Association for Women in Mathematics

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DUES! DUES! DUES! DUES! DUES! DUES! DUES! DUES! DUES! DUES! DUES! DUES! Here is the annual subtle reminder that you will soon be receiving your dues notice. Please pay up. Consider becoming a contributing member or encouraging your institution to become an institutional member. DUES! DUES! DUES! DUES! DUES! DUES! DUES!

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PRESIDENT'S REPORT

I have recently returned from attending three conferences in Europe and look forward to working quietly at my desk for the rest of the summer. By the time you receive this the Toronto meeting will have taken place, and I hope to see many of you there at our panel on "Women Mathematicians in Canada," at our party, at the AWM Table, and elsewhere.

One exciting piece of news is that we have received a two-year grant of $20,000 from the Sloan Foundation for the AWM Speakers' Bureau. I would like to express my appreciation of the efforts of our Fundraising Committee consisting of Jeanne LaDuke, Mary Gray, Ellie Palais (chair) and Alice Schafer, who wrote and submitted the proposal to the Foundation. I would also like to thank Stephen Maurer of Swarthmore College who acted as a liaison between AWM and the Foundation. The money will be used to have women mathematicians speak at high schools, colleges and universities on various topics of interest in the mathematical sciences. We hope especially to support institutions which cannot afford to bring in speakers. As you know we have a Speakers' Bureau Booklet, which we hope to update and expand. We will soon be establishing a committee with representatives from various regions who will be responsible for arranging speakers in their regions. If any of you would like to serve on such a committee, please let me know. Any other suggestions from you regarding the Speakers' Bureau are also welcome.

Last summer at this time I mentioned the conferences in Oberwolfach, and the practice of having one woman at each table, with a special colored napkin holder in front of her. The Director of the Mathematics Institute there, Prof. Barner, wrote to me during the year that he had read the newsletter and asked me for suggestions. This year I was there again, and was happy to see that all the participants were treated the same at the dinner tables. I hope that this has now become an accepted practice there.

Bhama Srinivasan
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LETTER FROM THE EDITOR

Thanks to all of you who have responded to my plea for more articles. I have been gratified by the quality and variety of the material you have sent. Please keep it coming!

Again this year we have asked all AMS candidates known at the beginning of the summer to send statements. The return rate was the same as it has been the last couple of years--not very good, due to lack of interest on the part of some candidates and to the fact that summer is not a very convenient time of year for this.

I should remind you that the Executive Committee has decided not to make endorsements unless or until the political situation in the AMS makes it seem necessary again. So the lack of endorsements in this year certainly does not mean that the Exec Committee could find no candidate worthy of endorsement.

Due to various and sundry summer vacations, this Newsletter is probably reaching you a little later than usual. Hope you've all enjoyed your summers, too!

AMS CANDIDATE STATEMENTS

(See p.19 for late arrival.)

Candidates: Vice-president - Eugene B. Dynkin, Calvin C. Moore

Member-at-large - Peter L. Duren, Susan J. Friedlander, Robin Hartshorne, Irwin Kra, Paul S. Muhly, Yum Tong Siu, Olga Taussky Todd, at least three more

Nominating Committee - Linda Keen, O. Carruth McGehee, Robert M. Miura, Robert R. Phelps, Bruce L. Rothschild, James D. Stasheff, at least two more

Peter L. Duren

Fellow-members of AWM: Although I am not a woman, I believe I am sensitive to the special problems women face in entering the mathematical profession. Through association with female colleagues and students, including five of my own Ph.D. students, I am well aware of the subtle ways in which women are discouraged from becoming mathematicians. If elected to the AMS Council, I believe I would be a sympathetic supporter of women's causes.

It has been gratifying to observe the gains women have achieved in our profession over the last ten or fifteen years, but I think there is still a long way to go. A relatively large number of female mathematicians are now active, and quite a few are prominent in their fields of research. However, many universities still have no female mathematicians in tenured positions, and some have none at all on their faculties. I support the principle of affirmative action as a fair and appropriate way to improve the situation. This I interpret to mean that if a male and female applicant for the same position are judged to have equivalent credentials, the woman should be appointed. (She is probably stronger anyway, because she has had to fight harder to get where she is.) Affirmative action does not call for the appointment of conspicuously underqualified women simply because they are women, a policy which would be misguided and counterproductive. With similar interpretation, I support affirmative action as it applies to blacks and other minority groups. I will carry these principles to the Council if elected.

In my view, the ultimate solution is to encourage talented young people of every description to enter the field, and to offer them acceptance and support as they develop and progress to academic or industrial positions. This is done most effectively at the personal level. It is difficult to say what official actions the AMS Council can take to help. Certainly, it can continue its practice of involving highly qualified mathematicians from minority groups in positions of leadership in the Society, through committee appointments, nominations, and invited addresses. It can also continue its efforts to ensure all members access to AMS-sponsored research activities such as Special Sessions and Summer Institutes. In such ways the Council can aid the development of individual mathematicians, but above all it can help to reshape prevailing attitudes by confronting prejudice with counterexamples.

Susan Friedlander

The AMS should serve the professional interests of all its members. In particular, the AMS should continue its recent efforts to encourage the active participation and leadership of well qualified women and minorities. In stimulating the creation, application, and appreciation of mathematics, the AMS should endeavor to encompass the broad spectrum of interests of the mathematical community. I suggest that the AMS should more actively encourage cooperation between "core" mathematics and the growing spectrum of mathematical applications.

Mathematicians' salaries are low and federal support for individual mathematicians appears to be on the wane. The AMS should vigorously represent the interests of the American mathematical community in governmental debate concerning allocation of resources. Especially in this period of meagre support for pure research, the AMS should assume a leading role in presenting the case for more federal support for mathematics.

Paul S. Muhly

The Council should formulate and vigorously pursue policies that will bring more Federal support to mathematics at all levels. In particular, the Council should work to increase the percentage of the NSF's budget devoted to mathematical research. The Council should work to change the regulations and policies which discourage or prohibit agencies other than the NSF from supporting basic research in mathematics. Not only should such changes increase the amount of money spent on mathematics, but they should diversify the areas that receive funding. The Council should work for increased support to science education. This branch of the NSF was one of the major casualties of the Reagan administration; the cut in support that it received was a severe setback for the movement to increase the levels of participation in the sciences by women and minorities. These efforts will require direct lobbying with Congress at unprecedented levels (unprecedented for mathematics, that is). Mathematics needs a presence in Washington, and I think that the Council should investigate the possibility of reviving and revitalizing the CBMS for this purpose.

One might think that because I advocate increased lobbying efforts by the Society thereby increasing its political activity, I also advocate that the Society take official stands on political issues of public concern. I don't. At the risk of being accused of sycophancy, I want to call attention to Professor Zariski's letter in the October, 1970, issues of the Notices, p. 869. It is a most compelling and eloquent statement on how the Society should conduct itself on political issues and why. I feel strongly that individual members and officers of the Society should feel free to make political statements and to act upon issues affecting the Society on the basis of political beliefs and convictions, but the Society should not commit its membership to a position on any political issue.

