

Life and work of Vojtěch Jarník

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FROM MY RECOLLECTIONS OF PROF. VOJTĚCH JARNÍK

MIROSLAV KATĚTOV

I saw and heard Prof. Vojtěch Jarník for the first time in the autumn of 1935 when I started my studies at the Faculty of Science of Charles University. It was perhaps the very first day of my studies that by mistake I attended his lecture which belonged to the second part of a two-year course. He started his lecture by introducing Dedekind's sections. I understood very little but I felt that I was listening to something very nice and interesting. A little later I studied some chapters from the books on Calculus by Prof. Karel Petr and I came across Jarník's appendix "Introduction into the theory of sets". It seemed to me more interesting, and I would say more beautiful than anything I had read from Mathematics before. Only later did I realize that the reason was not only the contents but also the masterly presentation of the subject. The exposition was always exact (even if, of course, not based on the axiomatic approach), but in the beginning it was quite elementary and then gradually more and more demanding. In this way Jarník succeeded in explaining a relatively large amount of material and, at the same time, revealed the intrinsic beauty of the theory.

Later I attended Jarník's advanced lectures; they impressed me deeply although they dealt with number theory, a branch far enough from my mathematical interests of that time.

All these recollections of mine are still vivid after such a long time; nevertheless, they do not concern immediate personal contacts. Naturally, I occasionally met Jarník in personal, too, for instance when I approached him with some mathematical problem; but I saw much more of him during the War and, of course, during the post-war period. I will now concentrate on the period of the so-called Protectorate since the number of those who remember is rapidly decreasing.

As is well known, on November 17, 1939 the Nazi authorities closed all Czech institutions of higher learning. All activities of these institutions ceased, their premises were used for other purposes, the teachers were put on "temporary leave" with a modest "waiting pension". Nonetheless, one institution remained and was

allowed to carry on certain activities, namely, the Union of Czech Mathematicians and Physicists. (Of course, the word Czechoslovak in its name had to be replaced by “Czech”.) For some time it went on publishing the Journal for Cultivation of Mathematics and Physics. It was also possible to publish scientific papers in the Proceedings of the Bohemian Academy of Sciences and Arts. However, to organize legally anything that could resemble the activity of an institution of higher learning, say a seminar, was out of the question.

Of course, minor groups, either of scientists or of students, did meet now and then. As for Mathematics in Prague, I have personal knowledge of one group of students who were meeting quite regularly for some time. We were a group of about eight people (the number of participants varied) and we studied mainly the subject required at or closely connected with the Second State Examination. Prof. Jarník (as well as Prof. V. Kořínek) knew about our meetings and took vivid interest in them. We invited Prof. Jarník to join us, but then concluded that the risk would be too big: from the viewpoint of Nazi authorities a meeting of students with a professor was a very serious affair and the consequences could be very severe. I believe that Prof. Jarník once came to our meeting notwithstanding, but I cannot be sure after the years.

Of greater importance were meetings of professional mathematicians led by Prof. Jarník. I do not remember any more when they started but they lasted almost till the end of the War with shorter breaks now and then and with a longer interruption after the assassination of Heydrich. Apart from V. Jarník they were attended by Dr. Karel Havlíček (later Professor of Mathematics at Charles University; died 1983), Assistant Professor Vladimír Knichal (later Director of the Mathematical Institute of the Czechoslovak Academy of Sciences; died 1974), Dr. Alois Urban (later Professor at the Czech Technical University; died 1981), Assistant Professor František Vyčichlo (later Professor at the Czech Technical University; died 1958) and myself. There were no other people attending (not even occasionally, if I am not mistaken), and only a few other people knew about the meetings. Even if they were essentially not inadmissible from the viewpoint of the Nazis, they might have caused investigations with unpredictable consequences. We met usually once a week, sometimes every two weeks. The meetings were held at various places according to the situation, but mostly in the house of Prof. Jarník, at one of the rooms of the Union (officially, however, the Union had nothing to do with them), or in the flat of Prof. Knichal.

First we studied algebraic topology on the basis of a series of reports given by Prof. Knichal. It was presented in a rather traditional way; as far as I remember, neither E. Čech’s results nor the related approaches, which were then relatively new, were mentioned. Later we studied normed linear spaces using the well known

Banach's book; a major part of the lectures were given by me. Now and then I attempted some improvements and generalizations, in the beginning usually in a rather primitive way. In most cases Prof. Jarník immediately pointed out the mistakes in my considerations. Eventually my talks gave rise to two papers which were published in the above mentioned Proceedings. There were also other topics, for some time we studied the quadratic forms on linear spaces. I seem to remember, however vaguely, studying some topics from geometric number theory (taught of course by V. Jarník), but after more than forty years I cannot guarantee that I do not place into that time period something I had heard earlier in Jarník's lectures.

At our meetings we naturally talked also about other things than only Mathematics, as was then usual among people who knew one another well enough.

I am afraid that to gain further or more accurate information about these meetings is no more possible (unless some written records are found, which is highly improbable).

Very much could be said also about the post-war period. However, I refrain from doing so since those who remember this period are not so few. I would like to close my recollections with one generalizing conclusion: the example of Professor Vojtěch Jarník proves that the natural authority following from extraordinary scientific, pedagogic and human qualities need not be based—provided the whole system is sound—on an official position, and nonetheless can very positively affect the course of events—in this particular case at the Faculty and in the whole of Czechoslovak Mathematics.

