France adopts the metric system.

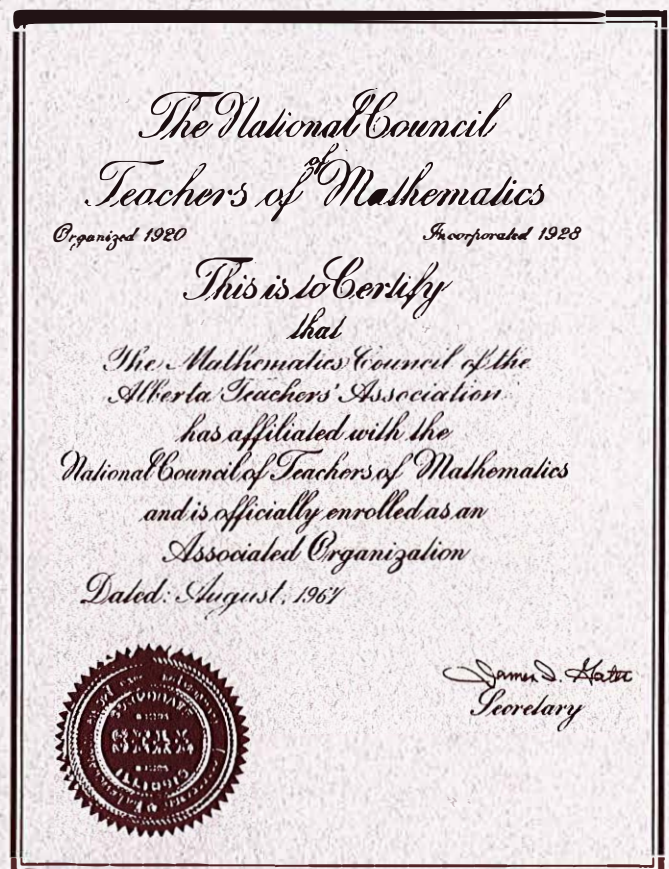
AD 1800

Set theory, a key element in modern mathematics, is introduced and developed.

greatly impressed with the large attendance, the excellent facilities and the interesting speakers [and that a] recommendation was made to the Board of Directors, through the Delegate Assembly, that it continue and intensify a study of ways and means of improving service to the Canadian membership of NCTM.

Len reported that his overall impression "was that the state of mathematics in Alberta need not be apologized for in any part. The preparation of our elementary

executive expressed an interest in sponsoring an NCTM summer meeting in Alberta. In November 1964, council heard that a summer NCTM meeting could be held in Alberta in 1966, subject to approval of facilities. The possibility of holding the meeting at the Banff Springs Hotel was investigated by the executive but did not prove feasible because of space availability, so the



executive recommended that the meeting be held on the university campus in Calgary, August 25–27, 1966. Ted Rempel was appointed general chair and Sid Lindstedt as program chair. Plans were well under way by November 1965, and, at executive meetings from then on, a good deal of time was spent planning the meeting.

A Joint MCATA-NCTM Membership Drive was held in September 1966. Copies of the MCATA brochure, the NCTM brochure and list of current publications, a copy of either *The Arithmetic Teacher* or *The Mathematics Teacher* and a covering letter were distributed to every school in the province using the professional development mailing list.

Two other NCTM services were used: MCATA regularly applied for an NCTM “underwrite” of annual meetings, which meant that, in the event of a financially disastrous meeting, NCTM would cover the losses; and NCTM materials were ordered on consignment and sold at every opportunity, such as local ATA conventions, with MCATA keeping 20 percent of sales receipts.

All monies made from the sale of NCTM materials in 1971 were donated to the NCTM Building Fund. In addition, a \$200 donation was made in honor of M. E. LaZerte. The executive asked Doyal Nelson and Joan Kirkpatrick to organize a western Canada campaign to collect money for the building fund in Dr. LaZerte’s name. Enough money was raised so that both MCATA and Dr. LaZerte’s names appear on the Honored Mathematics Educators plaque hanging in the new NCTM building.

Another NCTM meeting was held in Alberta, October 4–6, 1973, this time in Edmonton at the Château Lacombe. The general chair was

MCATA president Dick Daly; the program chair was Stu McCormick. The MCATA paid for meetings of the planning committee, so there was much less detailed discussion of this second meeting at executive meetings.

Other NCTM Meetings

Calgary, 1979	Lyle Pagnucco <i>general chair</i>
Edmonton, 1986	Joan Worth <i>general chair</i>
Calgary, 1990	George Ditto <i>general chair</i>
Edmonton, 1994	Florence Glanfield <i>general chair</i>

MCATA Executive Members Who Served NCTM

- Doyal Nelson, Board of Directors
- Joan (Kirkpatrick) Worth, Canadian representative and chair of Committee of Affiliated Groups; Board of Directors; Publications Committee; member and subsequently chair of *Arithmetic Teacher* Editorial Panel
- George Cathcart, member and subsequently chair of Publications Committee
- George Ditto, Canadian representative on Meetings Committee
- Dick Kopan, Canadian representative and subsequently chair of Regional Services Committee (formerly CAG)
- Florence Glanfield, Canadian representative on Regional Services Committee
- Tom Schroeder
- Marshall Bye
- Al Neufeld
- Art Jørgensen
- John Percevault

AD 1833



Charles Babbage invents differential calculating machine.

AD 1847

George Boole publishes *Mathematical Analysis of Logic*, which shows logic to be a branch of mathematics.

Affiliation with CAMT

IN SUMMER 1966 AT THE Laurentian Leadership Conference sponsored by NCTM, Norman Goble of the Canadian Teachers' Federation (CTF) spoke on the possible formation of a Canadian Mathematics Council. He informed the group that a conference was planned for March in Ottawa to discuss such a possibility and that provincial teachers' associations would be sending delegates. All this came as a complete surprise to the MCATA representatives, Marshall Bye and Joan Kirkpatrick.

At the October executive meeting, this proposal was thoroughly discussed, particularly regarding how it might affect our affiliation with NCTM. The general consensus was that we did not want to lose this affiliation and the services provided by the NCTM. The other aspect of the discussion centred on the fact that our parent body, the ATA, had made the initial proposal at a CTF meeting. The MCATA executive felt that the ATA should have discussed it with MCATA. A meeting between the ATA and MCATA was suggested.

In February 1967, Mr. McDonnell from the ATA attended the MCATA executive meeting to discuss our concerns and said that the purposes of such an association would be to

1. establish the primacy of the classroom teacher,
2. provide intercommunication within the profession in Canada and between the profession and other interested bodies,
3. provide for discussion and exchange of information, and
4. ensure that matters requiring a decision were returned to be dealt with by existing machinery within the provinces.

Also, the Canadian group would be an association of associations, not of individual members as with NCTM. The ATA was prepared to cover the expenses of two MCATA representatives to the organizational meeting in Ottawa in March; the MCATA executive decided to send a third delegate, so Marshall Bye, Gus Bruns and Ted Rempel attended. Gus Bruns attended another planning committee meeting in June 1967.

In October, executive members agreed to send delegates to the first annual meeting of the Canadian Association of Mathematics Teachers (CAMT) in Ottawa but were not ready to apply for membership until specific information on the financial responsibility of membership was forthcoming. Marshall Bye and Murray Falk attended as our delegates, with Gus Bruns attending at CAMT expense as a member of the planning committee. In January 1968, the representatives reported on the Ottawa Conference, at which Marshall Bye was appointed editor of CAMT publications. The financial obligation of membership would be \$300 per year, mainly used in a pooled travel budget. The executive decided to apply for membership. In March 1968, Marshall Bye attended another meeting to discuss CAMT's role. The MCATA executive felt that CAMT should not duplicate services of other groups but rather look for a unique function. Marshall was sent with some suggestions for 1968 annual meeting topics: inservice training of teachers in Canada; getting funds from Canadian organizations to aid in setting up nationwide programs; using CBC Television to reach teachers across Canada. Marshall reported that the group

AD 1859

Amédée Mannheim
invents first
modern slide rule.

AD 1878

Sam Loyd invents
The Fifteen Puzzle.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	

had decided to focus on using video tapes and TV to share information.

By June 1968, two CAMT newsletters had been prepared—the plates were made available so provincial organizations could cover printing and distributing. MCATA sent out the second newsletter.

During the 1968–69 year, CAMT made some efforts to videotape novel teaching experiments in Alberta, Ontario and Quebec, but no funds were available so the project was set aside. Departments of Education were asked to present their best educational television mathematics productions at the next conference in Toronto but were not given enough notice to include this in departmental budgets so that project was also abandoned. In March 1969, there was yet another Ottawa meeting to review CAMT's role; following much discussion, the MCATA executive decided to continue supporting CAMT and sent Marshall Bye to the meeting. In April 1969, Ed Olsen assumed the CAMT representative responsibilities. Again, there was much

discussion of the role and purpose of CAMT and of MCATA support. It was decided to reproduce the third CAMT newsletter for all members. Ed Olsen attended the annual CAMT meetings in Toronto in 1969, Winnipeg in 1970 and Montreal in 1971. During 1971, CAMT hoped to collect and distribute major articles from each province, possibly continuing on a yearly basis. In 1972, Stu McCormick became CAMT representative, and the executive agreed to support CAMT for another year. In January 1973, Stu reported that, at the annual meeting in December 1972, CAMT was dissolved due to lack of financial support.

For six years, MCATA had supported CAMT morally and financially, by sending representatives to all meetings, by contributing money for the pooled travel expenses and by printing and distributing newsletters. Over those years, more executive meeting time was devoted to discussions of CAMT than to any other “single-issue” discussion topic!

AD 1886

William Burroughs develops first commercially successful mechanical adding machine.

AD 1894

John Venn introduces Venn diagrams for use in set theory.



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Publications

MCATA HAS BEEN PRODUCING publications since shortly after its inception in 1961. A paper chase through the archives and library at Barnett House resulted in an incomplete, but impressive, list of published documents, including newsletters, journals, annuals and monographs. In sifting through the collection, it became evident that, over the years, the publications have responded to changing needs of the members when deemed appropriate. These changes have been seen in the format and frequency of publications.

Newsletters

The earliest *Mathematics Council Newsletter* found is Volume 2, Number 1, March 1963. The editor was Professor W. F. Coulson of the University of Alberta. It was published in a small size for four years (up to Volume 6, Number 4, June 1967). Tom Atkinson and Sol Sigurdson, both of the University of Alberta, also served as

editors during this time. Beginning with Volume 7, Number 1, December 1967, the newsletter was changed to a larger, 8.5" x 11" size. Mary Beaton of the University of Calgary was the editor from this time until June 1970, when Murray Falk, a high school teacher from Calgary, took on the challenge. The enlarged version of the newsletter continued up to Volume 10, Number 2, February 1971. The newsletters included articles on curriculum changes, book reviews, ideas for teaching current topics in all divisions, interesting problems to solve, conference updates, news about local activities and research reports.