I support a careful review by the Council of the ways in which the money allocated to mathematics by the government is distributed. Caps on the sizes of grants might well be considered, as might the establishment of a sabbatical system supported by the NSF. During the 70's the United States produced a large number of highly trained mathematicians who subsequently were underemployed. This seems like a terrible waste. (I believe that in this group there is a disproportionately high percentage of women and minorities.) I therefore think that it would be advisable to develop "revitalization" grants, grants given to younger, more research oriented faculty of smaller schools to provide them with support to take leaves of absence to pursue research projects at larger universities or in industry.

Robert M. Miura

Important objectives of the American Mathematical Society are to promote mathematics in research, education, and its applications, to maintain high quality in mathematics, and to meet the needs of a diverse membership. I feel that the Nominating Committee plays an important role here in identifying responsible individuals who would actively pursue these objectives as officers and members of committees of the Society. Furthermore, all sectors of the membership should receive adequate representation in the Society.

Robert R. Phelps

If elected to the Nominating Committee I will try to ensure that candidates for office be selected from among those many AMS members who, like myself, are sympathetic to those issues which have been of central interest to the AWM.

NEWS FROM WOMEN AND MATHEMATICS EDUCATION (WME)

There are a couple of items of possible interest to AWM members concerning upcoming meetings. First, NCTM will be holding four conferences on equity in mathematics through an NSF grant. The conference schedule is:

Orlando, FL	Oct. 22-23, 1982
Albuquerque, NM	Nov. 19-20, 1982
Baltimore, MD	Jan. 28-29, 1983
Minneapolis, MN	Feb. 18-19, 1983.

These conferences are limited to 50 invited participants each, with people chosen for their leadership roles in promoting equity for underrepresented groups in mathematics. There will be no registration fee, but participants must pay their own travel/living expenses.

Application deadlines are past for the first two meetings but extend until October 1 for the last two. Applications can be obtained from:

Equity Project
National Council of Teachers of Mathematics
1906 Association Drive
Reston, VA 22091
(703) 620-9840.

NCTM held a core conference in February to discuss the state of knowledge concerning blacks, women, Native Americans, Hispanics, and language minority students in mathematics, and to help plan these four regional conferences. As most of you know, much more research has been done, and more intervention projects exist, relating to women and mathematics than any of the other underrepresented groups. The state of achievement and participation in mathematics is generally lower for these other groups than it is for women, but it seems clear that more basic research, similar to what has been done concerning women, is needed if we are to develop strategies to increase these groups' participation in mathematics at all levels.

Two bibliographies I have available are on minorities and mathematics, compiled by a Minorities and Mathematics Network organized by Westina Matthews, and on mathematics anxieties of teachers, from NCTM. Please contact me if you'd like either.

Another meeting in mathematics education is an international one held every four years. The Fifth International Congress on Mathematical Education (ICME 5) will be held in Adelaide, Australia, August 24-30, 1984. If you wish to receive announcements, contact:

ICME 5 Travel Planners
P.O. Box 32366
San Antonio, TX 78216.

I have been collecting names of women to recommend as speakers for this conference. If you have someone (or yourself) you would like to recommend who is involved in mathematics education, send me their full address and phone number, areas of interest, and topics on which the person has spoken recently.

Joanne Rossi Becker
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CHICAGO AREA AWM MEETING

by Nancy Johnson, Chicago State University

The third annual meeting of the Chicago area AWM was held on Saturday, April 19, 1982, at Chicago State University. The meeting was sponsored jointly by Olive-Harvey College and Chicago State University and was organized by Toni Carroll, OHC, and Nancy Johnson, CSU. Approximately 22 people attended. The program consisted of a talk, followed by a panel discussion. After lunch, which was taken at a local restaurant, there was a hands-on computer demonstration of LOGO by Nancy Johnson.

The meeting was opened by AWM President Bhama Srinivasan, who spoke briefly of the history of the meeting and of the Noether Symposium just held at Bryn Mawr. Janet Beissinger, of the University of Illinois at Chicago Circle, spoke on "Enumeration of connected combinatorial objects."

The title of the panel was "Women in management", which was short for "Women mathematicians who have gone into administrative or management careers". The panelists and summaries of their presentations are given below:

Lida Barrett, Associate Provost, Northern Illinois University--
Barrett spoke of the mentors in her life, especially a woman chair at Texas Women's College, and her husband, a liberated man, who insisted she finish graduate school. Her husband was head of the Department of Mathematics at the University of Tennessee, a position which Barrett held after his death. She served as Head for seven years until she became Associate Provost at NIU a year and a half ago. She said one must establish oneself first in an academic way to have credibility as an administrator. While still a faculty member, she served on lots of committees, and chaired a task force which got $56,000 added to women's salaries at the University of Tennessee. She felt that her mathematical ability enabled her to abstract a problem from a tangle of issues. She noted that it is important to younger women and men to have women as upper level administrators.

Margaret Butler, Head of the National Software Center, Argonne Laboratory--
Butler has worked primarily for the government as a statistician and as a "computer" in the years before computers were standard equipment. She described her job as middle management. She felt the buck stops at her level. She is responsible for preparing reports, budgets for upper management, and she must do personnel evaluations.

Toni Carroll, former Director of Project SEED--
Carroll explained that Project SEED is a private non-profit educational corporation which teaches advanced mathematics to elementary children. She was the director in charge of the project for the Chicago area. She started in the program first as a teacher, but saw that people above her in the organization had more money, and more power, that is, the ability to influence what's happening in the project. She obtained a mentor, who was her supervisor. He trained her, and she learned to do his job. In three years she had advanced to the director's position. She was happy with her accomplishments, but felt the organization was too small to permit much advancement. Finally the funding was cut off for the project.

Louise Hay, Head of the Math Department, University of Illinois at Chicago Circle--
Hay said she had taken the usual academic route to administrative work. She served as

Acting Head for a year, and took that job because people asked her if she would do it, and moreover, she felt she was the best person for the job. She decided to apply for the position as Head because she had a desire to see things done in a certain way. She said she must be able to do the budget, make personnel decisions, organize her life and the department, and be able to delegate jobs. She must be articulate, be able to think on her feet, be good at crisis management. She noted there are few people to advise her, and she must be able to cope with frustration. She finds it an interesting job, and a challenging one. She observed that she uses all kinds of parts of herself she doesn't use as a mathematician. She said she enjoys the leadership role she plays, and her ability to affect the direction of the department.

