ASSOCIATION FOR WOMEN IN MATHEMATICS

NEWSLETTER

REPORT FROM THE PRESIDENT

Election of Officers

Congratulations to H. Christine Stokes, University of Mississippi, who has been elected as Representative from the South, 1975-79! In this capacity she becomes the newest member of the Executive Committee.

Also congratulations to Judith Roitman, who has been elected Co-Treasurer/Editor of the Newsletter, 1975-77. She will be returning to the Executive Committee, having been the Representative from the West Coast until her move to the East last fall. The retiring president has been elected the other Co-Treasurer/Editor. (The other nominees for the post of Treasurer/Editor prefer not to be candidates at this time.)

The nominees for Representative from the West are:

> M. Susan Montogomery, University of Southern California,
> Evelyn Silvia, University of California, Davis .

A ballot for this election appears at the end of this Newsletter.

When the Representative from the West Coast is elected, the Executive Committee for 1975-76 will be complete: President - Lenore Blum, Mills College; Representative from the Midwest - Eveleyn Boorman, University of Michigan; Representative from the South - H. Christine Stokes, University of Mississippi; Representative from the East - Mary Gray, American University; Employment Registrar - Judy Green, Rutgers University, Camden; Co-Treasurer/Editor of Newsletter - Judith Roitman, Wellesley College; Past President (Co-Treasurer/Editor of Newsletter) - Alice T. Schafer, Wellesley College.

Meeting in Kalamazoo

AWM will hold its summer meeting in Kalamazoo in August in conjunction with the meetings of the AMS and MAA being held there. The AWM session will be held on Tuesday, August 19, 3:30 - 5:00 and will consist of a panel discussion and a business meeting. The topic for the panel discussion and the panelists are: Noether to Now -- The Woman Mathematician: Lenore Blum, Vivienne M. Mayes, M. Susan Montgomery, Mary Ellen Rudin, Jane Cronin-Scanlon, Alice T. Schafer, Moderator.

The Executive Committee will also meet in Kalamazoo; its meeting will be open to all members. We need to discuss policies and procedures of the Association and make plans for future actions. (See Letter to the Editor; Continuation of the Berkeley story.) The date and time of this meeting will be announced in the July-August Newsletter after the times of all the AMS and MAA sectional meetings are known so that conflicts with them will be as few as possible.

Dues and Contributions

After the announcement in the April Newsletter of the new dues structure, many people paid their dues, and quite a few people made contributions for the work of AWM. We appreciate the promptness of the dues payers and want especially to thank those individuals who made contributions.

The new dues structure appears at the end of the Newsletter in case you missed it in the April Newsletter. If you did not look at the address label on your issue of the April Newsletter, please check it to see if your dues have expired.

Representative on Steering Committee of MAG

Harriet Lord, who is the Coordinator of MAG (Mathematicians Action Group) has written asking AWM to appoint a representative to MAG's Steering Committee. The purpose would be to keep the two organizations in touch on common concerns and possible remedies for them; for example, the employment situation.

Are there volunteers for this position? If you are interested, please let me know. In the meantime Harriet Lord has agreed to be the "acting volunteer" but she would prefer not to be the "volunteer" since she is already the Coordinator for MAG.

Job Register

The Philadelphia Area AWM members, under the guidance of Judy Green, have been operating the job register. In her work on the job register, Harriet Lord has written to women who used the register last year trying to determine how successful the register has been. She has heard from some to whom she wrote but not all. So if you are one of those who has not answered, please do so as soon as possible. Harriett will write an article for the Newsletter on the

results of the use of the register; she would like her statistics to be as complete as possible.

Affirmative Action??

There continues to be trouble at Berkeley. See the article in this Newsletter on the continuing story of a lack of affirmative action in hiring women and minorities at Berkeley. The issue raised in the Berkeley case was placed on the agenda of the AMS Council Meeting in St. Louis in April. The result of the discussion in the Council meeting was that Lipman Bers, President, AMS, has appointed a Committee on Affirmative Action Procedures whose members are: A.T.Bharucha-Reid, Raoul H. Bott, Murray Gerstenshaber, Chairman, Mary-Elizabeth Hamstrom, Alice T. Schafer, Hans F. Weinberger. To date the Committee has not met. In the meantime please send any suggestions you have for the work of the Committee to the Chairman, to me and/or to any of the members.

Several AWM members have written concerning cases of discrimination against themselves or others at their institutions. Some have written about their institutions not following their own affirmative action procedures or "following" them falsely;i.e. considering women who have not applied for positions and whose files are not complete, or considering women candidates after positions have already been promised to men. Unfortunately, Berkeley does not seem to be unique! AWM needs a legal defense fund! It should be our next order of business.

Letters from members

In addition to the letters from members about discrimination mentioned above, many members have written with suggestions about the work of AWM, offering to help, etc. These are much appreciated and will be answered as soon as school is over this spring. Please continue to write.

Several members have written about sexist mathematics texts. A list of these texts will be published in the July-August issue. We urge all members to protest to publishers about such texts and to get their departments to refrain from using them.

Nomination by petition for officers of the AMS

From Mary Gray's report in this Newsletter on the AMS Council meeting in April you know that the motion to have all offices of the AMS open to nomination by petition failed to pass at that Council meeting. However, nomination of candidates by petition for the office of Vice President and for member-at-large of the Council are possible. Please send any suggestions you have for these candidates to me. The July-August Newsletter will carry the names of those candidates nominated by petition, and also those nominated by AMS, and recommended by the Executive Committee of AWM.

We hope to see you in Kalamazoo.

Alice T. Schafer

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MORE BERKELEY

At Berkeley the implicit attitudes of white male mathematicians towards women in the profession continue to be expressed openly; which has led to student response, and has been picked up in various ways by local media and the AP.

Steve Smale's letter, published in our last newsletter, provides the background. While Steve sent it to the student paper, the Daily Californian (henceforth abbreviated as DC), it was not published there. Instead, the initial voice heard outside the mathematical community was that of Rob Kirby, in the DC's letter column. Some excerpts from his letter:

"The math department has a graduate admissions committee which ranks applicants to graduate school and establishes a cutoff line, admitting those above it. However, there are 30 spots (out of about 300), 15 women and 15 for minorities, which are set aside specifically for those which are below the cutoff. The same system with about 10 spots out of about 100 is used for financial aid. This is the clearest case of institutionalized academic discrimination that I know of.

