

## SKITS: MICRO-INEQUITIES, 1990

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Announcer: For your viewing pleasure, we have this evening a series of skits depicting various micro-inequities. (*Announcer pauses, looks as if she/he hears something and then says as if to reply to an unheard question*) You've never heard of micro-inequities? Quite possibly, but I am sure you have experienced them frequently. They are the small injustices that happen everyday. Each is no big deal by itself; sometimes they seem too unimportant to even notice (but we are often irritated at ourselves for being bothered by them). Yet if we experience the same kind of micro-inequity 10, 20, even 30 times a day, it builds up to a major anger that often seems inexplicable because all the examples are so picayune. Yet the anger is real and justified.

We are focussing on micro-inequities that frequently happen to female mathematicians. I promise you that all of these are taken from incidents that happened to some female mathematician in Boulder last summer. They have not been exaggerated; the dialog is as close to the original as memory allows. Only the names have been changed to protect the guilty.

So join your imagination to mine as we return to Boulder, Colorado on some bright, sunny, August days (with occassional rain showers) at the MAA/AMS meetings.

## At the Duck Pond

Announcer: The setting is at a duck pond outside the dorms. A man and a women are each wearing a nametag saying "Research University". We join them in mid-conversation.

ManR: The ducks seem so tame. They walk right up to us.

Women: Yes, the students here must treat them very well for them to feel so free to approach people.

ManR: Are your students this kind?

Woman: I doubt it, but we don't have any ducks to check it out on. By the way, what field are you in?

ManR: I suspect our students would not be so kind. They can be rude in class.

Woman: Rude students in class seems to be a universal these days. I'm in algebra. Are you?

ManR: Do you teach large classes? If so, how do you handle the noise problem.

Woman: When I teach lower level courses, they're big, usually over 100 students. I don't try to keep it silent in there, just quiet enough for people to be able to hear. I have a loud voice, so there shouldn't be a problem. But sometimes I have to say, "That's enough, people. Let's keep it down to a dull roar." And sometimes I just stop shouting and speak in a normal voice until there is a complaint. Then I point out that I am speaking normally but that the class is noisy. I use other variations as well. I didn't have those problems last semester as I taught seniors and graduate students and my largest class had 14 students.

But I also like to do research. I'm working on a interesting problem right now. What kind of math interests you?

ManR: Hmm, I'll have to try those techniques. Do you have any other suggestions for handling big classes?

Announcer: Another man enters, wearing a nametag "Liberal Arts College"

ManR, Wom: Hi.

ManL: Hi, feeding the ducks?

ManR: No, we haven't any food. We've been chatting. You're welcome to join us. What's your research area?

**Curtain**

## At the Cafeteria

Announcer: We are in the cafeteria in the dorm area. A husband and wife are eating dinner together when another couple comes to their table.

Dr. X: (*the standing man*) Hi, I'm Dr. X and this is my wife Joanne. May we join you?

Dr. Y: (*the seated woman*) Certainly. I'm Dr. Y and this is my husband Mr. John Y. He's a lawyer.

*Throughout then ensuing dialog Dr. X positions himself so that he is looking at Mr. Y. and has his shoulder to Dr. Y and to Mrs. X.*

Dr. X: Say, John, where do you teach?

John: I'm a lawyer; my wife is a mathematician.

Dr. X: What's your field of research, John? Algebra? Analysis? Applied math?

John: I'm a lawyer; my wife is a mathematician.

Dr. Y: I'm in PDE's. What do you do?

Dr. X: Say, John, do you get to teach many graduate classes.

John: (*with increasing irritation*) I'm a lawyer; my wife is a mathematician. Why don't you ask her?

Dr. X: I like teaching big, lower level classes occassionally, but I prefer the upper division and graduate students. How many classes do you teach each semester, John?

John: (*with great exasperation*) I'm a lawyer; my wife is a mathematician. Please talk to her!

Dr. X: Say, do you wear a suit to class, a jacket and tie, or just a sport shirt and slacks?

Announcer: We pull the curtain over this scene. Suffice it to say that the Dr. X took a long time to figure out that Mr. Y was not a mathematician and the Dr. Y was.

**Curtain**

## My, you're looking good!

Announcer: We are once again in the dorm cafeteria. Only this time we are near the doorway from the serving line into the seating area and near the beverages. A female mathematician enters. As she turns to the beverage dispensers, a male mathematician whom she knows casually comes up to her.

Male: Hi, Pat. My, you're looking good.

Pat: (*very obviously looking around and up and down over him*) You're looking fine yourself. How are you?

Male: My, you're looking good.

Pat: Thank you. What are you doing these days?

Male: (*putting his arm around her shoulder and almost knocking over her tray*) My, you're looking good.

Pat: *Scrunches her face up in exasperation and walks off.*

**Curtain**

## Who are You?

Announcer: This skit has two scenes with a micro-inequity in each. We think that the sum may be a mini-inequity. What do you think?

Scene I is on the Rocky Mountain tour bus after the second stop. Everyone has been out hiking, or at least looking, for the last hour. As the scene opens, a female mathematician from a research university is seated by the window. A man is at the other window with the two aisle seats unoccupied. An eminent mathematician and his friend enter.

Companion: (*As they come down the bus aisle and take the seats with Eminent next to woman*)  
What happens if you restrict to real functions?

Announcer: The two men in the aisle seats continue to discuss research while the people at the windows watch the scenery pass by. Eventually the subject changes.

Companion: That seems to fix it. What's your school doing about Calculus?

Eminent: We still have graduate students teach it in small sections of about 25. We see no reason to change.

Companion: We've had to go to large lectures with recitation sections. This is less satisfactory. We haven't decided whether to have all tests in common, only the final in common, or nothing in common.

Window: We have common tests and final. It works okay, but there's a tendency to teach only the agreed upon common material. Also, it's sometimes hard to get the faculty to agree on a test.

Woman: I've done it both ways. I agree with you on the problems of a common exam, but without anything in common there are often problems with some people not covering the entire syllabus. The students then have trouble in subsequent courses.

Eminent: (*Gives the woman a long disapproving glare up and down her body, turns his back to her and says to the men across the aisle*) I wonder what the problems are if you don't have the exams in common?

## Scene II

Announcer: Scene II occurs two days later at the meetings on the Boulder campus. As Woman and a male mathematician friend leave the student union, the Eminent Mathematician walks towards it.

Male: Hi, Joe. It's good to see you. How's the conference treating you?

Eminent: Hi, Bob. It's been a very good conference for me. How about you?

Male: Very nice. Say have you met Mary?

Eminent: No, I haven't. Hello, Mary.

Woman: (*while extending her hand which Eminent shakes*) Hello, Bob. Actually we shared a seat on the bus Sunday.

Eminent: (*looks confused and disbelieving*) Where are you headed, Joe?

Male: Thurston's lecture.

Eminent: I'll join you.

*The three leave, conversing equally. The woman is not left out nor ignored.*

**Curtain**

## At the Lectures

Announcer: The final skit could have occurred to anyone. This time the genders of the participants are not central; this has happened to many of us, but happened to be reported by a woman last summer. We are at Persi Diaconis' first lecture - The mathematics of mixing things up: From card shuffling to counting and back. We apologize to Professor Diaconis for not faithfully reproducing his lecture. The quality of our pretend Diaconis is in no way meant to indicate the quality of his superb presentation. We wish that we had a script of his talk so that this could be more accurate. Our scene opens a few minutes into the talk with a man seated next to a woman.

*Thought the ensuing scene the woman studiously pays attention to the lecturer except for the indicated places.*

Persi: Let's take a simple example. How many times do you have to shuffle a deck until it's randomly mixed?

Man: It's a lot if you start with a new deck, less for an already mixed one.

Persi: The answer is the same whether you start with a new deck, one with the suits in order, or an already shuffled one, namely 7. By a shuffle, I mean a permutation in which the sequences 1 to  $x$  and  $x+1$  to 52 stay in order but the two sequences are interleaved.

Man: The  $x$  is in case you don't divide the deck evenly.

*Woman turns and glares at the man, turns back to Persi and looks pleasant and intrigued.*

Persi: It doesn't matter how many come from one sequence before putting in some from the other. A perfect mix occurs when the two sequences alternate, but this rarely happens in practice.

Man: The pros can be perfect all the time.

Persi: Since we want randomness of the original deck, we shall not renumber after each shuffle. In order to discuss randomness, we need the idea of a rising sequence. For example if we had the cards 1 16 2 51 46 3 17 5 13 22 4, the 1 2 3 would be a rising sequence in that they follow each other in numerical order. The sequence stops at 3 because 5 precedes 4.

Man: 16 17 is also a rising sequence.

Woman: Shhh.

Announcer: We gently lower the curtain here. The man continues to make trivial comments annoying the woman who is otherwise enjoying the lecture.

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Good evening. I am Pat Kenschaft, chair of the MAA Committee on Participation of Women. The committee was established in 1987 to increase women's participation in the MAA and the mathematical community, and to help our community become more hospitable to the women already here. Personally, I believe that mathematics is a comparatively auspicious career path for women. Nevertheless, our reputation in the media is formidable. For example, let me read to you an excerpt from December 1990's CHRONICLE OF HIGHER EDUCATION about a class in a university with a better than average reputation for its hospitality to female mathematics students.