Marjorie Stinespring, Chairperson of the Math Department, Mundelein College--Stinespring is the head of a small (4 person) department in a small women's school. Two of the problems she faces are an unstable faculty because of massive turnover, and few students majoring in mathematics. She said she had to learn to deal with people in different disciplines who frequently think differently from mathematicians. She likes having the power to influence curriculum, policy and the quality of education. One of the difficult aspects of the job is being the interface between her faculty and the upper administration.

HELPING HER LOOK AHEAD...

a workshop report by Nancy Johnson, Chicago State University

On Thursday, March 25, 1982, a workshop for teachers and counselors was held at the Hilton Inn in Lisle, Illinois. The workshop was sponsored jointly by the Chicago Area Chapter of the Association for Women in Science, the Du Page Career Education Center, the Association for Women in Mathematics, and the Chicago regional section of the Society of Women Engineers. The purpose of the workshop was to address the two questions "Why do so few girls choose careers in science and engineering?" and "How can we encourage more to consider such careers?" AWM President Bhama Srinivasan spoke briefly about AWM and introduced the keynote speaker, Carolyn Krulee, Assistant Dean of the Technological Institute at Northwestern University. Following the keynote address, the participants attended three of six scheduled discussion sessions. Topics and their presentors were:

"The Role of Family and Peers in a Girl's Career Decisions", Dr. Mary Ann Schwartz, Department of Sociology, Northeastern Illinois University

"Mathematics and Science Aptitudes: Fact or Fable?", Dr. Westina Matthews, Wisconsin Research and Development Center for Individualized Schooling, University of Wisconsin

"Responsibilities of Educators as Mentors", Dr. Suzanne Prescott, University Professor of Human Development, Governors State University

"The Many Rewards of a Scientific Education", Dr. Vera Pless, Mathematics Department, University of Illinois at Chicago Circle

"Ways to Encourage Girls to Consider Careers in Science and Engineering", Dr. Riaz-ul Haque, Department of Microbiology, University of Illinois-Medical Center

"Proper Preparation for a Scientific Life", Dr. Lois Graham, Mechanics, Mechanical & Aerospace Engineering Department, Illinois Institute of Technology.

The discussion sessions were scheduled in pairs so each participant was able to attend only three. After the second pair of sessions, luncheon was served. In the afternoon, the final pair of sessions was held, followed by a wrap-up session, presided over by Sharon Alter, Department of History and Government at William Rainey Harper College. Finally, tours had been arranged with Amoco Oil Company Research & Development Laboratory and Bell Telephone Laboratories for participants who were interested.

The workshop was planned by a committee of 18 women. I served as AWM's Representative to the committee. The work of the committee spanned approximately a year. Questionnaires were sent to area schools to determine the interest for such a workshop and the possible topics for the discussion sessions. Donations were requested from a variety of organizations, including AWM which donated $25. The participants were each charged $15 to pay for the facilities, postage, and materials. Each participant received a materials packet, which included reprints of career informational articles and career pamphlets from various societies, including two from MAA. The committee also prepared a bibliography of science career information. (Copies of the bibliography are available from the address at the end of this report.) There were 114 participants (we planned for 100, and hoped for 60!). The total cost of the conference was $1963.61, and our income was $2370. The "profit" will go into our workshop fund as we plan to repeat the workshop possibly next year in Chicago rather than the suburbs.

The classification of the participants by occupation follows: 37 mathematics teachers, 24 science teachers, 12 teachers (subject unspecified), 31 counselors, and 10 administrators and other positions.

We prepared an evaluation form for the participants to fill out at the end of the workshop. Ninety-two forms were returned. We handed out the form at the beginning of the wrap-up session, and asked everyone to fill it in and return it as they left. Several of us stood at the doors and collected forms as people left, which accounts for the high return. The participants were for the most part satisfied with the conference. Besides having them evaluate the talks, we asked for their suggestions about how the professional groups sponsoring the workshop could help them. Most of the suggestions involved requesting participation of women mathematicians, scientists, and engineers in the schools as classroom speakers, in-service speakers, or workshop sponsors. They also want us to be sources of information for consulting, career, college, scholarships, etc. One of the questions asked if the participant had previously been aware of the professional organizations sponsoring the workshop. I was surprised that more had heard of AWM (42%) than the other organizations (36% for Chicago area AWIS, 29% for Chicago regional section of SWE). This may be partly accounted for because mathematics teachers were the largest group attending. It may also be accounted for because AWM is an active organization.

Copies of the bibliography may be obtained from: Margaret Butler, Chairperson, AWIS-CAC Workshop Committee, PO Box 13, Lemont, IL 60439.

VERA SÓS ENDS STAY IN NORTH AMERICA

by Carole B. Lacampagne, Bergen Community College
based on extended conversations with Dr. Sós

As of the end of June, Hungarian mathematician Vera Turán Sós was packing her bags and preparing to return to Budapest. After eighteen months in North America, this was no easy task. "I feel like a Gypsy, sometimes," said Dr. Sós. "I live out of my car, using it to store books and papers as I travel from place to place." While here, Dr. Sós spent half a year at UCLA working with Ernst Straus and half a year at Bell Laboratories, Murray Hill, working with Ron Graham's discrete mathematics group. The rest of her time was spent at the Universities of Edmonton and Waterloo in Canada, and at the University of South Carolina. In addition, she gave thirty talks at other universities.

Although Dr. Sós has worked in the United States and Canada on several other occasions, this is her longest stay and the first without extended teaching duties. Dr. Sós explained that there are no sabbaticals in Hungary, and although she loves to teach, having been free of teaching obligations for the past twelve months has allowed her precious time for research.

Dr. Sós is noted for her work in combinatorial theory and its applications, diophantine approximations, uniform distribution of sequences and graph theory. Over the past ten years, she has authored or coauthored many papers. This year alone, she has worked on over a dozen papers in collaborations with P. Erdős, E. Strauss, R. M. Wilson, R.L. Graham, M. Saks, R.J. Faudree, R.H. Schelp, A. Hajnal, E. Szemérdi, R.C. Mullin and D. R. Stinson.

Dr. Sós teaches in the Department of Analysis at Eötvös University. She explained that mathematics requirements at Eötvös are quite different from those at American universities. Students must declare their major upon entering the university and must pass a rigorous entry examination in mathematics in order to become math majors. The math major follows one of three strands: research, high school teaching (dual major, usually with physics), or computer science. Degrees are granted after five years of work. The typical first year research student spends twenty-five hours in class weekly, taking courses in analysis, algebra (linear and modern), geometry (axiomatic and analytic), number theory, and discrete mathematics. Oral examinations are given each semester during a six week examination period. The average teaching load is seven or eight hours.

Dr. Sós has noticed that over the years, 80% or more of the research and computer science majors are male, while over 80% of the high school teaching majors are female. However, she did not speculate about the reasons for this phenomenon.

