



PAUL ERDŐS

*Photo: Ernő Németh*

## PAUL ERDŐS AT 70

E. G. STRAUS\*

It is amazing that after 42 years of hearing Paul Erdős complain about old age and stupidity, one must finally admit that the former has indeed caught up with him, while the latter is fortunately as remote as it ever was. His youthful — even childlike — spirit, his enthusiastic inventiveness in both proofs and conjectures appear impervious to age or infirmity.

Fortunately his restless love of travel coupled with the opportunities of the jet age, have made it possible for so many of us to know his unique personality. His eagerness and generosity in sharing his own ideas coupled with a genuine and attentive interest in the ideas of others — at all levels of the mathematical spectrum — have made him the apostle of mathematics to the world. He is a fisher for the souls and minds of talented young people and an inspirer and animator of all those who are already committed to mathematics.

In our century, in which mathematics is so strongly dominated by “theory constructors” he has remained the prince of problem solvers and the absolute monarch of problem posers. One of my friends — a great mathematician in his own right — complained to me that “Erdős only gives us corollaries of the great metatheorems which remain unformulated in the back of his mind”. I think that there is much truth in that observation, but I don’t agree that it would have been either feasible or desirable for Erdős to stop producing his corollaries and concentrate on the formulation of his metatheorems. In many ways, Paul Erdős is the Euler of our times. Just as the “special” problems that Euler solved pointed the way to analytic and algebraic number theory, topology, combinatorics, function spaces etc.; so the methods and results of Erdős’ work already let us see the outlines of great new disciplines, such as combinatorial and probabilistic number theory, combinatorial geometry, probabilistic and transfinite combinatorics and graph theory as well as many more yet to arise from his ideas.

Einstein often told me that the reason he chose physics over mathematics was, that mathematics is so full of beautiful and attractive questions that one might easily waste one’s powers in pursuing them without finding the central questions. In physics

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\* The editors are very sad to announce that Professor Ernst G. Straus deceased 13 July 1983.

he had the “nose” for the central questions and he felt that it was the chief duty of the scientist to pursue those questions and not let himself be seduced by any problem — no matter how difficult or attractive it may be.

Erdős has consistently and successfully violated every one of Einstein’s prescriptions. He has succumbed to the seduction of every beautiful problem he has encountered — and a great number have succumbed to him. This just proves to me that in the search for truth there is room for Don Juans like Erdős and Sir Galahads like Einstein.

I have already referred to Paul as the king of problem posers, but one should not forget his important innovation. Like the kings of old he offers differing cash rewards for the different levels of difficulty, so that we not only get the question but also his assessment of the task it poses. This appears to be a precedent worthy of imitation.

I have often wished that when the hopes for the United Nations were brighter, and they were even thinking of choosing a universal language, they had chosen “basic Erdős”. I have seen how easily he gets bosses, slaves and epsilons to accept his terms (with some grumbling from the bosses) and how ready they are to drink poison and listen to noise at parties in his honor. Perhaps the language is too simple for the devious uses of international diplomacy.

No appreciation of Paul Erdős would be complete without remembering his great generosity and care for his fellow man, as well as his total devotion to the rights of human beings over all other loyalties. His money and his connections are available to promising students and mathematicians at all levels. He has never hesitated to speak out against any violation of human rights and to help its victims. Indeed he has made some extraordinary personal sacrifices rather than acquiesce in even relatively minor violations of rights.

Future generations will envy us for having been contemporaries of this unusual, ingenious and good human being. May he continue his work and his influence for many years to come.