"The math department hires from 5 to 10 lecturers each year; these are two year positions primarily for new Ph.D.'s. This year 3 of the 5 new lecturers were women, last year 2 of 9 were women, and the year before, 2 of 10. Considering the less than 10% of new Ph.D.'s are women, the following rule of thumb must be working well: when choosing between two similar candidates, pick the woman.

"The department has no women professors, assistant, associate, or full. However, the department has been pro-women in spirit (e.g. a motion last year that two of the next three assistant professors be women lost by one vote).

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"Last month, the department voted (about 3-1) to offer our only assistant professorship in pure math to a foreign woman, Ms. X.

"Apparently she is the best woman candidate, for a special committee searched hard. In research she is well qualified, and a few years ago we would have been lucky to get her. Now competition is sharper. There is at least one man (I think several) whose research looks significantly better (many of those voting for Ms. X agree with this). The man has an excellent teaching record, but we have no information on Ms. X except that there is some evidence she does not speak English...

"...is the math department unique? Or are there many other departments who are biased in favor of women, contrary to the prevailing dogma? Finally, some people won't believe this story; they will assume the male chauvinists in the math department wanted to make affirmative action look bad by choosing a woman who apparently does not speak English."

Many people responded to Kirby. Perhaps the most eloquent was Dave Goldschmidt, whose letter was also printed in the DC:

"In a recent inspired letter to your newspaper, mycolleague Professor R. Kirby has revealed that our department (mathematics) is "pro-woman." This expose will doubt-less come as a pleasant surprise to the Association of Women Mathematicians, a professional organization which, as I understand it, has recently been advising its members not to apply to Berkeley for jobs due to the discriminatory hiring practices of the mathematics department.

"Taking a commendably even-handed tone, Kirby does concede the point that, out of a total of approximately 65 ladder positions, the number now occupied by women is zero. Apparently, however, he feels that while this fact is certainly evidence of past im-partiality, the department must not merely rest on its laurels but must continue its vigilance against attempts to discriminate in favor of women.

"As evidence of a growing trend towards discrimination, Kirby cites a recent job offer which we made to a woman, which he claims is "probably illegal." Although a public discussion of particulars is extremely discourteous to the parties involved, I think that the charge is sufficiently serious to require some further comment.

"Kirby states that "Ms. X" was selected over a male candidate whose research "looks significantly better." To whom does it look better? He neglects to mention that the two individuals in question are in completely separate mathematical specialties and that there is no one in our department who is even able to read both sets of papers, much less to give a competent technical evaluation of the work. In fact, there may well be no such individual anywhere in the world. He further fails to mention that among those of our colleagues who are competent to comment technically on the work of "Ms. X," opinion was unanimous that there were no better qualified people available in her field. This evaluation was supported by outside letters.

"It is possible that "Ms. X" might not have been hired, had she not been a woman. However, I wonder if Professor Kirby has ever thought back, as I often have, to when we were first hired. Would we have been hired, had we not been men?"

The damage had been done, however. The AP picked up the story in a most unsympathetic article, and local media wrote stories which quoted Kirby literally. A sample headline: CAN'T SPEAK ENGLISH BUT GIRL HAS E=MC^2. The AWM sent a package from its files to the New York Times, and Lenore Blum contacted the local media in response to these articles. The DC, which had originally written a pro-Kirby article appearing in the same issue as Goldschmidt's letter, turned around with a sympathetic article after interviewing all segments of the math department, and also published the following editorial:

"In many ways, the mathematics department is representative of Berkeley's faculty.

"It is old. It is distinguished. And it is sexist.

"Women tend - and this has been well documented - to have a poorer chance of admission to such faculty, and this is especially so with the math department, where no woman has been hired for more than twenty years.

"If it is true - and it is true - that qualified women are not being hired at the same rate as similarly qualified men, then the barrier can be nothing else but male bias.

"One thing that is particularly disturbing about the recent controversy over the appointment of a woman to the once exclusively male math faculty is the seeming ignorance of this bias.

"In a recent letter to the Icebox, a math professor contended that because of the department's "pro-woman bias" (forced on it presumably by federal affirmative action guidelines) and the "lack" of qualified women applicants, the department was forced into the absurd hiring of a woman who cannot speak English.

"On the contrary, the math department, as some within the department will attest, did not recruit as widely as it could or should have. In the past, it has ignored women applicants, or offered them positions already promised to men, or wooed them at other institutions with positions of lower academic rank. It is small wonder than many women refuse to apply, or else apply with little hope of success.

"Federal law forbids race or sex discrimination. Federal guidelines over the use of federal money prohibit government contractors (e.g. the University) from using hiring policies that have a "disparate impact" on women and minorities.

"Nationwide figures indicate that in the 27 most prestigous math departments the percentage of women (both tenured and non-tenured) has declined from 3.3 per cent in 1973-74 to 2.8 per cent in 1974-75. Yet the percentage of women receiving PhD's in the United States has been several times these figures, and this year it was about 10 per cent.

"Under Berkeley's affirmative action hiring plan - a 'model for the nation' as University and HEW officials delight in calling it - the math department has thirty years to hire three women.

"There are presently no women, no Blacks, no Chicanos, and no Native Americans in the math department.

"Yet the math faculty continue to argue to no purpose over whether affirmative action means a sacrifice in academic quality. The department has not practiced affirmative action and it is absurd for it to talk as if it had."

Dave Gale responded to the DC editorial in a letter which states quite plainly the central belief of those who oppose affirmative action on the one hand while claiming it unnecessary on the other:

"The problem is that, while there are many competent women mathematicians, there are very few outstanding ones and no "super stars"..."

This raises, among others, the following questions:

Among the competent male mathematicians, how many are outstanding? Even at the most prestigious institution? And as Dave Goldschmidt points out, who decides who is better than someone else?