Vera Sós certainly does not fit the stereotypical model of the female mathematician. She is a charming and very attractive woman, whose delightful sense of humor is reflected in the twinkle in her eyes. Dr. Sós is part of a mathematical family. Her late husband Paul Turán was a highly respected mathematician. Her older son is a mathematician at the University of Szeged, and her younger son is studying mathematics and philosophy.

A MATHEMATICIAN IN A PSYCHOLOGICAL WORLD

by Susan L. Friedman, Associate Professor, Baruch College
Reprinted by permission from Journal of Developmental & Remedial Education, Volume 5, Number 2, pp. 20-21.

As an undergraduate, I believed my major, mathematics, was science expressed in its purest form. Deductive reasoning represented for me the epitome of intellectual thought. Physics and chemistry courses I tolerated, for their foundations in empiricism and inductive reasoning were acceptable until disproven by experimentation. Biology, the study of human and animal forms, was less consequential. Psychology, straddling the social and physical sciences, was utterly scorned. I viewed psychology as unworthy of investigation, and deliberately avoided those courses.

My opinion remained unchanged for many years. Studies leading to my Masters and Ph.D. degrees reinforced my love for the purity of mathematics. Theorems could be proved or disproved by applying a few undefined terms, some simple axioms, and logical thinking. Even Gödel's Incompleteness Theorem (1931), which states that within a logical system, propositions could be formulated which are undecidable or undemonstrable within the axioms of the system, did not shake my faith. Mathematics held my fascination by a neatness unsurpassed by that of any other academic discipline.

The strictly intellectual approach to my profession was evident from 1964 to 1970, when I taught part time at the City University of New York. Students in those days, before open admissions policies were known, were well-trained and entered college with high school grade averages close to ninety. A clearly written syllabus and my ability in systematic thinking enabled me to teach these students with ease. My image as a teacher was enhanced by students who did well on exams, succeeded in follow-up courses, and made a point to tell me about subsequent triumphs. Comments like "I kept your notes from Math 26 and they were a great help..." and "Are you teaching Math 68 next semester?" did wonders for my sense of pride.

In those days, I never gave too much thought to the unsuccessful students. Some repeated the course; some dropped out of school, seemingly unperturbed by the intricacies of mathematics. I thought of them as "the losers." They were relatively few then, and did not merit further attention from me.

In 1970, with the implementation of the open admissions policy, the "losers" overran City University. Any high school graduate who applied for admission was accepted. The hurried implementations of the policy did not allow time for the development of new teaching perspectives. Emphasis was placed instead on experimenting with methods of remedial instruction--self-paced groups, peer tutoring, mathematics laboratories, and audio-visual presentations. A boom market was created for textbooks with titles like Arithmetic for College Students or Basic Skills Mathematics for College Freshmen. Paperbound workbooks, formerly associated with primary school, became popular in City University. We began to strive to educate the hordes.

Now, some ten years later, I am working with other math teachers and English teachers on a Title III pilot project at the Center for the Improvement of Urban Teaching (CIUT) at Baruch College. Perspectives and training that teachers so abruptly needed in 1970, and continue to need today, are being developed and expanded. But I didn't have to wait these ten years to be sensitized to the feelings and needs of academically underprepared college students. Events in my private life taught lessons and brought perceptions which have radically changed the way I view my profession.

In 1975, my middle child had a "nervous breakdown" at the age of 15. Suddenly my husband and I were thrust into the nightmarish world of the mental hospital. Our minds were inundated with the language of psychology--symptoms, diagnoses, tranquilizers, therapy. We became pawns in the hands of psychiatrists, psychologists, and social workers. We lived in continuous anguish. Eventually our son was released from the hospital.

When a year had passed, I found myself very depressed. I had privately established this date as a goal for the resumption of normality in our lives, and my goal was far from being met. A night of retching from three vodka martinis, consumed with the hope of achieving oblivion, convinced me to seek professional help for myself. Although I felt my action might be a sign of weakness and ultimately futile, I phoned the director of the Adolescent Unit where our son had been hospitalized.

Dr. F. was not surprised when I called her. She had kept in touch with our family during our son's progression and regression, phoning from time to time. Her interest in our feelings about his illness impressed me, and I had come to trust her as a person of great depth, compassion, and understanding. She exhibited none of the arrogance and insensitivity we found so prevalent among people in the "helping" professions.

A total of twenty months of psychological therapy with Dr. F. opened new worlds for me. My progress at first was slow. Dr. F. assured me that my reliance on logical thinking was not inconsistent with the principles of psychology, but I did not believe this. As a mathematician I was accustomed to variables having well-defined domains and behaving according to rules based on axioms and theorems proved deductively. I learned that the variable aspects of human character do not inhabit well-defined domains. Rules of behavior are often unpredictable, varying according to time and situation, and the deductive process is not in evidence in the progression of our lives. What parent of a teenager has not suffered great anguish when the structure provided for the child seems to crumble and expectations are not realized? "Why?" one cries, "What happened?" My silent lament took the form "If P then Q. But we did P! Why didn't Q follow?"

Because of my training in mathematics, I could solve certain problems in an unambiguous way. For instance, the solution of the equation $2X-4 = 2$ is $X = 3$. Nothing more need be said. The existence and uniqueness of this solution, so basic to mathematics, is completely assured. I often wondered, during my therapy, if this same reliability carried into my son's therapy. Did he tell his therapist the truth about situations? If only I could be there with him to tell what really happened. Then, maybe, the therapist could apply the principles of psychology with precision, and my son could be helped. Alas! How long it took for me to realize that in life it is perception, not reality, which plays the dominant role.

As I progressed in my therapy and began to understand my son's sense of inadequacy, I also began to understand some of the problems my students must experience. The world of mathematics must be as strange for them, I thought, as the psychological world was for me. Their fears became a part of my consciousness, and in the classroom I began in earnest to find ways to help them learn. I shared their joy when I could return examination papers scored in the nineties, and felt disappointment when the grades were not so good.

The goals of my teaching underwent change. I hoped most students would develop a basic literacy in mathematics, if only to allay the common fear of quantitative processes. For the more capable students, I hoped they would gain a firm foundation in mathematics which would later help them realize their professional goals. As for the "losers," those who would fail despite my efforts, I sought to help them realize that they possessed other skills and talents to be developed, attributes as worthwhile and important as ability in mathematics. Indeed, I began to teach unique people, not just unique solutions.

Mathematics may reign supreme in the worlds of engineering and science, but it is psychology that must be respected and applied if education is to be made meaningful. At a recent seminar I attended, Dr. Albert Pasteur of Hunter College in New York stated that minority students are often "feeling centered" instead of "thinking centered," and he deplored the fact that so much of our energy is directed to stimulating the intellect, while we ignore the emotional aspects of the person. Unless a teacher is somehow made aware of the importance of feeling emotions, as I have been through my therapy, it is unlikely that the teacher will be very much concerned with a student's sensitivities. In this case a great opportunity for growth of both the student and the teacher can be missed.

