## I M P O R T A N T --- NOTE ANNUAL MEETING DATE CHANGE

Due to a conflict with other conventions in Casper, the date of the Annual Meeting of the Rocky Mountain Section will be March 15, 16 at Casper College; because of the difficulty of changing typeset material; the WRONG dates will probably continue to be advertised in the Monthly and FOCUS.

## CALL FOR PAPERS --

This is the First Call for Papers for the Annual Meeting of the Rocky Mountain Section which will be held at Casper College on March 15, 16, 1985. The deadline for submission of papers is February 15, 1985 and they should be sent to:

> Dr. Allan Skillman
> Program Chairman
> Casper College
> Casper, Wyoming 82601

Because this meeting date is earlier than normal, all Section Members should mark their calendars now and prepare papers for submission a little sooner than in the past.

When you submit your paper, include an estimate of the time and include all audio-visual requirements that you will need.

## STUDENT PAPERS --

We will continue our tradition of having student papers presented at the Annual Meeting. Everyone that has been involved with these students will testify that it has been a very valuable experience for the students and the advisors. Because the meeting is earlier this year, it is important that you identify prospective students now. You will have to encourage them and explain that this activity is important for their professional life, whether that professional life is academic or industrial. Student talks can be on research projects, problems they have solved, reports they have written or even summer employment; usually, the student papers are as good or better than some of the professional papers. The student papers are always enjoyable. Make your institution look good; sponsor a student!!

SECTION OFFICERS --

The Section Officers for the 1984-85 year are:

| | |
|---|---|
| Chair -- | Ruth Rebekka Struik<br>University of Colorado/Boulder |
| Chair-Elect -- | Stephen Bronn<br>University of Southern Colorado |
| Program Chair -- | Allan Skillman<br>Casper College |
| Vice-Chair -- | Marie Ritten<br>National College |
| Governor -- | Gary Grefsrud<br>Ft. Lewis College |
| Secretary/Treasurer -- | David Ballew<br>South Dakota School of Mines & Technology |

Contact any of these persons with any problems, concerns or complaints.

FUTURE MEETINGS --

1985 Meeting ------------------------ Casper College

1986 Meeting ------------------------ Mesa College

1987 Meeting ------------------------ University of Southern Colorado

1988 Meeting ------------------------ Joint Hosting by Metropolitan and
The University of Colorado/Denver??

NOMINATING COMMITTEE --

This year we will need to elect a Chair-Elect for a one-year term; then
this becomes the Section Chair. Also, we will need a Program Chair for the
Mesa College Meeting. The Nominating Committee is Ed Hawkins, Mesa College (Chair),
Vern Nelson, Metro State, and Richard Gibbs, Ft. Lewis College. They will be
happy to hear of nominations or suggestions.

LIDA BARRETT IS THE MAA SPEAKER AT THE ANNUAL MEETING --

Professor Lida Barrett of the University of Northern Illinois will be the
featured speaker at the Annual Meeting in Casper. This is one delightful speaker
who has something worthwhile to say.

SOMETHING FOR THE STATISTICIANS --

I noticed the following statement in a paper in Sociology: "--if your
parents didn't have any children, there is a 60% chance that you won't have any.

## MATHEMATICAL DELIGHT --

With thanks to Professor Leonard Gillman, here's a story that mathematicians, and only mathematicians, seem to appreciate (try it on your colleagues in other fields):

The math teacher was substituting for the English teacher and the subject for the day was Shakespeare.  As the class was discussing the phrase "the quality of mercy is not strained," little Johnny wanted to know what kind of "strained" that meant:  was it strained like reaching hard for something, or strained like vegetables? The logical teacher thought for one brief second and replied that "it doesn't matter -- Shakespeare said the quality was _not_ strained."

## RAY GUTZMAN RETIRES --

Ray Gutzman of the Colorado School of Mines has retired in order to take a transitional appointment starting the current semester.  He was awarded Emeritus status at the May 1984 Commencement and will teach one semester each year in his new position.

We assume that he will continue to come to the Section Meeting; I don't think we can have one without Ray.

## INSTITUTIONAL PROFILE -- METROPOLITAN STATE COLLEGE --

Metropolitan State College is a fully accredited four-year institution wich was established in 1965 to meet the educational needs of the Metropolitan Denver area.  Bachelor's degrees are offered in all the traditional disciplines of a liberal arts college, as well as some non-traditional majors in certain fields.  The College moved from rented facilities to a permanent campus, the Aurora Higher Education Center in 1976.  It is a campus shred with the University of Colorado at Denver and Denver Aurora Community College, yet each institution maintains its identity, role and mission.  The Center is located across Cherry Creek from downtown Denver and the Denver Center for the Performing Arts. Current enrollment at MSC is 10,500 FTE with an average age of approximately twenty-seven years.