In what strange way does Dave Gale define a super-star, unless it be on the basis of masculine charisma, that enables him to be so sure that no woman qualifies?

Meanwhile a congressional committee led by Congressperson Hawkins of Los Angeles, and supported by Congressperson Ron Dellums of Berkeley/Oakland, is investigating the entire affirmative action package of the University of California system. The AWM intends to supply witnesses, and hopefully the congressional attention will force some real action by all segments of the university.

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AN ACTION PROGRAM IN PROGRESS
by Lenore Blum, Head, Department of Mathematics and Computer Science, Mills
College, Oakland, California 94613.
Talk presented at the meeting of the Association for Women in Mathematics,
January 24, 1975, Washington, D. C.

Mills is a small liberal arts college for women with about 850 undergraduate
students. More than one third of the students are third world and a large number
are resumers. Traditionally, Mills has been well known in the humanities and fine
arts. Today, there is much interest in the sciences and mathematics as well.
There is a computer center on campus with a mini-computer and (time-shared)
terminals to Stanford and the Lawrence Hall of Science. Our department offers a
full undergraduate program and degrees in mathematics and computer science.

For the past year I have been co-directing a program, sponsored in part by
a grant from the San Francisco Foundation, aimed at increasing mathematical and
technical expertise of women in many fields. In this talk I will discuss the
aspects of the program designed to provide a basic grounding in mathematics[1].

We have been concerned with the fact that, for women and minorities in
particular, mathematics has been a "critical filter in the job market[2]." It is
well known that, for a variety of reasons, many young women cease their mathe-
matical studies early (often before completing high school), are provided little
opportunity for successful reentry into the mathematics curriculum, and are thus
severely limited in their career possibilities - even as they start college[3]. For
example, Lucy Sells pointed out in her pilot study of admissions applications of
Berkeley freshmen for fall 1972, that "while 57% of the boys had taken four years
of high school mathematics. . . ., only 8% of the girls had done so. The four
years of high school mathematics sequence is required for admission to Mathematics
1A (Calculus) at Berkeley, which in turn is required for majors in every under-
graduate field except the traditionally female, and hence, lower paying fields
. . . .[2]"

Our program aims at remedying a similar situation at Mills. A key feature
is to provide easy access (both psychologically and actually) into the mathe-
matics program. An immediate goal is to get students into the calculus sequence
quickly. Our methods include:

(1) Stimulating interest: A mini-brochure[4] describing the program and
including self-placement quizzes, was sent to all students last summer. Ap-
parently its positive, low-keyed nature was effective. Virtually every student
on campus knows about the program; a large proportion took the quizzes. In a
well publicized and well attended weekly seminar series, invited speakers
(predominantly women) have been presenting topics of general interest; e.g.,
"Mathematics as the Critical Filter in the Job Market," "Careers in Computers,"
"Personality Characteristics of Women Scientists," "Mathematical Methods in
Population Studies," "The Origins of the Universe," and "Women in Engineering[5]."

(2) Redesigning the pre-calculus course: Many of the students we wanted to
reach had only limited high school mathematics backgrounds. However, we felt
that the idea of spending an inorginate amount of time in preparing for calculus
would effectively deter them from entering the program. It was therefore crucial
to design a course that would quickly (i.e., in one semester) prepare a student
directly, no matter what her background, for the calculus sequence. It has been
our experience that the usual college algebra course was a dead end in this
direction: it usually just repeated high school work toward which students already
had a history of negative attitudes; it was clearly remedial in nature with all
the usual negative implications; it included enormous amounts of material without
managing to deal adequately with concepts (such as slopes, limits, continuity)
which are fundamental to calculus.

Our approach was to present a streamlined course that dealt mainly with a systematic study of the elementary functions in the spirit of calculus. A main goal was to develop analytical and comparative techniques so that students could quickly visualize the graphs of these functions[6]. At first, the students resisted and felt uncomfortable with this qualitative and conceptual approach[7]. However, within a few weeks, they were able to visualize a variety of functions and became fairly sophisticated in asking questions such as: Where does the function blow up? What happens in the limit? Is it periodic? Symmetric? How fast is it growing? At this point there was a dramatic change in student attitudes about course methods and about their own previous feelings of mathematical powerlessness. Apparently, giving students the tools to visualize algebraic symbols, and thus make them meaningful, is an effective method of "demystifying" mathematics[8]:

(3) <u>Designing a network of workshops to deal with additional student needs and to provide a variety of entrance points to the program</u>: It was clear that some pre-calculus students would need additional help in developing arithmetic and algebraic skills. We did not wish to include this sort of material in the main course for the reasons already outlined. Thus, pre-calculus workshops were designed in conjunction with the pre-calculus course to meet these needs. The workshops are small sessions that meet twice a week and are taught by undergraduate teaching assistants who receive one course credit for their work[9]. The workshops are worth 1/2 course credit and are graded on a pass/fail basis. We used various elementary texts for the pre-calculus workshops but plan to use certain P.S.I. (personalized system of instruction) materials in the future.

It quickly became apparent that workshops could also serve many other student needs, and hence effect an even larger number of students. For example, many Mills seniors had not studied mathematics since high school and were apprehensive about taking the Graduate Record Examinations (quantitative part). Various psychology and social science students, including many older women resuming their studies, were quite anxious about taking the statistics course and requested special workshops. We felt that these were legitimate needs and so graduate exam workshops and pre-statistics workshops were also initiated[10].

<u>Preliminary evaluations</u>: In terms of student participation, the program previously outlined has been very effective. For example, 40 students enrolled in the pre-calculus course (vs. 27 last year), 85 students have been enrolled in workshops and 92 students have begun the calculus sequence (vs. 57 last year). These figures are quite significant in a stable total undergraduate student population size of 850.

Graduate Record Examination scores are also indicative. The mean score for students participating in the program is 100 points higher than the Mills mean score in the year 1972-1973.

At the start of the program we asked participating students to describe their past attitudes, influences and experiences with respect to mathematics. Typical comments were:

"Math has freaked me out since tenth grade."

"Generally, I've been afraid of math and been greatly influenced by the 'math mind,' convinced I was part of the vast majority that didn't have one."