That very special person in my life, my son, at age 20 passed his high school equivalency examination. We have struggled for growth each in our own way, and our suffering has been fruitful. I sincerely believe that my students, for many future semesters, will greatly benefit from the lessons he has taught me. In turn, I accept and help him, and love him unconditionally. Mother and son are doing just fine.

Reference

Nagel, E. and Newman, J.R. Gödel's Proof. In J.R. Newman (Ed.), The world of mathematics (Vol. 3). New York: Simon and Schuster, 1956-60.

CONGRATULATIONS!

Rebecca A. Herb of the University of Maryland has been awarded a Sloan Fellowship for Basic Research for 1982-1983. Recipients are selected on the basis of their exceptional potential to make creative contributions to scientific knowledge. The fellowships, granted by the Alfred P. Sloan Foundation, run for two years and are in the amount of $25,000.

Jennifer Colapietro (graduating from Hamilton College), attending University of Michigan; Sharon R. Eisenstadt (Swarthmore College), Brown University; Margaret M. Fleck (Yale University), Massachusetts Institute of Technology; Mary A. Holstege (Pomona College), Massachusetts Institute of Technology; Joan M. Lucas (Cornell University), Massachusetts Institute of Technology; Margaret C. Memory (North Carolina State University), Brown University; Nancy M. Paulikas (University of California, Davis), Stanford University; Tara L. Smith (Princeton University), University of California, Berkeley; Barbara J. Staudt (Moravian College), Carnegie-Mellon University; and Marcy L. Thompson (Mt. Holyoke College), Massachusetts Institute of Technology received 10 of the 59 National Science Foundation Graduate Fellowships awarded in mathematics or computing for 1982-1983.

Edith N. Starr of Philadelphia, Pennsylvania was one of eight U.S. and Canadian students who earned Olympiad medals in a mathematics competition involving over 400,000 high school mathletes. The final round in this competition was the Eleventh

USA Mathematical Olympiad in which 100 students competed in a challenging examination designed to test ingenuity as well as mathematical background.

Lisa Mantini, a graduate student in mathematics at Harvard University, has been awarded a grant of $500 by the Association for Women in Science Educational Foundation. Her dissertation is in the areas of representations of Lie groups and mathematical physics. Her advisor is Professor Michele Vergne of MIT.

MATHEMATICAL REVIEWS

Joan Hutchinson and Michele Vergne, Committee on Journal Editorship

The Committee on Journal Editorship has been considering ways to get women mathematicians more involved in all sorts of journal work: reviewing, refereeing, editing, etc. We thought it would be of interest for AWM members to know the main ways in which mathematicians come to be invited to review for Math Reviews. To quote J.E. Kister, Associate Editor of Math Reviews, they are:

"1. When an author has 3 published items in our files, the author's name and bibliography is brought to the attention of the appropriate editor for consideration as a potential reviewer. In most cases the editor will decide to invite the author to review for us. (With the advent of computerized information we hope that it is now possible for us to ensure that all 3 paper authors are considered. However inevitably some will slip through the net. We are always pleased to have such people brought to our attention.)

2. Sometimes a reviewer to whom an item has been sent for review transfers it to a (non-reviewer) colleague to review. After writing the review, such mathematicians are almost always invited to become regular reviewers.

3. The names of appropriate potential reviewers come to the attention of the editors in a number of ways: editors may know them or their work personally (for example, I was approached at the meeting in Cincinnati by someone who wished to review for us); reviewers may suggest one of their colleagues or (ex) graduate students."

Ms. Kister also stated that they were always interested in recruiting new reviewers. We also would like to encourage women who are not now doing reviewing work but who would like to be to write directly to Math Reviews or, as in #3 to get a colleague to suggest her name.

NSF POSITIONS

The National Science Foundation's Division of Mathematical and Computer Sciences is seeking qualified applicants for positions in the Mathematical Sciences which periodically become available. The positions are filled on a one- or two-year rotational basis and are excepted from the competitive civil service. The salaries are negotiable and range from $39,689 to $57,500 per annum (GS-14/15 equivalent). The openings are expected to be in the fields of modern analysis, applied mathematics, geometric analysis, and statistics and probability. Applicants should have a Ph.D. or equivalent experience and training in an appropriate field, plus six years of successful scientific research experience. A broad general knowledge of the field and some administrative experience are also required.

Applicants should submit current resumes to NSF, Personnel Administration Branch, Room 212, 1800 G Street, N.W., Washington, DC 20550, Attn: Mr. E. Paul Broglio.

"WOMEN IN MATHEMATICS AND SCIENCE": AN INTERDISCIPLINARY SEMINAR

by Ann Moskol, Rhode Island College

For two successive years (1979 and 1980), I taught an interdisciplinary seminar, "Women in Mathematics and Science," at Rhode Island College. The four-credit seminar was offered to juniors and seniors as a general studies elective. The course explored why relatively few women have achieved serious recognition for their work in mathematics and science, and why these fields have appeared to be inherently male. I would like to share some ideas about course content and the problems I have encountered in developing such a course.

Course content

During the first part of the course students were required to read biographies of women who achieved success in math or science careers. Useful texts in this area included: Lynn Osen's Women in Mathematics, H. J. Mozan's Women of Science, and Edna Yost's Women of Modern Science and American Women of Science. Additional biographical material was found in Teri Perl's Math Equals and the Educational Development Corporation's Science, Sex and Society.

Students completed a form for each woman studied. This form included the following information: name, dates of birth and death, relevant historical background, family history, education, motivation for the study of math or science, discrimination encountered and recognition received.

This information provided the basis for comparisons. For example, the students discovered that several of the women mathematicians had mathematician fathers or other important intellectual resources. Many of the women faced obstacles in obtaining suitable professional positions and serious recognition.

Reading about the lives of famous women mathematicians and scientists helped to change preconceived notions of the "boring" female achiever stereotype that some students originally held. Many of the students developed positive perspectives and expressed interest in further study of the seminar topics.

Materials from Sheila Tobias's Math Anxiety and EDC's Science, Sex and Society provided an introduction to women's social and psychological problems in the fields of math and science. EDC's modules, Sex Stereotyping in Math Doesn't Add Up and Equality in Science: Formula for Changing Sex Bias, were also useful.

In addition to the readings, students were required to complete a research project and present their findings in class. These projects reflected the diversity of students' interests. By examining math textbooks, two students found that many word problems contained examples of sex-role stereotyping. Another student found that interest inventory tests discriminate between the sexes because they use separate occupational scales for men and women. Other research projects included interviews with female anthropology professors to determine what problems they perceived, researching the obstacles faced by women in medicine, and determining how high school females' perceptions of mathematics differ from those of males. Two separate projects dealt with the reasons why there are relatively few women physicists and Nobel laureates.