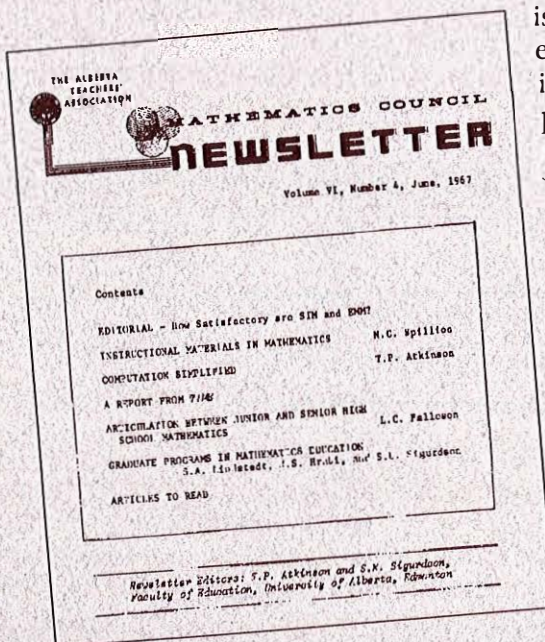
Retrospectively, many mathematics education topics and issues seem timeless. For example, browsing through early newsletters brings to mind the cliché that the more things change, the more they stay the same. In the 1960s, a problem was raised about how to accommodate members of other specialist councils wishing to attend MCATA conferences without having to purchase a MCATA membership. This same issue was raised at a recent (1990s) executive meeting. Concerns about implementing new curricula and pleas for newsletter articles are eternal issues. In light of technological advances, one research report, "Project Calculator," written 25 years ago (February 1968) by Marshall Bye, is noteworthy. He reported with enthusiasm the positive effects of using calculators with students who had previously been unsuccessful in mathematics. The accompanying photographs of bulky desktop calculators plugged into electrical outlets are particularly striking. [See "Project Calculator" page 38.]

AD 1895-97

Georg Cantor conceives the theory of transfinite numbers.

AD 1900

David Hilbert proposes 20 fundamental questions to challenge mathematical efforts in the 20th century.



delta-K

In December 1970, a major change was initiated, and the intent was

explained in the *Newsletter*. Due to the nature of the articles being printed, the publication had grown to be more than a newsletter; it had developed into a professional journal.

Suggestions for a name for the new journal were requested from members. The *Mathematics Council Newsletter* was renamed *delta-K* in May 1971 (Volume 10, Number 3). The chosen name represents *delta* (Δ), the fourth letter in the Greek alphabet used in mathematics to represent an increment or increase. *K* is for knowledge: knowledge of mathematics, knowledge of teaching mathematics and knowledge of new methods and developments in our discipline. The new publication continued to provide members with news as well as professional articles dealing with current issues in mathematics education. Murray Falk continued as editor of the new journal until December 1973, when Ed Carriger of Bluffton began an eight-year tenure in the position.

delta-K has always been published regularly. The February 1978 edition brought further change. The journal had grown to such an extent that a simple corner-staple format was no longer feasible, so a double-page, saddle-stitched journal with a separate cover was introduced.

In spring 1981, George Cathcart of the University of Alberta became the editor and held this position until fall 1982. Other editors have

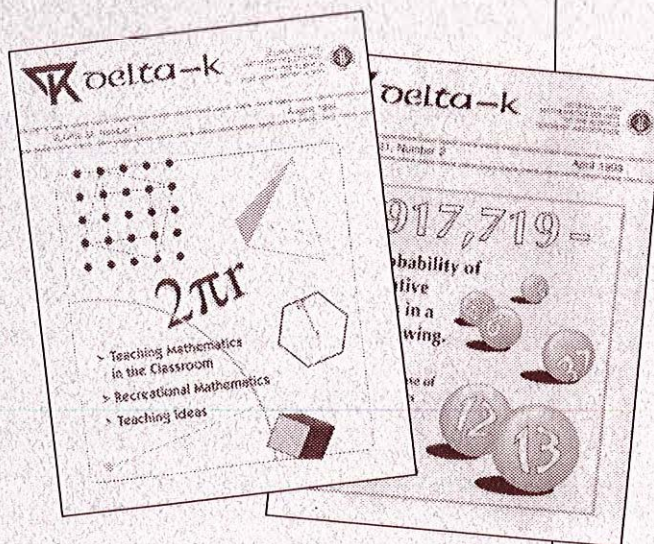
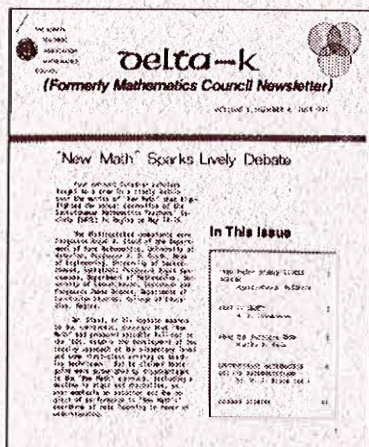
been Gordon Nichol (October 1983 to May 1984); coeditors Art Jorgensen from Edson and John Percevault of the University of Lethbridge (fall 1985); John Percevault (spring 1986 to spring 1988); Linda Brandau of the University of Calgary (fall 1988 to fall 1990). [Sadly, Linda later became ill and died in spring 1991.] From fall 1990 to fall 1992, John Percevault and Craig Loewen, both of the University of Lethbridge, coedited the journal. In fall 1992, Craig became the sole editor. In mid-1994, Art Jorgensen once again became journal editor.

The Volume 26, Number 3, August 1987, issue of *delta-K* was replaced with *Teaching Mathematics in the Early Childhood Classroom*, a joint publication of MCATA and the Early Childhood Education Council (ECEC). John Percevault (MCATA) and Gordon Orlick (ECEC) served as coeditors on the project.

Another special issue of *delta-K* was produced two years later, this time jointly with the Gifted and Talented Education Council: "Mathematics for Gifted Students" (Volume 27, Number 3, 1989; guest editor Andy Liu of the University of Alberta). Another joint venture with this council is planned for the future.

AD 1924

First meeting of the International Congress of Mathematicians (ICM) (now called the International Mathematical Union)



AD 1932

ICM establishes the Fields Medal, the greatest honor that can be conferred on a mathematician, named after Canadian J. C. Fields. The Medal was first awarded in 1936 (the original die hangs at the University of Toronto). Today, four medals are awarded every four years.

Project Calculator

Marshall P. Bye

Excerpted from Mathematics Council Newsletter, Volume 7, Number 2, February 1968, pp. 5-8.

"Students are asking if they can return after school to finish their math assignments."

"Students, during assemblies that run over into math classes, are asking to be allowed to return to their math classes."

"Students are performing five, six, seven or more step problems without assistance."

You may ask, "What is so different about all this?" Many teachers may not see anything different in this, but to two teachers in particular these "happenings" are rewards for the extra work that has gone into two projects: Project Calculator I and Project Calculator II. The young people described above are not average students. They have been failing mathematics for years; some have not passed a math course since Grade 2. They have hated mathematics. These students attend the junior and senior vocational mathematics classes being offered by two academic-vocational schools in the Calgary public school system [Van Horne Secondary Vocational School and Ernest Manning Academic-Vocational High School].

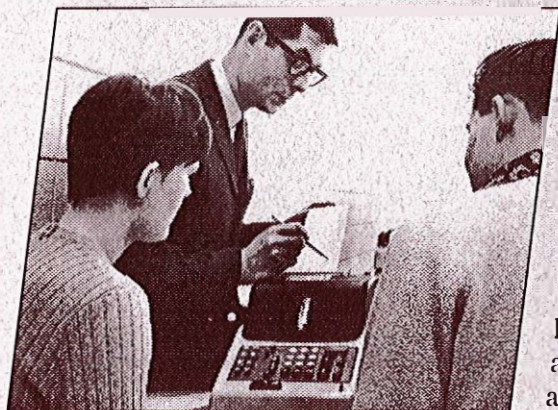
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C. S. Swaney chats with two students in Project Calculator I at Van Horne Secondary Vocational School, Calgary.

In September [1967], Olivetti Underwood offered, on loan, 18 Divasumma Calculators for Ernest Manning and 10 for Van Horne. The writer, while at the NCTM meeting in Las Vegas last April, had gathered some information and suggested lesson plans from "Concepts and Applications of Mathematics Project" (CAMP). This information was for calculator-centred mathematics courses and related to the use of low charts.

At Van Horne, C. S. Swaney worked these ideas from CAMP into his own thinking, and this is how Project Calculator I was born.



R. M. Radomsky with a mathematics class in Project Calculator II at Ernest Manning High School, Calgary

Mr. Swaney is building a course centred around the use of the calculator to meet the interest and needs of the students.

Among other advantages, the calculator develops interest and puts "activity" into the math program. It provides a measure of success.

Mr. Swaney and those associated with this project are amazed at the level of achievement the students are attaining and the changes in attitude toward the mathematics classes. The project continues.

At Ernest Manning, principal T. T. Humphrey gave approval for R. M. Radomsky to teach Project Calculator II to three classes of

Mathematics 15. Mr. Radomsky built his course to augment the current textual material and to encompass topics related to other vocational subjects. He found that the students could handle difficult and complex problems much more rapidly and to a greater extent than he had expected. The students could master a large number of problems of a more challenging nature. When asked how the project was proceeding, Mr. Radomsky commented, "Just come in and watch the students. See for yourself." I did just that. I saw students working diligently, in pairs, often one helping the other. There were no discipline problems. A student raised his hand and asked if he could come back early at noon to finish his assignment. I saw students do mental calculations with confidence, far beyond the level at which they were able to work just two months before. Many other positive changes were observed. I was convinced of the success of the program.

It is hoped that the data collected from this experiment will support the hypothesis that Project Calculator II results in a positive change in attitude toward mathematics, an increase in problem-solving ability and an increase in ability to perform simple computation.

Perhaps it is too early to predict with sophistication the exact effect of the extended use of calculators in mathematics, but the results being obtained are exciting, promising and favorable.

AD 1936

Alan Turing describes a hypothetical computer with infinite storage capacity, capable of performing any conceivable calculation.

Newsletter Reincarnated

Nearly 12 years after the initiation of *delta-K*, members felt a need to reinstate the newsletter concept as a separate publication that could be produced more frequently than the journal to keep members better informed on a regular basis. The first "revised" newsletter (Volume 1, Number 1) was published in January 1983. The editor, Art Jorgensen from Edson, has continued in the position. In the October 1984 issue of *delta-K*, Art is quoted as saying

I have been associated with MCATA for so long I don't remember when I started. I feel as if I were secretary since the time of Socrates. Fortunately, Mary-Jo [Maas] came along to relieve

me, or I would likely have been in that position until the Second Coming! I have enjoyed the position of newsletter editor.



Timeless Editorial

A Matter of Survival

AS I REVIEW THE MEMBERSHIP OF MCATA OVER THE PAST number of years, I note a disturbing trend, and that is that the total membership is remaining static at best, and possibly falling. In December 1983, there were only slightly over 600 active members. When one considers the fact that in Alberta schools there are over 25,000 teachers, and likely at least 25 percent of them do teach students mathematics at least part of the time, the membership of MCATA should be larger.

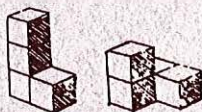
It is my belief that a majority of these teachers are unaware of the benefits of belonging to MCATA. I, therefore, encourage each of you to inform a fellow math teacher of the benefits of belonging. For a mere \$15, members get such publications as the annual monograph, *delta-K* and the *Newsletter*. MCATA also organizes an annual conference, with numerous presentations, that should be of interest to all who teach students mathematics. Just think, if each of the current members could convince one fellow teacher to join, MCATA would soon have over 1,000 members. This I consider to be a realistic objective.