An Associate Dean recalls a female graduate student who explained how disconcerted she was that her mathematics professor – a man – called numbers “she’s.” Finally, he looks at her and says, “Maybe I shouldn’t be calling them she’s.” A male student says, “Yes, but they are irrational numbers.”

Things like this chip away at armor.

The mathematics community's problem, however, is not JUST media hype, serious as that may be. We may have the largest drop-off in percentage of women completing doctorates compared to the percentage completing bachelor degrees of any discipline. It is certainly the worst of any major discipline. Almost half of the bachelor degrees in mathematics granted in this country go to women, but only 20 to 25% of the doctoral degrees. Let me repeat: Almost half of the bachelor degrees in mathematics are earned by women but less than a quarter of the Ph.D.'s.

One benign reason might be that there are more and better jobs available for people with bachelor degrees in mathematics than most fields. One can wonder, however, why this affects women differently from men. There are several less benign possible reasons for the drop-off, some of which are suggested in the book published by the MAA and written by our Committee called *Winning Women Into Mathematics*.

The question of how to promote peace between groups of people is still open. As the Committee discussed how to promote its goals, we realized that helping mathematicians see ourselves as we really are is critical. We also noticed that some of the most annoying problems for established women in mathematics seem funny in retrospect. They are not in themselves of great import, but cumulatively they are like drops of water on a rock; they make a big difference in our careers. We call these occurrences “micro-inequities.” At our meeting in August 1989 in Boulder, we realized that enough micro-inequities had been reported in a few days for a series of skits. At the January 1990 meeting we dramatized five micro-inequities that had actually happened in Boulder. We changed only the names and details to protect the guilty. The response was sufficiently satisfying to decide the effort was worth repeating.

This year's micro-inequities are culled from over a longer period. They have all actually occurred in 1990, but throughout the mathematics community. We are presenting only interpersonal micro-inequities, and will not mention such things as having nametags with only a tab to fit into a man's suit pocket or giving tie clasps for a twenty-fifth anniversary present.

The first skit was brought to us during the January 1990 meeting by a woman who has experienced it repeatedly. Most other professional women recognize it.

## ON THE TELEPHONE

**MC:** A female professor is seated at her desk in her office. The scene opens with her picking up a telephone and initiating a call.

**Dr. Jones:** Hello. This is Dr. Jones from Enormous State University calling for Dr. Smith.

**Sec.:** Please hold while I see if he is in.

*Pause*

**Sec.:** Dr. Smith is available. Please put Dr. Jones on the line.

**Dr. Jones:** This is Dr. Jones.

**Sec.:** Yes. Dr. Smith is ready to take the call. Please put him on the line.

**Dr. Jones:** Dr. Jones is on the line and I am a her not a him.

**Sec.:** Oh.

*Pause*

**Sec.:** I'll connect you now.

**Dr. Smith:** Hello, this is Dr. Smith.

**Dr. Jones:** Hello. This is Dr. Jones from Enormous State University.

**Dr. Smith:** Yes, please put him on.

The second micro-inequity occurred at the Columbus meeting. We obtained permission from the major character to dramatize the event as long as we didn't use his name. Like most of us, he means well and tries his best to promote the participation of women in mathematics, but like ALL of us, he was born in the twentieth century and labors under its social imprinting. Like the parking admonitions in New York City, we don't want you to even **think** of trying to identify him. He is EVERYMATHEMATICIAN.

## ARE WE HERE? DO WE EXIST?

**MC:** The scene opens with a male officer, John, of the MAA talking with a male professor, George, about the meetings so far. A pair of female mathematicians approach with the intention of speaking to John.

**George:** This special celebratory day was superb.

**John:** Thanks.

**Jane:** I agree. The variety of speakers and events was impressive.

**Nancy:** The mathematical circus was also an inspired addition. It was so nice to have something mathematical that families could attend together.

**John:** Thank you all. We worked very hard to make this day an informative, productive and pleasureable one.

**Jane:** It seems a shame to not have a record of this day. Why not put out a special issue of the Monthly, or maybe just a special publication of the MAA since not everyone receives the monthly, and publish the lectures and awards given today? It could be sent to all MAA members no matter what journals they subscribe to.

**Nancy:** That's a great idea.

**George:** I really enjoyed the speakers.

**John:** Thank you. I thought the variety in topics particularly appealing.

**George:** I think they should be published in a special issue of the Monthly.

**John:** That was done after the 50th anniversary. But then everyone got the Monthly; now many people don't.

**George:** I remember reading the 50th anniversary edition. It made a big impression on me.

**Jane:** The 75th anniversary edition of the Monthly could be sent to everyone even if they don't take the Monthly, or it could simply be a 75th anniversary edition of the MAA and not of one of the journals. In any case it is easy to send it to all members.

**George:** How about making it an issue of the College Math Journal?

**John:** But that doesn't go to all the members either.

**Nancy:** But it could be a special issue that goes to subscribers of any of the journals.

**John:** (*thoughtfully*) It seems a shame to leave out anybody because they don't subscribe to the right journal.

**George:** I have an idea. It doesn't have to be a restricted journal. It could just be sent to everyone whether it is an edition of the Monthly or a separate publication.

**John:** You're right, George. That's a great idea. I'll take it up with Lida and Marsha.

The above problem happens more often than we would like to think. It not only happens in the heat and busyness of putting on a meeting when someone might justifiably claim distraction caused him to need to hear the suggestion repeatedly. The following skit portrays a type of event that has been reported to us more than once, and happened to us as well. The scene is at a meeting to choose seminar speakers for the semester.

### I'M HERE AND REALLY GOOD

**Chair:** (*male*) That's a few weeks taken care of. Who else?

**Lori:** I'll give a talk this semester.

**Chair:** Think, people, we have to fill the schedule.

**Lori:** I've some good material that I developed this summer.

**Male 2:** How about James Howard?

**Chair:** He's on leave this fall.

**Lori:** In fact, my new theorems fit in well with the stuff David will be speaking on. I'd like to give the talk following his.

*Later in the meeting*

**Chair:** That does it for this semester. We have a good group of men.

*That spring at an AMS sectional meeting*

**Chair:** Lori, that was a WONDERFUL paper.

**Lori:** Thanks. This is the one I offered to give in the seminar last fall.

**Chair:** You offered?

I believe strongly that it is important that we all look at our OWN treatment of women. Pointing out the glitches of others is counter-productive UNLESS we actively try to improve our own act. Therefore, as I was planning this evening, I believed it was important to have one skit about a blooper of my own.

In the next skit I am the culprit. I am sure I committed worse micro-inequities in 1990, but because my son is no longer a teen-ager, I tend to rely on the honesty of colleagues to be my mirrors, and they are less candid than a teen-age son. Since the dramatization of this in January 1991, my colleagues have been more open in pointing out my misbehavior so that I have a better selection for 1991. We turn now to a group of New Jersey mathematicians at a conference in fall, 1990, enjoying a luncheon together.

## WOMEN DO IT TOO

*A group of men and women are seated at a table, chatting among themselves. Pat enters with some papers in her arms and approaches the table. Pat is greeted by various people at the table.*

**Pat:** Isn't this conference going wonderfully? This morning's sessions were good. I have the next PRIMES newsletter here.

**Female 1:** What's PRIMES?

**Pat:** The Project for Resourceful Instruction of Mathematics in the Elementary School.

*She hands one to each female at the table while talking, but none of the men.*

**Pat:** As you know, I'm working with elementary teachers to upgrade their math skills and their math teaching skills. It's going extremely well. We have an intensive three week course during the summer. During the school year, I teach their classes while they watch. I have learned a lot myself.

**Female 2:** Is there any way we can observe you?

**Pat:** This semester I'm teaching a course for Newark elementary school teachers on Thursday afternoon. I'd be glad to have you come.

**Male 1:** (*interrupting*) Can't I have one too?

**Pat:** Oh, I'm sorry.

*Pat hands him one while the other man holds out a hand and keeps it out during the ensuing discussion.*

**Female 3:** We're getting involved with Jersey City.

**Pat:** Oh, good. What are you doing?

**Male 2:** May I have one too?

**Female 1:** Hey, Pat, do only women get them without asking?

**All:** SEX DISCRIMINATION!!!!!! *Pat blushes and covers her face.*

The next scene takes place far from the previous one, but at about the same time. It occurred at a conference on encouraging women and minorities to enter and pursue careers in mathematics and the physical sciences. We are at the session on graduate education. As is often the pattern, a panel had been chosen to give a thoughtful perspective to our problems.

## WORDS MATTER

*There are 2 panelists, one male, one female in the front with an audience of faculty and graduate students, both sorts in male and female varieties. The first speaker is the male.*

**Joe:** Good afternoon. I am Joe Johnson, the graduate advisor at Major University of Some State and I have held this position for a number of years. We would like to increase the number of women in our profession, but have not been successful. I am going to present to you the data for the 1980's - that is for students who started their graduate program during the '80's. Of course, I do not know the fate of some, as they are in their second year. The overhead has the data for the gals.

