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The Friedmanns and the Voyacheks

Do we know much about our ancestors? How little we know about them! Moscow schoolchildren have been reported to remember at best the names of their grandfathers. Adults who care to think about their roots know the names of their great-grandparents and the names and patronymics of their grandparents.

It is different with people who have left their mark in politics, science or culture. So, what is known about the hero of this book – Alexander Alexandrovich Friedmann? A sample opinion poll among physicists showed that his works of 1922–24 on relativistic cosmology are included among the two or three most outstanding achievements of Soviet physicists. It would seem that interest in his personality would be heightened and therefore satisfied. Yet, it is not the case. His biography was published only once, in a thin brochure put out by Znanie (Knowledge) Publishers. The massive volume of *Classics of Science*, devoted to Friedmann and published in 1966, contains his short autobiography – “Curriculum Vitae.” It also contains Friedmann’s major works in hydro-mechanics, dynamic meteorology, atmospheric physics and relativistic cosmology. The “Addenda” to the volume have a few reminiscences of his contemporaries about him, reprinted mainly from journals and magazines of the 1920s. There are also Friedmann’s extremely interesting letters to Vladimir Steklov, his teacher, whom he so much revered, and to Boris Golitsyn – two outstanding Russian scientists with whom he was associated for many years. These materials are a source for biographical notes on Friedmann. No biographical dictionary of science or Soviet encyclopaedia fails to mention his name, starting with the first edition of the Great Soviet Encyclopaedia, in the preparation of which he himself took part.

A few of Friedmann’s letters to P. S. Ehrenfest, an outstanding physi-

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cist who worked in four countries – Austria, Germany, Russia and the Netherlands – have been published. They reflect Friedmann's contacts with Ehrenfest in 1908–12, when a modern physics circle headed by Ehrenfest was working in St. Petersburg. That is all there is, or in a more cautious vein – almost all . . . Not much, of course, considering what Friedmann accomplished.

The available fragmentary materials tell us that Friedmann's father, also Alexander Alexandrovich Friedmann, was an artiste and musician. His mother, Lyudmila Ignatievna Voyachek (Friedmann) was a conservatory-educated pianist and music teacher. The name Voyachek is fairly well known, particularly in Leningrad, Friedmann's home town. Vladimir Ignatievich Voyachek (1876–1971) was a famous otolaryngologist, a full member of the Academy of Medical Sciences, a Hero of Socialist Labor (the highest award in the USSR in peace time), and Lieutenant-General of the Military Medical Service. He headed the clinic of the S. M. Kirov Military Medical Academy. The clinic was named after Voyachek in his lifetime and exists today. On the eve of the 50th anniversary of Friedmann's article on relativity, one of the authors of this book (V. F.), preparing an article dedicated to this event, visited Voyachek. Vladimir Ignatievich was 94 at the time, and he shared some information about his ancestors. His father, Friedmann's grandfather, Ignaty Kasparovich Voyachek, was a musician and composer who came to Russia from Moravia.¹ There is a short entry about him in the Soviet Musical Encyclopaedia – he worked in the Mikhailovsky Theater and later in the Marinsky Theater in St. Petersburg. The archival records on theaters are kept in the "Imperial Collection," which gave grounds for hope that his detailed file might be found. There is also information about I. K. Voyachek in H. Riemann's famous pre-revolutionary *Dictionary of Music*, as well as in the *Encyclopedic Dictionary* of Brockhaus and Efron. Most unexpectedly, Riemann's dictionary had an entry on Friedmann's father! As it turned out, in addition to being a performer at Imperial theaters, he composed music for two ballets and an overture, having completed a conservatory course in composition taught by Rimsky-Korsakov. His file is also to be found in the Imperial Collection. One could also hope to find in this collection some information about Friedmann's grandfather on his father's side – he worked as a doctor's assistant in the St. Petersburg Palace Administration. So one could expect that the collections of Leningrad archives – the Central State Historical Archives of the USSR in Senate Square, the State Historical Archives of Leningrad in quiet

¹ His original name was Ignác František Vojáček.