The Department of Mathematical Sciences currently consists of nineteen tenured faculty, four faculty in tenure-track positions and two temporary faculty; twenty-two have doctorates earned in the fields of probability and statistics, topology, logic, algebra, complex analysis, differential equations, number theory, numerical analysis and education.  A growing number of faculty are independently developing expertise in computing science.  There are currently two hundred fifty-two students who have declared a major in mathematics; students may choose an emphasis in applied mathematics, computer science, probability and statistics, secondary education or "pure mathematics."  A proposal for a B.S. in Computer Science is being prepared by the department and is expected to be submitted by the end of the Autum semester.  Last year, twenty mathematics majors were placed in CO-OP Ed. jobs with employers in the Denver area.

# SAM SCHWARTZ
## Ruler of the Mathematician's [1] Domain

By
Donald E. Simanek
Illustrated by J. C. Holden

Historians generally dismiss with contempt the notion that mathematicians once dominated a glorious era of human history. We here relate a portion of that dubious history, reconstructed from discrete fragments into a piecewise continuous narrative, which, unfortunately, won't be fully coherent.[2]

The earliest civilization of mathematicians emerged during the late Stochastic era, when some tribes migrated from the planes of Euclid, through the Dedekind cut, to the Kronecker delta. There they found relatively prime agricultural land, where they settled and multiplied. But when locus plagues repeatedly wiped out their lemma groves, they abandoned the area and took to the forests, grubbing for square roots to sustain themselves.

Others migrated to the higher planes, seeking purer air where they could enjoy the exhilaration of having their heads in the clouds. There they founded the kingdom of Summaria. But soon they succumbed to disease--the dreaded Lipschitz condition, which kills by excruciating attacks of Kurtosis.[3]

*"...and struck down by a plague of the dreaded Lipschitz condidition, which kills by excruciating attacks of Kurtosis."*

In the aftermath of these disasters, the remainder of the mathematicians dispersed into numerous local groups. One of these inhabited the insignificant province of Outer Automorphism. Here was born, of humble origin, a man destined to lead the mathematicians to their greatest glory. His name was Sam Schwartz.

Sam's military victories were frequently recounted with awe. In battle he skewed his enemies right and left. His greatest triumph came when he drove the rebellious Surds from his domain.
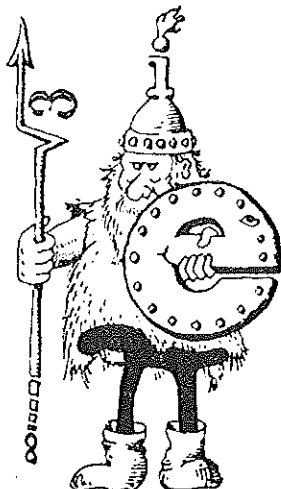
Still, his ambition knew no bounds. Through a process of integration by parts he unified the diverse tribes one by one into an empire. Thus he brought peace to all lands within his compass, which included an area from the Dyadic trace to the Jordan curve. Finally tired of conquest, Schwartz turned reflexive, realizing that military conquest was all for nought. So he normalized relations with adjoining domains and turned his attention to domestic affairs. For a while everything seemed affine.

Schwartz was asymptotic to the plight of the poor, so he decreed a distributive law to eliminate inequalities. Other decrees promoted increased degrees of freedom. When called upon to adjugate disputes between divergent fractions, he brought all of his powers of attenuation to bear on the case. His decisions demonstrated him to be an exponent of rationality. Schwartz was revered as a singular ruler, a statesman of first rank. A man who held to first principles, his rectilinearity was without parallel.

He built an elegant palace, the Loxodrome,

*"He built an elegant palace, the Loxodrome"*

and beside it a university devoted to art, music, and mathematics. The university was constructed on the premises so Schwartz could more frequently consult with the faculty. Never content with the least common denominator, Schwartz promoted excellence in all functions of his royal court.

*"But in his later years, Schwartz became eccentric."*

But in his later years, Schwartz's behavior became eccentric. He seemed to have lost his powers of differentiation, and even became indefinite about integrals. His character was transformed.

He tolerated numerous deviations and inversions in his court. Rumors circulated that the palace was rife with homomorphisms, and Schwartz himself was suspected of convoluting with a trisectrix. (This was probably untrue, since historians suspect Schwartz was idempotent.)