"I never had problems keeping up with math until the end of the year in algebra. That freaked me out so I procrastinated a year before taking geometry. I got so lost there, I vowed never to take math again. So here I am!"

Later we asked students who participated in workshops to evaluate them:

"I did not like math at all and did very poorly until this course. The

workshop was so helpful in understanding the pre-calculus work that I plan
to go on in math."
"Great! I only wish this would have been available when I was a freshman/
sophomore."
"Very innovative and needed idea. Directly related to my needs. Thank you."
The success of the program probably depends on a variety of factors. Peer
teaching with its consequent positive effects from unpressured settings and
available role-models, certainly is important. The enormous amount of energy
expended is certainly a significant factor. But the key features seem to be
the goal orientation of the program and the attempt to meet fairly immediate
student needs, often in the students' own terms. Thus, for example, the only
workshop that did not gel was a problem-solving workshop (a mathematician's
delight and the hoped-for panacea of the science faculty) not held in conjunction
with any course in particular. When the pressures of midterms came, this work-
shop was evidently dispensible.

Of course, evaluation in terms of long-term and sustained effects will be
needed.

Notes:

1. We have also been involved in a series of other projects aimed at increasing
student potential at higher levels:

With regard to providing early career experiences and meaningful student
involvement, 6 students participated (during January term under the intern pro-
gram) in computer industrial projects involving urban systems design, modeling
chemical and ecological systems, operating systems and operations research.
Twelve students have been teaching mathematics workshops, where for the most
part, they have complete autonomy with respect to their classes. Students are
also regularly presenting talks in the departmental seminars on the applications
of mathematics.

With regard to increasing career options, dual degree programs in liberal
arts and engineering have been initiated in conjunction with the Stanford and
U.C. Berkeley schools of engineering.

With regard to increasing the applicability of our program, we are developing
a course in mathematical and computer modeling. Further, for each of our standard
undergraduate mathematics courses, an applications module is being developed that
can be integrated into the curriculum. As a pilot project, Larry Gurley, instruc-
tor in mathematics, is including linear programming and constructive methods in
the linear algebra course this semester.

2. Lucy Sells, "High School Mathematics as the Critical Filter in the Job
Market," Department of Sociology, U.C. Berkeley.

3. See e.g. Lynn M. Osen, "The Feminine Math-tique," KNOW, INC.,
           Else Høyrup, "Women and Mathematics, Physics and Technology?",
               AWM Newsletters, 1974-1975,
           Sanford M. Dornbusch, "To Try or Not to Try," The Stanford Magazine,
           John Ernest, et.a., "Mathematics and Sex," Department of Mathematics,
               U.C. Santa Barbara.

4. A limited number of mini-brochures are still available on request.

5. The speakers for these topics were:
   Lucy Sells, sociologist, U.C. Berkeley.
   Carol Lennox, computer specialist, Stanford Computer Center.
   Dr. Ravenna Helson, psychologist, U.C. Berkeley.
   Dr. Judith Kunofsky, mathematician, Sierra Club.
   Dr. Bonnie Miller, theoretical astrophysicist, U.C. Berkeley.
   Grace Adams, doctoral candidate, U.C. Berkeley.

6. One of the best references for this approach I have seen is a Russian high school text, Functions and Graphs, by I. M. Gelfand et. al., M.I.T. Press.

7. To counter the obviously bad effects of formula memorization and routine plugging in, we go to the extreme of not allowing students to use formulas (not even the quadratic). Along the same lines, it is also essential to stress the importance of guess work and approximations in mathematics, even in quantitative calculations.

8. It is clear that the pre-calculus and the subsequent calculus course should be closely coordinated. We have observed that although the students have become fairly sophisticated in certain ways, their newly acquired mathematical self-confidence can be easily shaken. Thus, it is crucial that the calculus instructor be aware of where these students are coming from, what they know and what they don't know, and be willing to work out a smooth transition. We are now offering two calculus sequences. The one starting in the fall is for students sufficiently prepared for calculus. The one starting in the spring is predominantly for the students coming directly out of the pre-calculus course.

9. The teaching assistants are undergraduate students; the main criterion in selecting them is their interest in participating in the program. They are told the general goals of the workshops and are asked to: design a flexible and re-visable plan for the semester; assign regular homework sets; keep weekly records, including evaluations; and require regular attendance of their students. The T.A.'s meet with me regularly to discuss progress and problems. They also consult with Steve Givant, director of the Bay Area SEED Project, who also gives workshops demonstrating the effectiveness of letting students work things out for themselves. Other than that, the T.A.'s are on their own.
   The psychological benefits inherent to peer teachers, and the enthusiasm and conscientiousness of the teaching assistants certainly counter their lack of previous teaching experience. Furthermore, the workshops provide an invaluable learning experience for the T.A.'s who must first organize and clarify mathematical concepts for themselves in order to communicate these to others.

10. The graduate exam workshops are problem-solving sessions; weekly practice tests are also given. We use Polya's How to Solve It, and Wickelgren's How to Solve Problems, as well as the G.R.E. Math Review by Gruber and other review materials. The pre-statistics workshops deal with basic statistical concepts, computations and graphing; the text used is Mathematics Through Statistics, by Auslander, et. al.
   The workshop format is also successful in other contexts: Drop-in workshops effectively replace office hours. A psychology and a sociology student are leading a pilot computer workshop on implementing SPSS (the Statistical Package for the Social Sciences) in anticipation of a network of such workshops we are planning. Dr. Bonnie Miller, an astrophysicist, is leading calculus workshops stressing applications to science. And finally, well-attended weekly chess meets are turning students on to chess.

REPORT ON THE MEETING OF THE COUNCIL OF THE AMERICAN MATHEMATICAL SOCIETY, 11 APRIL 1975, ST. LOUIS

The following report is only a summary of some of the actions taken; for details please contact Everett Pitcher, Secretary of the AMS (Lehigh University).

