UNDERGROUND "JEWISH UNIVERSITY"

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In those times secluded, and now almost mythical ...
– from V. Vysotsky's song

What a strange thing, memory. Its selectivity and countless gaps are terribly annoying. The events in a twenty-year span of my life, the functioning of a so-called "Jewish People's University", graduate school at Mechmat,[a] failing the defense of my thesis, defending my thesis in Stockholm, a mass exodus from Moscow of everyone and everybody, two immigrations, the fall of the Soviet Union, a long line of professional and personal successes and no fewer the number of defeats, overshadow the period when all my mathematical activities began (and when they could just as easily never have begun).

I think I should say a few words about myself. A typical Soviet Jew's story of the mid 1970's and the early 1980's: an interest in mathematics; success at city competitions (though it went no further than that); out of stupidity I did not go to a mathematics school; at Mechmat failed even on the first entrance exam; applied mathematics at MIIT (Moscow Institute for Railway Engineering) with all its gentlemanly hodge-podge of silliness, goodness and idiocy; an infinite number of failed attempts to begin to study mathematics with excursions to Mechmat at Moscow State, where those like me were not particularly welcomed (and what to do with their own talented Jews they did not know); the long and arduous task of finding a thesis advisor; the organization of a private seminar-with-ourselves, which fell apart within a year.

It seemed that the situation was hopeless, and hundreds and hundreds of able Jewish kids — students at MIIT, students at the Gubkin Oil and Gas Institute (Kerosene Stove, as we called it), students of the Pedagogical Institute and of many other applied math departments — threw mathematics out the window and started programming and, as was made clear following the immigration, they had by far not made the stupidest choice. The assignment to the OKR PKTB ASUZhT MPS USSR (let Sovietologists decipher that one) that I got after graduating from MIIT, did not help the situation. There was a feeling that my efforts were leading nowhere and, in any matter, it all seemed futile. Suddenly, in the fall of 1980, my brother Misha, then a first year student at the

[a] [Department of Mechanics and Mathematics of the Moscow Lomonosov State University.]

notorious MIIT, informed me that D.B. Fuchs, A.B. Zelevinsky, A.M. Vinogradov and A.B. Sosinsky were going to give lectures on mathematics to all who were willing (which meant, those who had been failed at Mechmat). There were one hundred of these willing who attended Fuchs' lectures, for example. Naturally, the majority of these (though, not everyone) were invalids by way of the "fifth point".[b] Shortly, around Moscow rumors began to spread about an underground "Jewish University". It was there that I became acquainted with Bella Abramovna Muchnik (Subbotovskaya), and everything started to move. Bella Abramovna carried the weight of all the tedious and, later it was made clear, not entirely safe organizational work, costing her in the end her life; she also bought us trayfuls of pastries with poppy seeds. It all seemed free. Was it really? out of her own pocket?

Because I was older than most by about six years, I grouped with my friend Seryozha Duzhin, who led practical studies on linear algebra after Vinogradov. I think it only honest to say that in spite of the excellent lecturers, the majority of students realized that they would not make it and left. Only the most determined and motivated stayed, and many eventually became professional physicists, mathematicians (some even businessmen and bankers). The tempo was too fast for beginners; class was once a week, which was not often enough, and besides that, everyone was already studying in there own schools, in Kerosene Stoves. As for me, besides the two years worth of missing notes, I was left with a ringing in my ears and a desire to study further. The summits and beauty of the genuine science seemed very interesting on the backdrop of a dull and hopeless life of a regular Soviet R&D department. The real mathematics studies only began three years later at V. Arnold's seminar, when I was already over twenty-five years old.

Soon after the beginning of the lectures on mathematics, Bella Abramovna announced that for all who desire to come, there would be a series of lectures by a famous physicist on quantum mechanics and field theory. Since Seryozha Duzhin and his family were living in Subbotovskaya's apartment and planned on attending the lecture, and because I was already "old" and needed to catch up as soon as possible, I also decided to attend those physics lectures.

The very next Thursday, I think, in the tiny two-room apartment of Bella Abramovna on Nametkina Street, eight or nine people met, mainly second-year students and two slow-developers, Duzhin and I. There appeared a tall, sinewy gray-haired man, with a slight lisp. The man was Misha[c] Marinov,

[b] [The notorious "fifth point" was the entry in the internal passports of Soviet citizens where their ethnic origin (nationality) was stated. It served a basis for discrimination of ethnic Jews, Germans and other undesirable minorities.]

