

## George Szekeres

### My collaboration with E.P.

Our first collaboration goes back to the early 30's which makes me the oldest (in both senses of the word) among his O (500) collaborators (Paul Turán, the only other person who could have shared this honour, is no longer with us). Two works emerged from this early collaboration, but it is the second one in *Compositio Mathematica* that became more widely known. I have told the story of this paper on another occasion, in the preamble to *Art of Counting*. The origin of the paper was a curious, and at that time somewhat unusual, problem put to us by Klein Eszter (later Esther Szekeres). The two solutions that we presented with Paul marked the beginning of an extensive development (largely at the hands of Paul) of combinatorial geometry and Ramsey theory. Incidentally the original problem in its more precisely form is still unsolved after 65 years. Esther herself (together with her close friend Marta Sved) was the product of the Zsidó Leánygimnázium, that is the Jewish Girls High School, which was generally regarded as one of the best schools in Budapest.

My later collaboration with Paul was somewhat sporadic, and the few papers that we wrote together were without exception the outcome of his visits to Australia. Reason for this slender record was not merely geographical. My own interests drifted in all sorts of directions which did not overlap a great deal with Paul's extensive interests. Even in partition theory where we had much common interest, we followed fairly distinct paths. This showed up already in our very first joint paper on the asymptotic number of finite abelian groups of given orders. My approach was via complex analysis, Paul's a more genuinely number theoretical method. In the end it was Paul's method that proved to be the more powerful one, at least for this particular partition problem (it was certainly nearer to the "book") and it was his version that appeared in the paper.

Twenty years later my chance came to "retaliate". Paul asked me in a letter: is it true that the number of partitions of  $n$  into distinct primes is monotone increasing with  $n$ . This time the circle method emerged as the more effective one: we showed with K.F. Roth, in a rather general setting, that Paul's conjecture is true, at least for large  $n$ . I think the story typifies the way how Paul often exerted his influence: pounce upon you with a problem that might be within your interests and amenable to your working methods. In my case this was certainly the way, and not through joint publications, that he influenced my work throughout the years. My indebtedness to him is very great indeed.

Let me add a few personal notes. Like many of us who grew up in those times in Budapest, we enjoyed a relaxed, easy-going friendship which never slackened throughout the years. During his frequent visits to Australia he often stayed in our house; he felt much more at ease in a family circle than in a hotel or college room, as no doubt numerous friends of E.P. in the US and elsewhere will testify. In our case there was an old precedent: after we got married with Esther in 1937,

Paul was our first weekend guest in the small Hungarian country town where I was working for a living. He foresaw the grim events that were soon to take place and had no doubts that we should get away as fast as we can, even to such an unlikely place as Shanghai. We admired his political views which were always guided by humanism, even if they did not always agree with our own. For instance he was much more critical of the role of Mao Tse Tung whom we greatly admired before the cultural revolution.

On the other hand he was just like ourselves, a rationalist who viewed religion and religious beliefs with a healthy scepticism. On one occasion chatting about a mathematical acquaintance he would asked me in his typical Hungarian Erdősese: *Ö melyik vallás tévedéseiben hisz?* meaning roughly: Which religion's errands does he believe in? His peculiar language, so well known throughout the mathematical world, always sounded better to us in the original Hungarian.

He harboured some old grievances, perhaps because of his strong sense of fair play. He felt a curious resentment against Princeton where after the war he spent some of his most productive years. Even a few years ago when he happened to stay with us, he told us in all seriousness how "Princeton tried to starve him to death". It sounded like another Erdősese, but I had the feeling he really meant it. Naturally he was also a bit hurt by his controversy with Atle Selberg over the elementary proof of the prime number theorem but this certainly did not trouble him in his later years.

Perhaps I should finish off with an innocent addition to the voluminous Erdős folklore. On his first visits to Australia in 1960 I was driving him from Adelaide to Melbourne, a distance of some 1000km along the coastline. Halfway through the drive, on a lonely stretch of gravel road, he asked me if he could have a go at driving, something that he never tried before. After introducing him to the mysteries of clutch, gears and brakes, he valiantly took over. Before I had a chance to intervene, we found ourselves in the roadside ditch, fortunately not upside down. This was, I presume, his last attempt behind the wheel. He was perhaps not made for driving, but his reflexes were exceptionally good and in table tennis he was a formidable opponent.