The Nominating Committee submitted a partial report. Its candidates for Council Member-at-Large are William K. Allard, Joan S. Birman, Edwin E. Floyd, Joachim Lambek, Hugo Rossi, Barry Simon and Guido L. Weiss. If there are not at least three nominations by petition, additional names will be offered by the Nominating Committee to the Council at its August meeting. Five will be elected. The candidates for Vice President are Stephen C. Kleene, George D. Mostow, Louis Nirenberg and Max M. Schiffer (two to be elected). None of these candidates has yet agreed to run, so there may be changes in the slate. AWM members who want to suggest possible candidates for nomination for Member-at-Large or Vice President (via petition) should contact Alice Schafer immediately. The Nominating Committee has not yet released its report on candidates for President-elect and other offices of the Society.

The Committee on Committees recommended that nomination by petition not be extended to the offices of President and Trustee of the Society; the Council endorsed its stand. This Committee is still considering other possible democratization of the Society so suggestions on how officers and committees should be chosen and related matters should be sent at once to Emery Thomas (University of California, Berkeley). Meanwhile, suggestions for possible appointees (including self-nominations) to Society committees currently being formed should be sent to Lipman Bers (Columbia). If you include information on the candidates and reasons why you think he or she would be suitable (e.g., particular expertise in the case of specific committees),it would be very helpful. Remember, an important qualification is the willingness and ability to devote time and effort to committee affairs.

The report of the Committee on Teaching Loads and Class was adopted by the Council with the deletion of a section assessing part of the blame for excessive teaching loadsto the labor surplus generated by the mathematical community's zeal in producing Ph.D.'s and recommending that potential mathematicians be advised of the economic situation and encouraged to acquire training in an applied area. I attribute this delection to a backlash against complaints regarding employment problems because they have resulted in a curtailment of graduate programs in many schools which has even established mathematicians worried. The Committee report calls for a teaching load of no more than two courses per term if research or more than trivial administrative duties are required and no more than three courses otherwise. Moreover, the report condemns the establishment of special postdocs with heavy teaching loads and calls on all members of the Scoiety to refuse to accept any position at institutions which indulge in this practice.

There is to be established an Editorial Committee for the Notices of the AMS which will decide on the publication of letters as well as the general editorial content. This should be very salutary if the committee is a good one. The Editors of the Transactions of the AMS hav announced a policy of sharply increased standards in the publication of papers.

The Joint Committee on Employment Opportunities had recommended the dropping of the requirement that non-U.S. employers sign a non-discrimination statement in order to have their positions listed

in the Employment Information for Mathematicians (EIM). This was
altered by the Council to require that they, along with U.S.
employers either sign or specifically decline to sign a non-discrimina-
tion statement and that the declining institutions be listed in a
separate section. The nature of the statement was changed so that
the specific reference to Title VII of the Civil Rights Act of 1964
(as amended) no longer appears since it seemed presumptious to
ask foreign employers to abide "in spirit" by a U.S. law. Instead
the statement simply states that employment is offered without
discrimination with respect to race, color, religion, sex or
national origin.

EIM will contain in the future a statement that employers are
expected to list and observe closing dates for all positions and to
allow candidates a reasonable time for responding to offers of
employment and further urging listing institutions to make their
listings as informative as possible with respect to fields of
specialization, experience, etc.

An ad hoc committee will be set up to draw up recommendations
for affirmative action procedures for mathematics departments.

The Emergency Employment Committee introduced a resolution,
which the Council approved, allowing mathematicians in need of an
institutional affiliation for grant applications to request that the
AMS act in this capacity. There was some discussion of obtaining
funding for various programs (retraining, etc.) designed to assist
unemployed mathematicians; I hope that this will be pursued with
the appropriate Federal agencies, but there is a reluctance on the
part of mathematicians to seek funding outside of the usual
agencies concerned primarily with research.

There was a lengthy report from the Committee on Academic
Freedom, Tenure and Employment Security (CAFTES) regarding its
efforts to help mathematicians having difficulties in these areas.
Those who seek assistance should write Paul Mostert (University of
Kansas). The Committee on Translations reported concerning the
financial situation of various translation (from Russian) projects.
Apparently there will be no immediate curtailment but several
projects remain under careful scrutiny. The Council recommended
that the Trustees come up with a scheme for reduced subscription
rates for unemployed mathematicians for AMS journals and books. No
action was taken on a proposal that AMS institutional members
grant unemployed AMS members library privileges, but the matter will
come up again.

The problem of journals beginning to publish papers in an
order based on whether or not page charges are paid was discussed.
If any author receives a communication threatening such action she
or he should write at once to Lipman Bers.

The AMS Postdoctoral Fellowships are to be continued. There
will be a check-off box on dues forms (with various amounts suggested)
for next year. Lipman Bers will appoint a committee on Principles and
Procedures on Positions on Political Problems.

It has been suggested to President Bers that a committee on the
privileges of membership might be established. There are various
proposals--such as that members receive a credit of x dollars towards
the cost of the publication of their choice rather than the Bulletin.
This problem also arises in connection with the establishment of
foreign associate membershps; many would prefer a lesser cost with
no publications (except Notices and the Combined Membership List).

There have been several complaints about the Council vote
to adopt blind refereeing for the Proceedings for a two-year period,
including one from Peter Duren announcing his resignation from his
editorship. He does comment, "No one can object to the principle

of blind refereeing," but goes on to point out the difficulties
imposed on the referee whose job (and I speak from experience)
is thankless enough as is. I think the most disturbing thing
in his argument, as in that of other opponents of blind refereeing,
is the view that it is an attack on someone's integrity--as if
passing a law against murder were an accusation against everyone.
The same reaction has been engendered in, for example, former
members of the AMS Nominating Committee, by the suggestion that
nominations by petition be allowed.

I must close this report with an additional comment on the
AMS election procedures; there are people who feel that their vision
of the Society is the only correct one and who are unwilling to
put it to the test of the ballot. They are also unwilling to trust
the judgement of the membership at large in picking the best
person for an office; for example, not only is nomination by
petition opposed but so is the idea of putting up two candidates
for the office of President of the Society. They allege that
those currently elected by petition as council members-at-large
waste the time of the Council with irrelevant issues such as employ-
ment and discrimination. The lack of sensitivity on the part of some
of the"establishment" extends not only to these "irrelevant"
issues, but also to some more "scientific" issues. For example,
to many mathematicians a big consideration is the quick publication
of results because in their isolation they depend on this, whereas
the most prominent mathematicians in each field and those at
research centers will hear almost immediately of all results of
interest to them long before they are published. I hope that many
different points of view on this and other issues will continue to
be heard inside and outside the Council.

