

EDITED Sobel tribute speech transcription-Evan Maletsky

It is a real pleasure being here. Thank you, Kristie, for the invitation. Yesterday I talked with my wife and I said how could there possibly be anything left to talk about relative to Max Sobel if they are putting me toward the end, and she had two words of wisdom: “First don’t use the overhead projector (because she knows that I could get hung up on that), and the second thing was, “Keep it short!” As I left today, (left home to drive down here) I looked at her and said “ok, I won’t use the overhead projector, but to ‘keep it short’ simply isn’t possible, in whatever condition, to keep a dialogue short when you are talking about somebody who has influenced almost everybody in this room and certainly changed my life. Because when you hear the history of how we connected you’d realize that we were two very, very different people and what you see *here* is a product, a real *product* of Max Sobel. The story begins in 1957; it was the Summer of 1957, and I had finished two years in the Army and I faced one year of teaching at Pascack Valley Regional High School. I was teaching half Math and Geometry and half Physics. I was taking a Summer course at Montclair the Chairman of the Department; Bruce Meserve was teaching it and he came up to me afterwards and said, “Come to my office I have a question I want to ask you”. Now I had no idea what was going on. I was a pretty good student, so I wasn’t fearful of the potential of his complaining about what I was doing in class, but he offered me something that was totally unexpected. You see there are six people in the facility and one had just then resigned and this was the middle of July and he knew that he had to get a replacement before the end of the year. For some strange reason, this must have been flashing through his mind when he looked at me in that class because he offered me this invitation to come to Montclair. That is how it all started. I would not be here, and had not taken that class because never in my wildest imagination would I have ever thought of even teaching college alright, let alone teaching with someone like this. Now you probably know that I tend not to

write down things but if I don't put my glasses on, I will not be able to read it, but if I don't write it down this talk will simply last too long. The early experiences that I had with Max Sobel are really interesting so let me summarize a few of them very quickly because he came the same time I did. Who got the big office? He got the big office. I got the small one. Who got to teach calculus? He did. I got to teach Social and Commercial Uses of Mathematics. Now some of you may remember that course but if you look at the first letters of that Social and Commercial Uses of Math. They spell scum and that is exactly what every student that took that course said. That's what I got. He got Fridays off. I had to teach a three-hour surveying lab in the afternoon outside. He had a doctorate from Columbia University. I only had a Master's degree. He had years of teaching experience. I had one year of teaching experience and only half of that was in Mathematics and I was coming to the college to teach. He was the upcoming President of AMTNJ. He was President in 1958 and this was 1957. I wasn't a member. He knew everybody in Mathematics education and I didn't know anybody. That's how it all started. By 1958 I was still trying to find my way around campus. He had already submitted and received an NSF grant. It was a very different situation when you compare Max Sobel and me. What I quickly learned was that I had started teaching Math at a very exciting time and this became immediately clear to me because in 1957 Russia put up a sputnik and a whole new arena opened for anybody in Mathematics Education, but for some young guy like me, it was an excellent opportunity to join the university of teaching. Something else quickly became apparent. When you are the "new guy" here not only would I have to master the subject that I was assigned to teach, but I had to be competitive with this guy and that meant I had to sharpen my skills in teaching. What you know of me is not what I was when I came to Montclair. It was what I learned by watching this fellow. Well you could not imagine coming into a new situation really totally unprepared and having as

your model Max Sobel. What a blessing that was! As it turned out for the next four decades, the 1960s, 1970s, 1980s and the 1990s, I remained an active learner watching and working bit by bit forever sharpening my teaching tools based upon what I saw in Max Sobel.

