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Mathematical Modeling Oktoberfest Symposium:

Introductory Remarks for Dr. Henry Pollak

Henry Otto Pollak has led a long and distinguished career in Mathematics and Mathematics Education. His profile as President Emeritus of the Mathematical Association of America (1975–1976) indicates that he received the BA from Yale University in 1947, and the PhD, under Fields medalist Lars Ahlfors, from Harvard University in 1951. In the same year that he obtained his doctorate, Pollak began his work at Bell Laboratories, where he would eventually become the Director of its Mathematics and Statistics Research Center. Subsequent honors include the MAA Certificate for Meritorious Service (1990), the MAA Yueh-Gin Gung and Charles Y. Hu Award for Distinguished Service (1993), and the National Council of Teachers of Mathematics Lifetime Achievement Award for Distinguished Service to Mathematics Education (2010).

Pollak’s connection to *mathematical modeling* dates back to a time before it was recognized as an important topic among experts in mathematics education. Working at Bell Laboratories, a hub of activity for both mathematical modeling and applied mathematics, Pollak became keenly aware that modeling is not one simple task, but rather a complex process requiring numerous abilities and skills. For example, Pollak (1969) remarks that “everyday applications may be either exact or approximate in character” and “you will not be sure at the beginning [of the modeling process] what kind of mathematics will result.” He goes on to note in this same paper, *How Can We Teach Applications of Mathematics?*, that “the relationship between the mathematical model and the situation in the outside world that is being mathematized must be clearly understood.” A perspicacious mathematical modeler himself, Pollak exemplifies this clarity of understanding: He has been characterized by peers as someone who “has a rare genius for taking badly stated problems, formulating them in correct mathematical terms, and then producing, when possible, elegant conclusions” (Bowdoin, 1977).

Dr. Pollak honed his teaching skills in Bell Laboratories, where he drew a distinction early on among intended audiences: “The big difference between industry and university is not whether you teach. The difference is that in industry you typically have more students who want to learn” (Albers & Thibodeaux, 1984). From this vantage point, it is perhaps unsurprising that he ended up in an institution such as Teachers College, where so many

students are eager to deepen their own mathematical content knowledge, and to apply this depth of understanding to their future careers in mathematics education.

Each of the speakers attending the Oktoberfest Symposium has worked with or cited Pollak in their papers, and it is certain that the field of mathematical modeling would not be where it is today without his meaningful and numerous contributions. As doctoral students who have taken courses and attended colloquia with Dr. Pollak, we are aware of his uncanny abilities as a mathematical modeler, including but not limited to estimating the height from which a briefcase should be dropped to quiet down a roomful of students and professors. (Never does it take more than two guesses!) In his most recent interview, Pollak comments: “I had an awful lot to learn; I still do.” As students, colleagues, and fellow researchers of his would surely remark: We have already learned an awful lot from Pollak, and we look forward to learning more.

Benjamin Dickman
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Spring, 2014

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