*Nathan holds up a cardboard over his head.*

**Joe:** As you can see the little gals just didn't last. Of the 24 who started, only one finished with three more possible. In the same time period the attrition for the men was only 15%. Many of the gals just couldn't cut it at my school, but were not hopeless as seen by the fact that 7 of them completed degrees elsewhere. We were very careful to have the same requirements for the men and the gals, but the men could cope and the little gals couldn't.

**Announcer:** The speaker went on for 20 minutes to give some details, and use more overheads, as well as to continue to state his lack of understanding as to what was wrong with the gals. He also discussed the department's difficulties in hiring and retaining female faculty, making similar comments about the gals they hired or tried to hire. We now return to his concluding remarks.

**Joe:** I suspect that our experience is typical, but would like to hear from people at other universities.

**Ramon:** (*an hispanic*) My experience is quite different. I am Ramon Perez from Major Private University in the same state as Professor Johnson. We too wished to increase participation by minorities and women. In the last decade, all but one of our minority and female students completed their degrees, a record consistent with the record of white males. I made it a point to speak at least once a semester with the graduate students, usually more often, to ascertain if anyone were having a problem and to be sure that everyone learned of the unwritten rules. I found that the problems of the minorities and women were often similar to those of the white men, but that they

did not have the same resources to deal with them. I tried to provide them with the needed resources. For the most part, when they had a thesis advisor, they no longer needed me. But if they did, I was there.

**Joe:** But that takes too much time for as large a department as mine. I can't babysit the gals. They should be as responsible as the men.

**Ramon:** The WOMEN are as responsible as the men, they just have different needs sometimes. For example, family responsibilities.

**Joe:** (*interrupting*) Men have those too.

**Ramon:** The women and minorities often do not have someone to work problems with.

**Joe:** (*interrupting*) So it's up to the gals to find someone. Men shouldn't have to look out for them at school.

**MC:** The interchange continued with Professor Perez giving examples of helpful things that can be done and with Professor Johnson interrupting and objecting that the men have the same problem or that gals shouldn't need anything he thinks men should not need. He also kept saying that he didn't know what he was doing wrong. He couldn't think of anything, and nothing Professor Perez was saying helped. Finally in exasperation, Professor Johnson turned to the group.

**Joe:** Okay, Okay. Those things have worked for you, but would not work for me. But what is wrong?

**Mary:** (*said very quietly and gently with no hint of anger or exasperation*) I am Mary Bernstein of Major State University of Same State. I have been a graduate advisor and would like to address your question, Professor Johnson. I wish I could think of a way to do it without bringing you into it, but I can't. I am not saying this to embarrass, harrass or insult you. I honor you for your desire to increase the number of females in our profession, for the efforts you have made, and for your openness in discussing the disappointing results here. You are to be commended. However, from the way you presented your material I suspect that I have an idea as to some of the problems in your department. When you spoke you referred to the females as 'gals' and the males as 'men.'

**Joe** (*interrupting*) What's wrong with that?

**Mary:** It is belittling. It indicates that you take females less seriously than males. In fact your body language was different when you used the two words. When you spoke of men, you stood squarely and looked serious. When you spoke of gals, you looked somewhat lower, as if looking at a child, did not square your sholders, and had an indulgent smile on your face. You may think that words do not make a difference, but they do. They are very powerful, as is body language. Considering that you have this innate and unknowing way of dealing with the various students and you are one

of the most concerned members of your department, as indicated by the effort you made today and your presence here, I suspect that your department is quite inimical to females, both students and faculty.

*(dead silence)*

**Joe:** I think it is time for Professor Doe to give her presentation.

The use of words is crucial to human communication. One distinctive feature of mathematics is our precise use of language. However, other disciplines honor image, allusion, analogy, and context more than we, and recognize how much the words we use affect the truths they convey. Just as what we say reflects reality, it also affects it.

Aristophanes said long ago that when the boys throw stones at the frogs they do it in jest, but the frogs hurt for real. I often find myself reflecting on this statement made over two thousand years ago. Who is a frog? Can words harm like stones? If PEOPLE leave a scene or a community because they can't stand the discomfort of being the butt of jokes, is it their weakness or the joking that should change? Can we find new ways of joking that don't hurt individuals?

Of course words can be tricky as well as hurtful. We do not claim that there is always a good solution. We tried to find a good way to choose a pronoun in the following discussion so that no unwarranted, and probably hurtful, assumptions would be made. Listen carefully. Perhaps you can suggest a way out of the following dilemma which occurred at an AMS section meeting. The man is an eminent mathematician at a big name university X. The woman is also a full professor at a well-known university Y. They have not seen or spoken to each other for a few years.

### WORDS CAN BE TRICKY

**Jennifer:** Hi, Greg. How's it going?

**Greg:** Just fine. How are you doing?

**Jennifer:** Splendidly. I have a graduate student finishing and on the job market. In fact Chris has an offer from University Z. Do you know anything about how they treat new faculty there? As I recall, you had a student whose job was there.

**Greg:** Yes, I did. Tell her not to worry. Sam was treated quite well when he got there. He was helped with both the nitty gritty of teaching as well as guided in how to write an NSF proposal. I see no reason why they shouldn't treat her the same.

**Jennifer:** Actually, Chris is male.

**Greg:** Oh, your graduate student is male. I'm sorry, I didn't know.

The next micro-inequity treats some of the same issues but happened far from the previous one. The scene is a graduate mathematics classroom. We have been especially careful to change the supporting material to protect the participants, but the punch lines are as close to accurate as memory permits. Like the setting of the CHRONICLE quote earlier, the institution where this event occurred has a reputation of being relatively supportive to women.

### IN THE CLASSROOM

**Prof:** Now, who did the last homework problem?

*The only female student raises her hand.*

**Prof:** Who else did the last homework problem?

*Pause while the professor looks at each male student in turn.*

**Prof:** Nobody? Nobody else? Okay, you put the problem on the board.

*The woman goes to the "board". Nathan holds up a solved problem. The woman mimes explaining the solution.*

**MC:** The woman puts the problem on the board. Her solution is faultless and well explained.

**Prof:** Beauty and brains too! If I were thirty years younger ..... What's wrong with you guys?

*Female student blushes.*

**Male St.:** Do you think we'll be able to fit her head out the door?

**MC:** We now let time pass and pop in at a later class.

**Prof:** Now, who did the last homework problem?

*The only female student raises her hand.*

**Prof:** Who else did the last homework problem?

*Pause while the professor looks at each male student in turn.*

**Prof:** Nobody? Nobody else? Okay, you put the problem on the board.

*The woman goes to the "board". Nathan holds up a different solved problem. The woman mimes explaining the solution.*

**MC:** The woman puts the problem on the board. Her solution is faultless and well explained.

**Prof:** I'm disgusted at you men ..... letting the little woman beat you!

## Curtain calls with self-introductions

The last skit reminds me of my daughter's seventh grade experience. She was horrified at the sexist put-down "jokes" of her mathematics teacher. I listened with indignation and sympathy. However, I told her that having a teacher who knew the mathematics he was teaching made her a relatively fortunate seventh grader for an American, and I didn't want to do anything that might lose this man to mathematics.

One day my daughter came home exclaiming, "Now, Mother, you MUST do something!" A boy in her seventh grade class had asked about a problem.

"That is a very easy problem," said the teacher.

"I can't do it," said the boy. "Please show me how."

"If you can't do a problem as easy as that," responded this teacher, "you should be sitting on the girls' side of the room!"

There were more than women's issues in that statement. That a twelve-year-old boy's sexuality was being attacked in such a way justified action. Lori and I discussed it for a while, and decided to give the teacher anonymously membership in the Association for Women in Mathematics. This brought with it the AWM newsletter every other month.

The teacher's classroom behavior changed gratifyingly. Lori had him throughout seventh and eighth grades and by the end he was spouting the AWM party line nicely in class. He continued to be a joking teacher, but his jokes no longer hurt the students. Unfortunately, just as we were feeling smug, he decided he wasn't making enough money and left teaching to go into the furniture business.

We want to suggest that you ALL either pick up a membership form from Tricia Cross – wave your hand Tricia – or stop by at the AWM desk to join. Joining AWM is only \$5 for students and \$15 for other newcomers. We also advocate buying an extra membership to AWM, anonymously if you like, for someone else whom you think would either enjoy such a membership or benefit from it. Whichever your motives, we suspect both will happen.

For those of you who would like to continue exploring these ideas, we have prepared discussion leaders and outlines for discussions about related topics during the next hour. The purpose of these discussions will be to help change the behavior of ourselves and others in ways that will diminish micro-inequities toward women in the mathematical community. There are many interesting related topics, but this evening we should stay with this one if we are to feel a sense of accomplishment. Today we will NOT discuss

micro-inequities toward minorities, or Southerners, or short people

micro-inequities outside the mathematical community

personal histories that cause micro-inequities or other problems that women and/or others suffer.

We are looking at ourselves – well-meaning mathematicians. We are focusing on micro-inequities toward women in the mathematical community because they chip, chip, chip away on women’s capacity to function. We all do it, and anyone who joins a discussion group is making a statement that she or he wants to commit fewer micro-inequities.