Ok one more page, but this page is a problem because I told myself that I was going to write two pages and the writing gets smaller and smaller because I had to cram it in on here. I want to impress upon you first of all that I really am the result of what I learned from this fella because traditionally I was a very conservative, reserved person who really--oh I loved Mathematics, don't misunderstand that--but I was not a people person. I never ever became the people person that Max is by the way, but I learned that you *had to be* if you *teach*. You had to look at the students in the eye. You had to deal with things. But what did Max really teach me? This was shortly after I got my degree and he made an invitation for me to write a first book together. This was totally unexpected. We were driving down Route 46, through Clifton I think it was, and he said, "Let's stop for lunch at this delicatessen, they have very good corned beef sandwiches." I said, "fine" and sat down and we ordered and when the waitress said, "What you want to drink?" and I said, "milk," I think Max was thinking, "What did I get myself into?" What did I learn from Max? I learned from Max was what you are supposed to drink when you are eating corned beef sandwiches. I am coming to a course for Max Sobel's and he is teaching at Columbia University and it is a night course. I had been there before. I drove into the city and I'm standing at 42nd street at the subway waiting to go uptown. I would look at the map and where I was going and there was a young lady next to me and I said "is this the right subway (as it approached) to take to Columbia?" "Yes" she said. When the subway took kind of a right-hand turn under the river I knew that something wasn't right, but we departed, and I walked around, and I knew I was lost. Now I always tried to get there early (except for tonight). I had

plenty of time, but I was nowhere near Columbia University. I made it at the stroke of the beginning of class and who should be sitting in that class room-- you could finish this story-- that lady that directed me back there at Time Square. There are wonderful stories, we all have them, and I hope you don't mind but I want to share this with you. They are loveable and very dear memories in my particular case. I was giving a talk out in British Columbia, Vancouver. I'm not too sure and Max came into my office and said look you are going out tomorrow would you track down this fella and tell him I am scheduled to speak in three weeks, but I have not heard any information recently. So, I go out there and I find this fella and ask him did you invite Max to give this talk. Yes, did he accept. Yes. Well he wants to know why you haven't told him because you are only three weeks away and he just burst out laughing. Oh, three weeks away. It was for next year. What did I learn from Max Sobel. If you want directions to his class, don't ask one of his students, that was from the last talk, and for this one- when you accept a speaking date, be sure that you look at the year as well as the day and month. We didn't share an office, but our offices were next to each other and he would often just come in and sit down and I would have no idea what he was going to talk about, but he would talk about something. He comes in one day and sits down and gives this broad smile and says I had a wonderful time last night. My granddaughter talked for me for the first time with a reasonable conversation over the phone. I listened patiently. I left and told my wife, it can't possibly be that good. What did I learn from Max Sobel, when I had my first grandchild I knew that he was right. Max was a great magician, you know that, and he would do all sort of little tricks. It was tempting for somebody to go out and replicate that. I tried exactly once. I don't remember the problem exactly but it had to do with a dollar bill and folding it up and something with a serial number and I practiced this and was sure that I could perform this and there was an audience out there and it was the

Pennsylvania AMTNJ meeting and I had this contestant come up with a dollar bill and about half way through I could feel this whole experience and I could not pull it off and I learned from Max Sobel that he is not what he is about, he does not do these things for you to copy those things. He is doing these things for you to create your own things like them. That is a huge message and I think a lot of people saw in Max a model to copy, but what they were going to copy was those very jokes, those very activities, those very stories and no, that is not what it is all about. So, I do want to share with you I loved Max, but I had to create my own things based upon what I saw as successes in what he was doing. That one-year teaching in high school, or that half a year teaching Math in high school. I never once used that overhead projector. Now if you know me or listened to me or had classes with me, or heard me talk I loved the overhead projector. Even my wife remembers that, alright, but it was only when I saw what Max doing that I said this is a great teaching tool, but you probably know full well that what I did with the overhead projector was not what Max did with the overhead projector. I did something entirely different. My activities involved among other things sewing snaps. I was the *only* Math professor in the country that would buy out all of the sewing snaps in a store because I would be making these transparencies that would move. Where did I get this idea? It was my idea to use the sewing snaps, but it was Max's idea that the overhead projector could be a dynamic tool and that is what I learned there. The stories are endless, but they really should be shared because I think sometimes we underestimate just what kind of person this was and what kind of influence he had on everybody. He loved his stories about history. I can't tell you how many times he repeated the story about Evariste Galois and the dual in 1832--a fight over a woman. He loved the story and just talked about it over and over again. I have never mentioned once during my teaching (except tonight) because you know why don't you? Because I had to go find my own stories that