The palace became a center of isometry and reversion. Some in the court developed an inclination toward mystical philosophies. They frequently attended transcendental functions where they tended to go to extrema. Many were addicted to trivial solutions which led to hyperbolic behavior; and in that state they were capable of only weak convergence.[3]

Even the Church was infested with degenerate conics, of deviant declinations.[4]



"Even the church was infested with degenerate conics."
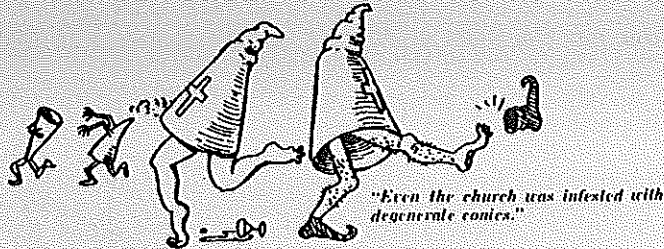
The Church had risen to a position of undue power. Its cardinal number had become excessive, and the entire Church hierarchy was riddled with corruption right down to the level of the local curtate.

Auditors determined that the finance minister, Pierre Charlier, had decimated the royal treasury by applying undetermined multipliers to the budget. Checks issued over his signature--Charlier checks--bounced.

The government bureaucracy had grown prolate. Taxes were recursive. Diverse fractions harbored a sense of inequality. The citizens no longer trusted Schwartz's word. His confidence interval was reduced to the vanishing point.



"His public pronouncements were often invalid statements."
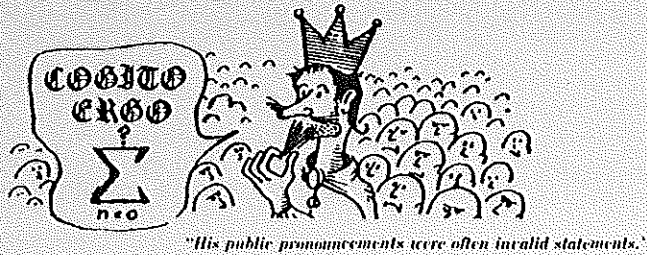
Many of Schwartz's decrees provoked negative reaction, as when he realigned the province boundaries by a devious conformal mapping. Popular sentiment finally turned against Schwartz when he began to dispense justice arbitrarily. Frustrum and outrage at Schwartz's inequality provoked many to call him "Regula Falsi!"[4]

Schwartz seemed unaware of the magnitude of this coefficient of alienation. He took a lacunary attitude toward rumors of coversed activities against him. He rationalized these as merely an insignificant product of regression among the common factors and the vulgar fractions of the population.

The police were determined to circumvent any axis of revolution. Anyone suspected of regressive inclinations could be taken to the interrogation center and subjected to third degree equations. Intransitive suspects were tortured on the dreaded tractrix, which could render victims disjoint. The inquisitors were expert at extracting answers by the method of exhaustion.



"Some were even tortured on the dreaded tractrix."
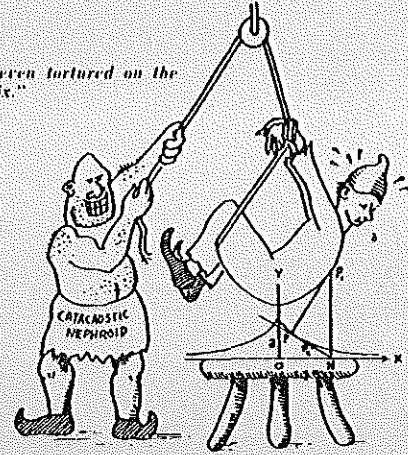
The police had regressed to meanness, and were a force to be reckoned with. Summary trials became the rule, and the prisms were soon filled.

A subgroup of the supposedly loyal palace Quaternions converged to form an axis of revolution to plot Schwartz's downfall. From that point, Schwartz's days were numbered.

Their first plot, to drown Schwarts in a Cartesian well, had to be abandoned, for it was the dry season. At a royal banquet for the Italian ambassador, they slipped an extract of limacon tree kernels into Schwartz's riccati. But the poisson ratio was incorrect, and Schwartz only suffered an attack of nausea, which responded to a stiff dose of parametric.[5]
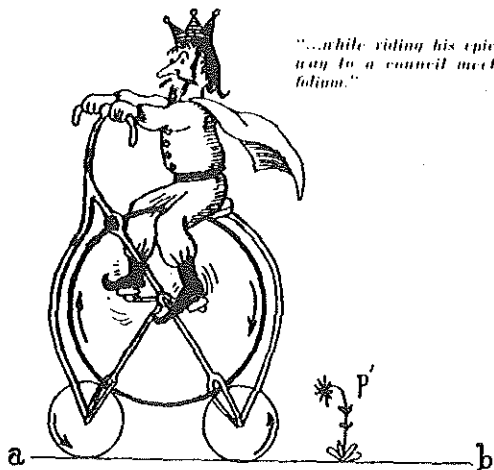
In desperation they enlisted the aid of the wicked witch of Agnesi to cast a cursoid spell on Schwartz. But she had flunked math at the University, so her magic square had faulty sums.