There are four guidelines for these groups.

1. First and most important: Nobody is to be in a group with anyone else from his or her own institution. PLEASE do not join a group with any of your own colleagues.
2. Each group should have between eight and twenty participants. The number of groups is flexible.
3. If possible, each group should have at least a third men as participants and at least a third women. We decided that elaborate schemes for achieving this were not worth the time. Please take a look at the groups and arrange yourselves accordingly.
4. If possible, please commit yourself to stay with your group until it officially ends at 8:55 PM. If you have another obligation at 8:45, you may ask the leaders’ permission to leave early – but ASK at the beginning.

In joining a group, you are by that act stating that you want to diminish the number of micro-inequities women mathematicians experience. We all do it, and sometimes we even notice them ourselves. For example, when I was seeking actors for these skits, I telephoned a former AWM president who wasn’t home. On her machine I heard myself say that I was seeking someone under the age of forty to play the role of the only girl in a graduate school class. I gulped and added, “Oh dear! Girl! Lenore, please forgive me!” [At the January 18, 1991, presentation, a voice from the back of the auditorium called, “I did!”]

Prepared group leaders will raise colored squares to indicate the location of the discussion groups. If possible, we will have a woman and a man co-leading each group. However, to keep the groups small, we many have just one leader per group.

Are there any questions?

Remember rule #1: Do NOT join a group with any other member of your own faculty.

Will the leaders now raise their colored squares to show where your are? We now invite you to go to one of these groups.

## SKITS: MICRO-INEQUITIES, 1992

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Welcome to the 1991 skits produced by the MAA Committee on Participation of Women. I am Sue Geller, the skitwright. A lot has happened in the world since the 1990 skits were performed last January at the San Francisco meeting. The Gulf war, which started that week was concluded, if not finished. The Soviet Union is dissolved, replaced by a commonwealth whose identity is yet to be established. Fighting continues in South Africa, Central America, Asia, and elsewhere. The US economy remains depressed, despite relabellings as recovering, recovered, still a recession. All the US hostages and some of the European ones are home, but many people are still in captivity. Yes, there are changes, but the question of how to promote peace between groups of people is still open and little progress has been made on it since last year. Thus we are continuing our effort to contribute to establishing peace by helping mathematicians see ourselves as we really are. We have noticed that some of the most annoying problems for women in mathematics seem funny in retrospect. They are not in themselves of great import, but cumulatively they are like drops of water on a rock; they make a big difference in our careers. We call these occurrences “micro-inequities.” We are also aware of the need to rid the world of “macro-inequities” such as in the Anita Hill/ Clarence Thomas/ senate committee members fiasco, a case in which everyone involved lost. But such events are hard to portray in an instructive way, and tend to be depressing.

*We* prefer to teach with a light, but memorable touch. Furthermore, we suspect that most of you do not commit macro-inequities and do recognize them. So, we hope that, by acknowledging the unacceptability of even *micro*-inequities, and encouraging ourselves to try to recognize and eliminate them, we will no longer tolerate the macro-inequities and will take action to redress wrongs already committed and to prevent occurrences in the future. Our purpose in these skits is to foster an atmosphere of peace and understanding in which to do and teach mathematics.

At our meeting in August 1989 in Boulder, we realized that enough micro-inequities had been reported in a few days for a series of skits. At the January 1990 meeting we dramatized five micro-inequities that had actually happened in Boulder. The response was sufficiently satisfying to decide the effort was worth repeating.

Last year’s micro-inequities were culled from over a longer period. They had all actually occurred in 1990, but throughout the mathematics community. We presented only interpersonal micro-inequities, and omitted such things as having nametags with only a tab to fit into a man’s suit pocket or giving tie clasps for a twenty-fifth anniversary present.

This year we are continuing the tradition. Again all the events are true; only the names have been changed to protect the guilty. Some of the skits are variants of the previous ones, but are included because of the frequency with which these are suggested as skit topics, their universality, and an observation that mathematicians are best at generalizing mathematics, not social intercourse.

We are also going to slightly change the format of the evening. Some of the people who attended the skits in previous years expressed frustration at not having time to react and respond to what they had seen. Thus, after each skit we will give you a few minutes to discuss the skit with your neighbors and then will have a brief open discussion. We request that the open discussion be focussed on the inequity or inequities portrayed in the skit, but welcome suggestions for possible solutions or responses. After all of the skits and discussions are completed, we will again allow those who wish to leave to leave and invite those who wish to continue to remain for small discussion groups.

Our first skit is a variant of the first of last years and was suggested by more than a dozen individuals. The scene is a female mathematician's home. The age of the woman is immaterial - she may be a young mother, a middle-age woman with or without teenagers, or a mature woman. She may be married, sharing living space with a significant other or living alone. It does not seem to matter. The scene opens with her running to answer a ringing telephone.

## ON THE TELEPHONE: PART II

**Woman:** Hello.

**Caller:** May I speak to Dr. Johnson please?

**Woman:** Speaking.

**Caller:** Yes, hello, may I speak to Dr. Johnson please?

**Woman:** This is Dr. Johnson.

**Caller:** No, I want the real Dr. Johnson.

**Woman:** This is a real Dr. Johnson.

**Caller:** But I want the actual person, not just the home.

**Woman:** This is the actual person.

**Caller:** Oh, good, please put him on.

*End skit with exasperated shrug*

*Pause for them to talk at seats and then run  $\leq$  10 minute discussion.*

One of the few complaints that we have received is that too many of our skits are about women faculty - the students felt left out. We responded by requesting that the students submit skit ideas and are pleased that we received many suggestions. We have chosen the two most dramatizable ones for your viewing pleasure this evening.

Many of the problems that female students face are similar to those which female faculty face. Some people have suggested that this is simply good training of our graduate students. But that is absurd in that it only perpetuates any already intolerable situation. In fact, the percentage of females among the US citizens receiving a bachelor's degree in mathematics is 50%, while the percentage receiving a doctorate degree in mathematics is 20-24%. The rate continues to drop until only 3% of the full professors in mathematics in Ph. D. granting institutions are female.

However we find hope in the fact that this first skit was sent to us by the male malefactor. The scene is in a classroom where a group of students and faculty are waiting for this week's colloquium speaker to arrive. For some reason the Eminent Professor Zed is delayed and the people waiting talk with each other on various topics. We shall focus on one such discussion.

### WHY? AM I INVISIBLE?

**Male 1:** I love Dr. Jones' field. And he's so distinguished that being his student would help in the awful job market. Do you think he'd consider taking on another student? How many does he have anyway?

**Male 2:** Six.

**Male 3:** No, he has only five. They keep him busy enough.

**Male 2:** I'm sure he said he had six. I asked him last week.

**Male 3:** No, only five. I'm sure.

**Male 2:** Okay, let's count them. There's John, Joe, George, uh ...

**Male 3:** Paul and Sam. That's five.

*Female lifts her head and looks at them expectantly.*

**Male 2:** I'm sure there is another. Who could it be?

*Female points quietly to herself.*

**MC:** The two men continue listing the five students and arguing as to whether or not there is a sixth.

**Male 2:** Paul, John, Sam, Joe, George, and ... uh ... er...

**Female:** (*Pointing to herself and saying very quietly and hesitantly*) Uh, I'm his student too. He does have six.

*Pause for them to talk at seats and then run  $\leq$  10 minute discussion.*

We were told about the following one by more than one student, and many of us remember being in the same situation. In this case the gender of the professor is immaterial. Indeed, the professor is not even the main focus. As is often the case, the class has only one female student. The previous skit occurred at a Prestigious Institution on one coast of our country. The following could have happened there or many other places, but did happen at another Prestigious Institution on the other coast.

We enter the scene partway through the class period. The professor has been lecturing, or perhaps perorating would be more accurate, for the whole time so far on a particularly difficult section in complex analysis (or whatever).

### IF I LOOK CONFIDENT, AM I?

*The males sit up straight, look confident and alert. The woman tries to sit up straight, and look confident, but actually curls her shoulders a bit and looks confused. The professor looks arrogant, and speaks in an off-hand yet condescending tone.*

*Hold up blackboard with the  $f$  on it.*

**Prof.:** Let's prove that. Clearly we need only let

$$f(z) = \frac{z}{(s+z)^3} \prod_{n=1}^{\infty} \frac{\lambda_n - z}{2 + \lambda_n + z}$$

and then proceed as in the proof of Theorem II.3.4a.

*The men continue to copy the board without changing expression. The woman looks very confused and a bit frustrated.*

**MC:** The professor erases the board, states another theorem, and starts the proof.

**Prof.:** By now it should be obvious to even the dullest of you that we should take

$$f(z) = \left( \frac{\sin z}{z} \right)^2 \prod_{n=1}^{\infty} \frac{\sin \lambda_n z}{\lambda_n z}.$$

The proof is so trivial that I won't insult you by giving it.

*The woman looks frustrated and dejected.*

**MC:** The professor continues to lecture in this manner and ends the class with

**Prof.:** There. I'm sure that you now have all of this clear. Do problems 1-10 for next class.

*Professor leaves quickly, assuming that no one could want to question her.*

**Woman:** *(to male seated next to her)* I'm lost and frustrated. You look like you understand. Let's go to lunch and you can explain it to me.