Problems encountered

The most serious problem I encountered was the lack of an appropriate college-level book on the lives of women scientists. Mozan's Women in Science (1913) is dated, and Yost's two books (1959, 1943) are out of print.

Another problem was that having a majority of female students probably created imbalances in class discussions. The few males who enrolled did so because all other courses that fit into their schedules were closed. Although they found the course enlightening, their interest in discussion was less than that of the female students.

Teaching the course was a different experience for me. Unlike a mathematics class in which the development of the lecture and discussion is relatively predictable, this course was full of surprises. For example, one unplanned discussion occurred when several female students noted that, in general, they preferred male instructors to female instructors. This inability to predict the direction of discussion questions caused me some anxiety at the the beginning of the course, but I found myself feeling more comfortable with the flexible format as the semester progressed.

Conclusion

As a mathematician, I found the development and teaching of "Women in Mathematics and Science" to be more work than teaching a standard calculus course, but I also found it to be a broadening experience for everyone involved. Based on my experience, I would encourage others to teach such a course if they have the opportunity to do so.

JOHN HOPKINS QUEUEING NETWORKS LECTURE SERIES

by Linn Sennott, Illinois State University

Approximately thirty-five people attended a lecture series on Queueing Networks and Applications at Johns Hopkins University, June 21-25. The series was the 6th Mathematical Sciences Lecture Series, sponsored by the Department of Mathematical Sciences at Hopkins and the Office of Naval Research. The attendees included faculty and graduate students in mathematics, operations research, industrial engineering, and statistics and persons from industry and government. Besides myself, a topologist retrained in applied probability, the only other woman was Dr. Lorrie Hoffman, a statistician employed by TWA to conduct operations research studies. The principal speaker, Ralph L. Disney (Virginia Polytechnic Institute and State University) gave ten lectures acquainting attendees with both background and state-of-the-art results in various aspects of queueing networks. There were three additional speakers who each gave two hour lectures on related material.

Queueing theory is the mathematical analysis of "service"situations. In the typical queueing model, customers arrive at service centers according to some stochastic process; the assumption that customer arrivals are a realization of a Poisson process is a common one in queueing theory. In a Poisson process, the times between customer arrivals follow an exponential distribution, which has the "memoryless" property. That is, if it has been 5 minutes since the last customer arrived, the probability that it will be an additional 10 minutes before another arrival is the same as the unconditional probability that it will be 10 minutes until the next arrival. Each customer's service time is likewise assumed to be drawn from some distribution. Classical queueing theory usually focused on a single arrival stream of customers to either a single server or a group of servers. If all servers are busy, an arriving customer must generally wait, that is, "queue".

A notation has been developed to reflect the important characteristics of a queueing system. An M/M/1 system has Poisson arrivals, exponentially distributed service times (M stands for Markovian, or memoryless), and one server. An M/M/1/K is as above except the queue size (including the customer in service) is limited to K customers. An $M/G/\infty$ system has Poisson arrivals, general (unspecified) service time distribution, and an infinite number of servers. Note that in this system there will never be any queueing. Even though an infinite number of servers may seem like an unrealistic model for any actual system, it will accurately reflect "responsive" situations in which a new server is brought on line to help any arriving customer who finds all present servers occupied.

The birth of queueing theory is generally credited to a Danish mathematician, A.K. Erlang, who around 1920 began to publish results on telephony. For example, suppose calls arrive to a switchboard with a capacity to handle at most m calls at a time. When all m lines are busy, an arriving call gets a busy signal and is "lost". What is the proportion of lost calls? This is an M/M/m/m system, and a formula for the proportion of lost calls was developed by Erlang in 1917!

Later work focused on the use of queueing theory to analyze industrial processes. A famous paper by J.R. Jackson [1] initiated the study of queueing networks. One type of network consists of J nodes or service centers (each with one or more servers) with customers arriving from outside to each node according to independent Poisson processes. In addition, when a customer finishes service at node i, it has a probability p_{ij} of going to node j for further service. It leaves the network with probability $1 - \sum_j p_{ij}$, which is assumed positive.

The current interest in computer communication networks has given great impetus to the study of queueing networks. Because of the typically stochastic nature of the demands placed on these networks, queueing theory is a vital tool in the design and performance analysis of these systems. Many applied probability researchers in industry are engaged in this work. Part of Dr. Lorrie Hoffman's work with TWA involves analysis of this nature as does the work of Dr. Mary Ann Maher at White Sands Missile Range.

Classical queueing theory has generally focused on a steady-state analysis of the number of customers in the system. For example, consider an M/M/1 system with an arrival rate of $\lambda = 3$ customers/minute and a service rate of $\mu = 5$ customers/minute. The quantity $\rho = \lambda/\mu$ is a dimensionless quantity called the "utilization factor". It can be shown that if $\rho \geq 1$, then as time goes on the number of customers in the queue will grow without bound. However, if $\rho < 1$, then the queue will periodically empty out, and one can show that Prob(n customers in system) = $(1-\rho)\rho^n$ for n = 0,1,... In our case, $\rho = .6$ and the server will be idle .4 of the time in the long run, an intuitively appealing result.

The first four lectures of the Hopkins series focused on the result that in many networks the steady-state probability associated with the vector state $(n_1, n_2, \ldots, n_J)$ where n_i = number of customers at node i, factors into $\prod_i$ Prob(n_i customers at node i). This says that the probability distributions giving the number of customers at each node are independent, a remarkable and unexpected result.

Current work on queueing networks is focused on obtaining more specific properties of various stochastic processes in the network. For example, let T be a random variable representing the total time a particular customer spends in the network, its "sojourn" time. If the network has the factorable property discussed above, it is fairly easy to find E(T). But what is Var(T)? What is the distribution of T? And most difficult of all, what are the properties of the stochastic process consisting of the sojourn times of successive customers? Researchers are also interested in information about networks (some of them very simple) which do not have a product form solution. The closing lecture of the series was a fruitful discussion of directions for further research.

Readers interested in this subject who have a background equivalent to one semester of undergraduate probability can learn basic queueing theory; a good introduction for self-study is [2]. Cooper [3] is an introductory text with much more on networks, but it is probably good to read [2] first. A book such as [4] gives a good introduction to the many issues involved in the design of computer communication networks. In addition, a book based on the conference lectures will be published by the Johns Hopkins University Press in about a year.

Many papers on queueing theory are given at conferences of TIMS/ORSA (The Institute of Management Sciences/Operations Research Society of America). Attendance of women at these conferences is growing. One can join ORSA by writing 428 East Preston Street, Baltimore, MD 21202. There is a special 400 member ORSA Technical Section on Applied Probability with its own newsletter that one can receive for a small extra fee.