I really liked and had to repeat those stories. Do you know the story about 29,002? Mt. Everest. This is one of the stories I like to tell. When would you round 29,000 to 29,002? About 150 years ago when they measured Mt. Everest, this is recorded you can go on the internet and download it, that they measured and got 29,000 and these surveyors were smart enough to do what? Know that they reported this as 29,000 and that no one would believe them or that they think they measured to the nearest foot. I like that story, so I can get enthused by telling that story. Max did not teach me the story, Max told me that if I had a story that I could relay to my students that I could connect to them to the math like he was connecting. This was an important message and boy was he a great teacher when it came to that. The importance of timing- so many times when I observed classes I go in and see the teacher and of course the teacher would be nervous, and I understand that as a student teacher, they would simply write the formula on the board that was today's conversation, and then talk about how to use it. No, Max Sobel would never do that. He would, and I have never seen this happen, but I know it happened, he would bring a firecracker in and in the middle of the lesson when he got the formula he lights that firecracker, so everyone woke up or he would write the formula on the board, but he would cover it with paper and at the right time he would rip that paper off. Timing is absolutely everything and boy it was crystal clear when I saw him teach that if you got something special you got to spend a lot of time on figuring out how to put it to the class, so the students could really be captivated by it. He was a master at that and I was the learner and throughout those four decades that I taught with him I was forever watching what he was doing and packaging it in my own way and he was expecting everybody to do that kind of thing. That was one of his very greatest gifts. It is not what he did, but how he influenced you to become better teachers yourselves. He would come to my office. He would do this at least once every two weeks or once every week

and comfortably sit himself in a chair and say have you seen this problem? I could not tell you how many problems he has given me and said have you seen this problem? Some I have seen, most I have not seen. Were they were good problems, they were *all* good problems. How could he *not* come with good problems? He just loved good problems. He devoured the books, he simply read all of the books with all these good problems and when he found the ones that were really good what did he do? He would come next door to me and asked me about this problem. His enthusiasm just bubbled out. It was just so very apparent. I did not get that feeling for those problems. The problems that I became interested in were different kinds of problems but they served the same motivational purpose. Max Sobel loved the problems that were really challenging. You know the locker problem, if you do not know the locker problem, I will not repeat it. Max just loved the locker problem. Now the locker problem is at a certain level. Over the years as I watched Max and listen to the problems that Max would talk about you know I am going to sort the problems but somehow, I wanted a different sort of problem and while I think I got pretty good at those problems that were the opposite level. Problems at the very simplest level that if you did not think twice about that problem, you would pass it by. We so often have very problems in the classroom, very good problems in the textbooks and we miss out because we just do that problem and we are in a hurry to do the next problem, I am absolutely convinced that if we did half as many problems and twice as much with each one, we would be better teachers. So, I sought out, and I owe this Max, because he got me really interested in problems, but I had my own little twist on this thing. It is very important if you got a good problem to start with a simple one and lead up to the good problem because if you reach the student at the wrong level all is lost. I don't know how to share this in any simple way, but it is very intriguing. I would love to throw a couple examples maybe out to you. My wife will not forgive me for this.

I did not pass this out, I cannot tell you how many talks I've given around the country where I have cut out hundreds and thousands of paper circles. I do want to ask you a simple question: If you look at this circle what would you do with it? What do you see? And the real big question is, if you look at it long enough and think about it long enough you will see more than the circle and I think sometimes when we talk about the circle, we talk about the circle and we are onto something else. Do you see the equilateral triangle? Do you really see it? I don't know if you are lying or not, so I have to show you the equilateral triangle. Max would do this, see there is the circle and just like that it's an equilateral triangle. That may not bother you. That may not be amazing to you. Let me tell you it is incredibly amazing to me. In all of geometry there are these huge polygons. There is a huge collection and over here is another kind of figure. They are not connected. This is beauty. This is simply beautiful that I could go from one to the other that quickly. Where did I get that idea? I got that from Max. Mathematics has to become alive. Max Sobel could make Mathematics come alive. So, tell me when I hold the circle up do you see anything else? Do you see a cone? What kind of a cone? Or is it not a cone? Sure, it is cone. I remember doing this in 8th grade and the jaws drop. This is what I mean by looking for problems, there is so much going on here. So, one of things that I learned from Max is when you get an idea and he was good at this. When you get an idea, work on it. Make it click because if you don't see the cone, cut through the center once and curl it up and there is the cone. Now pass the circles out to your class with paperclips and now keep thinking, what would you do with this cone. See for some people that is kind of neat. The circles are two dimensions, this is three dimensions, ok I'm done and go onto the next thing. What other questions are you going to ask? And Max kept after me over and over. What more could you say about cones? Well look at this cone, why is this cone better than a wooden one. It changed the shape. Where would you put it so