**Male 1:** I'd be glad to go to lunch but I'm lost too.

*Some males leave, still looking confident.*

**Woman:** But you looked so alert and confident.

**Male 1:** So? *(turns to another male)* Say, Paul, how about you joining us and explaining the stuff.

**Paul:** Lunch, sure. Teach, no way. What makes you think I understand?

*A few others shrug in an I'm lost too. The rest leave without showing that they are lost. No one says I understand.*

*Pause for them to talk at seats and then run  $\leq 10$  minute discussion.*

Many of our skits have had to do with listening and taking seriously what is said. We all are guilty of being preoccupied with ourselves and consequently not listening as carefully as we should. Perhaps that is all that was going on in the following, or is it? The scene opens in the department chair's office.

### BUT I TOLD YOU ...

**John:** Hi, Sarah. Thanks for dropping by. You may remember that Joe and I have been speaking at the high school about the importance of math for most careers, the exciting jobs that can be had with a math major, and also giving some math content talks. Well, they've invited us back and asked that you join us. I think it's a great idea. Let everybody know that women do math too with a constructive existence proof. I know you are busy, but will you do it?

**MC:** They discuss the whens, whats, whys, and wherefores.

**Sarah:** I'd really like to go, but I need to think about it. I'll get back to you.

*Sign: THE NEXT DAY*

**Sarah:** Hi, John. I've decided I can do it. Please include me in the arrangements. If I'm to give a subject talk, I'd like to talk on opinion polls. Maybe a title could be

Opinion polls: Can 1200 people really speak for all of us?

**John:** Great idea. That should be popular. Oh, hi Joe.

*As Joe enters, Sara says to him,*

**Sarah:** Hi, Joe. We were just discussing the annual trip to the high school. This year I'm going with you and John.

**Joe:** Okay. Say John, I was thinking about that problem we discussed yesterday. Sarah, if you are finished, would you please excuse us.

**Sarah:** Sure. We're done. See ya.

*Sign: A FEW WEEKS PASS*

*Joe and Sarah meet in the hall.*

**Joe:** Hi, Sarah. Am I swamped. Besides the usual teaching, research and committees, I'm working hard on my presentation for the high school kids. I'm trying to update what I've used for the last few years so that the information is current.

**Sarah:** Good idea. I know what you mean. I'm working hard on my presentation for the high school too.

**Joe:** You're going too?

*Sign:* TWO WEEKS LATER AT SARAH'S OFFICE

**Joe:** (*bursting in without knocking*) Say, Sarah, can you give a test for me while I'm talking at the high school with John?

*Pause for them to talk at seats and then run  $\leq 10$  minute discussion.*

To quote one of the less well-known of Murphy's Laws: "Science is truth. Don't confuse me with facts." The word science can be replaced with other 'truths' as well. We all have innate responses, often learned at an early age, that are contrary to our intellectually held beliefs. Some of these can be quite irksome to our colleagues. It is in this context that a woman suggested the next skit. To others, it might be viewed as more than a micro-inequity. What do you think?

The scene is a meeting at which are many of the full professors who have influence in the department. They are discussing whom they should suggest to the dean to be the interim department head. All the males have treated their female colleague with respect and, in many cases, friendship. Most of the males have actively supported women in mathematics and other professions.

### NOT A WOMAN!

**Male 1:** How about you, Dave? You're a distinguished professor, well respected by the department and the administration. I know you don't want to be an administrator on a permanent basis, but how about for 9 months?

**Dave:** Hell, no. I won't. I'm much better behind the scenes. I'll give full support to whomever, but I won't carry the title and responsibilities. Besides, I have some visitors coming to do research with me,

**Ed:** (*interrupting*) We're all swamped. That's not an excuse.

**Dave:** Okay, but I won't. How about you, George? You did a great job on the Dean Search Committee.

**Male 2:** Not George! A lot of people find him aloof and condescending.

**Jane:** He's just shy and reserved.

**George:** Thanks, Jane. But I know some of the department feels that way. Besides I get too involved in detail. But I think you'd do a great job. What about Jane, guys?

**Ed:** She can't. She's a woman.

*Dead silence during which a few nod in agreement and the rest look horrified and stunned.*

**Jane:** (*scarcastically*) Gee, Ed, you finally noticed. Congratulations. It took you only ten years to figure out that I'm female.

*The group laughs and looks relieved that Jane did not make an issue out of it. Ed looks embarrassed.*

**MC:** The discussion goes on, but no one considers Jane.

*Pause for them to talk at seats and then run  $\leq$  10 minute discussion.*

One of the sadder facts of life is that, no matter how well-intentioned, how well-informed, or how politically correct we are, we still make mistakes, especially in those areas in which we are most sensitive ourselves. After the first set of skits, Pat Kenschaft, the chair of the Committee on Participation of Woman and last year's skit narrator, and I decided that we needed to share our own blunders too. Our last skit this evening happened at the Orono meetings last summer. Both Pat and I are involved, but made different blunders. Since we can both make the others' type of blunder as well as our own, we have chosen not to identify which female is which. Our main male companion in foot-in-mouth disease knows that we are publically exposing our wrong doings. We ask that you not even speculate as to whom he may be. He is one of many male mathematicians who are truly interested in making the mathematical community a sensitive, humane, and peaceful one. He endeavors not to hurt anyone and to care for each person he meets. Yet none of us were at our best at breakfast on the Sunday morning at the end of the conference. We could plead tiredness, anxiety about travel, and many other things, but the truth is we are human. There are many more than one micro-inequity in the following skit. Indeed, no participant was without culpability. We challenge you to find them all. We've titled this one "All we like sheep have gone astray."

#### ALL WE LIKE SHEEP HAVE GONE ASTRAY

*Amy and Emily are seated at a table. Emily is still eating.*

**Amy:** Emily, do we have time for me to get something else to drink?

**Emily:** (*looking at watch*) Go ahead. I'm still eating. But we'd better not dawdle. It's a long drive to New Jersey.

*Amy goes to get a drink and meets Fred.*

**Fred:** May I join you? I've been wanting to talk with you.

**Amy:** I'd like to talk with you, but Emily and I are leaving soon to go home.

**Fred:** Okay, but I'd like to join you even for a few minutes.

*They return to the table.*

**Emily:** Hi, Fred. You are welcome to sit here, but we will be leaving soon.

**Fred:** Hi, Emily. Everyone is talking about the skits you two put on. I'm very interested in such things, but sometimes I wonder if we ever really change. I was part of a group of 15 men and 15 women from many disciplines who met regularly with some leaders to discuss the interactions of men and women. We studied the literature and found that in a mixed group men tend to dominate the conversations. If a woman wants to speak, she raises her hand, whereas a man just starts talking, often interrupting a woman when she takes a breath rather than waiting for her to finish. This happens in classrooms too. We rebuke women who call out and reward men by answering them. We tried to change what we did as we taught, went to faculty meetings, and socialized. As the months went on, our study group became quite close friends, often sharing intimate details of our lives. We thought that, in that group at least, we shared equally and courteously. Yet one of the leaders had been quietly keeping track and told us that even after 3 years, the men interrupted the women before they were finished and/or just spoke out, while the women still raised their hands, and the men still dominated the floor. We were crushed. Tell me, do you know of any positive effects from the skits?

**Emily:** Actually, yes. One of the actors who is also an administrator calls me occasionally to report what he has done and to check to see if he's done it correctly.

*For the next bunch of interchanges Fred talks everytime Emily takes a breath.*

**Fred:** That reminds me of a study done in the 60's at Harvard - or was it the 70's.

**Emily:** He is particularly sensitive now to the times that women speak but are not heard.

*Amy looks at watch.*

**Fred:** Or was it Yale? I'm pretty sure that it was the 60's.

**Emily:** He has taken to correcting the situation by saying "As Joan said" or

*Amy looks at watch.*

**Fred:** It was the eminent Professor Nogoodnik who did the study, or at least supervised it. When was that?

**Emily:** or "Joan just had a great idea. Let's listen to her explain it again."

*Amy looks at watch.*

**Fred:** There's a great biography of Professor Nogodnik. Have you read it?

**Emily:** I'm very proud of him for the way he's handling that type of situation and for other changes he has made.

**Amy:** Emily, stop interrupting Fred.

*Emily looks startled but stops her story.*

*During Fred's next speech, Amy and Emily frequently look at their watches.*

**Fred:** Anyway Professor Nogoodnik did a very important survey over a twenty year period from 1950 to 1970, or was it 1945-1965. No it was after the war. He studied both students and faculty.