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1. Jackson, J.R., Networks of waiting lines, Operations Research 5, 518-521 (1957).
2. Kleinrock, Leonard, Queueing Systems Vol. 1: Theory, John Wiley & Sons (1975).
3. Cooper, Robert B., Introduction to Queueing Theory, North Holland (1981).
4. Schwartz, Mischa, Computer-Communication Network Design and Analysis, Prentice-Hall (1977).

WOMEN HAMPERED BY "CHILLY" CLIMATE IN COLLEGE CLASSROOMS

press release

Women students may find their self-confidence and ambitions cooled while men's are fueled by the climate in many college classrooms, according to a report, The Classroom Climate: A Chilly One for Women?, issued by the Project on the Status and Education of Women of the Association of American Colleges. As Dr. Bernice Sandler, who directs the Project and supervised the development of the report explained, "Women's educational experiences often differ considerably from those of men attending the same institutions because faculty often treat men and women students differently." Faculty may subtly--or not-so-subtly--discourage women students by behavior such as the following:

* Faculty may not be as likely to call directly on women as on men during class discussion.
* Teachers may often ask questions followed by eye contact with men students only --as if only men were expected to respond.
* Faculty may interrupt women more frequently than men--or allow them to be disproportionately interrupted by others in class.
* Teachers often address their classes as if no women were present ("Suppose your wife...?) or use classroom examples in which the professional is always "he," the client or patient always "she."
* Some teachers still use sexist humor to "spice up a dull subject" or make disparaging comments about women as a group.
* Faculty may not give women informal feedback on their work.
* Teachers may not be as likely to choose women as research or teaching assistants or to give them the same responsibilities as men in those positions.

Supported by a 15-month grant from the Fund for the Improvement of Postsecondary Education (FIPSE) and guided by an advisory committee of experts in student and faculty development, The Classroom Climate: A Chilly One for Women? brings together the results of recent institutional surveys, empirical studies of postsecondary and other classrooms, and general research in men's and women's communication. The report identifies overt and inadvertent faculty behaviors that can lead women students to feel they "don't belong" and are "not taken seriously" in the college classroom. It concludes that the chilly learning climate such behaviors create can play a major role in limiting women students' development.

"Most faculty want to treat all students fairly and as individuals with particular talents and abilities," says Roberta M. Hall, author of the report and Assistant Director for Special Programs at the Project on the Status and Education of Women. "However, many professors--men and women alike--may inadvertently treat women and men differently in the classroom and in related learning situations." Hall emphasized that teacher-student interaction at lower educational levels as well as different patterns typical of men's and women's communication in everyday situations may make these subtle differences in treatment in the college classroom (such as not expecting women to participate in class and thus not calling on them) seem so "normal" that neither teachers nor students notice them when they occur. "Taken cumulatively, though, faculty behaviors which either overlook or single out women students because of their sex may leave many women feeling they are not on a par with men. Women may become less confident than their male classmates about their academic ability, their place in the college community, and their potential for career success," Hall said.

Subtle differences in treatment are not the only classroom problems women may face. According to Hall, "Sexist humor and comments that disparage women as a group are still surprisingly prevalent in many college classrooms, especially in fields that have traditionally had few women students. When a professor demonstrates the effect of a vacuum by making changes in the shape of a crudely-drawn woman's breasts, spices up a medical school lecture with a slide of a nude woman in red heels, or refers to women generally as 'fat housewives and dumb blondes',he may perhaps foster collegiality with some male students, but leave many women out in the cold." Indeed, the report's findings indicate that some women have dropped courses or changed majors because of such behaviors, while others have hesitated to participate in class and to seek informal help or letters of recommendation from professors whose classroom behavior communicated negative views of women. "Looking beyond the immediate classroom setting," Sandler added, "women's career choices are often narrowed and men's and women's ability to work together as equals--both in school and in the workplace--may be undermined by an inhospitable college learning climate."

In addition to identifying both inadvertent and overt faculty behaviors that may discourage women, The Classroom Climate: A Chilly One for Women? includes over 100 adaptable recommendations for faculty, students, administrators and others to foster awareness, guide in on-campus evaluation, and promote change.

In releasing the Classroom Climate Report, Dr. Mark H. Curtis, President of the Association of American Colleges, emphasized that the traditionally masculine world of higher education must recognize that women comprise the new majority of students. "Women students can no longer be seen as a group whose education is anything less than central to the academic enterprise," Curtis said.

The report will be disseminated to over 18,000 persons in higher education, including the presidents of all postsecondary institutions. Copies will be available for $3 each (prepaid) from Box P, Project on the Status and Education of Women, Association of American Colleges, 1818 R St., NW, Washington, DC 20009.

Ed. Note: The report is truly interesting. Several members have told me to be sure and tell you about it. I will be printing an excerpt in the next issue by permission.

NSB COMMISSION ON PRECOLLEGE EDUCATION IN MATHEMATICS, SCIENCE AND TECHNOLOGY

background information
See related story in July-August issue of this Newsletter.

The Need for a Commission

The National Science Board and the Director of the National Science Foundation have established the Commission because they believe that the quality of mathematics and science education has declined to a near-crisis level in a majority of the Nation's public schools. The Commission has been directed to develop a national action plan to address this situation. Evidence of the need for the Commission includes the following.

Precollege Students

* Between 1960 and 1977, the proportion of public high school students (grades 9 to 12) enrolled in science and mathematics courses declined--from 60 to 48 percent in the case of science.
* Since 1970 there has been a nationwide trend toward reduction of high school graduation requirements. Only one-third of the nation's 17,000 school districts require more than one year of mathematics and science for graduation. At the same time colleges and universities have reduced the amount of mathematics and science required for admission.
* There has been a steady decline in the science achievement scores of U.S. 17-year-olds as measured in three national assessments of science (1969, 1973, and 1977).
* Mathematics scores of 17-year-olds declined significantly in two national assessments of mathematics (1973, 1978). The decline was especially severe in the areas of problem solving and the application of mathematics.
* The mathematical and verbal Scholastic Aptitude Test (SAT) scores of students (approximately one million college-bound students, largely from the top two-fifths of U.S. high school graduates) have declined steadily over an 18-year period through 1980.

Pre-college Science and Mathematics Teaching

* There is a severe and growing shortage of mathematics and physical science teachers in the nation's secondary schools.
* In 1981, 43 states (of 45 responding) reported a shortage or a critical shortage of mathematics teachers. For physics teachers, 42 states reported shortages or critical shortages.
* In 1981, 50 percent of teachers newly employed nationwide to teach secondary science and mathematics were actually uncertified to teach those subjects.
* Experienced science and mathematics teachers left classroom teaching for nonteaching jobs at a rate of 4 percent per year in the years 1980 and 1981. In addition, 25 percent of those currently teaching have stated that they expect to leave teaching in the near future.
* From 1971 to 1980, student teachers in science and mathematics decreased in number--threefold in science and fourfold in mathematics--and only half of these have been entering the teaching profession.