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Pskovsky Street, the Leningrad section of the Archives of the USSR Academy of Sciences on Universitetsky Embankment – would contain many interesting materials about Friedmann the scientist. In what field of science did he specialize? According to the biographical dictionaries published in Kiev by Naukova Dumka Publishers, he specialized in mathematics and/or mechanics (“Mathematicians and Students of Mechanics”), in astronomy (“Astronomers”), and in physics (“Physicists”). In one capacity out of three (or even four) – this is the way he is known to historians of science.

The entries in the dictionaries begin in the same way: “Alexander Alexandrovich Friedmann was born in St. Petersburg on June 29, 1888.” There is the usual question, though, whether it was the New or Old Style. Only for those born after the October Revolution is there no such question – the New Style for them!

Two additional weeks – is it really so important? But historians are fond of establishing exact dates, and a correction of the established version always gives some satisfaction to researchers, and the longer the time distance from the newly established to the old wrong date, the greater the satisfaction.

Friedmann’s above-mentioned “Curriculum Vitae” written by him begins like this:

Alexander Alexandrovich Friedmann was born in St. Petersburg on June 17, 1888; in 1897 he was admitted to the preparatory class of the 2nd Gymnasium [a kind of high school designed to prepare students for university education], which he left in 1906 with a gold medal.

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It may be noted in passing that $17 + 12 = 29$, which justifies June 29 given in the above-mentioned dictionaries . . . The records of the St. Petersburg gymnasia are well preserved in the State Historical Archives of Leningrad (SHAL) in Pskovsky Street. As a matter of fact, the files on the 2nd Gymnasium are kept in the extensive collection No. 174 containing the file of Friedmann, Jr. including, specifically, the following certificate:

CERTIFICATE

In the consistorial birth registers of the Vvedensky Church [the Church of the Presentation of the Blessed Virgin in the Temple] of the Semenovsky Life-Guard Regiment for 1888, in the first section concerning births, under item No. 182 of the male sex, appears:

To Alexander Alexandrovich Friedmann, performer in the ballet company of the Imperial St. Petersburg theaters, and his wife Lyudmila Ignatievna, both of Orthodox faith, in the year one thousand eight hundred and eighty-eight was born

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on the fourth day of June and baptized on the twenty-ninth day of June a son Alexander.

The godparents were: Alexander Alexandrovich Oblakov, performer in the ballet company of the Imperial St. Petersburg theaters, and Maria Alexandrovna Friedmann, daughter of a provincial councillor.

In witness whereof the official seal of the aforesaid church of the Semenovskiy Regiment is affixed by

Archpriest Sergei Bogoyavlensky

Psalm-reader Ivan Fedorov

January 26, 1889, St. Petersburg

So, Friedmann was born on June 4; $4 + 12 = 16$ – there is an evident inaccuracy in Friedmann's "Curriculum Vitae" (even though, in one of his persons, he was a mathematician; but, may we add, involved in approximate calculations, and approximation to the truth by one day is quite sufficient).

So let us trust Sergei Bogoyavlensky who emerges here from obscurity and whose signature is confirmed by the senior psalm-reader Ivan Fedorov (let us note that Friedmann's father was a dancer in a ballet company and his godparents were, on one side, his father's colleague from the same company and, on the other side, evidently, his father's sister). Let us now give some biographical notes on "our" Alexander Alexandrovich Friedmann's grandfathers (and a little about the grandmothers) and about his parents.

Alexander Ivanovich Friedmann, the scientist's grandfather

We found information about him in the "service record of the doctor's assistant in the 1st *okrug* (district), titular counsellor Alexander Friedmann" who served in the Royal Medical Regiment of the Palace Administration.

The record contains an official list similar to a contemporary personal registration form. Information in the list was given not horizontally, but vertically – in columns. In column 1 was specified the civil rank, position, age, religion and salary; in column 2, the estate to which the parents belonged; in column 7, where the subject was educated and did his service; in column 14, the marital status, etc.