—Art Jorgensen

Excerpted from the editorial in Mathematics Council Newsletter, Volume 3, Number 2, October 1984, p. 1.

AD 1936

Piet Hein creates Soma Cubes.



Math-BIN

The Math-BIN was a duotang in which to store ideas and activities for teaching mathematics (hence the name BIN!). In line with the Council's Venn-diagram logo, each letter of the name also represented a set.

The first Math-BIN contained several activity sheets with at least one for each of the following levels: Grades 1-3, 4-6, 7-9 and 10-12.

Teachers received the BINs with the suggestion that the member receiving the sheets share the ones

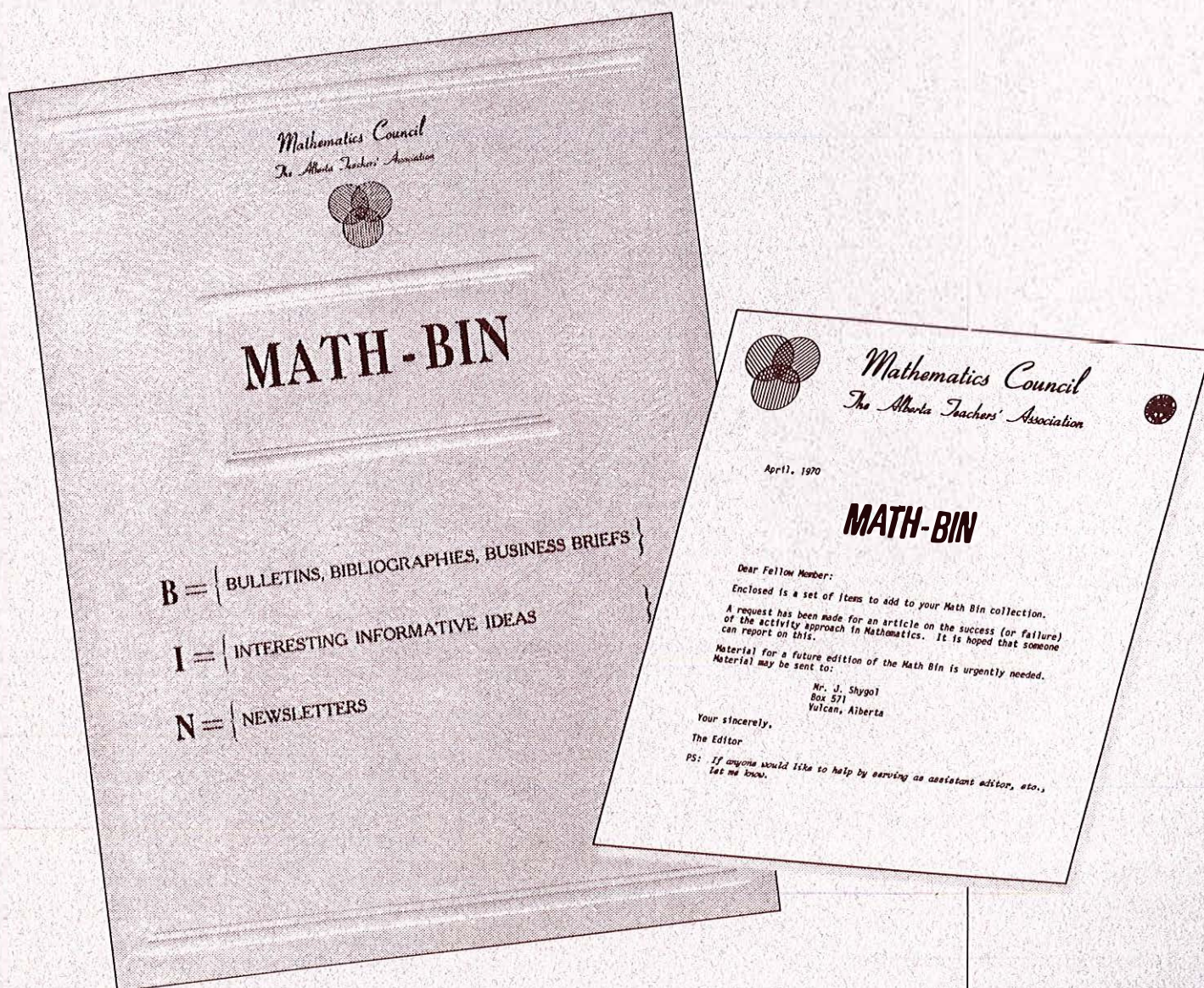
not applicable to the member's level with some nonmember teachers.

Additional sheets to add to the BIN were sent out with each publication. As well, members were invited to send in their ideas for inclusion.

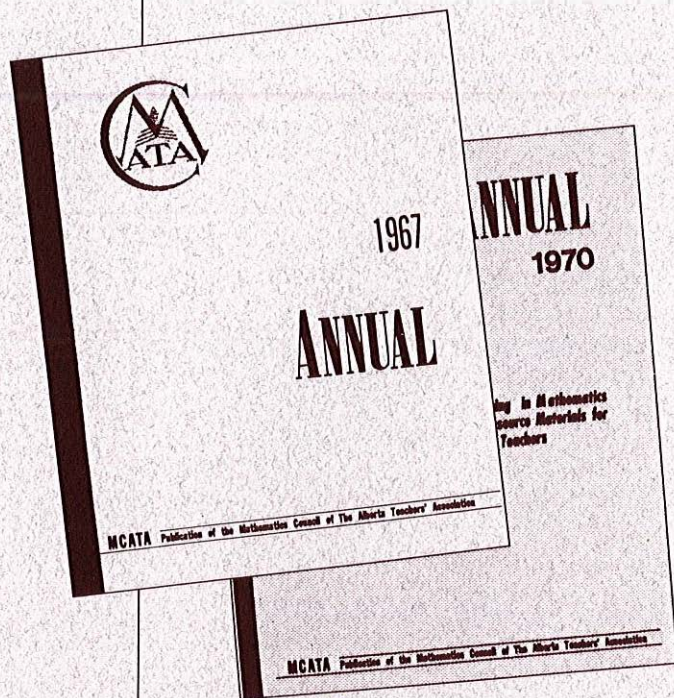
As with many new ventures, interest was very high at first, and many contributions were received from members. No record is available of how many years the BIN operated, but memory indicates the BIN was active as long as its originator Ted Rempel served on MCATA's editorial board.

AD 1939

First report of a square being dissected into unequal squares.



Other Publications



The archives also produced evidence of another early publication series: the Annual. It was described in the 1965 Annual as a "summary setting forth enriching material written by local and other writers." Other annu-als found were titled "Making Mathematics Practical" (1968-69) and "Active Learning in Mathematics: A Set of Resource Materials for Teachers" (1970). The latter was edited by B. D. Harrison of the University of Calgary.

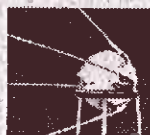
The Canadian Mathematics Teacher was a joint venture of MCATA, the British Columbia Association of Mathematics Teachers, the New Brunswick Teachers' Association Mathematics Council, the Newfoundland Teachers' Association, the Ontario Association for Mathematics Education and the Saskatchewan Mathematics Teachers' Society. Only four volumes (1982-85) of this journal were published.

Monographs

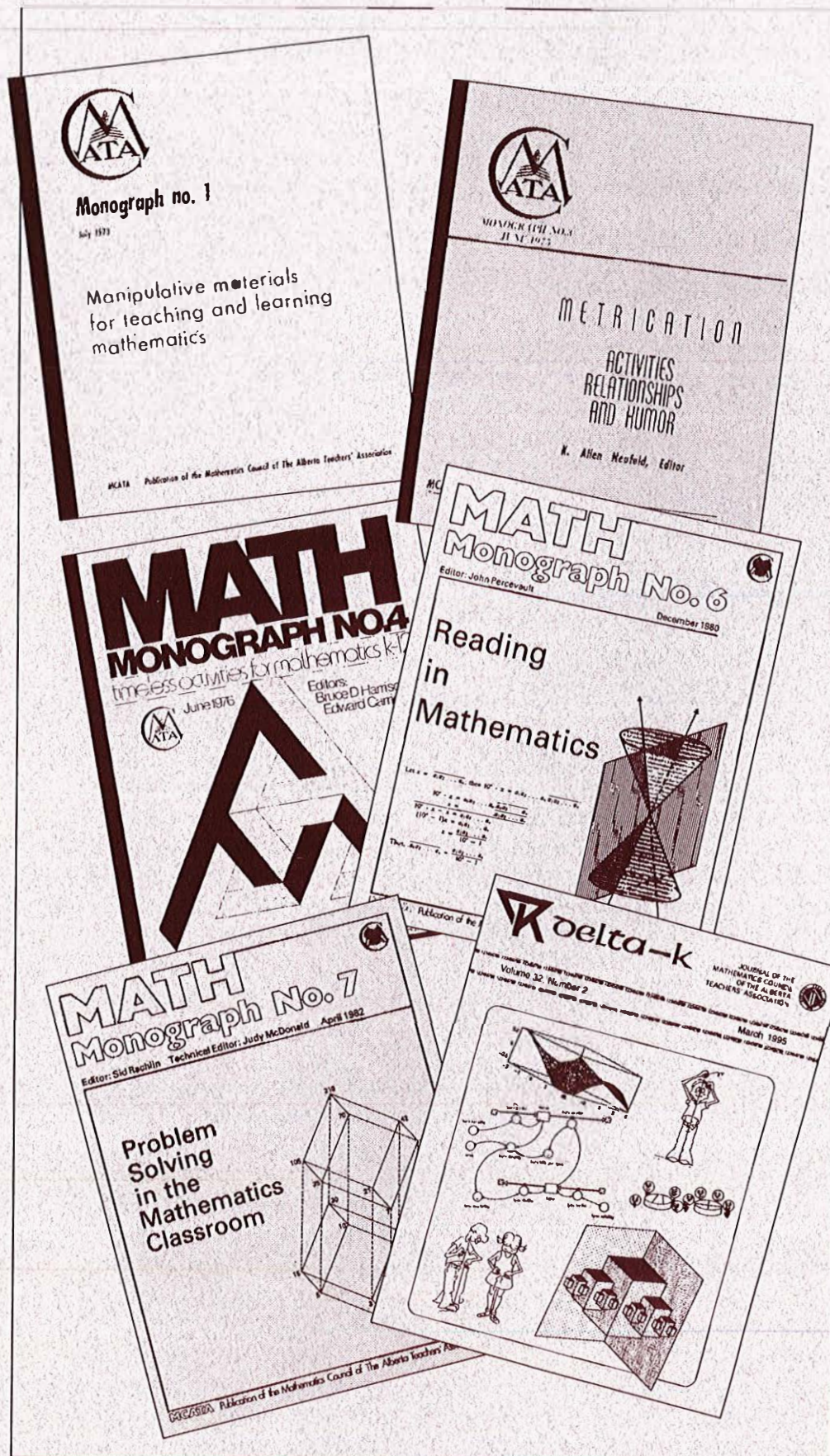
A series of monographs addressing issues or topics of current interest has been published since 1973:

1. *Manipulative Materials for Teaching and Learning Mathematics* (July 1973), edited by W. George Cathcart of the University of Alberta
2. *Mathematics Teaching: The State of the Art: Proceedings of the Edmonton Meeting of the NCTM* (October 1973), edited by W. George Cathcart of the University of Alberta
3. *Metrication: Activities, Relationships and Humor* (June 1975), edited by K. Allen Neufeld of the University of Alberta
4. *Timeless Activities for Mathematics K-12* (June 1976), edited by Bruce D. Harrison of the University of Calgary and Ed Carriger from Bluffton
5. *Calculators in the Classroom* (November 1977), edited by K. Allen Neufeld of the University of Alberta
6. *Reading in Mathematics* (December 1980), edited by John Percevault of the University of Lethbridge
7. *Problem Solving in the Mathematics Classroom* (April 1982), edited by Sid Rachlin and Judy McDonald
8. *Microcomputer Development* (September 1982), edited by Ron Cammaert
9. *56 Ideas: Make It, Take It* (December 1987), edited by William Bober of Edmonton Catholic Schools and John Percevault of the University of Lethbridge
10. *Communication in the Mathematics Classroom* (October 1992), edited by Daiyo Sawada of the University of Alberta

AD 1957



U.S.S.R. launches Sputnik I on October 4, and the "space race" begins. Demand for mathematics training skyrockets.



