

## HUMANNESS in MATHEMATICS

V.A. Malyshev

Below I included the Russian original of this text, because I was not sure that I could convey all the nuances of Russian language.

After very informative review of A. Zubkov – one of the best students of A.D. Soloviev – I want to emphasize another but not less important point. Alexander Dmitrievich stood out above all not by strong fixation on concrete mathematical problems, but deeply human attitude towards mathematics and mathematicians and constant pursuit not to separate mathematical life from human life in the global world. I will demonstrate this on concrete examples where I felt it on myself.

My first acquaintance with Alexander Dmitrievich occurred in 1958 when, being a student, I was transferring from MIPT to MSU. The dean asked Alexander Dmitrievich to test my mathematical abilities. A.D. gave me several simple tasks in analysis that I had to solve quickly in his presence. At the end he said, ‘You solve problems sufficiently well but you know the theory less well’. Deeper sense of this saying I understood only now, when emphasize on olympiad type mathematics reaches maximum. This tendency existed already 50 years ago, but was much weaker. The struggle between depth and breadth always touched any mathematical mind.

Mathematician always has two choices. Either plunge completely to concrete problem or, before this, spend more time in thinking whether this problem definitely deserves spending time. I also understood earlier that there are millions of mathematical problems, hardly related to each other. Moreover, most of them hardly worth pursuing, although nobody knows how, when and which mathematical problem could influence future development of science. Sport and olympiads in mathematics, as an attraction point, should exist (and the people liking olympiads deserve delight). But advocates of this point of view should not grasp in their hands all journals and all state subsidy. Moreover, there is a danger that too big concentration on such direction (as on any other) ends with formation of clans fighting for power in mathematics. And this can lead to chopping goals and can strongly narrow down mathematics itself.

Similarly with theory – I always thought that I should be able to deduce everything myself. Even now it is not interesting for me to know who and when proved known theorems. Moreover, I did not consider it to be important. In particular, because many ideas were “stolen” (in good sense of this word) without any references to earlier ideas. So, in 1990s on a conference in Copenhagen one known mathematician during the dinner, in the presence of many people, complained on such “theft”. Well. ‘I am glad when someone does not refer to my papers – if only the science gains from this’, I said.

Alexander Dmitrievich belonged to well-known influential mathematical community strongly oriented to applications and having many connections with practical engineers. On seminars and conferences he always asked about possible application of the results. But together with this he had fabulous probabilistic intuition, deep understanding of analysis, asymptotic methods especially.

He always continued to support me in my career. So, acquaintance with Alexander Dmitrievich facilitated my contacts with Vladimir Mikhailovich Alekseev – also a wonderful person, my future academic adviser. And quite invaluable support I received after I finished my doctor dissertation concerning two-dimensional Wiener-Hopf equations and random walks in a quarter plane. Probabilists from Novosibirsk and Steklov Institutes, resorted to scientific politics, categorically rejected it. Also before this I was deprived from publication in TVP. However, A.N. Kolmogorov always approved my papers to Doklady. Then Alexander Dmitrievich spoke directly with the known mathematicians – M.A. Evgrafov, B.V. Shabat, I.I. Piatetski-Shapiro, and all of them became my opponents. Also because my thesis, besides probability, studied new class of functional equations, essentially using Riemann surfaces and Galois theory.

Alexander Dmitrievich (as if previewing the future) stood higher the tendencies that now grow among mathematicians: trying to grease the papers to journals with big ratings and impact factors, self-promotion, awards and honours, tours to conferences. Simultaneously, power craving of big clans only grows. And most important – no open presenting big projects and no discussion of global scientific problems.

I think that A.D. always wanted mathematics to be taught not to an abstract model of “star” robot-mathematician but to anyone who wants, and taking into account their individual abilities and scientific inclinations.