"...the wicked witch of Agnesi cast a cursoid spell on Schwartz."
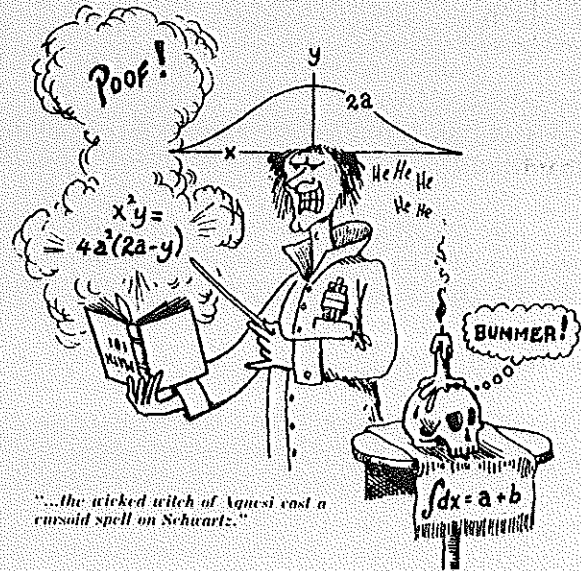
Its attenuated power merely gave Schwartz a mild case of strophoid fever. After a brief stay in L'Hospital, where homeothetic medicines were administered, he fully recovered.

Still, Schwartz was unaware of these radical plots, and of those fomenting a convolution against him. Thus he was taken by surprise and assassinated by a hired annihilator while riding his epicycle on his way to a council meeting at the folium.[6]

Schwartz's funeral was a magnificent state function. He was ceremoniously interred in the royal barycenter, alongside Napier's bones, and a strange bottle containing Klein's ashes. His soul was commended to the higher powers. Both

"...while riding his epicycle on his way to a council meeting at the folium."

(1) You won't get much out of this unless you have a degree in mathematics. It may help to have a math dictionary handy. Then, again, it may not.
(2) The author acknowledges the inspiration obtained from the Mathematics Dictionary by James and James (James$^2$?) They, however, are not to be held in any way responsible for this.
(3) If you've read this far, you are a glutton for punishment.

($\sqrt{3}$) If this seems clear to you, please explain it to me.
(4) You might as well give up here; it won't get any better.

(5) I never expected you to read this far. Now that you have, I suppose I'll have to finish writing the darn thing.
(6) Threw you a curve with that one!

his friends and enemies united in wishing that Schwartz would find peace in the Noether World.[7]

(7) Now aren't you sorry you didn't quit before you began?

The above article was reprinted by permission of the International Stop Continental Society Newsletter, Vol. 4, No. 4, February, 1984. The Authors real name is Dr. Donald Simanek of the Physics Department of Loch Haven State College. Let me know if you enjoy this kind of article.

## INSTITUTIONAL PROFILE -- FT. LEWIS COLLEGE --

I became Chair. (that period is deliberate, so that I can let people read into it what they have to read into it) in Fall of 1983. Since then we have hired two people in our computer science area, Dr. James Wixom, Ph.D. (Utah), who had been working for Motorola in Phoenix and decided to work here instead. Then Dr. Laszlo Szuecs came this year from the University of Colorado, where he just finished a Master's in Computer Science, already holding a Ph.D. from John Hopkins and having taught for some years in Austria. Dr. Szuecs is a Hungarian native, and an avid cross-country skier and hiker.

We do not require an outdoor fitness test of our faculty, but we seem to attract quite a few outdoor enthusiasts. Currently the record holder for climbing all of the fourteen thousand foot mountains (53 of them) in Colorado in the shortest time is held by Dr. Richard Walker, who came here from Colorado School of Mines in 1982. He did them all in 18 days.

If you write any of this for a newsletter, you might decide on a consistent omission or inclusion of the "Dr.". Don't make us stand out from anyone else that way. It makes little difference to me which it is--so long as folks do realize that we are not a junior college, but rather have over 3700 students, 125 math majors, and 15 department members.

(Written by Bill Ramaley in his unique style).

