About Grisha Mints

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Abstract

The author remembers his meetings and discussions with a remarkable mathematician and logician Grigori (Grisha) Mints.

I remember Grisha Mints when he was still a student. He entered the Faculty of Mathematics and Mechanics ("math-mech") of Leningrad State University when I graduated (1956), and while I was a doctoral student (since 1958) I met him sometimes. In fact, his closest friend – Sergey Maslov – a future renowned logician, attended, when he was in his terminal class at school, a mathematical seminar organized at math-mech for the school children, where I was a tutor during a whole year. So when I met him at the faculty, he usually was with Grisha, they were inseparable. And they both, rather early, have selected mathematical logic as their specialty. They both were among the best students of their promotion. By this reason, and also because the Spring of 1956 was the high time of the Khrushchev liberal "thaw", their scientific adviser N. A. Shanin, himself one of the principal followers of A. A. Markov (Jr.), could persuade the administration of the Academy of Sciences that both have to be taken to the post-graduate school at the Leningrad Department of the Steklov mathematical institute (LOMI). Note, that in Soviet times, when the director of the Mathematical institute (MIAN in Moscow) was I. M. Vinogradov, a notorious antisemite, for a Jew (as Mints) or half-Jew (as Maslov) to be taken as a post-graduate was a rare exception, even more so to be taken as a staff member.[1] Their successive research, activity, openness for human

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[1]There were only a few Jews – members of the MIAN – Mathematical Institute of Russian Academy of Sciences (Moscow and Lenigrad Department as well) during the long directorship of Vinogradov. The exceptions were, of course, admitted by Vinogradov himself for some reason. On rare occasions he yielded to the lengthy appeal of some well-known mathematicians such as

contact, helped their adviser N. A. Shanin to take them first as post-graduates and later as staff members.

Together with other young colleagues, they organized the research group that they called with a provocative irony "TREPLO". In Russian, it was an abbreviation for "Teoretichestkaya Razrabotka Evristicheskogo Poiska Logicheskih Obosnovanii" ("Theoretical Development of Heuristic Search of Logical Justifications"). This abbreviation sounded almost like "windbag" in Russian.

The plans were magnificent: to develop a mathematical theory of the machine proof of mathematical statements. To my knowledge, this aim is not yet reached, but there were surely some achievements; the role of Mints in this group was very significant. In the end of the 60s, N. A. Shanin delivered at the meetings of the Leningrad mathematical society a series of talks that presented the work of the group. Later, in the 70s, I invited the logicians (S. Maslov, and Yu. Matiyasevich) to my seminar in order to give talks about their work. I remember particularly the talk by G. Mints: he spoke about the recent result of L. Harrington [2] concerning the possible abnormal growth of the lower bound in the classical Ramsey problem. Afterwards we often discussed with him this and other themes.

To describe him as a mathematician, I have to say that he had a very broad interest in mathematics, including group theory, theory of dynamic systems, and functional analysis. He strived to apply logical methods to these domains and often obtained new proofs of known results by his methods. This helped to understand better the mainsprings of the proofs, etc. But new results require more penetration in a given domain. It was of interest to discuss with him general mathematical concepts. Grisha was always interested in philosophical aspects of mathematical theories, and we found there a common ground for many discussions. I remember our discussions concerning the Burnside type problems, ergodic theorems, concepts of universality, *etc.*. For our last meeting he prepared several extracts from Hardy's book [1] as comments to my presentation [4] about the connections of mathematics and its possible applications. I know that he had discussions also with D. K. Faddeev, Yu. I. Manin, and other well known mathematicians, who were attentive to his opinions.

In the end of the 60s and the beginning of the 70s, S. Maslov organized at his home a social and political seminar that had a very large scope, and Grisha was one

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A. A. Markov, Yu. V. Linnik, among others, who asked him to accept their successful students. This happened very rarely and in fact I know that the Director regretted later his giving in to pressure and tried to "correct" what he considered as "defect". For example, S. Maslov was discharged from LOMI in 1970s, as well as Mints who was discharged following his decision to emigrate from the country. Remember, the outstanding mathematician V. A. Rokhlin was also dismissed from Moscow MIAN. This situation changed only after the end of Vinogradov's ditrectorship of MIAN.

of its participants. When Mints decided to emigrate, he naturally had, as always at that time, the unpleasant consequences at the institute, and had to quit, because, moreover, he became a "refuznik". Soon he moved to Tallinn, where quickly, and apparently, successfully got a new position, learned Estonian, found his place and even doctoral students.

Later he moved to the USA and obtained a chair at Stanford. His predecessor there was J. Barwise, with whom he had common interests, and who moved to Indiana University. I met him more than once, and visited his home when I was in the States, that is, Berkeley and Stanford (after 1990). With him I sent to the USA in 1990 the copies of all the issues of our illegal (in Soviet times) journal of social and political surveys "Summa" that was edited by Maslov, and where I actively participated (in the end of the 70s and the beginning of the 80s). When I visited Berkeley I donated these typed copies of "Summa" to the Slavic department in Bankroft library at UC Berkeley, where they may be consulted now. All the issues where collected in one volume called "'Summa' for free thought" and published in 2002 by the "Zvezda" publishing house at St. Petersburg [3].

According to my observations, G. Mints in the States worked fruitfully and became an active participant of mathematical events. He came many times to his native St. Petersburg where he had many colleagues and friends and where he participated in organization and the work of various conferences.

In my memory, he remained as a thoughtful, modest and witty man, far from indifferent not only to science, in particular mathematics and logic, but to all aspects of the complex modern life.

His premature and sudden demise is very saddening.

References

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[2] J. Paris and L. Harrington. A Mathematical Incompleteness in Peano Arithmetic. In J. Barwise, editor, *Handbook of Mathematical Logic*, volume 90 of *Studies in Logic and the Foundations of Mathematics*, pages 1133–1142. North Holland, Amsterdam, The Netherlands, 1977.

[3] A. M. Vershik, editor, *"Summa" for free thought*, 719 pages. Publishing house of the journal "Zvezda", St. Petersburg, Russia, 2002. in Russian.

[4] A. M. Vershik. Does a freedom of the choice exist in mathematics? In G. E. Mints and O. B. Prosorov, editors, *Philosophy, Mathematics, Linguistics: Aspects of Interaction 2014. Proceedings of International Interdisciplinary Conference*, pages 84–86. VVM, St. Petersburg, Russia, April 2014.