*At this point, another professor comes to the table.*

**Male:** Hi, may I join you?

**Fred:** Sure.

**Amy:** We were just leaving.

**Male:** You can't leave. I just got here.

**Emily:** No, we need to go. At least we're leaving you with good company.

*Amy and Emily get up, and go to return their trays. As they are unloading the trays,*

**Emily:** You know, Amy, I wasn't interrupting Fred. He was interrupting me.

**Amy:** *(at first stunned, then pensive, then remorseful)* Oh, no! You're right. Forgive me.

**Emily:** Of course.

*They finish unloading the trays in silence and turn to go.*

**Emily:** I bet this would be a great skit for January.

*Pause for them to talk at seats and then run  $\leq 10$  minute discussion.*

For those of you who would like to continue exploring these ideas, we have prepared discussion leaders and outlines for discussions about related topics during the next hour. The purpose of these discussions will be to help change the behavior of ourselves and others in ways that will diminish micro-inequities toward women in the mathematical community. There are many interesting related topics, but this evening we should stay with this one if we are to feel a sense of accomplishment. Today we will NOT discuss

micro-inequities toward minorities, or Southerners, or short people

micro-inequities outside the mathematical community

personal histories that cause micro-inequities or

other problems that women and/or others suffer.

We are looking at ourselves – well-meaning mathematicians. We are focusing on micro-inequities toward women in the mathematical community because they chip, chip, chip away on women’s capacity to function. We all do it, and anyone who joins a discussion group is making a statement that she or he wants to commit fewer micro-inequities.

There are four guidelines for these groups.

1. First and most important: Nobody is to be in a group with anyone else from his or her own institution. PLEASE do not join a group with any of your own colleagues.
2. Each group should have between eight and twelve participants. The number of groups is flexible.
3. If possible, at least one third of each group should be male and at least one third female. We decided that elaborate schemes for achieving this were not worth the time. Please take a look at the groups and arrange yourselves accordingly.
4. If possible, please commit yourself to stay with your group until it officially ends. If you have another obligation, you may ask the leaders’ permission to leave early – but ASK at the beginning.

Prepared group leaders will raise colored squares to indicate the location of the discussion groups. If possible, we will have a woman and a man co-leading each group. However, to keep the groups small, we may have just one leader per group.

Are there any questions?

Remember rule #1: Do NOT join a group with any other member of your own faculty.

Will the leaders now raise their colored squares to show where your are? We now invite you to go to one of these groups.

## SKITS: MICRO-INEQUITIES, 1993

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Good evening. I am Pat Kenschaft, chair of the MAA Committee on Participation of Women. Tomorrow I will conclude six years of leading this Committee in its initial stages, and Carole Lacampagne will succeed me.

I retain the conviction that most mathematicians *want* to be fair. Indeed, most of us are willing and able to change our behavior when it is pointed out to us how we should. This is an entirely different conviction than saying that most mathematicians *are* fair most of the time. I have become increasingly horrified at how women are often treated within the mathematics community. It seems that the more enlightened we become, the more we realize how far we have to go.

The questions of how to promote justice and how to promote peace remain open. But the solutions to other questions may have to precede the solutions to these. How can we learn to understand each other better? How can we understand what is happening to ourselves better? How can we become more nearly the people we would like to be? In particular, how can we better *listen* to others, both literally and figuratively?

The Committee on Participation of Women has responded to these questions. One response is the publication of a book, *Winning Women into Mathematics*, which I hope you will all order from the MAA tomorrow. Alas all are sold. Another response is the presentation of skits about the public relationship between the sexes. Each skit has been written in response to a recent actual event within the mathematics community. The only exception is the one we admit happened 15 years ago. This is our fourth different set. All are available for presentation elsewhere. We urge you to take our concept and either adapt or reproduce it.

This year, the number of skit plots submitted was unprecedented. Both men and women sent us their stories, often in great detail, some with themselves as the villain. Four of us this evening will be acting ourselves in our own micro-inequities. Micro-inequities are small slights that in themselves are not important and often seem funny in retrospect. But cumulatively their impact is like that of drops of water on a rock. Most of our skits dramatize micro-inequities, but this evening we will also include some that do not. I hope that if this is the last set of skits at national meetings, some other vehicle will be found for sharing anecdotal incidents with each other.

We dedicate tonight's skits to Larry Corwin, who acted in every previous set of skits. We sorrow at his death and miss his friendship as well as his acting skill. Larry's lively wit and his willingness, even delight, in playing the most outrageous parts enabled us to have the courage to produce these skits when many people thought they were unthinkably undignified for a national mathematics meeting.

Tonight we will present a considerably larger number of skits than before, organized in themes. We will pause five times for you to discuss them with those seated around you. After each of these informal discussions, we will invite you to share your responses with the

entire group. After all the skits have been presented, we hope you will stay for structured discussion groups, where the ideas can be explored more fully.

None of these programs would have been possible without Sue Geller. Sue is a research algebraist with specialities in  $K$ -theory and cyclic homology. She is the immediate past chair of the Joint Committee on Women in the Mathematical Sciences, and a remarkably talented skitwright. She turns either vague or intensely personal reports into scripts, changing only enough names and sometimes details to protect the guilty. Indeed, her skits were cartooned in the September 11th issue of the Wall Street Journal. She has just finished a comic strip commissioned by and to appear in the April 1993 issue of Glamour magazine. I am most happy and privileged to turn the major narration of the evening over to one of my dearest friends – Sue Geller.

I, too, welcome you to our fourth annual set of skits. Since tonight is Pat's last meeting as Chair of the MAA committee on Participation of Woman and I am now the past Chair of the Joint Committee on Women in the Mathematical Sciences, we spent time last summer reviewing what we had done and looking to see what, if any, effect our projects had had. We are delighted to report that we have seen many positive changes in male-female interactions and claim that these skits are a contributing factor to these changes. However, as new skit suggestions came in, it was clear that there is a long way to go, and not everyone is changing.

In our reflection we noticed five stages through which people often pass as they change:

1. Hostile incomprehension : “What the - bleep - are you talking about?”
2. Denial: *(in an outraged voice)* “I don't do that!”
3. Resignation or here we go again: *in a long-suffering voice and with rolled eyes* “(sigh) - yes?”
4. Acceptance: *embarrassedly* “Oh, yes, that's right.”
5. Participation: *warmly* To quote a recently received email “Here's a micro-inequity that I very thoughtfully committed for inclusion in this year's skits.”

To illustrate these steps I offer the following series of skits, all of which are on the theme of forms of address, a topic on which I was inundated with skit suggestions this fall. The first, illustrating hostile incomprehension, takes place in a department head's office. As the scene opens, a full professor knocks on the head's open door.

### **Antiquated Modernity**

**Woman** *knocking* Hi, Bob. Got a minute?

**Head** *looking up from his desk* What can I do for you, young lady?

**MC** The first time that happened the woman was stunned and simply went on to discuss hiring. Upon repetition she was irritated, but did nothing that time either. She finally decided to ask him to stop.

**Woman** *knocking* Hi, Bob. Got a minute?

**Head** *looking up from his desk* What can I do for you, young lady?

*The woman crosses to the other side of his desk and sits down.*

**Woman** I came to make a request. I would like you to stop calling me “young lady.” I don’t like it.

**Head** Whatever is wrong with it? I mean it quite politely and as a term of respect.

**Woman** I know that that was the way you were taught, but I would rather you didn’t use it with me.

**Head** I really want to know. Why can’t I use it?

**Woman** Okay, you asked. I find the term demeaning. To me, it puts a distance between us, you as high and mighty, me as your underling. But I am not only your colleague, but also a full professor. I want you to treat me as such and to refer to me as such.

**Head** But I do think of you that way. Why I could call John young man and not mean anything belittling by it.

**Woman** But you don’t call John young man, nor any of the other male faculty, even the most junior. Please just use my first name, the same as you do with all of the males.

**MC** The discussion lasted for another 10 minutes with no change in position. Finally,

**Woman** I can see that we are not communicating. Neither of us will convince the other of the correctness of our position. I’m not surprised. That’s why I simply asked you to stop using young lady when referring to me. So I again say, Bob, I do not appreciate your calling me young lady. Please do not do so.

**Head** I need only be polite to you and can call you anything I wish. It’s none of your business what I call you. Good day.

The next skit is on a problem that occurs in many guises. Here is an example of denial, i.e., stage two:

### **I Didn’t Say That**

**George** Oh, Cesar, I’d like you to meet some of your new colleagues. This is a new assistant Professor in PDE’s, Dr. Peter Schiller, and this is another a analyst, Betty Johnson. Peter, Betty, this is Dr. Cesar Garcia, an approximation theorist from Columbia who is visiting this semester.

**Betty** Hi, Cesar, and welcome. I’ve been here for many years and would be happy to answer any questions you might have.

**Peter** Hi.

**Cesar** Hello to you both. It’s nice to meet you.

*Peter and Cesar walk off.*

**Betty** George, I'd appreciate it if you would use equal forms of address when introducing people. You used Dr. X for Peter and Cesar, but no honorific for me. Please use all honorifics or none.

**George** I what? No, I didn't do that. Besides, what difference does it make?

Students are frequent offenders. I try to correct them, but with varying results. First a stage 3 or resignation stage:

### **Will She Never Let Up?**

**Sam** *student sticking head in office* Hi, Miss Geller.

**Geller** Hi, Sam. What can I do for you today? Any questions on the homework?

**Sam** Oh, your class is fine. But I'm looking for Dr. Smith. Is he in?

**Geller** He should be back in a few minutes. But, Sam, either we are both Dr. Geller and Dr. Smith or I am Miss Geller and he is Mr. Smith. We have the same degrees and job title. Please treat us equally.

