

Remembering Erdős

RON GRAHAM

Ron Graham coauthored 28 papers and one book with Paul Erdős and has since coauthored or coedited several books dedicated to Erdős's mathematical legacy, including *The Mathematics of Paul Erdős I and II* (with Jaroslav Nešetřil) and *Erdős on Graphs* (with Fan Chung). He is an acclaimed mathematician, juggler, and trampolinist, and he has served as president of the American Mathematical Society, the Mathematical Association of America, and the International Jugglers Association.

We asked Ron to share a few stories about his adventures with Erdős in order to reveal another side of this most extraordinary and unconventional mathematician.

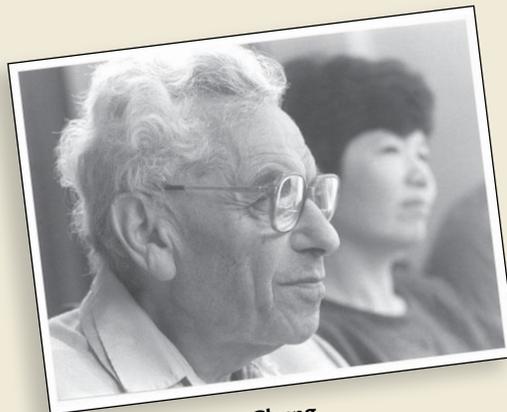
ERDŐS'S COMPETITIVE SIDE

Erdős often wondered in which sporting activities he could come within half of the world's record (such as weightlifting, running, jumping). Once at a meeting in Atlanta, we were staying at a large hotel. Erdős casually conjectured that he could climb up the 20 flights of stairs in the hotel in,

at most, twice the time it would take me to do it. I said I didn't believe it, so he said (of course), "Let's see." As it happened I had a watch that had two stopwatches on it, so I suggested the following: We will both start from the bottom at the same time. When I reach the 20th floor, I will stop stopwatch #1. Then when he



Paul Erdős, Ron Graham, and Fan Chung in Japan, 1986.



Paul Erdős and Fan Chung.

reaches the 20th floor, I will stop stopwatch #2. We can then check the two times to see if he succeeded or not. Erdős agreed, and off we went. When I finally reached the top,

I stopped the stopwatch as planned and waited for Erdős to arrive. When he finally did arrive, he was puffing pretty heavily but still feeling confident. He said, "Well, how did it come out?" I looked at my watch and told Paul the bad news. Not that he had lost but that somehow I had pushed the wrong button on the watch and both of the times had been erased. Consequently, we would have to do this experiment again! Paul immediately said, "We are certainly *not* going to do this again." After an hour or so, we were back on speaking terms!

UP THE DOWN STAIRCASE

Erdős and I were waiting at the baggage claim at Newark Airport one time waiting for Paul's baggage to arrive. He happened to be looking at the escalator going down, and he said, "It is probably quite difficult to go up an escala-

tor going down.” I responded that I didn’t think it would be that difficult. Paul immediately challenged me to back up my assertion. So I went over to the down escalator and starting running up it. I made it to the top, but it turned out to be harder than I had thought. When I came down, I told Paul that he was right; it is harder than it looks. But Paul instantly said, “No, it looked quite easy when you did it.” I disagreed, so Paul said he would try. I warned him that it wouldn’t be easy. So Paul went over to the escalator and started rapidly walking up the down escalator. However, by the fourth step, Paul fell forward onto his stomach and was deposited unceremoniously at the bottom of the escalator, much to the dismay of several bystanders. Paul got up, dusted himself off, and said, “I got dizzy.” I didn’t suggest that he try it again!

ERDŐS ON THE TRAMPOLINE

Once when Erdős visited me, he saw me practicing on the trampoline in my backyard. (I used to participate in trampoline competitions and later performed in a circus troupe.) Erdős asked if he could try it, and I said, “Of course!” I helped

him climb up onto the trampoline, and I demonstrated some of the basic moves, such as just bouncing and stopping, a seat drop, and so on. Paul (surprisingly) managed to accomplish these quite quickly. He then wondered if he could attempt something more daring, such as a three-quarter forward somersault from the knees. I assured him that wouldn’t be such a good idea, and he reluctantly accepted my advice, although I could see that he was still interested in trying something new. I considered asking his mother (who was traveling with Paul) if she

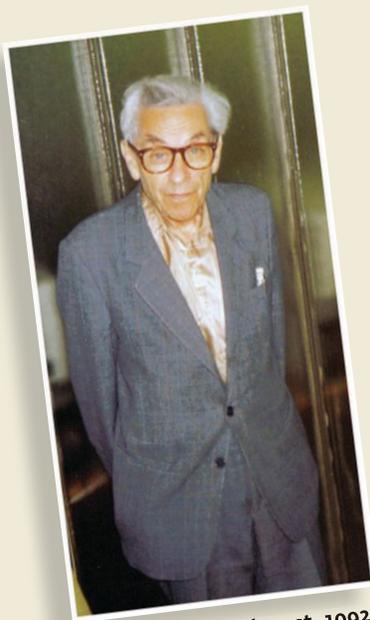
would like to try bouncing on the trampoline as well, but thinking it over, I decided not to ask her—she was in her 90s at the time!

ERDŐS’S LANGUAGE

Many people know that Erdős had his own special language for various terms, such as “poison” for alcohol, “noise” for music, “boss” for a wife (or woman), “slave” for a husband (or man), “Joe” for the Soviet Union (in honor of Joseph Stalin), “Sam” for the United States (in place of Uncle Sam), and “epsilon” for a small child, or also for a small quantity of something (standard parlance in mathematics). However, once at a dinner Paul was tricked by his own code. When the hostess asked Paul how much of a particular dish he would like, he replied, “I’ll just eat an epsilon.” The hostess (a well-known set-theorist and coauthor of Paul who knew his language well) immediately replied in a shocked tone, “You cannibal! How could you?” Paul smiled when he realized what he had said, remarking how clever this “boss” was! ■

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Paul Erdős in Budapest, 1992.

Further Reading

There are two excellent biographies of Erdős: Bruce Schechter’s *My Brain is Open* (Simon & Schuster, 2000) and Paul Hoffman’s *The Man Who Loved Only Numbers* (Hyperion, 1999).

The documentary film *N is a Number* is a treasure trove of interviews with Erdős and many of his closest colleagues.

Fan Chung maintains an extensive website outlining problems posed by Erdős and the progress that has been made toward their solutions. See <http://www.math.ucsd.edu/~erdosproblems/>.

Information on the Erdős Centennial conference can be found at <http://www.renyi.hu/conferences/erdos100/>. To compute your Erdős number, visit the Erdős Number Project at <http://www.oakland.edu/enp/>.



Erdős, circa 1960.