AD 1950s & 1960s

New Math, the study of numeration systems, was in vogue. Students were to gain better understanding of the decimal system and of arithmetic by doing arithmetic using unfamiliar numeration systems.

The Schroeder/Frame Report

The Preparation and Continuing Education of Mathematics Teachers in Alberta: A Status Survey and Needs Assessment

IN 1984, THE MCATA EXECUTIVE initiated a status survey and needs assessment to determine the needs and concerns regarding mathematics education in Alberta. Tom Schroeder, then a professor in the Faculty of Education at the University of Calgary, and Louise Frame, an elementary school teacher, were commissioned to complete this study.

A stratified random sample of 100 elementary schools and 100 secondary schools was drawn. Questionnaires were sent to the principals with a covering letter explaining the survey's purpose and asking for support. In elementary schools, all teachers were asked to respond; in secondary schools, all teachers teaching mathematics were asked to respond. Responses were received from nearly 150 principals and more than 700 teachers in 70 elementary schools and 67 secondary schools.

From the survey, interesting and valuable information was determined, including some of the following findings:

- Mathematics laboratories were quite rare.
- Nearly all schools had at least one microcomputer (96 percent).
- Class sets of calculators (20 or more) were available in 50 percent of elementary schools and in 39 percent of secondary schools.
- About three quarters of the elementary teachers were female

and about one quarter were male, while the opposite was the case for secondary teachers.

- Secondary teachers were somewhat older and more experienced.
- Most elementary teachers had taken one or more mathematics teaching methods courses.
- More than one third of elementary teachers had not taken a mathematics education course.
- Most secondary teachers had taken one or more courses in calculus, statistics and mathematics teaching methods.
- More than one third of secondary teachers had not taken even one course on the methods of teaching mathematics.
- Teachers of senior high school mathematics tended to have higher qualifications in mathematics than teachers of junior high school mathematics.
- Teachers who taught mathematics in urban schools tended to have higher levels of qualifications than rural mathematics teachers.
- Thirty-four percent of elementary teachers and 36 percent of secondary teachers had not participated in any inservice sessions, workshops or courses over a three-year period.
- One percent of elementary teachers and 17 percent of secondary teachers belonged to MCATA.
- Twenty-one percent of elementary teachers and 13 percent of secondary teachers belonged to ATA specialist councils.
- Secondary teachers were noticeably less satisfied with the quality of their textbooks than were elementary teachers.

AD 1960

La Conférence
Générale des Poids
et Mesures (CGPM)
adopts the
International
System of Units
(SI) [metric].

The report raised many important questions and resulted in interesting discussions. Numerous concerns such as inservice sessions have since been addressed by MCATA. Ten

years later, another question to reflect on might be "How much has changed in the interim and what has remained the same?"

Blue Ribbon Panel

THE RESULTS OF THE Mathematics 30 diploma exams were being questioned by the media during 1991 and 1992. As a result, The Alberta Teachers' Association appointed a panel of mathematics educators to operate at arm's length from the Association. The terms of reference of the panel were

- to review the results of the Mathematics 30 diploma examinations,
- to review the structure and nature of senior high school mathematics,
- to identify concerns and expectations of education partners with respect to senior high school mathematics, and
- to make recommendations directly to education partners.

Part of the panel's work involved surveying high school students, secondary school mathematics teachers and postsecondary institutions. A report of the panel's work was released at a press conference in March 1993. The report contained 53 recommendations to Alberta Education, school boards, teachers, the ATA, postsecondary institutions,

departments of mathematics, teacher preparation programs, students and parents, business and industry. A copy of the report is available through the ATA.

The Blue Ribbon Panel was disbanded in fall 1994. A number of the panel's recommendations have been addressed by the various educational partners. In particular, Alberta Education has seriously examined all recommendations.

Two major problems remain: first, Mathematics 30 does not reflect the students who enroll in the course, and, second, postsecondary math prerequisites must be further reviewed. Some institutions are still using Math 30 as a screening device to limit student admission.

The following leaders of mathematics education served on the panel: Art Jorgensen (chair), Helen Stewart and Ken May (mathematics teachers), Florence Glanfield (Alberta Education representative), Tom Kieren (professor, University of Alberta), Jean Phelps (associate dean, Lethbridge Community College) and Bob Hart (mathematics teacher and then president of MCATA).

AD 1971

Canada adopts metric measurement system.

.....

Texas Instruments produces first electronic pocket calculator (weight: 1.1 kg; cost \$150).

A Math Supervisor's Philosophy

Barbara Morrison

THE PROFESSIONAL STANDARDS for Teaching Mathematics invites teachers to engage in ongoing analysis and reflection of their teaching. This submission represents some of my thoughts and reflections as supervisor of mathematics for Calgary Catholic Schools over the past four years. It took time and exposure to professional reading for me to formulate a practical, working philosophy. NCTM publications and MCATA journals have been extremely useful. No philosophy can be developed in isolation. I am indebted to colleagues and supervisors in my district and to others across Canada. I am most grateful to classroom teachers, for it is through ongoing dialogue and observations of teaching practices that I have been able to ground my beliefs in practice.

The Importance of Mathematics

I believe that mathematics is a foundation discipline that opens doors for opportunity and without which many doors are beginning to close. Mathematics must be clarified, as we are heavily affected by rapidly changing technologies.

- All students should have an opportunity to study and learn essential mathematics.
- Teachers need to communicate and model the importance of mathematics to students.

Learning Mathematics

If we believe that knowledge is personally constructed, we will embody a vision of teaching in which students are actively involved

in *doing* and *thinking* about the mathematics they are learning. Students will communicate their thinking, formulate their own hypotheses and conjectures, and test them with teachers and students.

- Students will use concrete experiences and relevant problems to construct mathematical ideas, concepts and skills.
- Teachers will be facilitators, continually questioning, checking for understanding and monitoring learning as they assess students' progress.
- Using open-ended problem-solving tasks will allow students to work cooperatively to extend and enrich their learning.

Mathematical Processes

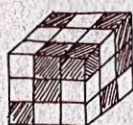
The NCTM Standards, *problem solving*, *reasoning* and *making connections*, will be part of a theory of learning used to develop and unveil mathematical skills, content and procedures. The fourth process Standard, *communication*, will enhance, enrich and create meaning.

- Polya's model will be viewed as a framework for student questioning and reflecting, looking back and looking ahead as they explore rich mathematical experiences. The statistical model of collecting or gathering data and organizing, analyzing and interpreting results will be embedded in most instructional activities.

Mathematical lessons will be varied when teachers internalize and use simple teaching frameworks and complement them with their own creative ideas. The following examples demonstrate great potential for employable structures.

AD 1975

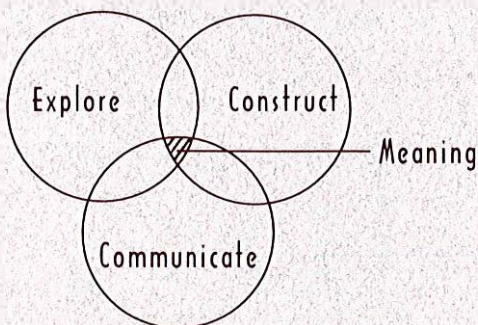
Ernö Rubik patents
Rubik's Cube (10¹⁹



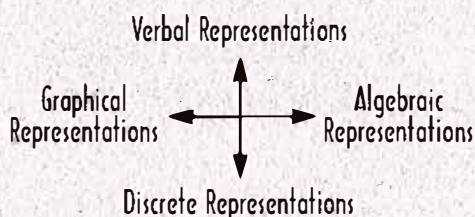
ways to
scramble
before
solving).

Explore-Construct-Communicate

(Based on a meaning-making model used in the Language Arts Program of Studies)



Model for Solving Worthwhile Mathematical Tasks



Verbal Representations

A problem is presented to be clarified, understood and reformulated, or an investigation is used as students collect data through concrete activities. (Teachers will think about and then invent quality and relevant mathematical tasks that actively involve their students.)

Discrete Representations

Students will gather data or problem information and organize it using tables, ordered pairs and so on.

Graphical Representations

Students will select and use graphs or models.

Algebraic Representations

Students will discover patterns, rules or generalizations and test them out.

(I call this the "leap of faith." Everything depends on it. When teachers look within themselves, use their creativity and find hooks for their teaching, they will see change. Classrooms will become communities of learners. This is exciting.)

Evaluation

Assessment of student progress and achievement will be fair and ongoing, formative, diagnostic and summative. It will be planned and aligned with instruction and clearly understood by students. There will be opportunities for self, group and peer assessment. Assessments will reflect important mathematical outcomes.

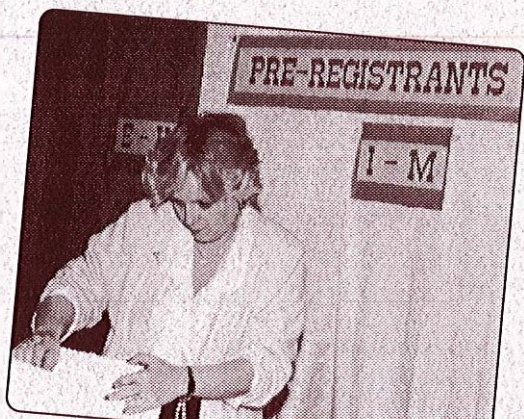
Expectations

- Students will be expected to learn. They will come to school motivated and interested in learning. They will see purpose to learning mathematics and enjoy it.
- Classrooms will be communities of learners where the teacher's role will be one of mentor and coach, director and facilitator, and caregiver.
- Teachers, parents and students will be jointly accountable and responsible for student learning.

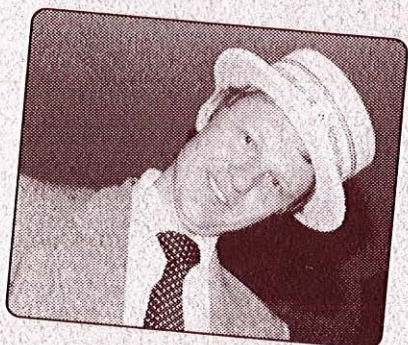
My philosophy is not new. My challenge to you is to work together to simplify your beliefs and clarify your own philosophy. Communication and collaboration are vital. No doubt, your visions will also include the theory of learning reflected in the Standards documents. The next step is to ensure our teaching practices are grounded in our beliefs about students, mathematics and learning. We can then set realistic expectations for ourselves and our students. Why settle for anything less?