                                                    Mary Gray

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To the editor:

A strange salutation, since ex-officio that's at least partly me. But as a private AWM
member, speaking only for myself, I've got some questions that I hope will stimulate response
from other AWM people.

1. Do we continue to work primarily within the AMS? That is certainly my impression of our
past. Do we want it to be our future? Does the AMS itself have enough clout to deal with
the serious social issues we're facing so that working within it will have real consequences?

2. Are we a professional organization, or an organization of professional mathematicians?
Recently, mathematical talks have been given at our meetings in what I think is an attempt
to show that we are on a par with SIAM or MAA. It is clear from the way I am wording this
that I strongly disagree; I think it is a waste of our energies. How do other people feel?

3. Which of our members are we serving? So far we seem to concentrate on the problems of
women from traditional elitist institutions. We also have members who teach high school
and junior college; members who work for industry... What is the situation in these insti-
tutions and how can we help?

4. In general, what actions should we support and how should we support them? For example,
Martha Jaffe at Boston State is centrally involved in a suit there. It seems clear to me
that as an organization we should be doing something to help, although I'm not sure what the
most helpful thing to do would be. Another example is Berkeley, where individual AWM members
have been crucial in publicizing the situation, but as an organization we have stepped in
late in the game.

5. How do we find out what actions need to be taken? Some of our most outspoken members have been discriminated against but as individuals feel the hopelessness of bringing suit. It is clear to me that we have to throw off our fears and collect real information about salaries, comments, incidents, promotion lines - statistical information, personal anecdotes, whatever can be helpful. We have to see the real patterns of discrimination. Nobody will do that for us.

6. What are our connections with other similar organizations? I am greatly impressed by how many women's organizations there are out there, each one duplicating a good deal of the others' work. On what issues can we join our efforts to others? To which others?

7. How do we get our own work done? We are now a large enough and busy enough organization so any unpaid use of our friends and department secretaries is simply exploitation. How can we get enough money so our work can be done honorably, by paid part-time staff?

8. What else could we do if we had the money, and especially, what would we like to do that we might be able to convince a foundation, industry, or our own members to support?

                                                        Judy Roitman

                                        *****

OF POSSIBLE INTEREST

For job listings outside the usual academic channels, the Career Opportunity Index is published by Career Research Systems, Inc., P.O. Box 1878, Huntington Beach, Calif. 02647. And if you are interested in working for the government, the defense department, its laboratories, and corporations which contract for it all regularly publish job listings and are, of course, equal opportunity employers.

The Women's International Network News, published at 187 Grant Street, Lexington, Mass. 02173 is a newsletter dealing with international feminist issues.

And you might want to protest the following: HEW's new guidelines which demand exhaustion of all regular channels before sex-bias grievances could be considered by the government; and HEW's proposed regulations on the funding of school sports programs. Gerald Ford is the man to write to on both. Another attack on equal funding of sports programs is the Casey Amendment to the HEW Appropriations Bill (H05901).

                                        *****

JOBS

The vacancies listed below appear in alphabetical order in an alphabetical listing of states. The University of Alabama in Huntsville. Instructorship in Mathematics. This is primarily a teaching position requiring 9-12 hours in the classroom per week. Master's Degree in Mathematics required. Starting date 9/75. Usual fringe benefits. Send resume and have 3 letters of reference sent immediately to Dr. Peter G. Gasazza, Chairman, Department of Mathematics, University of Alabama in Huntsville, Huntsville, Alabama 35807.
California State University, Chico. Assistant Professor of Mathematics. Ph.D. in Applied Statistics, or in Mathematics with an emphasis in applied statistics required. Submit resume by June 7 to: Everett C. Riggle, Chairman, Dept of Math, Calif State University, Chico, CA 94929.
California State University at Chico. School of Business. Lecturer, Visiting Assistant Professor and Visiting Associate Professor in the fields of accounting and law and of business administration. Contact: Chairman, School of Business, Calif. State University, Chico, West First and Normal, Chico, CA 94929.
California State University, Chico, School of Education. Visiting Assistant Professor. Two positions. One position requires substantial secondary school teaching experience. Responsibilities include: teaching preservice secondary teacher candidates in the area of secondary methodology and supervise practice teaching. The second position requires substantial elementary school (K-6) teaching experience, with responsibilities including teaching techniques of instruction to ele-

mentary precredential candidates in programs located in public schools. There is possibility that residence some distance from Chico campus may be required for this. Send application to: Chairperson, Dept. of Education, Calif. State Univ., Chico, Chico, CA 94929.

Cañada College (San Mateo Community College District). Accounting Instructor, part-time, one year only. Requirements: Master's degree in Business Administration; major in accounting, accounting and teaching experience. Standard application forms must be completed and include a resume of education and work experience and should be directed to: Office of Instruction, Cañada College, 4200 Farm Hill Boulevard, Redwood City, CA 94061.

College of San Mateo. Electronics Instructor, permanent, full-time. Master's degree preferred in electronics engineering or electronics engineering technology. Teaching experience is desired, but not required. Recent industrial experience as an electronics technician or an electronics engineer is required. Contact: Office of Instruction, College of San Mateo, 1700 West Hillsdale Boulevard, San Mateo, CA 94402.

Skyline College (San Mateo Community College District). Instructor in economics, one year sabbatical replacement. At least a Master's Degree in Economics or its equivalent required. Write to: Office of Instruction, Skyline College, 3300 College Drive, San Bruno, CA 94066.

University of Delaware. Unidel Professorship available, in the Department of Statistics and Computer Science. This is an endowed position for a distinguished full professor. Please contact: Dr. James F. Leathram, Dept of Statistics & Computer Science, University of Delaware, Newark, Delaware, 19711.