[c] [In Russian, one would say Mikhail and then the patronymic, Samuilovich. Here is empha-

the name by which he introduced himself. By his appearance, Misha was close to forty-five years old; he had already been a *refusnik*[d] for some time, and had seen a great deal. He had, until he applied for his exit visas, worked in ITEP (Institute of Theoretical and Experimental Physics) and was personally acquainted with famous people. (Work in a real research institute seemed to me at that time, and probably was, an unattainable dream.) For me, he represented that heroic epoch when Jews were still accepted into the realm of physics and mathematics, where they uncovered so much. My impression was reinforced by occasional Misha's stories of L.D. Landau, whose biography the younger generation was also eagerly reading. He spoke of his cooperation with F.A. Berezin, and it was then that I first heard of "supermanifold" (till this day I still don't quite know what it is).

On the other hand, once (during a tea break), he told us about a team of construction workers, *shabashniks-refusniks*, to which he belonged, consisting entirely of Ph.D. holders and professors.[e] Those were dark times, and it was uncertain when and to where they would let him go. It was for this reason that Misha was very careful not to compromise the entire system of the "Jewish University" and other teachers, more or less well off and at that time far from any desire to immigrate. As they say, "some are no longer with us, and the others are far away ...".

Misha's lectures were not simple. An understanding of mechanics, functional analysis, differential equations, differential geometry and the like was necessary. Despite this, I remember the ease and clarity with which he explained the fundamental ideas behind the difficult make-up of quantum mechanics. He pointed out the similarities and complexities of classical mechanics such that even I had the impression that I understood everything. I remember the interesting discussions on harmonic and unharmonic oscillators and the difficulties in the quantization of the latter. He even managed to discuss with the second-year students "supermathematics" on the basis of Grassmann algebra. We did not have any tests or quizzes, and it was too bad that we didn't.

In the form of lyrical asides, Misha often skipped around, talking about subjects that interested him, such as strings and superstrings. It was obvious

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sized an informality.]

[d] [In Russian, *otkazniks*, a large group of people who were practically outlawed in the USSR in the 1970's and 80's and were forced to exist in extreme conditions. The only "crime" committed by *otkazniks/refusniks* was that they had applied for and were denied exit visas to Israel. And yet, they were treated essentially as criminals: fired from jobs and blacklisted, intimidated by the KGB, at the verge of arrest.]

[e] [*Refusniks* were denied access to skilled labor; for living many had to join construction workers groups, so called *shabashki*, which functioned virtually in an "underground" regime.]

that he wanted very much to envelop himself in his favorite work without any more idiotic interruptions. He tried with all his strength to bring us to the level of current research, though this was not very realistic, meeting once a week with second-year students. In this way two intensive years went by, until in the spring of 1982 we were all stunned by the death of Bella Abramovna. Everyone went around very crushed, and the "Jewish University" soon fell apart.

The last time I met with Misha was not long before his immigration to Israel at his home. He gave me several textbooks on physics, and we for a long time discussed matters of life. He was wearing a yarmulke, and in him was a controlled happiness that he would soon be free. Among my acquaintances from MIIT, many were already studying Hebrew, and a desire to immigrate had taken hold. The question, "to leave or not to leave", was talked about incessantly in our circle (at that time theoretically). I recall on one wall there was a small poster with the Hebrew alphabet and on bookshelves were volumes of Brokhaus and Efron,[f] seemingly inherited. For some reason we talked about the physicist Feynman and then jumped to the Second World War. Misha knew history in general and, the history of the Soviet Reich in particular, better than the teachers of Marxism and Leninism. Another one of his fortés was the history of Judaism and of the Jewish people. It seems at that time he was criticizing Martin Buber. This evening Misha revealed to me an unexpected human side. I remember the pleasant surprise, when I found out Misha had a young and beautiful wife and two wonderful daughters. The younger tried and tried to climb into a cardboard box, on the bottom of which were spread some editions of Mandelshtam's poetry, with some editions of Akhmatova. As a whole temperament in this family was not lacking. Still, it was time to say our farewells . . . .

I remember the unpleasant and probably unfounded chill running down my spine as I was walking back to the subway. Were there not Aesop's agents[g] behind me? We never saw each other again, although, as it turned out, he did visit the "hero-city" Stockholm and even visited his good friend and "super-mathematician" D. Leites, at our esteemed Math Department. Even during my many, but short, visits to Haifa I was not able to cross paths with him. It was not meant to be, and what a pity . . . .

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Translated from Russian and commented by Eric Barrett and Anya Shifman

[f] [The first complete Russian Encyclopedia published in the beginning of the 20-th century before the *bolshevik* revolution.]
[g] [A hint to the KGB which was known to keep *refusniks* under permanent surveillance.]