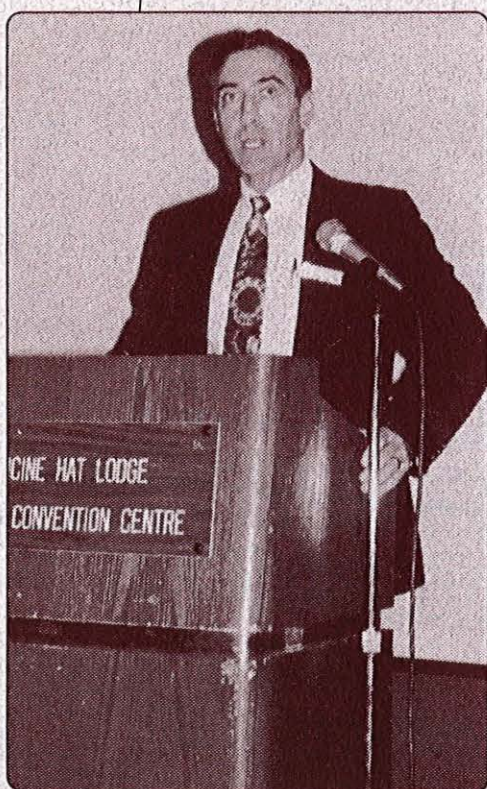
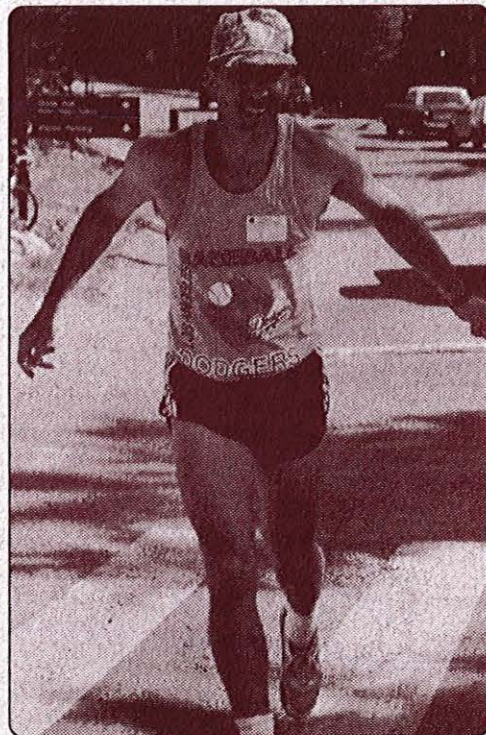
AD 1976

After 1000+ hours of calculation on a large electronic computer, mathematicians prove four colors are sufficient to color any map so that no two regions sharing a common border have the same color.



Looking Back— Personal Reflections





Fred Tarlton

1962-63 *President*

1963-64 *Past President*

THIRTY YEARS IS A LONG TIME, and I do not remember much about my year as president. I do recall that I spoke to the Council on School Administration at Red Deer and that they surprised me with an honorarium. I thought that a good way to spend it would be to bring greetings from the executive to a math seminar in Grande Prairie. Unfortunately, all I remember about the trip is that after doing my little bit on Monday morning at the start of the seminar, I found that the town had the habit of closing down on Mondays, and I spent a rather uninteresting day

looking at piles of tent-caterpillar moths which covered the streets almost like snowdrifts. These were probably the aftermath (pun not intended) of the miles of bare trees we had seen on our way from Edmonton.

I was involved in other meetings and seminars. At one of them, Tom Atkinson, Harry Johnson and I were consultants for the different grade divisions, along with Lloyd Dulmage, who gave the keynote lectures, and I remember that Tom almost insisted that I change my name to Dick so that the three of us would be Tom, Dick and Harry.

.....
It's easy to
identify people
who can't count
to two. They're
in front of you
in the
supermarket
express lane.

June Hendeson,
Nashville Banner

.....

Tom Atkinson

1962-63 *Senior High Representative*

1963-64 *President*

1964-65 *Past President and Editor*

1967-68 *Editor*

MY FIRST INDICATION THAT AN organization called the Mathematics Council of The Alberta Teachers' Association existed occurred in 1962. Someone phoned me to ask that I be the high school representative on the MCATA executive.

I assume that the ATA, at its Annual General Meeting (AGM), now known as its Annual Representative Assembly (ARA), had previously passed a resolution leading to the formation of subject area specialist councils. I assume also that

some executive members were drafted [appointed] because I have no recollection of having been elected to any position.

I recall the names of only two persons (besides me) on the MCATA executive in 1962-63: John Cherniwchan, teacher at Salisbury High School; and ATA staff advisor Mel Sillito. I am sure there were others, but my memory fails me.

In that year, we held several executive meetings where we discussed possible areas of influence of the

Council. I do not recall any definite sense of direction being established.

In the following year, two changes occurred. One affected the immediate activities of MCATA; the other affected my career. The first change was the authorization of new textbook series to be used in teaching elementary school mathematics in Alberta. Though three series were authorized—one by Ginn, one by Addison-Wesley and one by Scott-Foresman—only Scott-Foresman's *Seeing Through Arithmetic (STA)* caused any commotion. MCATA faced its first challenge: to help teachers adjust to using STA and to help parents understand its characteristics.

The second change affected me personally and MCATA indirectly. I was asked to be president of MCATA, and, at approximately the same time, I was invited to join the staff of the Department of Elementary Education in the Faculty of Education. Because I felt secure and content in my position at Victoria Composite High School, I was reluctant to move to a different venue. The dilemma was solved temporarily by my taking leave from Edmonton Public Schools and becoming a sessional instructor at the university for one year. (I served two years as a sessional instructor before being appointed to a tenured position with the university.)

While I contemplated the challenges in summer 1963, another problem arose in my mind. What might be the implications of my being president of an ATA-sponsored council while being part of teacher education at the university? I shared

my concern with Dean Coutts and was relieved to learn that he perceived the dual role as a positive factor. In subsequent years, I was surprised and pleased by the degree of cooperation among the several institutions concerned with education in Alberta.

The extensive contributions of Joan Kirkpatrick (now Joan Worth) to MCATA began in 1963–64. As a teacher in the Demonstration School housed in Corbett Hall, she used STA and helped other teachers and parents to understand the series.

Len Pallesen of Calgary became president in 1964–65. The ATA had obtained a set of films explaining the structure of the so-called “new mathematics.” Under Len’s direction, MCATA developed a circuit whereby the films were sent to numerous centres in rural Alberta so that teachers could assemble during the evenings or on weekends to promote their own inservice education. I remember the year 1964–65 as a busy one in the life of MCATA.

Gradually, I withdrew from the Council’s activities. I recall the presidencies of Ted Rempel and Al Neufeld. I remember the sponsorship of regional meetings of NCTM, one in Calgary and one in Edmonton. Somewhere along the line, the *MCATA Newsletter* came into existence, and I am sure that George Cathcart had a hand in developing it.

I recognize that MCATA has played a strong role in mathematics education and undoubtedly continues to do so. My participation in it is but a tiny blip on the radar screen of recollections.

.....
When you aim
for perfection,
you discover
that it is a
moving target.

George Fisher
.....

Jean M. Martin

1962-65 Secretary-Treasurer

AS I REFLECT ON THE FORMATIVE years of the Mathematics Council, the names Len Pallesen, Fred Tarlton, Tom Atkinson, Eva Jagoe, Olive Jagoe, Joan Kirkpatrick, Mel Sillito, Don Massey, Ted Rempel, Dr. Bruce, Dr. Gibb and Sid Lindstedt come to mind. These enthusiastic, dedicated teachers gave freely of their time and talents to assure the success of MCATA and to improve mathematics teaching in Alberta schools.

During my term as secretary-treasurer of the Council (1962-65), funds were meagre so carpooling was a necessity. Professional development days were unheard of in most areas, and there were no government grants for inservice education. Our

executive meetings were held on weekends in Edmonton or Calgary. Whoever drove left one city and collected members en route to the other city. Mileage was paid to the driver at four cents a mile, and return trips were made as soon as our meetings ended, regardless of the hour.

A highlight of those early years was a trip to an NCTM conference held at the Hotel Vancouver. One of the publishing companies treated us to a meal at the Japanese Gardens. How we enjoyed the outing!

I recall riding in a tightly packed elevator at the Hotel Vancouver when we noticed the sign, "No dancing in the elevator." Joan Kirkpatrick grinned and said, "May I have the next dance?"

Great teachers
never strive to
explain their
vision, they
simply invite
you to stand
beside them to
see for yourself.

Reverend R. Inman

Ted Rempel

1964-65 Vice President

1965-66 President and General Chair of 1966
Calgary NCTM Meeting

1966-67 Past President and CAMT Representative

MY ASSOCIATION WITH MCATA started at the local level, the Edmonton chapter. As a relatively new teacher in Edmonton, I was concentrating my efforts on providing an arena for my students where they could learn how to learn, and what better discipline to do that in than mathematics? One day, a colleague invited me to a meeting of mathematics teachers. Thinking that

I would be able to rub shoulders with experienced and willing-to-share persons, I agreed to attend the next meeting. Little did I realize that it was a setup, and before I left that meeting, I had been elected (rail-roaded?) president of the local chapter. From there, my life in the circle of mathematics teachers expanded.

As a local president, I was invited to attend the provincial executive meetings. Being one who had

difficulty saying no, I was soon vice president (and president-elect) of the provincial executive. During my tenure on the provincial executive, from local representative through past president, I experienced a whirlwind of meetings, conferences and social events at the national and North American levels. I would like to address some of my recollections of these events. (This should not be interpreted that the activities of the local members and the services that MCATA provided and continues to provide to teachers throughout the province are of lesser importance.)

In 1966, MCATA was privileged to host the Northwest Regional meeting of the NCTM. Much of the work of Council and many of the meetings we attended were in preparation for that conference in Calgary. That conference was the joint effort of many educators throughout the province, with the assistance of NCTM executive members. It was a privilege to chair the committee that organized the conference and then to chair the conference itself. In preparation for it, we were invited to Denver for a leadership conference sponsored by NCTM. We also attended leadership sessions at Banff conducted by the ATA. And the B.C. Teachers of Mathematics hosted a regional conference at the University of British Columbia in 1965, so we

went there to participate and learn. The Canadian representative to NCTM, also from Alberta, assisted with many of the conference details. The program included local speakers and speakers from the United States and abroad. Registrations came in from all over the world. It was a tremendous experience for our local teachers. One incident that comes to mind involved a tour to the mountains. It was reported that one of the conference participants went back to wherever he or she came from thinking that the local parks maintenance crew annually drained the lakes and painted the lake beds the beautiful emerald green. I also have a vague memory of a debriefing session in a hotel room; however, I am told that before it was over, I fell asleep in the corner. Be that as it may, the conference was well received, and I am pleased that MCATA has continued its association with NCTM and hosted more regional conferences over the years.