**Sam** *(looking pained)* Yes, Ma'am.

Then there is the stage 4 or acceptance version:

### **Self-correction**

*Drs. Chen and Jackson enter from one direction and a student from the other.*

**Student** Hi, Dr. Chen, Miss Jackson. *Jackson raises eyebrows.* er - Dr. Jackson said with *sheepish grin.*

*Student exits*

**Dr. Chen** What was that all about?

And stage 5 or participation:

### **He Finally Noticed**

*Drs. Tillerman and Rao enter from one direction and Hussain from another.*

**Hussain** Hi, Miss Rao, Dr. Tillerman.

**Tillerman** That's Dr. Rao, or Mr. Tillerman, Hussain. We're equal.

**Hussain** Yes, sir. Hello, Dr. Rao, Dr. Tillerman.

**Drs.** Hello, Hussain.

*Discussion*

Another theme that had a number of inequities reported was that of hiring. The first skit is a new application of an old idea, namely avoiding hiring a woman or a minority, but doing so legally. The scene is at an unscheduled meeting of the Dean's council.

### Legally Avoiding Hiring Them

**Dean** Let's see. Butch is retiring as associate dean and we're going to miss him. This office works so smoothly that we need to be careful as to whom we replace him with. We certainly don't want anyone who can't work well with us, but now all hiring and appointments have to be done with affirmative action reports. Even the provost has been making a big deal about wanting more women and minorities in the administration. But I want to bring Howard into the position. He'd fit well with us. What are we going to do?

**Man 1** Howard would be good, but there are some women who are qualified. I doubt the provost will let us just appoint him.

**Man 2** I've got an idea. Let's not fill the position for budgetary reasons. Then we can ask Howard to help us out and assign him many of Butch's duties. The department chair would let Howard out of most of the departmental committees he's on. If Howard does the new job as well as continuing with his other duties, next semester we could give him the title because he's already doing the work and it wouldn't be fair to him to not reward him for the good job he's doing.

**Dean** Great idea! That's what we'll do.

Even well-meaning people can decide to get out of a bind by hurting someone, even unintentionally. But too many of us have reported variations on the theme of the next skit to have all of them be unintentional. In many cases the perpetrators don't realize that the women are hurt by their actions, but sometimes I wonder. To us this is more than a micro-inequity. The following is one of the more elaborate cases.

### Oh, Please Apply!

**MC** Bdring! Bdring! (*i.e., sounds like a telephone ringing.*)

**Joan** *looking at a letter* Ah, well. I didn't expect to be hired as chair, but it was nice to try. This is a very nice rejection letter. That might be a good place to work.

*Sign: Another year*

**Joan** *on the telephone* Hello. Dr. Wang speaking.

**Steve** Hi, Joan. This is Steve from Nice U. We have an opening in our field and I thought of you. I'd like to work with you. How about applying?

**Joan** Okay. I had applied for the chair position there so please reactivate my file. I'll send you the necessary updated material and get more research letters sent. I was impressed by the correspondence in the chair search and think it would be good to work at Nice University as well as fun to have you to work with. Thanks for calling.

**Steve** Great! I'll reactivate your file immediately.

*Sign: About a month later*

**Joan** *Opening and then reading a letter* It's from Nice University. Dear Dr. Wang: We have a position open in your field. To date, no qualified mathematicians have applied. I am asking you to please suggest names of suitable researchers that we might contact. I thank you in advance for your help. Sincerely, Chair, Department of Mathematics. I DON'T BELIEVE THIS!

Please do not take this skit as permission to not ask women to apply. We welcome being asked when we have the requisite background, but not just to fill in numbers so it looks like you tried to hire a women. So please do not ask us if you know we are not qualified or not what you are looking for. It is not without cost to us, since it takes time and energy to apply and rejections hurt.

The following is also about being hurt even when hired. The characters are a married couple, Richard and Mary, who are both lecturers at the University of S., and Jim, their department chair. The skit was sent to us by Jim Smith, now at stage 5, who is playing himself. He wrote that these events happened 15 years ago, but seemed appropriate for today as well. Unfortunately, I have recently heard of similar events.

### **Kiljoy**

*Richard and Mary approach Jim. She's radiant. He's tentative.*

**Richard** Jim, you remember the community college job we both applied for?

**Mary** I told you last week I got an interview? Well, I went yesterday, and it was the longest, toughest interview I ever had. They suggested I sub for an algebra instructor, who was out sick, and they actually watched me do it!

**Richard** She came home exhausted, had a drink, took a bath, and went to bed.

**Mary** Well, they called me this morning and offered me the job. Wow!

**Jim** Are you going to accept it?

**Mary** Of course! They really value good teaching. That's the place for me. Thank you for writing those great recommendations.

**Richard** Yeah - just look at her; she's walking on air. Of course, I feel just great, too -

**Jim** Well, Richard, don't feel too left out. After all, she's a lot prettier than you are.

*Exeunt omnes, with various pained expressions.*

**MC** Epilog: Richard, also a superb teacher, eventually took a tenure track position at the University of S, later resigned and went into industry. Mary is still at the community college and has published at least one textbook. Jim, after his stint as chair, went to work for Richard in industry, and then returned to teaching and writing about mathematics and software engineering. He avoids personnel work.

There are other problems in the hiring biz. One female professor reports that she was repeatedly told, seemingly by everyone in the department, “Jane, we hired a woman!” as if it were a special favor to her. On the bright side came the report from the only tenured woman in a large department that, in the midst of a discussion of which committees she had to be on because there had to be a woman on them, the department head said, “We’ll never solve the problems of this department until we have a critical mass of women in it.” Furthermore the executive committee agreed with him.

### *Discussion*

Another place for inequities, both micro and macro, is at conferences. For example, David Boliver, who is playing himself, is fond of quiz shows and thinks Vanna White is great at flipping letters. It seemed so similar when mathematician Ann Stehney changed transparencies at a section meetin that he said,

**David** Instead of hiring a professional model, we have our own Ann Stehney.”

Planning conferences is an arduous task, as is gaining a reputation. We have repeatedly heard of women offering to run a short course on a new topic in which they are specialists. After many years of suggesting a particular short course that she would like to run, the organizers finally ask a male to run a course on that topic. The most egregious case ended with the organizers suggesting to the woman that she take the short course because “she would learn something from it.” By the way, not only did she not take it, but most who did take it did not get much out of it. Those who knew her wished she had taught it. But women’s suggestions not being heard has been an oft repeated skit theme.

The following is a newly revealed twist and is not a micro-inequity. It may or may not be gender related. It is a problem for all who are not a part of the in-crowd. The scene takes place at a committee meeting called to decide which papers to accept for presentation at a prestigious conference. The woman who told us the skit had had a paper rejected. Before the meeting, each paper was read by two of the committee members, who each wrote a referee’s report on it. The scene opens as the associate professor’s paper is being considered. All present have heard of the author of the paper, but do not know her personally.

### **But Is She Any Good?**

**Male 1** I’m very impressed by this paper and have said so in my review.

**Male 2** Me, too. It’s a very innovative paper.

**Male 3** From what you say, her ideas are excellent and very unusual. I had not considered going in that direction.

**Male 1** I’m intrigued by it and look forward to hearing more.

**Male 2,3** Me, too.

**Male 4** Not so fast. Does anyone know who the writer is? Can anyone vouch for the legitimacy

of her work? Are we sure it really is the way she is presenting it?

*Silence and paper shuffling*

**Male 4** Well, we can't reject the paper for the conference with only flattering reviews. Here, I'll write a quick bland review to send to her. Now let's look at someone we all know well.

**MC** The vocal doubter's view prevailed. One of the favorable reviewers was so embarrassed by his inactions that when he met the woman, he told her what had happened and apologized.

One recurring problem is what to talk about during breaks, meals, etc. The following is an all too common occurrence.

### I Talk Math Too

*There are three groups of two or three male mathematicians standing around discussing mathematics, with some men writing on pads to illustrate what they are saying. A female mathematician goes from group to group.*

**Male 1.1** *As Laurie joins the group.* So if we apply Cayley's theorem we get the result. A Corollary is - Oh, hi, Laurie. It's good to see you. Did your husband come with you to the meeting?

**Laurie** No, he's working. What result are you discussing?

**Male 1.2** How are your children? I think they are the same age as mine.

**Laurie** They're fine. Jane is 10 and Trey is 8. They're both involved in sports. What research problems are you interested in now?

**Male 1.2** Mine like sports too. How about yours? *turning to Male1.1*

**Male 1.1** Mine, too.

**Laurie** Nice chatting with you. I see Keith over there. Bye for now.

**Male 1.1** Nice seeing you. *turning to Male1.2* And the Corollary ... .

*Laurie goes to group 2.*

**Laurie** Hi, Keith. How are you coming on that example using Cohn-McCauley rings?

**Keith** Hi, Laurie. Good to see you? How's the family?

**MC** Laurie continues to join mathematical discussions, only to have them turn to personal chit-chat. While she enjoys the pleasantries, she would rather discuss mathematics. It is why she came to the conference.