Florida International University. The Mathematical Sciences Department may have an opening for an applied mathematician on the asst/assoc prof level. Postion is for one year appointment starting September 1975. A Ph.D. with strong mathematical and teaching ability is required. Send resume to: Dr. Samuel S. Shapiro, Chairman, Mathematical Sciences Dept., Florida International University, Tamiami Trail, Miami, FL 33199.

Florida International University. Position available for an instructor to teach courses in programming (COBOL, BASIC, & FORTRAN) and/or elementary statistics. Send resume to Dr. Samuel S. Shapiro, Chairman at above address.

University of Miami. Research Assoc. in physical oceonography. Must have BSEE with five years experience or 10 years experience in digital electronic systems and related sensor and recording hardware. Candidate will be responsible for design and construction of the Mark II Cyclesonde analog, digital and radio telemetry systems. Must be available to go to sea for extended cruises in support of these systems. Salary range: $16,100. Contact Mr. R. Paul Young, Affirmative Action Coordinator for Academic Affairs, University of Miami, P.O. Box 248033, Coral Gables, FL 33124. Phone (305)284-6902.

Northern Illinois University. Assistant Professor of Mathematics Education, temporary position. They are seeking a faculty member with strong credentials for research in mathematics education, training or experience in teacher education, and a math. background equivalent to at least a master's degree in mathematics. Earned doctorate in mathematics education. Teaching experience in elementary or secondary schools is desirable. Send credentials to: John L. Selfridge, Chairman, Dept of Mathematical Sciences, Northern Illinois University, DeKalb, IL 60115.

Coe College, Dept of Mathematics. Two temporary positions, one for the academic year 1975-76 and one for the spring term 1976. Contact: Charles M. Lindsay, Chairman, Mathematics, Coe College, Cedar Rapids, Iowa 52402.

Suffolk University. Positions: Assistant Professor of Finance and Assistant Professor of Management, for College of Business Administration and Graduate School of Administration. Qualifications: A doctorate, a record of successful college or university teaching, and professional management experience. Submit letters of application and resumes to: Dr. Richard L. McDowell, Dean, College of Business Administration, Suffolk University, Beacon Hill, Boston, MA 02114. Phone 617/723-4700 Ext 297.

College IV, Grand Valley State Colleges. Will have available in June a temporary one calendar year mathematics position. Earned doctorate and experience in individualized instruction preferred. Emphasis in applied mathematics required and applicants having experience with statistics and computer science will be considered first. Duties include teaching in an individualized system and the design and construction of additional individualized mathematics curriculum. Apply to: Dean Robert J. Taft, College IV, 105 Lake Michigan Hall, Grand Valley State Colleges, Allendale, MI 49401.

Ferris State College. Data Processing Faculty. Bachelors of Masters degree in Business desired as well as several years experience in business systems analysis and programming. College teaching experience also desirable. Responsibilities include: teaching Data Processing courses, such

as systems analysis and design, COBOL Programming. Ability to teach PL/1 Programming, RPG, Tele-processing, IBM 360-370 Assembler Programming and Operating Systems would be helpful. Rank and Salary dependent upon qualifications. Contact: Professor Stuart J. Travis, Head, Data Process-ing Department School of Business, Big Rapids, MI 49307, Phone 616/796-9971 Ext 525.

Washington University. Accepting application and nominations for position of Dean of the Gradua-te School of Business and School of Business and Public Administration. Send vita or nominee's name and address to: Eric Weger, Chairman, Search Committee, Box 1198, Washington University, St. Louis MIssouri 63130, Phone 314/863-0100 Ext 4561.

Broome Community College. President. An earned doctorate and experience in the administrative field will be required for consideration. An application may be requested from: Mr. Carl R. Gitlitz, Chairman, Board of Trustees, Broome Community College, Binghamton, NY 13902.

Fordham University. Assistant Professor for undergraduate teaching. Ph.D. in Applied Mathematics and Experience in teaching computer oriented courses required. Contact: Dr. S. Mourad, Science and Mathematics Department, Fordham University at Lincoln Center Campus, 60 and Columbus Avenue, New York, NY 10023.

Marymount College. Instructorship in math beginning Sept 75. The dept. is small so ability to teach whole range of math. on under-graduate level, including computer science and statistics is advantageous. Would be willing to consider a joint-contract between two individuals who could carry the full-time position plus one additional course. Ph.D. or near completion is essential. Contact: Sr. Carol Schommer RSHM, Dept of Mathematics, Marymount College, Tarrytown, NY 10591. Phone 914/631-3200.

State University of New York at Buffalo. Possibility for positions at the Assistant Professor level as regular or visiting appointments for Fall, 1975. Submit application to Dr. John R. Isbell, Acting Chairman, Department of Mathematics, SUNY at Buffalo, 4246 Ridge Lea Road, Amherst, NY 14226.

State University of New York at Stony Brook. Assistant Vice President of Student Affairs. De-sired qualifications are 5 - 10 years in higher education or equivalent of which five years have been in administrative positions; demonstrated administrative and organizational abilities; experience in budget developments and management. Masters or advanced degree preferred but not required. $19,834-$25,109. Send resumes as soon as possible to: Search Committee for AVPSA-L, Office of Vice President for Student Affairs, State University of New York, Stony Brook, NY 11794.

Syracuse University. Two positions in Department of Mathematics. 1) Beginning level assistant professorship for a Ph.D. in applied math, numerical analysis or statistics. Excellence in re-search and publication is definite requirement for retention of position. 2) one year visiting position for person on leave from somewhere else. Excellence in teaching and research required. Analysis (real, complex, functional or numerical), statistics, logic, combinatorics, geometric or algebraic topology, ring theory or infinite group theory preferred. Contact: The Search Committee c/o L.J.Lardy, Associate Professor of Mathematics, Department of Mathematics, 200 Carnegie, Syracuse University, Syracuse, NY 13210.

