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DECAY OF THE TRIUMVIRATE

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ABSTRACT. This is a short essay about the mutual relations, fate, and terminal years of the founding fathers of the Siberian Division of the Russian Academy of Sciences.

Keywords: Siberian Division, Sobolev Institute, RAS.

Mikhail Alekseevich Lavrent'ev, Sergei L'vovich Sobolev, and Sergei Alekseevich Khristianovich were the trio of the founding fathers of the Siberian Division of the Academy of Sciences. They were tied up with the long-standing and perplexing relationships that are rarely taken into account in discussions of the history of the Siberian Division. Sobolev and Khristianovich had been lifelong close friends from the student's bench. Lavrent'ev belonged to the school of Nikolai Nikolaevich Luzin. Sobolev had participated in hounding Luzin. The notorious "Luzin case" was initiated with participation of Sobolev's friends—A.N. Kolmogorov and P.S. Aleksandrov. On the contrary, Lavrent'ev never pursued Luzin and bore no friendly feelings to the attackers of his teacher. Recall that Sobolev and Kolmogorov were elected full members of the Academy of Sciences in 1939, while Khristianovich became a corresponding member in the same election.

Sobolev is one of the persons who symbolized the Soviet epoch. Suffice it to cite the pioneers' greetings to the 18th Congress of the All-Union Communist Party (Bolsheviks) [1]:

MEETING SIXTEENTH

Svetik Sheinman. We will be such polar explorers as Papanin, such pilots as Chkalov, such mathematicians as Sobolev, such coal miners as Stakhanov, and such poets as Mayakovsky. (Applause.)

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On the occasion of the sixty years of the Siberian Division of the RAS.

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Lavrent'ev was not elected to the Academy in 1939. He became an academician only in 1946 with support of Luzin. The face of the latter was slapped by Kolmogorov in result of this election. The fault of Luzin consisted only in the fact that the voting academicians chose from the two nominated students of Luzin the one who was not cursed by hounding his teacher.

In the end of the 1950s Sobolev was the most appealing popular figure of Soviet science. Senior and minor scientists had known, at least as hearsay, about his role in the atomic project. Sobolev deserved his place of one of the most influential participants of the construction of nuclear weapons in the USSR. His contribution to the weapon of deterrence is completely indisputable. Other mathematicians, first of all L.V. Kantorovich and I.G. Petrovskii, were enlisted into the A-bomb project a few years later (see [2]).

Of tremendous social response were Sobolev's public speeches in defence of genetics and cybernetics from politicized attacks of obscurantists in Marxist's disguise. Sobolev was among the first promoters of computational mathematics and universal use of electronic computers. He participated in the construction of the unique ternary computer SETUN. Also, he founded and headed the department of computational mathematics in Lomonosov State University.

The basic source about the foundation of the Siberian Division is the memoirs by Lavrent'ev. It should be kept in mind that there are not completely identical versions and fragments of the memoirs. Some of the memoirs never appeared. For instance, Lavrent'ev himself gave me to read his typewritten version of the memoirs that contained a complete description of the meeting of the Academic Council of the Steklov Institute which resulted in dismissal of Sobolev from directorship.

Mostly known in Lavrent'ev's memoirs are the two passages about the participation of Sobolev in foundation of the Siberian Division: one official [3] and the other informal [4].

Sometimes later Sobolev became the third member of our team. He was my long-time colleague in the Steklov Institute and the project headed by I.V. Kurchatov. He was elected as academician at the age of 31, the author of broadly-known research in mathematical analysis, and a prominent public figure who bore the title of Hero of Socialist Labor and was thrice awarded with the State Prize. Clearly Sobolev was exceptionally useful figure for organizing a new scientific center. Sobolev is still heading the Institute of Mathematics he founded in Novosibirsk.

...that is how the idea grew of a scientific corps—transfer of a significant group of scientists to Siberia and foundation of a new scientific center down there. I shared my thoughts with Khristianovich who was in a predicament either: after leaving the Central Aerohydrodynamic Institute, he worked in the staff of N.N. Semenov as well as in the Division of Technical Sciences, but both places had revealed incompatibility with his bosses. I had a talk with Sobolev who was “out of business” after his failures in the Steklov Institute and in the staff of Kurchatov.

It should be kept in mind that Lavrent'ev published his reminiscences in the end of the 1970s when his attitude to Khristianovich and Sobolev was conspicuously negative.

M.M Lavrent'ev, the son of Lavrent'ev, disclosed the circumstances that led to the dismissal of Khristianovich from the Siberian Division in 2003. He wrote (see [5]):

My father was at the fringe of dismissal from the position of the head of the Siberian Division in view of the situation with the Institute of Genetics. Therein had been enlisted Dubinin and other reproached geneticists that lost their jobs. Lysenkoists immediately started fighting against the Siberian "heresy center." Lysenko even convinced Khrushchev to "terminate" the construction of Akademgorogok... Unfortunately, Khristianovich behaved indecently in this predicament. He was the first deputy of Mikhail Alekseevich, and he seemed eager to occupy the boss position. He went to a Plenum of the CPSU instead of my father. He covertly negotiated with Lysenko whom he promised to "liquidate pseudoscientists" and replace them in the Siberian Division with lysenkoists...