Not all men are like that, of course, but many are. Every female academic with whom I discussed this skit, mathematician or not, had experienced the same frustration.

One woman, a mathematical statistician, also reported the following stage 5 occurrence involving herself and an eminent male mathematician. We present it here for those of you who are wondering how to converse with a woman.

### **Let Me Introduce You**

*Two men are talking mathematics as a woman approaches.*

**Amadeus** So you see, if we ... Oh, hi, Laurie. Glad to see you. How are you?

**Laurie** Fine. It's a good conference. Am I interrupting?

**Amadeus** No, you're welcome to join us. Sebastian, I'd like you to meet Laurie Green. She's a statistician who uses combinatorics and group representations.

**Sebastian** Glad to meet you. Are you here alone?

**Amadeus** Laurie has very good geometric visualization. Perhaps she'd be willing to help us with the problem we've been discussing.

**Laurie** I'd be glad to.

**MC** The discussion then becomes mathematical to the delight of all the participants.

### *Discussion*

As noted above, women often have trouble breaking into a particular arena such as giving a new short course or presenting a paper at a prestigious conference. But even when women have broken into a high-level position, they often have problems being effective because men also in power continue to try to control them in time (dis-)honored ways. The following is not a micro-inequity and could have happened to a man. But the particular wording has been used for a long time to try to keep women from causing trouble. The woman is a committee chair of a national organization; the insulter is also involved at an even higher level in the same organization. The interchange took place by email. In this case I have made up the ethical problem and the dialog on it so as to obscure the participants. I am, however, quoting the insult and the replies of some of her committee members. Please do not make any effort to figure out what the actual problem was and who the participants were.

### **Don't patronize me!**

**MC** After many emails going through channels to get information and solve the problem, Carlotta has reached the executive committee level. She chooses to email Paul because he is the executive committee member most involved in the grant that has problems.

**Carlotta** Paul - I'm notifying you (and copying this to the other members of my committee) of a potential problem for our organization. I was recently contacted by August Granting Agency about some of the material in my committee's grant proposal. They are concerned that X gave us information that he obtained while reviewing proposals for Top Brass Granting Agency. Since we got the information from the executive

committee, we have no way of knowing if it originally came from X. Please check it out for me. - Carlotta

**Paul** Carlotta - I'm sure X would not do that. There's no need to check. - Paul

**Carlotta** Paul - I've checked with my committee members and they also want you to check. We all think it important. August Granting Agency is also bothering me. I feel caught in the middle and very frustrated. - Carlotta

**Paul** Carlotta - I am sorry that I have not responded earlier to the sequence of emails between you, Joan, Peter, me, etc. Trying to understand what this matter is all about from the emails is a bit like walking into the second act of a play. Let me try to guess what is going on.

**MC** There follows a list of supposed facts that contradict the previous emails from Carlotta. In essence, Paul claims that the executive committee had not supplied the information and, furthermore, had not gotten the information from X before not supplying it to Carlotta. He closes with

Paul If August Granting Agency regarded the information as illegally obtained, they would not have funded the grant. You certainly should not be "in the middle" of anything. The only way you can be in the middle is if you try to bring pressure on the August Granting Agency to get Our Organization to admit wrong-doing. I feel confident that you would never put yourself in that position because you are smart enough to know that it is an untenable position to be in.

I hope that I have addressed the issues that were under discussion. If I have not understood them, I am sure that you will rectify the situation. - Paul

**MC** Carlotta is tired of being told that she is "smart enough to know better" - in other words, not smart enough to be on top of things, but smart enough not to rock the boat. But not all men agree with Paul. Here are the responses to Paul's missive from some of the male members of her committee.

**Brad** Carlotta - I can't decide whether Paul's last item is best described as patronizing, nasty or insulting. - Brad

**Tim** Carlotta - Whew! I don't much care for Paul's patronizing remarks about your being, or not being, "in the middle." He didn't even get the facts straight. - Tim

Of course, not all high level sexist remarks are made by men. At the MAA Board of Govenors meeting last year, during her report as chair of the Committee on Participation of women, Pat Kenschaft, here playing herself, made the following bloopers.

### **Women Still Do It Too**

**Pat** The response to the book *Winning Women to Mathematics* by the Committee on Participation of Women has been very positive. The book can be used to inform the public. I urge you to send a copy to your congressman and to your nieces.

**Male 1** There are congresswomen too, Pat.

**Male 2** What about nephews?

*Discussion*

The final topic is students, both their doings and our interactions with them. The first skit was sent to us by the perpetrator David, here playing himself. He is also the one who said that he very thoughtfully committed the inequity for inclusion in this year's skits. The scene is a familiar one - a calculus class.

**But There's a Better Way**

**Prof** Let's do an example. We want to find the area of the region which lies outside  $r = 1 + \cos \theta$  and inside  $r = 2 \cos \theta$ . First we graph them.

*Nathan holds up blackboard with the figure drawn.*

**Prof** We do this problem by finding the area of the circle, then the area of the cardioid done in two pieces, and then subtracting.

**Sally** *interrupting* Excuse me for interrupting, but mightn't it be faster to find the angles at which the curves intersect and integrate the difference of the squares of the equations over these angles?

**Prof** Let's set up the integral for the area of the circle.

**MC** The Professor computes the area of the circle and starts to discuss why the area of the cardioid must be found using two integrals. The student interrupts again.

**Sally** Excuse me again, Sir, but I've worked it out my way and it does seem faster. Would you at least tell me why it is wrong?

**Prof** This is the way to do it. Now ...

**MC** The student gives up and slumps in her seat. The Professor continues his lecture when another student interrupts.

**Male** Sally is right. You should do it her way by integrating the difference of the squares of the equations over the angle between intersections.

**Prof** *stops and considers for a moment* You're right. That way works and is better than mine. I'm sorry, Sally, that I did not listen to you. Class, this is a better way. Let's do it as Sally suggested.

The next was sent by a female graduate student at Major Big University and concerns two of her fellow graduate students.

**Who? Us?**

**MC** She reports that they say such things as:

**Male 1** What use can Noetherian rings be? They were invented by a woman after all.

**MC** or

**Male 2** Oh, I suppose my floors will be clean after I get married. I'll make my wife do the dishes too.

**MC** We won't discuss their office decor. When a third male visited them they discussed a very competent female graduate student who has passed more qualifying exams than any of the three men.

*Enter a third male graduate student*

**Male 1** Why are you working with Paula? Is she any good? *said with a leer*

**Male 2** Besides, I've heard she is married.

**MC** Later, there was a meeting where the associate chair called together the graduate students to talk about funding. He also mentioned the unacceptability of racism and sexism in the department, and gave some examples he'd heard. The males said quietly to one another:

**Male 1** Do you think he's talking about us?

**Male 2** Nah, he's not.

The last skit was told to me by someone who thought we might like to hear about the latest generation. Both she and her husband are mathematicians and assistant professors. The child in this skit, one of their two, is 9 years old, younger than our actor.

### **There is hope**

**MC** Both mathematician parents are outside working in their garden when they hear the phone ring. A minute later

**Son** *running outside* Mommy! Mommy! Somebody on the telephone asked for Dr. Reed.

*She and Son go in the house and she answers the phone.*

**Mommy** Hello.

**Female** Hello, Dr. Reed?

**Mommy** Speaking.

**Female** Umm, I'm calling about Math 367. Are you the Dr. Reed that's teaching that?

**Mommy** No, that's my husband. *Turning to Son* Go get Daddy, please. It's for him.

*Discussion*

For those of you who would like to continue exploring these ideas, we have prepared discussion leaders and outlines for formal discussion groups during the next half hour. The purpose of these discussions will be to help change our own behavior in ways that will diminish micro-inequities toward women in the mathematical community. There are many interesting related topics, but this evening we should stay with this one. Today we will NOT discuss

micro-inequities toward minorities, or Southerners, or short people, or fat people

micro-inequities outside the mathematical community

personal histories that cause micro-inequities or

other problems that women and/or others suffer.

We are looking at ourselves – well-meaning mathematicians. We are focusing on micro-inequities toward women in the mathematical community because they chip, chip, chip away on women’s capacity to function. We all do it, and anyone who joins a discussion group is making a statement that she or he wants to commit fewer micro-inequities.

There are four guidelines for these groups.

1. First and most important: Nobody is to be in a group with anyone else from his or her own institution. PLEASE do not join a group with any of your own colleagues.
2. Each group should have between six and twelve participants. The number of groups is flexible.
3. If possible, at least one third of each group should be male and at least one third female. We decided that elaborate schemes for achieving this were not worth the time. Please take a look at the groups and arrange yourselves accordingly.
4. If possible, please commit yourself to stay with your group until it officially ends. If you have another obligation, you may ask the leaders’ permission to leave early – but ASK at the beginning.

Prepared group leaders will raise colored squares to indicate the location of the discussion groups. If possible, we will have a woman and a man co-leading each group. However, to keep the groups small, we may have just one leader per group. The chairs are movable, so arrange your group in a circle.

Are there any questions?

Remember rule #1: Do NOT join a group with any other member of your own faculty.

Will the leaders now raise their colored squares to show where your are? We now invite you to go to one of these groups.