Oregon State University. Assistant Professor of Computer Science. Candidates should be versed in several of the areas of computer architecture and information systems design, information re-trieval, operating systems design, artificial intelligence and computer graphics. Applicants should forward a detailed personal vitae including description of education and experience, pub-lication, honors, etc and should arrange for two or more letters of reference to be sent to: Robert A. Short, Chairman, Dept of Comp. Science, Oregon State Univ., Corvallis, Oregon 97331.

Bloomsburg State College. Assistant Professor of Mathematics. Ph.D. in a Mathematical Science by Sept 1, 1975 required. The emphasis at Bloomsburg is on teaching excellence. Research is wel-comed and encouraged, but is generally done on the faculty member's own time. This is a permanent position. Permanent faculty are considered for tenure at the end of third year. Submit letter of application and resume to: Dr. Stephen D. Beck, Chairman, Dept of Math, Bloomsburg State College, Bloomsburg, PA 17815.

Slippery Rock State College. Assistant Professor of Mathematics. Qualifications: Ph.D. with considerable experience in computer science and mathematics. Must have thorough knowledge of computers, be able to plan, organize and teach courses in the theory and practice of computing, be able to develop a computer science curriculum leading to bachelor's degree and perform general duties of a math dept. faculty member. At least 3 years of full-time teaching or equivalent required. Contact: Dr. Clair W. McClure, Chairman, Mathematics Dept., Slippery Rock State College, Slippery Rock, PA 16057.

Temple University. A senior mathematician with an established research record is being sought for an appointment as Full Professor starting in Fall of 1976. Applicants must have strong educational

interests and be capable of directing doctoral dissertations. Special attention will be given to applications from applied mathemticians--particularly those with interests in numerical analysis, differential equations, control theory, "modern" applications or related fields. Contact: Albert Schild, Chairman, Dept. of Math, Temple Univ., College of Liberal Arts, Philadelphia, PA 19122.

East Texas State University. Instructor, beginning Fall 1975-76. Fall semester beings August 25, 1975. Person filling this position will be teaching undergraduate math. courses with a 12-15 semester hour teaching load. Minimum requirement for this position is a Master's Degree in mathematics. Teaching experience at the secondary level is very desirable. Send resume to: Dr. Dale R. Bedgood, Head, Dept of Mathematics, East Texas State University, Commerce, TX 75428. Phone 214/468-6104.

University of Wisconsin-Eau Claire. Two positions. 1) requires preparation for teaching mathematics applied to business and the social sciences 2) requires teaching humanistic-oriented courses for liberal arts students and/or other students who are not majors in mathematics. Qualifications: Successful teaching experience. Doctorate degree is preferred. Send a) letter of application including special qualifications, b) curriculum vita, c) complete transcripts of undergraduate and graduate work and d) at least 3 letters of recommendation to: Dr Lawrence Wahlstrom, Chairman, Dept of Math, Hibbard Humanities Hall, RM 504, University of Wisconsin-Eau Claire Wisc 54701.

Defense Intelligence Agency. Current vacancies exist for a Mathematician, Computer Programmers, Accountants, Economists. Civil Service Status is not required. Send completed Personal Qualifications Statement SF171 to: Defense Intelligence Agency, Civilian Personal Division, Recruitment Branch PM-1D. The Pentagon., Washington D. C. 20301.

Postal Rate Commission, Industrial Engineer (Operations Research). Responsible for analyzing statistical data pertinent to labor and machine productivity and cost; constructing and monitoring mail processing flow charts; determining engineering impact of proposed positions upon postal operations and facilities. Must have bachelor's degree or graduate courses leading to advanced degree in industrial engineering and 2 - 4 years professional engineering experience. Position is in the Office of the Chief Accountant. Resumes should be sent to Postal Rate Commission 2000 L. St., N.W. Rm. 500, Washington D. C. 20268. Attn: Administrative Office.

> . The fee for each regular advertisement to appear in the Newsletter
> is $5 per issue. With our low dues structure and the high cost of
> publication, this is the minimum fee we can charge in order to
> break even. On the other hand, if a college, university or organiza-
> tion cannot afford the fee, then we will publish the advertisement
> without charge.

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SECTIONAL MEETING IN ST. LOUIS

The informal meeting of the AWM held in conjunction with the AMS Sectional Meeting in St. Louis in April was attended by nine members. The history of AWM and some of its recent activities were discussed. Later comments indicated that those attending found the get-together worthwhile.

Deborah Tepper Haimo

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REQUEST RE SPEAKERS BUREAU

If any member who volunteered to be on the AWM Speakers Bureau prefers not to have her name so listed in the July-August Newsletter, please let the Editor know. A list of names and possibly topics will appear in the July-August Newsletter.

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COMING IN THE JULY-AUGUST NEWSLETTER

       Letter from London by Mary Gray.

       List of speakers registered with the Speakers Bureau.

       Part VII, Women - and Mathematics, Physics and Technology? Women -
          Research, by Else Høyrup.

       Copy of speech by Harold Stark at Missoula AWM meeting.

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FUTURE AWM MEETINGS

       Kalamazoo - Tuesday, August 19, 1975

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ELECTION BALLOT

For Representative from the West, 1975 - 79:

        M. Susan Montgomery, University of Southern California
        Evelyn Silvia, University of California, Davis

Please cross out the names of those for whom you do not vote. Return ballot to
Alice T. Schafer, Department of Mathematics, Wellesley College, Wellesley, MA 02181,
by June 30, 1975.

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Please check your mailing label on the April Newsletter to see if your membership dues
should be paid now.

2/75	Membership Expired
3/75	Membership Expired
4/75	Membership Expired
5/75	Membership Expires
X	Dues not paid since 1972
Y	Dues not paid since 1973

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   ($2 to Oct. 1, 1975)
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     Oct. 1, 1976)
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Contributions welcome
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ASSOCIATION FOR WOMEN IN MATHEMATICS

Alice T. Schafer
Department of Mathematics
Wellesley College
Wellesley, MA 02181

AWM
Department of Mathematics
Wellesley College
Wellesley, MA 02181
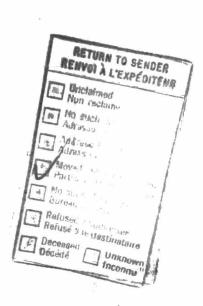
May - June, 1975

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