

**“AND YOU DON’T EVEN HAVE TO BELIEVE IN G’D
BUT YOU HAVE TO BELIEVE THAT THE BOOK EXISTS”¹**

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If you heard Paul speak during the past few decades, you would have heard him say things like these:

I think Archimedes and Euclid would have liked it [Morley’s theorem]...Perhaps, soon I would be able to ask them, though I do not know whether I would be able to send a message back (3/17/89).

I should leave some money for i^2 in case I leave. ‘Leave’ means, of course, get cured of the incurable decease of life (3/17/89).

It was so long ago [1931], that I am not even sure whether it was AD or BC (12/23/1991).

I am glad that so many people came to the lecture of pgom: it might be his last lecture after all (12/23/91).

I hope several [of my] results will survive for centuries, but we will see (7/20/93).

I reach Gauss in three steps: I knew Felix Bernstein, who visited Cantor, who met Gauss. So you can reach Gauss in four (7/20/1993).

Despite my ancient age, my memory on numbers is quite good. But I forget names. I forgot the name of Descartes: I said that he discovered analytical geometry, and was reminded of Descartes' name. I hope you remember the name of Alzheimer (3/10/94).

If you saw Paul signing his reprints during the past few decades, you would have seen him following his name “*Paul Erdős*,” by mysterious initials “*pgom, ld, ad, ld, cd, nd*.” During our first meeting Paul explained to me the meaning of these initials: poor great old man, living dead (i.e., over sixty years old), archeological discovery (≥ 65), legally dead (≥ 70), counts dead (≥ 75), nearly dead (≥ 80). Years later, in July of 1993 in Keszthely during the symposium in honor of Paul's 80th birthday, I reminded him that “the emergency” of adding another pair of initials has arrived. Paul thought for a moment, and then declared: “*nd, nearly dead*.”

And so we got used to the idea that Paul Erdős would live forever. I have already described my first meeting with Paul in Budapest of 1988 [1]. In the years that followed he was a friend, confidant, co-author, and teacher. Through the years we spent dense three weeks working together in Colorado Springs, took long walks on my continent and his, had long discussions on the variety of issues that people face in our ever changing world. We must have exchanged some 200 letters, countless phone calls, e-mails (Paul did not use a computer himself, but Noga Alon and others provided the necessary link between the man and computer). Together we wrote some papers. Together we wrote one

it as a book of problems *you* posed with *your* commentaries for each of the problem.” Paul promised to think about my idea.

Upon my return from Budapest, I wrote to Paul [3]: “nearly every mathematician in the world treasures your problems, which appeared here and there, and are a part of mathematical folklore. I would love to have an opportunity to produce a hard copy of your contribution to mathematical folklore, a book *Problems of pgom Erdős.*”

On November 26, 1988 Paul replied from Israel [4]: “I now gladly accept your offer of writing a book about my problems,”³ and the project was on, or so I thought. However, although Paul had started working on the book, the progress was minimal.

I knew that it was very difficult to inscribe such an office-type job of writing a book to the Paul’s lifestyle of a ‘wandering Jew.’ I wrote to Paul [6]: “You are making an invaluable contribution to mathematics by your lectures, articles, travel. But I think that the greatest contribution you can make is to write your problem book, which will lead generations of young and old mathematicians in their research careers.”

Paul promptly, as always, replied on June 7, 1989 [7]: “I agree with you that it is perhaps my most important priority (perhaps, to be pessimistic, my last priority). Thus, I promise that I will do my best, but my trouble is I have to go to many meetings (a geometry meeting starts the day after tomorrow) which I have to attend, many people want to talk to me and at the moment I just received proof sheets of two

suggested that if I were to join you as a co-author, this may speed up things. If the direction of co-authorship is of any interest to you, then I have an even better idea: Erdős-Graham-Soifer.”

Paul liked the idea, and on August 10, 1991 replied as follows [9]: “It would be very nice to have three authors Erdős-Graham-Soifer.” Ron, however, agreed to possibly participate as the editor of the book, but not as an author (I hope Ron will read these lines and indeed serve as the editor!).

On December 23, 1991 Paul came to Colorado Springs for a rare for him two-week long visit. We talked about the fate of the world, the Holocaust, the situation of Jews in Russia, sales of arms in the “Samland,” as he called the United States. We hiked in the Garden of the Gods. We drank (yes, Paul consumed a bit of “poison”) farewell to the 1991, and greeted the newborn 1992. Nearly daily Paul picked up my daughter Isabelle, then a three-month old baby. And above all, every day we worked long hours on the book. We produced a very rough draft of the book. It included problems on geometry, combinatorics, and some on number theory (not too many, to minimize the intersection with the Erdős-Graham book on problems of number theory).

Last time we discussed the book in Baton Rouge in March of 1996. In June Paul called me from Kalamazoo. He did not tell me a word about a pacemaker that had just been installed. Instead he wanted to know the dates and places of my European sabbatical, and when he learned that

the Man's book that we started during those two weeks on the border of two years.

Bibliography

- [1] Soifer, A., Editor's page (Paul Erdős is 80), *Geombinatorics* II(3), 1993, 43-45.
- [2] Soifer, A., *How Does One Cut a Triangle?*, Center for Excellence in Mathematical Education, Colorado Springs, 1990.
- [3] Soifer, A., Letter to Paul Erdős, dated September 2, 1988.
- [4] Erdős, P., Letter to Alexander Soifer, dated November 26, 1988.
- [5] Erdős, P., Letter to Alexander Soifer, dated December 31, 1988.
- [6] Soifer, A., Letter to Paul Erdős, dated April 4, 1989.
- [7] Erdős, P., Letter to Alexander Soifer, dated June 7, 1989.
- [8] Soifer, A., Letter to Paul Erdős, dated June 19, 1991.
- [9] Erdős, P., Letter to Alexander Soifer, dated August 10, 1991.