Also as a result of our association with the NCTM, I was able to attend national NCTM conferences in New York and Las Vegas. To be in the company of 6,000+ mathematics teachers was at times overwhelming, but that, along with all the other opportunities and experiences and wonderful people in MCATA, will be cherished forever.

.....
The will to win
is not nearly as
important as
the will to
prepare to win.

Bobby Knight
.....

Joan Worth

1964-65	<i>Elementary Representative</i>
1965-66	<i>Secretary-Treasurer</i>
1966-67	<i>Secretary</i>
1972-75	<i>University Representative and NCTM Representative</i>
1977-80	<i>Director</i>
1984-86	<i>Conference Director and General Chair of 1986 Edmonton NCTM Meeting</i>

.....

The reward for
work well done
is the
opportunity to
do more.

Jonas Salk

.....

I FOLLOWED JEAN MARTIN IN THE two-pronged job of secretary-treasurer and discovered what a horrendous task it was—and what a superb job Jean had done! In addition to taking minutes, doing correspondence and paying bills, part of the job was receiving all the memberships—and having to receipt each one! In those days, membership was valid until the end of the Council year, so everyone renewed at about the same time. We had over 500 members that year; devoted as I was to the Council and to increasing membership, I must confess that coming home from school and finding another 10 or 20 envelopes addressed to the “Secretary-Treasurer, MCATA” and knowing that each had a cheque to record and receipt did strain that devotion. I guess I complained more than Jean ever did because at the end of that year, the Council split the assignment into two jobs. The following year, we went to “Evergreen Membership,” which meant that membership was valid for one year from the month of purchase, and, more important, that the ATA would receive and receipt each membership as well as send out renewal notices each month.

Elementary Film Circuit

I recall becoming very familiar with the map of Alberta and with methods of transportation in rural Alberta

in an effort to plan the circuit for the films to follow. Thirty-one centres had to be included, and transportation of the films between the centres became the ordering factor. I had to telephone Greyhound so often that the man answering the phone developed a personal interest in the project and in moving the films around the province. The whole project would have fallen apart without him!

Summer Seminars

The most vivid recollection is of the 1966 seminar at Concordia College, when it seemed to me that all 175 people arrived at the same time to be registered and settled into residence rooms. The other recollection about the summer seminars is the interest and enthusiasm of the teachers attending—all giving up a week of their summer vacation, most paying their own fees and many nearing the end of their teaching careers.

Being NCTM Representative

The first joint membership drive was exciting—we were so pleased to be able to send either an *Arithmetic Teacher* or *Mathematics Teacher* to every school in the province! Receiving our first NCTM publications on consignment and dealing with the Customs problems this created was indeed a learning experience. And who could forget the thrill

of our first NCTM meeting in Calgary! These were the beginning of many years of NCTM involvement for me.

The Fun of It All

There is no question that we all worked hard—but what fun we had

doing it! How exciting to meet other teachers from all around the province, to find out what was going on in other cities and towns, to hear all the good ideas everyone had and to share and exchange teaching tips! What a fortunate learning experience! What good friends we all became!

Marshall P. Bye

1965–66 Vice President

1966–67 President

1967–68 Past President

1967–69 CAMT Representative and Editor

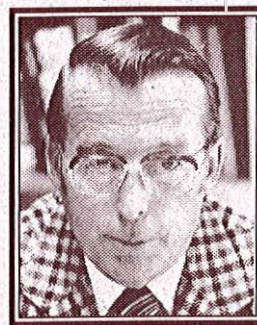
OF THE MANY HIGHLIGHTS IN MY career in math education, three stand out. First, I consider myself so fortunate to have worked in some interesting schools with students who, on reflection, perhaps taught me more than I taught them. Second, I am privileged to have had many outstanding colleagues who were not only interesting to work with but also are still friends today, and to have been honored by these colleagues with the Mathematics Educator of the Year Award in 1984. Third, one person stands out in my mind: Professor George Polya (1887–1985).

Professor Polya is of the *How to Solve It* fame and the man who is so often cited in current discussions on problem solving. I was very fortunate to have been his student in a problem-solving course at Stanford University in 1962. I still remember vividly this man, his discussions in and out of class and his very sensitive, caring way. Because Professor Polya lived in the same

residence that my wife Evelyn and I did, we often shared the dinner table with him and other students. This man of principles, who modestly admitted to being proficient in seven languages, believed that an author should write in the language of the country in which he or she resided at the time of the writing.

After Professor Polya learned that my wife was enrolled in French classes, he insisted on speaking only French to her. Evelyn felt she learned to speak more French from him than from the classes.

Professor Polya often employed his now renowned four-step problem-solving model in any conversation—standing in the cafeteria line, at the dinner table or during casual evening discussions—insisting in his own quiet, soft-spoken way that we start by trying to understand the issues at hand. Soon, he would have us



identifying many related problems and would urge each of us to pursue a conclusion with a well-thought plan. If we ran out of time over the dinner table, he would promptly put us back on track at our next meeting. And just when we thought we had concluded the problem, he would launch into what he considered the most important aspect of problem solving: looking back to reflect on what we, collectively, had

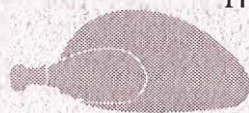
discovered, what we had learned in the process of working through the problems and always how we could learn more from what we had learned in doing the problem.

I will leave readers with two of Professor Polya's favorite problems (Polya 1957, 234)—favorites because they can be solved at different levels in different ways and because the look back in each leads to many rich extensions.

3. Bob has 10 pockets and 44 silver dollars. He wants to put his dollars into his pockets so distributed that each pocket contains a different number of dollars. Can he do so?



5. Among Grandfather's papers a bill was found: 72 turkeys \$_67.9_. The first and last digits of the number that obviously represented the total price of the fowls are replaced here by blanks, for they have faded and are now illegible. What are the two faded digits, and what was the price of one turkey?



Reference

Polya, G. *How to Solve It*. 2d ed. New York: Doubleday Anchor, 1957.

Edwin R. Olsen

1968–71 *Treasurer*

1969–71 *CAMT Representative*

AS TREASURER OF MCATA, I enjoyed the meetings, most of which were held in Edmonton. What I remember most were the enthusiasm and dedication with which the MCATA executive members provided leadership in communicating with math teachers in Alberta to assist

them in producing quality mathematics instruction in the classroom.

One highlight and honor I had as a member of the MCATA executive was to be Alberta's representative on CAMT. Although NCTM was active at that time, there was no Canadian association for teachers of

mathematics, and it was felt that such an association would assist teachers across Canada to share ideas to improve mathematics instruction in individual provinces.

CAMT was a good idea, but financing members to attend meetings was a problem for many of the provincial mathematics associations, and, as a result, CAMT folded.

W.S. Lencucha

1971-74 *Department of Education Representative*

THE MATHEMATICS COUNCIL must be congratulated for the tireless effort that has been put forth in promoting teaching methodology that centred on the activity and hands-on approach to develop children's ability to think creatively and in the major direction taken in the area of problem solving which carries through the learning process. To me, the whole approach centres on developing the "thinking process." Through its work, MCATA promotes inservice activities for upgrading teachers in new approaches; others in faculties of education are to be recognized for their sincere efforts to prepare more qualified mathematics teachers. Great improvement has resulted, particularly at the elementary level.

Although I have had limited experience visiting classrooms during the past 10 years, I have recognized a major change in math education with the entry of the computer. However, a weakness remains in

secondary education in that a number of our teachers do not possess the specialty or a major in the educational program. In many schools, this has proven detrimental to what our expectations are. However, let it be clear that a teacher with a proper major is a godsend to secondary education.

In closing, I find the result of the Math 30 uproar (I do not concur with the teacher reaction) important because of the Blue Ribbon Panel's review, which will bring renewed effort to emphasizing the importance of mathematics in the school curriculum and to directing changes that may be necessary.

My years as a mathematics teacher and educator bring only pleasant memories, particularly because of the special people who have a devotion and love for mathematics with whom I was privileged to be associated. My regards and best wishes to all members of MCATA.

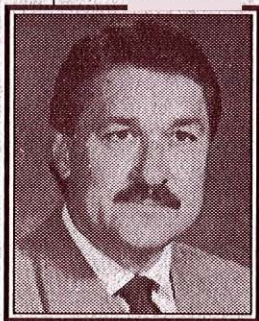
.....
Actually I am enough of an academic to believe that ideas are even more powerful than nuclear weapons.

John Polanyi
.....

Richard Kopan

1977-80 *Vice President*
 1981-83 *Past President and 1983 Conference Director*
 1983-85 *Director*
 1985-92 *Treasurer*
 1992-95 *NCTM Representative*

I HAVE BEEN INVOLVED WITH MCATA for a number of years. The main reason I have been involved all these years is the camaraderie of the people I have had the pleasure to work with. They are and have been a great bunch to work and socialize with. Many of these friendships will



carry on long after I am forced off the executive due to hearing problems. The other reason is that I feel MCATA has an increasingly important role to play in mathematics education in Alberta.

During the years, MCATA has been

known as a strong organization, especially in the area of publications. With John Percevault as editor-in-chief, we were not given any choice as to when articles were required. He let us know in as many words as possible. I will remember John for his dedication, hard work and frankness. When John and Art Jorgensen got together, with the appropriate spirits, it was informative to sit and listen to the history of mathematics education in Alberta.

MCATA's focus has certainly changed in the years I have been involved. Initially, we would put out a few publications, have a couple meetings and plan our annual conference. Recently, it has become evident that we have to be more involved politically with curriculum, assessment and an increased focus

on inservice opportunities for teachers. I believe MCATA can play an important and influential role in the areas of curriculum and inservice sessions. We have taken the first few steps but have to continue to make our presence felt.

Executive members work hard when tasks are to be done and at times have been known to play hard. I recall Gary Hill driving a van down the sidewalks of Edmonton when the roads appeared too narrow. Another story has it that Bob Michie will never a cowboy make. One evening, he wanted off the chuck wagon because he was getting dizzy. The only problem was that the chuck wagon didn't have any horses attached to it. The wagon was in a bar in Lethbridge.

We are very fortunate that Joan Worth does not get to look at our books. In her day, any money in the bank had to be spent on projects or other activities. We could be very busy with projects and finding activities to fund.

I would not hesitate to spend another few years on MCATA. It has been very rewarding for me, and I believe we have had some impact on the math educators of this province. We do, however, have a need for "new blood" to keep the old-timers on task and provide the extra effort needed to increase our visibility in the direction math education is headed.

Charles E. Connors

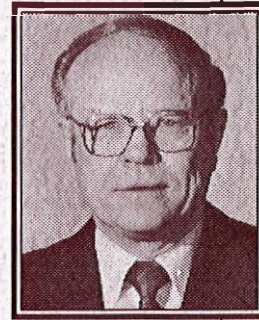
1977-84 ATA Staff Advisor

THE REQUEST TO SUPPLY memories to this special issue struck some pleasant chords of activities now quite a way back in time. There are surely names I associate with the Math Council. At the top are Joan Worth and Art Jorgensen. I suppose this might have to do with an era. I did attend the inauguration of the Council back in the 1960s; at the time, I was a math teacher at Lethbridge Collegiate. Other names that come to me from the time after I became the Mathematics Council ATA staff advisor are John Percevault, Klaus Puhlmann and Bob Holt.