In fact, no mythical career problems had driven for Sobolev to move to Novosibirsk. This is witnessed by the whole worldline of Sobolev and, primarily, his heroic toil in the atomic project of the USSR. The main reason for Sobolev's decision to move to Siberia was desire to serve the noble task of developing science in the East of the country. There was another personal reason Sobolev himself never disclosed. This reason was revealed by Ariadna Dmitrievna, the widow of Sobolev. Sobolev's life was heavily aggravated with the position of a "public figure of the Soviet science" in the ranking of the supreme political leadership of the USSR. He was extremely disappointed with the necessity to participate in the narrow state parties with the members of the Political Bureau and the Government. Obligatory meetings with these persons never brought Sobolev any pleasure.

Different attitudes of Sobolev and Lavrent'ev to I.M. Vinogradov should be mentioned. Sobolev was aware of the negative role of Vinogradov in the hounding of Sobolev's teacher N.M. Günter in the end of the 1920s. Sobolev was a classic of functional analysis, whereas Vinogradov expelled functional analysis from the Steklov Institute. Interrelationship of Vinogradov and Sobolev was aggravated by the dismissal of Vinogradov from the position of Director of the Steklov Institute in the first years of the Great Patriotic War, the appointment of Sobolev, and further return of Vinogradov by a decision of the Academic Council of the Steklov Institute.

It should be mentioned as well that Lavrent'ev had serious and justified scientific pretensions to Sobolev. Sobolev, together with A.A. Lyapunov, was more than lightheaded in supporting the pseudoscientific "deciphering of Maya's writing system" by È.V. Evreinov, Yu.G. Kosarev, and V.A. Ustinov (see [6]). Sobolev had propagandized this rigmarole at the Mathematical Congress at Stockholm in 1962, which undermined his personal international authority and the image of Soviet mathematics.

Invisible tension into the life of the Institute of Mathematics was brought about by A.V. Bitsadze who was elected a Corresponding Member of the Academy of Sciences of the USSR at the first privileged election to the Siberian Division. Bitsadze, a student of Lavrent'ev, was a double-faced person: He coauthored a panegyric on the sixtieth anniversary of Sobolev but hated Sobolev wholeheartedly, which became absolutely transparent after the unexpected publication of his indecent memoirs in Canada in 2016. Bitsadze wrote just in this wake (see [7]):

From 1946 Sobolev's occupation proceeded mainly in a physics institute of the Academy and in Lomonosov State University. It is uncomprehensible while such

serious scientist as Sobolev needed to grasp the position of the director of the Steklov Institute while the Presidium of the Academy of Sciences of the USSR had never dismissed Vinogradov. It seems that this unjustified could be explained only by excessive ambition.

In his autobiographic notes Sobolev always mentioned that he was Director of the Steklov Institute in the first half of the 1940s. The reader might ask whether just the desire to be a director had driven Sobolev to accept the invitation of Lavrent'ev to move to Siberia and head the Institute of Mathematics that was founded there. Vinogradov believes that this is just so.

Sobolev never grabbed for positions. He had planned to leave directorship at his sixtieth and seventieth anniversaries. Were tense were the mutual relations between Sobolev and Lavrent'ev at the eve of the sixtieth birthday of Sobolev. One of the sources of tension was a rather low Sobolev's estimate of the mathematical achievements of Mikhail Mikhailovich Lavrent'ev, the son of Mikhail Alekseevich Lavrent'ev. It is worth recalling that Sobolev was the scientific supervisor of M.M. Lavrent'ev and he positioned the contributions of his student as incomparable with the career promotion of M.M. Lavrent'ev which was initiated and supported by M.A. Lavrent'ev (see [8, p. 37]).

Unfortunately, neither Bitsadze nor even Lavrent'ev, attributing to Sobolev absolutely alien careerism, understood the revolutionary contribution of Sobolev to natural sciences. Meanwhile Sobolev's concept of distribution or generalized function marked the termination of the almost three centuries of Laplace's causal determinism (see [9]).

The history of mathematics and Sobolev in the Siberian Division splits into the three periods: the two decades, approximately the fiftieth and sixtieth years of Sobolev, and the last five years of his directorship. The first decade was the foundation of the Institute, while the second was the time of troubles and struggle for the spheres of influence. The last period was the years of squeezing Sobolev out, his oblivion, and provincialisation of the Institute.