it has maximum volume? Oh, that's kind of nice. It has no volume here but if you curl it up tight it will have maximum volume. There is so much that you could do with some little thing like this and that was the magic that Max Sobel had. The magic that Max Sobel had the ability to take an idea and milk it for what it was worth. My wife told me don't use the overhead projector and I told her that I would not use overhead projector, but I did cheat a little bit because I did go to my files. When you retire you come home with a huge pile of stuff and you sort through it but then when it is all done there is another pile that is all the stuff that you are going to save but didn't fit in any of the piles. I rummaged through that this afternoon. Here is a transparency that I made, it is my transparency this is doing something with the overhead projector that Max Sobel did not do but this is Max Sobel speaking through me. Because I was willing to take the time to cut those letters out with those color things long before we had the fancy technology stuff. Because I felt that it would impress the students and everything that Max did centered around the time to impress the students. Of course, I picked one that will ignite interest that's what he did. Max Sobel was a gift. The stories are endless. The print is getting smaller and smaller, I don't have my glasses on but I do want to leave with a quick story. First of all, I don't want to neglect the fact that Elliot Sobel is here, so I want to relay a story about Elliot. One of the things that Max loved and I concurred with him, is that he loved to teach because he wanted to excite his students so much so that they would want to come back to his class. So, to do that you had to have some magic and you also had to find that one piece of paper that you are looking for which I know is someplace, but I can't find it. Anyway, if you know me you know that I have a favorite number. I hope you have a favorite number. It doesn't matter what the favorite number is. I hope you have a favorite number. My favorite number is 257. Now that may not mean anything to anyone here, but if you taught the eighth-grade class that I taught for sixteen years at Montclair. Every

kid in the class knew that 257 was my favorite number. Every college class I think that I taught I hear it once or twice. You keep using it over and over again and sooner or later someone in the class asks why is that your favorite number? And I never told a soul and I will not tell you, but Elliot Sobel wrote a book “Wild Heart Dancing” and he was at Barnes & Noble giving a book signing so I went there and stood in line to have him sign the book and he signed it and I went over and looked at it and it said the following - I would have made this 257 pages but I didn't have that much to say. Now here is somebody who I have not seen for ten, fifteen years and maybe I should wish that he remembered something important from the Mathematics, but you know what? He remembered that. The thing that Max did was to excite people by having all of these curious little things and his message to you was not to copy those things that he was doing so much but to create your own set of good stories, good activities and milk them for what they are worth. Those are the things that can excite you. Max was good with his card tricks, he was a real mathematician. I was not a mathematician, but I saw magic everywhere in mathematics.

Many, many years ago in my church we had movement to try and raise funds through tithing which was not successful, but we went out to the church members and would visit the homes and tried to get them to tithe. I had a slight advantage over some of the others on the team after the conversation went on for a little bit, I looked them straight in the eye and say “look if you can't afford to tithe, at least give a ninth or an eighth and I would watch their expression on their face and if there was a twinkle in their eye, a smile or a laugh I knew for another minute or so we would have a friendly conversation but if nothing happened I knew all was lost. What does this have to do with Max Sobel? I want to leave you with something and this is dead serious, and it is possible that you may have missed it. To be a good teacher you've got to work hard, you have got to work really hard. If you think what Max Sobel did was just his second

nature or there just to be exercised, you're wrong. He thought ahead about absolutely everything that he thought was worth thinking about. From writing a whole textbook to giving a talk at a general session to motivating his Algebra One class on quadratic formula. He worked hard on those things and that is an important message. So, when I think about Max Sobel and hard work. When Max looked at a job and he estimated to take *ten percent* of his available time, he was freely willing to give *one ninth*, or *one eighth* if he believed in it. That is what would make a teacher into a good teacher, and that is what makes a good teacher into a great teacher and Max Sobel was the best of them all.

Editor's note: Evan Maletsky did some rambling remembering the good times he experienced with Max Sobel. You had to be there in person to appreciate fully Evan's presentation with his homespun expressions and handheld visuals. –JMN-