I think of Saturday mornings picking up people at the Riviera Hotel en route to Lacombe Composite High School, where we

met in a round room. There was the ever-present concern whether the agenda would allow us to conclude before going for lunch, or would we have to return after. Lunch (whatever time) was at the Juniper Lodge out on the highway.

I was always amazed and impressed at the effort so many teachers would put into that exercise, the purpose of which was solely "how can we do this job of teaching math better." Just as impressive were the number of initiatives that surfaced. Those meetings and the general conferences were all carried out and organized by teachers who were often lucky to get their expenses reimbursed.



Bruce Stonell

1978-83 Department of Education Representative

THE FOLLOWING ARE SOME OF my key recollections:

- I remember the excellent camaraderie among executive members during our Saturday morning meetings at Lacombe Composite High School in the conference room.
- Among my best recollections were the interesting discussions, joke telling and laughs we had after the meetings at the Juniper Lodge on

Highway 2. All of us would, in a convoy of cars, head out for lunch. It seemed the steak sandwich was the order of the day. Afterward, we departed in our own directions.

- I remember discussing the concept of initiating mini-conferences to help implement and maintain mathematics programs as a support mechanism for members.
- I enjoyed working with conference committees in organizing our annual conferences. I specifically

My interest is in the future because I am going to spend the rest of my life there.

Charles F. Kettering

remember the one that Dick Kopan chaired in Red Deer when we had to dicker with Mr. Passuto of the Capri Centre to get a reasonable cost for use of the facilities.

- I enjoyed being a part of the conference programs in presenting various workshops over the years, including topics on calculators, problem solving and experiential learning.
- I remember having a get-together at Brian's house sometime around Christmas. Brian Chapman, from Lacombe Junior High, was our treasurer.
- I also remember get-togethers of executive members and friends at various conferences. Fellowship in hospitality rooms and dancing at Esmeralda's at the Lethbridge Lodge come to mind.

Ron Cammaert

1980-81 *Director*

1981-82 *Monograph Editor*

1982-83 *Vice President*

1983-85 *President and NCTM Representative*

1985-86 *Past President and NCTM Representative*

.....
If you are going
to lead people,
you have to
know where
they are going.

Camilleon Hood
.....

I RECALL THE FIRST MEETING OF the executive I attended. During fall 1980, we gathered early Saturday morning in the conference room of Lacombe High School. At that time, all executive meetings were held in Lacombe because it was centrally located, and Treasurer Don Hinde taught at the school, so we were able to use the conference room.

Although I had met some executive members before, I was uncertain as to what to expect. Looking around the room, I realized what a real privilege it was to be associated with a group consisting of many leaders in mathematics education in Alberta. Throughout my years on the executive, my first impressions were reinforced over and over. I never failed to be impressed with the personal dedication of the executive members to improving mathematics education and learning in the

province. The executive members believed deeply in their own professional development as educators and worked to provide their colleagues with opportunities to learn about the latest trends in mathematics education.

One should not get the impression that all executive gatherings were sombre affairs. People were dedicated and the work of the Council was effectively achieved, but there was also a camaraderie among the executive members. To protect our reputation as straightlaced mathematics teachers, we often explained that we were from the Social Studies Council. This always seemed to justify any range of behavior. At times, it seemed that an interest and ability in dancing was a prerequisite for mathematics teachers.

Because the executive represents mathematics teachers from across

the province, executive members often had to travel long distances from their homes to attend executive meetings. The informal discussions in the car on the long drive to and from meetings were often as productive as the formal meetings for coming up with new ideas. There were several interesting incidents involving travel and Gary Hill. There is a now-famous driving school in Edmonton named for Gary's herculean efforts at van driving. There were also a number of meetings or conferences which, despite the best of planning, were disrupted by unpredictable Alberta weather. One year, Gary and I had the brainchild that by chartering a plane, we could reduce travel and accommodation expenses for executive meetings. The Saturday we tried this was one of those days that a famous sudden Alberta blizzard decided to pay a visit to the Red Deer area. The flight was fine, and we were congratulating ourselves on avoiding difficult driving conditions, until we tried to land at Lacombe. After almost sliding off the runway, the pilot informed us that he was not going to stay in Lacombe but would pick us up at the Red Deer airport. As a result, Dick Kopan had to drive us what seemed like all the way back to Calgary. Needless to say, this form of cutting expenses was not tried again. Conference calls, although effective, seem to have taken some of the adventure out of getting to executive meetings.

Executive members made my two years as president the easiest two years I spent in MCATA. Being president with the capable and dedicated group I was privileged to work with meant that, once ideas were generated and it was figured out who was going to do what, one just got out of the way. For instance, to bolster membership in MCATA,

executive members came up with ideas about rotating conference locations, improving the quality of publications and using an improved membership database for contacting members. The hardest part of any conference was locating the right person to be conference chair. Fortunately, there never was a lack of excellent people to step up to the challenge. I remain very grateful for all the support and assistance I received during my term as president.

I always believed that the conferences, mini-conferences and publications produced by MCATA were of extremely high quality. This judgment was reinforced when I represented MCATA at an NCTM conference. The quality of sessions and the speakers MCATA offers its members each year are every bit as good as those at this major international convention. MCATA publications have achieved a justifiable reputation across Canada and the United States.

Alberta has been and continues to be on the forefront of mathematics education in North America. We in Alberta have been on the cutting edge of implementing teaching methods to help students better understand mathematics, using technology in the learning of mathematics, finding ways to better access student growth and developing curriculum to prepare students for an everchanging world. The levels of achievement Albertan students have been able to demonstrate on national and international tests attest to how well Alberta's mathematics teachers have been able to adjust to the changing conditions in mathematics education. I proudly believe that MCATA has contributed and will continue to contribute to this achievement.

.....
The path to
success is paved
with good
intentions that
were carried out.

Bob Edward
.....

Louise Frame

1982-85 *Director*

1985-87 *Vice President and NCTM Representative*

1987-89 *President*

1989-91 *Past President*



MANY WONDERFUL MEMORIES come to mind when I think of my years on the Council. I will never forget my first meeting at Lacombe High School. I was definitely outnumbered—by men!

Trips in snowstorms to executive meetings and conferences added to the excitement of my involvement.

Other trips took me to such places as San Francisco; Washington, D.C.; and Anaheim. The sessions, incredible hospitality and outings with colleagues will never be forgotten. How we survived conferences, I'll never know! Dancing until dawn, interesting taxi rides, wonderful dinners and excellent sessions are but part of the memories.

Certain conferences are more memorable than others. At one Edmonton Regional conference, I managed to win dancing lessons with a very attractive publisher—with a lot of help from my friends! Did my dancing improve—you bet!

Our first "Thinkers' Conference" was definitely unforgettable. We decided that dancing was in order; the dancing led to other adventures. A certain driver led us to various "sights" in Edmonton—great tour guide, yes, but questionable driving ability!

I especially value the many friends I have made as a result of my MCATA experiences. I consider myself most fortunate to have worked with such talented, capable people. My MCATA memories will ever be treasured.

W.M. (Bill) Brooks

1984-91 ATA Staff Advisor

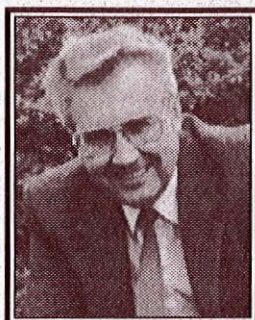
HAVING BEEN INVITED TO ADD my perceptions and recollections to the history of the Mathematics Council, I hereby submit a few thoughts concerning one of the most pleasant and memorable aspects of my work as a staff officer for The Alberta Teachers' Association.

My experience with the Mathematics Council began in September 1984, when, on my return from sabbatical at the University of Victoria, I was assigned to work with the member services program area, replacing Charles (Chuck) Connors, who had retired. Among the duties I inherited from Chuck was that of staff advisor to the Mathematics Council.

As staff advisor, I served as a table officer of the executive; reported the Council's activities and pertinent concerns to ATA staff and to Provincial Executive Council; advised the Council regarding Association policy and procedures; advised the Council concerning feasibility and appropriateness of proposed policies and programs; attended executive meetings and conferences; acted as a resource person; and tried to make myself useful without getting in the way.

My special memories of MCATA include the 1984 conference held in Red Deer on an October weekend when a major storm cut across the southern half of the province, thus preventing hundreds of people from attending. Nevertheless, the program went ahead, despite a number of changes, and proved to be successful.

The two most memorable conferences were those held jointly with the Regional Conference of the National Council of Teachers of Mathematics. Attendance at these



two conferences was between 1,500 and 2,500, and probably did more to raise the profile and enhance the image of MCATA than

did any of its other activities.

Aside from the annual conferences, other significant activities that took place during my formal association with the Council were developing and implementing MCATA's *Handbook of Duties and Procedures*, a legacy to all succeeding executives; influencing in positive ways changes to elementary and secondary mathematics programs and to the Department of Education's standardized testing programs; and providing teams of specialists for workshops organized at local and regional levels.

I was fortunate enough to be the director of the Association's Summer Conference (held annually at Banff) when the Association decided to invite its specialist council executives to participate in its leadership training program. I was most pleased that the Mathematics Council always sponsored a full slate of members from its executive to participate in those training sessions.

MCATA has always tried to take a proactive position where change to school mathematics programs is concerned. Modern technology has, of course, presented planners and teachers with many problems concerning appropriate and effective implementation of the new technology, while at the same time maintaining a balance where traditional methodologies have proven

.....
You've got to
meet success
half way. I
wanted it to
come all the
way so we never
shook hands.

Emily Carr
.....

.....
 You cannot turn
 back the pages
 of the book of
 life, so you had
 better do it
 right the first
 time.

Art Jorgensen

effective. MCATA has had a tempering influence.

MCATA's position regarding standardized testing has continued to have the best interests of students as its foremost concern. Its opposition to indiscriminate and unnecessary testing has resulted in some proposed testing programs being eliminated or greatly modified. The Council is to be congratulated for this.

In my opinion, the Council's newsletter and journal rank among the finest professional publications of their kind. This has been possible because of the continued commitment and influence of those fine editors Art Jorgensen and John Percevault. Succeeding editors would do well to emulate their example. The Council's monographs have always been of high quality and in high demand—some have even been licensed for reproduction by the

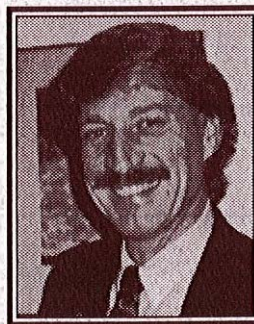
NCTM for circulation in the United States.

My formal association with MCATA ended with my retirement from ATA staff in 1991. I have many fond memories of my work with the Council. However, my fondest memories are of my associations with those dedicated and hardworking people who have had a profound effect on the work and direction of the Council. While the list is long, I would like to mention just a few of those whose memories I cherish most—Louise Frame, Gary Hill, Ron Cammaert, John Percevault, Art Jorgensen, Bob Michie, Dick Kopan, Joan Worth, Diane Congdon, Mary-Jo Maas, Bob Hart, George Ditto, Dennis Burton, Marie Hauk and Wendy Richards. If ever a Mathematics Hall of Fame were to be initiated in Alberta, these people would have to be among the first of those honored.