So Alexander Alexandrovich Friedmann was born on February 7 (Old Style), 1839. The place of birth is not indicated, the data about parents were not required in official lists – and these questions remain unanswered. But since A. I. Friedmann writes briefly that he comes from "military cantonists," one can say with certitude that he was born some-

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where in the Western part of Russia into a Jewish family, and that in compliance with a ukase of Nicholas I on military cantonists (issued in 1827), he was recruited into the cantonist school, where there were Jewish teenagers among the trainees. Conditions in these schools were extremely harsh – much was written about this in the last century. They were harsh even compared with the service of recruits in the Russian Army of the time, which is known from classical Russian literature. But the extremely hard life of Jewish cantonists could become merely hard as soon as they adopted Orthodoxy. Alexander Friedmann also seems to have done this while still at the cantonist school, then in 1855 he moved from the abolished Revel semi-battalion of military cantonists (Revel is the old name of Tallinn) to the Revel Military Hospital to train as a doctor's assistant. Thus he got involved in medicine. From the Revel Military Hospital he moved to the Riga Military Hospital, and then in 1856 to the doctor's assistants' training school of the Second St. Petersburg Army Hospital. There he was promoted from junior doctor's assistant, to doctor's assistant, to senior doctor's assistant; and in 1873 he got a position as medical assistant in the First Court Medical Unit where he worked until he resigned in 1907 after "34 years of irreproachable service." During that time he won several (lower) orders and medals, the civil rank of *gubernsky* (provincial) councillor in 1887, and the rank of *kollezhsky* (collegiate) councillor in 1902. Friedmann's job was to provide medical treatment to the families of officers in the company of grenadiers guarding the Tsar's palace.

We learn further the name of A. A. Friedmann's paternal grandmother. Her name was Elizaveta Nikolaevna and she was a soldier's daughter, who was born on August 22, 1848, and died in 1907. The Friedmanns had three children: Alexander Alexandrovich, the scientist's father, Leonid Alexandrovich (who lived with his large family early in this century in Veliky Ustyug, worked in private service, and received 50 rubles a month), and a daughter, Maria Alexandrovna, who worked in a town hall (receiving 50 rubles a month) and gave music lessons. The information about their pay was important, because depending on it their father Alexander Friedmann was entitled to a certain pension upon retirement.

Alexander Ivanovich Friedmann died on October 14, 1910. One can find many interesting details studying his file and other records of the Court Medical Unit in which his name is mentioned. These details provide a picture of the time and its passions; past joys and sorrows. Let us only note one thing. When his wife died, A. I. Friedmann married

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Lyubov Yakovlevna Anufrieva, a midwife, who was 25 years his junior. He adopted her son and then Alexander Ivanovich Friedmann had two sons, both called Alexander Alexandrovich Friedmann – a rare case indeed!

Ignaty Kasparovich Voyachek, the scientist's maternal grandfather

The most detailed materials about I. K. Voyachek are in his file kept in Collection 497 at the Central State Historical Archives. Before summarizing the materials of this collection let us quote the *Encyclopedic Dictionary* of Brockhaus and Efron: "Ignaty Kasparovich Voyachek, a specialist in the theory of music, was born on December 4, 1825, in the town of Zlín, in Moravia. Voyachek devoted his work to the study of Czech folk music and collected many folk songs and legends and dances. In 1857, Voyachek came to St. Petersburg and became a military band master. Later he joined the orchestra of the Mikhailovsky Theater. Voyachek was for some time an organist in the Italian Opera. In 1862, he was invited to the St. Petersburg Conservatory to teach elementary theory of music, and in 1866, he was appointed Professor of Orchestration. At present [1892 – V. F.] Voyachek is an organist in the Russian Opera, where for some time he served as second conductor." Riemann's dictionary provides additional information – Ignaty Voyachek graduated from Vienna University, was taught music by his father, worked as a bandmaster to the household troops of the Preobrazhensky Regiment, was invited to the St. Petersburg Conservatory by Anton Rubinstein, and wrote piano pieces which were published.