The key figures in mathematics and mechanics of the first period of Akademgorodok were the academicians of the first call I.N. Vekua, P.Ya. Kochina, M.A. Lavrent'ev, A.I. Maltsev, Yu.N. Rabotnov, S.L. Sobolev, and S.A. Khristianovich as well as A.D. Alexandrov and L.V. Kantorovich elected as full members of the Academy of Sciences in 1964. The great role in organization of the Institute of Mathematics was played by A.I. Shirshov who was invited to the Siberian Division by I.N. Vekua as well as Sobolev, both relied on the recommendation by A.N. Kolmogorov. The valuable acquisition was G.I. Marchuk who had moved to Siberia from Obninsk. Initiative groups were gathered around A.I. Bitsadze, M.I. Kargapolov, A.A. Lyapunov, and N.N. Yanenko. It is impossible to neglect the original scientific contributions by B.A. Trakhtenbrot, L.V. Ovsyannikov, and N.N. Yanenko. The special potential and success were obvious in A.A. Borovkov, S.K. Godunov, A.P. Ershov, Yu.L. Ershov, Yu.I. Zhuravlev, V.L. Makarov, Yu.G. Reshetnyak, and D.V. Shirkov. Soon the Computing Center became a separate institution which received the building of the Institute of Experimental Biology and Medicine. The latter had been founded by E.N. Meshalkin, who was later expelled from the Siberian Division because of rather dubious pretensions in 1963.

The first decade of the Institute of Mathematics turned out successful on the whole. "Deciphering Maya's writing system" and tension about the Theoretical

Cybernetics Division of the institute were generally events of a local character. The institute had entered its second decade in altered circumstances. Akademgorodok had mainly been constructed, the system of management had stabilized, and the time of unlimited resources had drowned in Lethe. The scientific leaders did not become younger. Vekua moved to Georgia.

A.I. Malcev died untimely. This loss was disastrous. Each scientific school passed away without its leader. The place of the former school is often taken by some other that bases on other principles and other morality. Malcev was completely free from any bacillus of envy and careerism. Only truth and the mainstream of the world science mattered for him. Malcev needed neither personal studies, nor laboratories, nor career promotions. He refused Lavrent'ev who proposed directorship. Malcev needed only a desk, seminars, lectures, and students. Many destructive passions took place after his death, which marked the beginning of the time of troubles in Siberian mathematics.

1975 was the year of changes in the leadership of the Siberian Division. Lavrent'ev had caught illnesses of the old age. Sobolev was the natural successor of Lavrent'ev as Chairman of the Siberian Division. Sobolev's candidacy was supported by the academicians of the first call. The alternative candidate was G.I. Marchuk who had many qualities of a capable leader which were fully revealed later. In 1986 Marchuk became the last President of the Academy of Sciences of the USSR and showed his best abilities in the tumult times of "perestroika." But in 1975 as a candidacy for the first face of the Siberian Division he was clearly less appropriate than Sobolev since he was not sufficiently independent of the governing establishment. Marchuk was elected and appointed due to the pressure of party officials and the support of Sobolev's adversaries. Unfortunately, the appointment of Marchuk did not help to improve the atmosphere of the Institute of Mathematics.

The decade from 1967 to 1977 was a hard time for science in the USSR. Anti-Semitism had resurrected in this country after the Six-Day War at Near East. Negative trends were revealed in Novosibirsk as elsewhere (see [10]–[13]).

On October 25, 1980 the Candidate Thesis of E.I. Zelmanov, a future Fields Medalist, was rejected by one of the scientific degree granting councils of the Institute of Mathematics. This event became the last straw to Shirshov who declared that he did not want to live further after that slovenly unacademic misdeed. The scandal took place the day after the funeral of Lavrent'ev. All Akademgorodok accompanied Lavrent'ev on his last journey in chilling frost. It stands to reason to note here that Lavrent'ev painfully felt the indifference he had encountered in Novosibirsk after his formal dismissal. He had left Novosibirsk for Moscow but was discomforted in the capital either. So in 1979 Lavrent'ev decided to return back to Novosibirsk to organize a department in the Heat Physics Institute. Death disallowed him to implement this decision...

The error in the choice of Marchuk as a replacement of Lavrent'ev was revealed rather earlier: In 1980 Marchuk agreed to move to Moscow for the position of Chairman of the State Committee for Science and Technology of the USSR. The necessity had arisen once again to seek for the first person of the Siberian Division. The appointee was V.A. Koptuyug who in contrast to Marchuk had no previous managerial experience in academic science.

Koptyug was totally disoriented in mathematics and particularly in the scientific contributions of Sobolev, Alexandrov, and Kantorovich. So Koptyug added to aggravating the situation around the Institute of Mathematics. He did not understand why old academicians were against his decision to appoint M.M. Lavrent'ev the director of the Institute of Mathematics.

In 1983 Koptyug had requested in absolutely appalling form that Sobolev must retire. Sobolev had felt himself terribly offended but wrote the letter of resignation, left Novosibirsk for Moscow and never appeared in Novosibirsk again. Practically none of the Siberian colleagues had ever visited Sobolev in Moscow and soon he, lost and forgotten, extinguished at the very beginning of 1989.

Organization of the Siberian Division is a great Russian achievement. Lavrent'ev was the soul and engine; Sobolev, the face; and Khristianovich, the builder of Akademgorodok. The triumvirate of the founders was destroyed in less than a decade. Academic collectivism was replaced with elements of authoritarianism. To drain the cup of woe was the ultimate fate of Lavrent'ev, Sobolev, and Khristianovich, but their great scientific and human exploits will remain in the history of Russia.

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