George Ditto

1985–87 *1987 Conference Director*
 1987–88 *Director*
 1988–90 *Conference Director and General Chair of 1990
 Calgary General NCTM Meeting*
 1992–93 *Conference Director*
 1993–95 *Vice President*

HAVING BEEN INVOLVED IN THE Mathematics Council over the past 10 years, I have been part of many events, changes and opportunities within and around mathematics education in Alberta, Canada and the United States. First and foremost, and not to pretend to be a “homer,” the many mathematics educators with whom I have come into contact through direct MCATA involvement



are the best in their field.

Teachers who become involved in these mathematics education endeavors exude a strong

sense of pride in what they are all about. Their commitment is unchallenged by any other council.

Professionals like these take nothing for granted. They are prepared to work hard to promote their ideals and further the positive professional development of mathematics teachers in the province. We need look no farther than the long list of recipients of the Mathematics Educator of the Year Award and their supporters for examples of this commitment.

The Council has grown as a truly professional organization. In keeping abreast of changing educational, economic, cultural and political realities, MCATA, anchored by insightful and visionary executive members positively influenced by council members, has addressed key issues and ideas on the advancement of mathematics education in Alberta. MCATA is respected not only by other specialist councils but also by MCATA counterparts across Canada and the United States. Our affiliation with the National Council of Teachers of Mathematics has brought MCATA and many members sound recognition internationally.

MCATA's strength is in at least three major areas. One is the promotion of mathematics learning, teaching and assessment in mathematics education for teachers through various means: annual conferences, local mini-conferences and regional conferences sponsored mutually with the NCTM. Second, our publications have served mathematics educators locally, nationally and internationally. Many of these continue to provide support

for classroom teachers. The third area of strength, and certainly not last in importance, is the attention to the children of Alberta and MCATA's commitment to sound mathematics learning and teaching opportunities. Although our direct audience tends to be teachers in the province, the *raison d'être* is to provide valuable, meaningful and worthwhile mathematics learning opportunities for students. Through liaison, consultation, collaboration and partnership with The Alberta Teachers' Association, Alberta Education, postsecondary institutions and universities, school districts, parent and business groups and student groups, our objectives can be realized.

In an arena where new and unique professional and educational issues are emerging and will continue to surface, I hope the Council will continue to receive the overwhelming support from mathematics teachers across the province. Critical issues of mathematics curriculum; instruction; assessment on a local, provincial, national and international level; and our very existence as a part of a larger professional organization and within that organization are to be experienced. If our past is to provide any insight, we will continue to meet challenges in the same professional manner set and modeled for us by our predecessors. The challenge is all of ours. Let us continue as an influential specialist council the tradition of remaining in the forefront of educational leadership in Alberta.

.....
Nothing is too
small to know
and nothing is
too big to
attempt.

Sir William Van Horn
.....

Cynthia Ballheim

MY MOST SIGNIFICANT
"mathematical moment" was receiving the Mathematics Educator of the Year Award in 1991.



In addition to opening many doors and affording numerous opportunities, it has caused me to "rethink" my educational practice and to further define my role as a "mathematics teacher."

Being an author for Harcourt Brace, Inc., has been a real eye-opener. Textbooks now take on a new meaning for me, and the ability to create published lessons that will affect classrooms other than my own is awesome.

Speaking at conferences and workshops from Calgary to Vancouver, Chicago to New Brunswick allows me to talk with educators from across North America and to ride the crest of mathematical change.

Teaching has become coaching and mentoring. Student-centred

activities focusing on the discovery approach and emphasizing writing, the history of mathematics and parental involvement create an atmosphere that can only lead to the complete and total "mathematization" of society! In journals, portfolios, dramatic presentations, poetry and artwork, mathematics is everywhere and is definitely alive!

Learning has become multi-dimensional, and the classroom has become a true learning environment. The halls of St. Mary's School are filled with the hum of peer tutoring, the quiet of library research as students make their own mathematical connections to the outside world and share their knowledge with each other, and the joyous sounds of student-written mathematical Christmas carols such as "I Saw Mommy Solving for Cubic Roots Underneath the Trig-o-nom-e-try!"

Yes, mathematics can be a fun, entertaining, interesting and dynamic intellectual pursuit. In fact, I have learned that the study of mathematics is limitless . . .

Ability will
never catch up
with the
demand for it.

Malcom S. Forbes



Jean Crawford

AS I REFLECT ON MY YEARS IN education, I realize that it has come almost full circle—from student learner to teacher to teacher learner.

When I was studying to become a teacher, I never expected to be doing so much learning in my teaching career. Math education has been constantly changing, so we educators have had to change with it. The years have flown by but with many rewarding memories.

What fears I had when talk of teaching math with manipulatives and nonroutine problem solving hit the math airwaves! How was I to do this? Because I had not been trained in it, I didn't have a clue how to start, nor was I convinced of the value of teaching in this manner. Wasn't this just for elementary? Wasn't it just "playing" and wasting valuable "practice time"?

Nevertheless, I found problem solving interesting and forged ahead. One day, my students and I encountered a problem that really puzzled us. I wasn't sure how I could help them understand the problem better. I didn't have to: they had torn up bits of paper, identified them as parts of the problem and were using them as "manipulatives" to make the problem easier to solve. I was a bit embarrassed that they had to take the initiative, so I quickly looked around my room to see what I could give them to use

that would work in place of the bits of paper. I had some different colored objects that I gave out to students. This was my start in the use of manipulatives, and I haven't looked back since.

I'm convinced that, used properly, for appropriate concepts, manipulatives are invaluable learning tools that allow for students' individual learning styles. I decided to learn as much as possible about using manipulatives to teach math at the junior high level and how to integrate problem solving. I've attended conferences, inservice sessions and listened to whoever could add to my knowledge and interest in manipulatives—even traveling to Australia on Teacher Plus Awards granted by my school board. From there, I branched out to see what I could make on my own and produced learning activities that allow for the integration of problem solving and the use of manipulatives. This, I believe, leads to teaching for understanding.

A major highlight of my career was receiving MCATA's Mathematics Educator of the Year Award in 1990. As a practising classroom teacher, it was a thrill and an inspiration to receive.



Lois Marchand

SINCE RECEIVING THE Mathematics Educator of the Year Award in 1989, I have experienced a career change. In 1991, I became the staffing officer with the Calgary Board of Education. My major area of responsibility has been to oversee the recruitment and selection of teachers from K to 12. Finding the "best" teacher is challenging and rewarding, as teaching continues to be a complex endeavor.

Given that I spent many years working as a specialist in the mathematics area, my work in human resources has allowed me to examine the qualifications of preservice teachers who declare mathematics as their subject area specialty. I regret to say that it is rare to see a file from an elementary applicant who has more than a couple methods courses in mathematics and an expressed interest in the subject. When reviewing the resumes for secondary mathematics teachers, it is also unusual to find someone who has immersed himself or herself in the discipline. The academic preparation is just not there in the majority of cases.

The move toward the notion that if people have a "solid foundation in



teaching and learning" everything else will take care of itself suggests that a teacher is a teacher is a teacher. I

strongly believe that the study of general principles of teaching and learning is insufficient for teachers of mathematics because it does not include consideration of the nature of mathematics and of current research on children's mathematical thinking and its implications for instruction. The NCTM *Professional Standards for Teaching Mathematics* states: "It is time we pay equal attention to the discipline, innovative curricular materials and what we know about teaching and learning."

In discussions with human resources personnel from across Canada, they too identify a shortage of young people preparing themselves for teaching mathematics. We must somehow find ways to encourage young people in their endeavors to study mathematics if we are to ensure school mathematics leaders for the future.

Tribute to John Percevault

ALL OF US WHO HAD THE privilege of working with John during his many years of involvement with MCATA could not help but develop toward him feelings of respect and admiration.

Things were never dull when John was at a meeting or MCATA function. His feisty nature along with his sense of humor added something special. John was never reluctant to express his opinion and make his feelings known. His well-thought-out comments did much to keep MCATA on track.

John served as editor of *delta-K* for many years. Through hard work and knowing the right people, he was able to put together a journal of interest to readers.

Conference planning committees could always rely on John to make excellent presentations. He likely hasn't missed making a presentation at an MCATA conference in the last 25 years. Although he is no longer an active member of the executive, he can still be relied on to make presentations at the conferences and to make contributions to *delta-K*. John has proven to be an excellent role model for all MCATA members.

For his significant contributions to mathematics education in Alberta, John was awarded the Mathematics Educator of the Year Award in 1986.



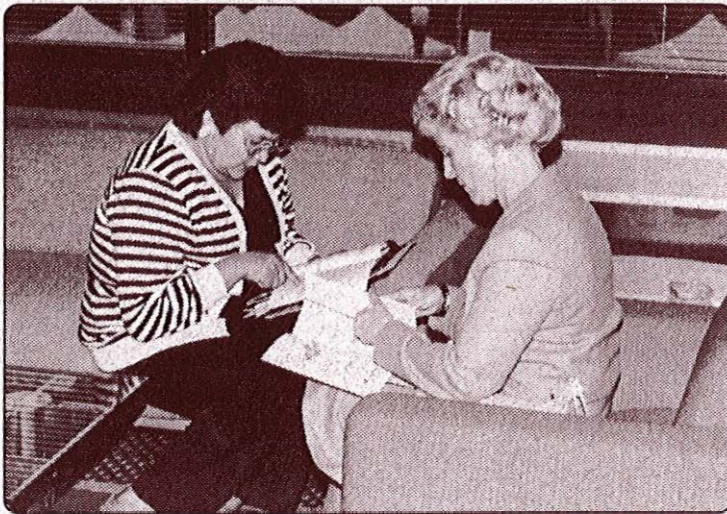
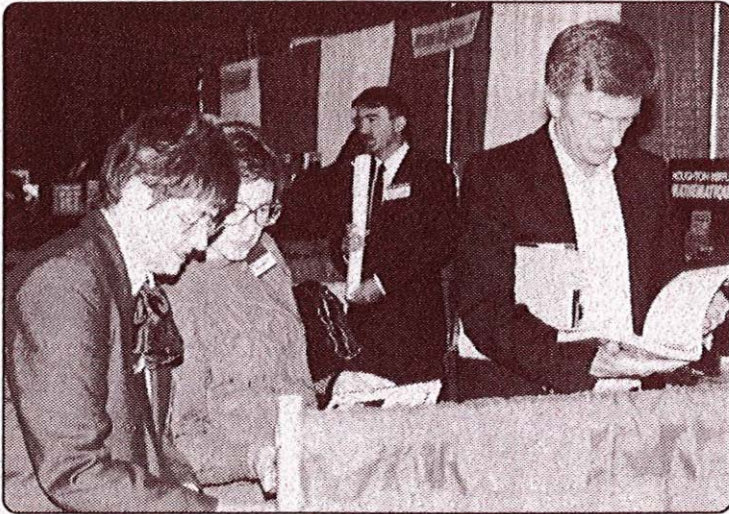
In Memoriam

TWO EXECUTIVE MEMBERS PASSED AWAY DURING THEIR terms of office.

Don Hinde, a junior high school math teacher in Lacombe, served as treasurer from 1973 until his death in 1980. In addition to his duties as treasurer, Don made the arrangements for all executive meetings held in Lacombe because of its central location.

Norman Inglis served as Provincial Executive Council liaison to MCATA from 1990 until his death in 1994.







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