Additional information about Voyachek can be found in both above-mentioned archives (CSHA and SHAL), containing his personal files. He entered the state service in May 1857² as a bassoonist in the orchestra of the opera house, and he did not get a salary, but was paid per performance (three rubles for one performance, which would make a large sum if paid daily). In 1859, Ignaty Voyachek became a staff musician, in 1864 he became an organist, and in 1869 he replaced E. F. Napravník as choir-master of the Russian Opera. From 1876, he was conducting the orchestra, receiving 25 rubles per performance. From the files one learns the

² Voyachek came to Russia earlier: on August 17, 1855, he was given a travel certificate which contained his verbal portrait and which is kept in his CSHA file. The "portrait" described him as thirty years of age, of medium height, fair-haired, with grey eyes, a middle-sized nose and elongated face. Voyachek crossed the empire's borders on his way to the capital in a horse-drawn carriage, and station masters were ordered to provide him all possible assistance.

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name of Friedmann's second grandmother: at the time of her marriage she was a colonel's daughter née Olga Ivanovna Meller. Furthermore, we found the name and the patronymic of Friedmann's great-grandfather: Ivan Karlovich Meller, who was apparently German, so Friedmann came from a mixed background. Ignaty Voyachek and his wife Olga had two children – a daughter Lyudmila (born on September 7, 1869) and a son Vladimir (born on December 7, 1876) already familiar to us.

Voyachek published a collection of military marches and by 1901 had become a professor extraordinary at the conservatory. He died (according to the *Musical Encyclopedia*) on January 28 (February 10) 1916, in Petrograd – at the age, as one can easily calculate, of 90.

Alexander Alexandrovich Friedmann, the scientist's father

We found detailed information about him in an extensive file kept in the CSHA, entitled “About the service of the ballet dancer Alexander Friedmann.” It was opened on May 19, 1882 and closed exactly twenty years later, when at the age of 36 “the leading dancer of the ballet troupe” applied for and obtained a retirement pension as the required term of service in the ballet was over. In between were recorded the major events of his life. We learn that Alexander Friedmann was born on May 19, 1866, was baptized on May 29, finished at the St. Petersburg Theater School on May 27, 1884, and was soon admitted to the corps de ballet.

Another important document directly related to the main subject of this book is the official request of the dancer Friedmann to “His Excellency the Director of the Ballet Troupe” Alexander Frolov: “Wishing to enter a first marriage with the daughter of Professor Ignaty Kasparovich Voyachek, Lyudmila, I beg leave to request Your Excellency for a certificate in this matter.” This request was submitted in October 1885, with the certificate issued that “the dancer of the corps de ballet Alexander Friedmann has been in the service of the theater's administration since May 19, 1882 and is registered as a bachelor.”

A certificate on graduation from the St. Petersburg Conservatory is attached to the file, from which one sees that Friedmann studied there, as we would say now, without giving up his work in the ballet. His teachers in composition were Professors Johannsen and Rimsky-Korsakov (classes of canon and fugue). He took an advanced course in piano playing with fairly high achievements and completed his higher musical education in 1891, having passed all the examinations, including the history of music.

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In the papers of A. A. Friedmann, Sr. there are two documents telling us about his work as a composer. He wrote music for two one-act ballets – *The Boatmen's Holiday* and *Amour's Pranks* – and each time (in 1890 and 1894) he had to put in a special application for remuneration for his work, valued each time at 300 rubles, which was about half the annual salary of a corps-de-ballet dancer.

In 1897, Friedmann, while continuing his work in the theater, began work as a bandmaster in the household troops of the Preobrazhensky Regiment. He seems to have owed this position to the recommendation of his father-in-law Ignaty Kasparovich Voyachek, who, as we know, worked in the same field. Friedmann's new and main service, to which he moved upon retirement from the theater, brought him minor civil ranks, orders and medals, and travels around Russia and abroad with the orchestra he conducted.

Friedmann's file has also a sad entry. In 1896 the Consistory at his request dissolved his marriage with Lyudmila Friedmann. The official certificate says that the church sided with A. Friedmann, the plaintiff. It is known that his 9-year-old son stayed with his father. He did not see his mother until 1920 (there could only have been short encounters), living either with his aunt, Maria Alexandrovna, or with the father and his new wife, Anna Khristianovna Ioganson.