College Science and Mathematics Teaching

* Remedial mathematics enrollments at 4-year institutions increased 72 percent between 1975 and 1980--compared to a 7 percent increase in total student enrollments for the same period. In public 4-year colleges, 25 percent of the mathematics courses are remedial. At 2-year colleges 42 percent of these courses are remedial.
* A recent National Academy of Sciences study documents a decline in the science courses taken by college students not specializing in science, engineering or other science related professions. In 1980 the average nonspecialist devoted only 7 percent of course work to science.

U.S. Public

* A national study conducted in 1980 shows that 18 percent of the U.S. adult population is interested in and informed about scientific matters. The proportion varies from 4 percent for persons with less than a high school degree to 55 percent for those with a graduate degree.
* Only a small percentage of Americans indicate they would definitely take an active part in controversies involving science and technology, and only one in seven have a minimal understanding of what it means to study something scientifically.
* Industry, business, and the military commonly report that new employees and recruits lack the competence for a broad range of increasingly technical jobs.

International Comparisons

* One-half of all high school graduates in the U.S. take no mathematics or science beyond the 10th grade.
* In contrast, in Japanese secondary schools, nearly all of the college-bound students take three natural science courses and four mathematics courses during their 3-year high school career. Japanese 13-year-olds have the highest math achievement scores among 12 countries including the United States and several European countries.
* In West Germany, the general preparation is similar. There is a standard curriculum for all students through the 10th grade, and the only variation is in specialized science-oriented schools where each subject is studied more intensively.
* The Soviet Union has instituted a general curriculum reform at the primary and secondary levels which, in terms of its heavy focus on science and technology, is the most advanced in the world. The number of high school students taking calculus each year in the Soviet Union has reached 5 million. For the U.S. the comparable number in 1977 was 105,000. In addition to two years of calculus, all youngsters in the Soviet Union are required to complete 5 years of physics, 4 years of chemistry, 4 years of biology, and 5 years of algebra, among other requirements.
* A recent report by the Committee of Inquiry into the Engineering Profession in Great Britain (the "Finniston Report") laid Britain's declining ability to compete in international trade squarely on the lack of vigor of its engineering profession.

* On a per capita basis (for the relevant age group) for each engineering graduate produced per year in the United States, the United Kingdom produces 1.1. engineers; West Germany produces 1.4 engineers; Japan produces 2.6 engineers; and the Soviet Union produces 4.1 engineers.

Purpose and Objectives of the Commission

The Commission will examine the health and future potential of secondary school mathematics, science and technology education and recommend to the Nation, through the National Science Board, a plan for action. The Commission will seek the advice and assistance of state and local governments, parents, teachers, and other groups and organizations that are specifically concerned with precollege education in mathematics and science. The Commission will also seek the assistance of major professional engineering, mathematics and science societies. These organizations, having memberships numbering in the hundreds to thousands, reach virtually every school district in the United States. The Commission will examine successes and failures in the educational system and will identify the underlying causes. The Commission will propose clearly defined roles that are appropriate for the Federal government, state and local government, local school districts, private industry, private foundations, and citizens at large.

The overriding objective of the Commission is to translate its activities into a course of action that can be implemented nationwide and that will serve the country long after the Commission completes its work.

OF POSSIBLE INTEREST

Women's Studies, Holmes & Meier Publishers, IUB Building, 30 Irving Place, New York, NY 10003.

Science for the People magazine's July-August 1982 issue on Women and Science includes an article "Science, Women, and the Revolution in Russia" by Ann Koblitz featuring Sofia Kovalevsky. Other titles in this issue are "A Feminist Critique of Scientific Objectivity," "A Collective Experiment in Women's Health," "Keeping the Workers in Line," and "Fighting Cancer and the Medical Establishment," an interview about two women's struggle with breast cancer. The issue was edited by a special editorial collective of seven women. Subscriptions (6 issues/year) are $12 for individuals, $24 for institutions. Member subscriptions are $25 to individuals ($15 to low income) and include the magazine, newsletter, and other internal communications. Science for the People, 897 Main Street, Cambridge, MA 02139. Recall that the September-October 1981 issue, Science and the Attack on Women, featured an article on "Boys, Girls, and Math." Other recent special issues include Militarism and Science (July-Aug.'81), Racism in Science (March-April '82), the Present War (May-June, 1982). New subscribers now will receive a special anniversary issue to appear in early '83.

DEADLINES: Sept. 24 for Nov.-Dec., Nov. 24 for Jan.-Feb., Jan 24 for Mar.-Apr.
AD DEADLINES: Oct. 5 for Nov.-Dec., Dec. 5 for Jan.-Feb., Feb. 5 for Mar.-Apr.
ADDRESSES: Send all material except ads to Anne Leggett, Math. Dept., Western Illinois University, Macomb, IL 61455. Send everything else, including ads, to AWM, Women's Research Center, Room 204, Wellesley College, 828 Washington St., Wellesley MA 02181.

AMS STATEMENT

Linda Keen

The role of the Nominating Committee of the AMS is to advise the AMS Council on its choice of candidates for various offices, Council Member-at-large positions and editorial positions. The Council by and large accepts the slate proposed by the Nominating Committee. Therefore it is important that this committee be representative of the general membership. It is even more important that they take their role seriously and take the time to find competent and willing candidates. If they consider only people whom they know professionally, either as colleagues or by their work, the slate they propose will only contain as broad a group as is represented by the committee. Since the number of people on the committee is necessarily limited, the only way to make sure that well-qualified minority and women candidates, as well as those from a broad spectrum of university campuses, are chosen is for the members of the Nominating Committee to make a real effort to search out these candidates.

BREAKFAST--AMS College Park Meeting Ocotber 30-31
(Bettye Anne Case, Florida State University)

At the College Park meeting of the A.M.S. October 30-31, there will be an AWM breakfast on Sunday morning with an interesting guest. This should be an especially good AWM session at a regional meeting since a number of our members are arranging/talking in special sessions. Details about the breakfast will appear in the AMS program for the meeting. Invite your friends who might be interested in AWM!

Job Ads

Institutional members of AWM receive two free ads per year. All other ads are $10.00 apiece and must be prepaid. The vacancies listed below appear in alphabetical order by state. All institutions advertising below are Affirmative Action/Equal Opportunity employers.

University of California, Davis. Dept. of Mathematics.. Two positions in Computer Science effective 7/1/83. Level of appointment determined by qualifications. Required: Ph.D. in computer science or related field with evidence for potential for research and teaching in computer science. Prefer candidate to teach computer science at upper division and graduate levels. By 11/15/82 send resume and 3 letters of recommendation to Carlos R. Borges, Chairperson, Dept. of Math, University of CA, Davis, CA 95616.

ASSOCIATION FOR WOMEN IN MATHEMATICS
MEMBERSHIP APPLICATION

The AWM membership year is October 1 to October 1.

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