## INSTITUTIONAL PROFILE -- UNIVERSITY OF SOUTHERN COLORADO

The Mathematics Department at U.S.C. currently offers three Bachelor degree programs in the Mathematical Sciences: applied math, computer math, and a secondary teaching major. Professor James Derr of the University of West Virginia joined our faculty of 15 full-time staff members this Fall. Jim is an algebraist and has taught at both the undergraudate and graduate levels.

U.S.C. is undergoing a massive and sometimes painful reorganization this year. At this point in time, mathematics remains a separate department in the new school of Engineering and Science. There has been some pressure to combine Math with Computer Science technology, but M.A.A. and A.M.S. statements concerning the scope of the mathematical sciences seem to provide a rationale to the contrary.

While the reorganization continues, our interim President is conducting an extensive program review on three fronts: academic programs, administration, and athletics. U.S.C. needs to focus on certain high priority goals in order to progress within the restrictive framework of state financing policy.

## INSTITUTIONAL PROFILE -- ADAMS STATE COLLEGE --

We offer both a traditional mathematics degree and a computer emphasis degree.

We have five full-time faculty in the department -- two with MA's in mathematics, two with MS's in computer science, and one with a Doctor of Arts degree. We also employ a half-time person teaching remedial arithmetic.

We have hired a new staff member each year for the past two years -- both with computer science degrees -- and do not anticipate any new positions for next year. We expect no retirements for the next five to ten years. Only the two new faculty members are non-tenured.

## INSTITUTIONAL PROFILE -- UNIVERSITY OF COLORADO AT COLORADO SPRINGS

The Department of Mathematics offers two curricula leading to the degree B.S. (Applied Math) in the College of Engineering and Applied Science. In Option I, the student takes a minor in a specific engineering department in the college. Option II is a joint mathematics - computer science program.

The Department of Mathematics was one of the original academic units when the UCCS campus was opened to classes in September 1965. Each semester, between 45 and 50 courses in mathematics are offered. The department provides not only a sound curriculum for mathematics majors but also offers many in-depth service courses for students in computer science, engineering, physics and other areas. The department offers the B.S. and the M.S. degree in applied mathematics through the College of Engineering and Applied Science and the B.A. degree in mathematics through the College of Letters, Arts and Sciences.

We are fortunate to have a number of qualified, dedicated faculty. All of them are professional mathematicians with a deep love and appreciation of mathematics and their enthusiasm for the subject and their innovative teaching techniques make the learning of mathematics an exciting experience.

The Department of Mathematics at UCCS offers a strong graduate program leading to the M.S. degree in applied mathematics. Our program places special emphasis on areas that are directly related to the needs of the surrounding micro-electronics, space and other industries in Colorado Springs. The department also offers the Ph.D. program in collaboration with the Department of Mathematics at the Boulder campus.

The department offers graduate level courses in astrodynamics, orbital mechanics, applied statistics, quality control, engineering mathematics, differential equations, numerical analysis, applied algebra and applicable analysis. All of our graduate courses are offered in the evening once or twice a week for the convenience of working people. Onsite courses in an industrial location are also offered if sufficient interest warrants it. We are also in the process of making video courses at the graduate level. In addition, we can also offer a variety of short-term courses or workshops on topics that are of great relevance to the needs of a particular company or organization.

## The light touch

| What the professor said | What the professor really meant |
|---|---|
| • You'll be using a leading textbook in this field. | • I used it as a grad student. |
| • If you follow a few simple rules, you'll do fine. | • If you don't need any sleep, you'll do fine. |
| • The *gist* of it is what's most important. | • I don't understand the details either. |
| • You'll have to see me during my office hours for a thorough answer to your question. | • I don't know. |
| • In answer to your question, you must recognize that there are several disparate points of view. | • I *really* don't know. |
| • Today we will discuss a most important topic. | • Today we will discuss my dissertation. |
| • Unfortunately, we haven't the time to consider all the people who made contributions to this field. | • I disagree with what roughly half of the people in this field have said. |
| • We can continue this discussion outside of class. | • I'm tired of this—let's quit. |
| • Today we'll let a member of the class lead the discussion. It will be a good educational experience. | • I stayed out too late last night and didn't have time to prepare a lecture. |
| • The implications of this study are clear. | • I don't know what it means either, but there'll be a question about it on the test. |
| • The test scores were generally good. | • Some of you managed a B. |
| • The test scores were below my expectations. | • Where was the party last night? |
| • Some of you could have done better. | • Everyone flunked. |
| • It's been very rewarding to teach this class. | • I hope they find someone else to teach it next year. |

*J. Timothy Petersik teaches in the psychology department at Southeast Missouri State University. This piece is reprinted with his permission.*