Lyudmila Ignatievna Voyachek, the scientist's mother

Very little is known about Lyudmila Ignatievna who, as has been said, was born on September 7, 1869. In 1881, her father, Ignaty Voyachek, placed her in a school attached to the St. Petersburg Conservatory "to study piano, and other scientific subjects." She had hardly reached 16 when she married Friedmann's father. As we already know, theirs was an unhappy marriage. Valentina Vitalievna Doinikova, whom we shall meet again later, recalled that in the 1910s Friedmann's mother expressed a wish to meet her son, but he rejected her suggestion. Their meeting seems to have taken place when Friedmann, after several years of absence, returned to Petrograd. In one of Friedmann's papers dating from the first half of the 1920s, it is said that his family consisted of his wife, his mother-in-law and his mother, and that all of them were living together in the Fifth Linia on Vasilievsky Island.

Let us go back to the above-mentioned conversation of one of the authors of this book with V. I. Voyachek, substituting the more informal first person for the academic third person.

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I (V. F.) went to visit Vladimir Voyachek in the summer of 1971. The weather was hot, but when I was shown into his study, I saw a very old man in a general's uniform, wrapped up in a rug. I was struck by the cautious way he began to inquire why I was interested in Friedmann and why I came to visit him. He had problems with hearing. I had almost to shout that Friedmann was a great physicist, the author of a theory which excited the whole world and which described the evolution of the Universe, and that I came to him, Voyachek, because he was one of Friedmann's few remaining relatives. "Don't you know that he has a son?" Voyachek asked. "Yes, I do, but he was born after his father's death and he will hardly be able to tell me anything." "What are you interested in?" I listed several questions, more or less standard, and added that I was interested in everything that he could recollect about his nephew.

He said, "Please type your questions on a typewriter, in capital letters, and once again tell me about yourself – where do you work? And indicate where articles about Friedmann have been published. I would like to read them. Send me all this and ring me up."

We agreed that I would do that. The same evening, on August 3, I typed three pages with questions and the information which Vladimir Voyachek asked for and sent this to 3 Klinichesky Street, where he lived in one of the blocks belonging to the Military Medical Academy, and rang him up later. On the appointed day and hour I was again at his place.

Vladimir Ignatievich told me very little. His sister, Friedmann's mother, was a pianist, a conservatory graduate, and taught music in her last years. She died in 1953, at the age of 83. Friedmann's father graduated from a ballet school (do you know, Voyachek asked, that it is on Rossi Street?). "My father-in-law," Voyachek went on, "was Viktor Lvovich Kirpichev. Is this name familiar to you?" "Certainly! He was a distinguished researcher in mechanics." "As a matter of fact, it was through Kirpichev that Friedmann got acquainted with professors at the Polytechnical Institute. If you're interested, I can tell you that Kirpichev was Witte's consultant in the organization of polytechnical institutes – in Kiev, Kharkov and St. Petersburg."

"And do you know," Voyachek went on, "that Friedmann got involved in aviation? Aviation was recruiting scientists at that time and the clinic of the Medical Academy was among the first to develop aviation medicine. He used to rush wildly into all sorts of adventures."

Here Voyachek brightened up: "He was like a star which lit up and disappeared. He and I did not even manage . . . [there is a gap in my notes here. – V. F.]. We began to see each other in 1920. The later years went by

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like a flash. But I will always have a feeling of loss. This loss of my relative made me feel destitute. Everything used to go along so well with him. Fate strikes people without any guilt on their part! He was coming back from a southern resort, drank some unboiled water, fell ill . . .”

Vladimir Ignatievich became silent. It was clear that it was hard for him to speak. I rose to leave. “Are you leaving? Would you like to come this way, please.” He showed me to the hallway. And he said when parting: “Young man! [I was already over 40 – V. F.] If only you knew how lonely I am! All my relatives, my friends, my students are no more. I feel as if I am on an alien planet!”

I felt terribly embarrassed that I had upset such an old man, and I hurried to say good-bye, making up my mind never to disturb him again.

Now, over 20 years later, I see that V. I. Voyachek was accurate in his answers to those few questions that he selected from the ones I asked. I understood his caution too: it appears he did not want to touch upon the family drama, one of whose characters was his sister.

I was struck at that time, as I am now, how often the interest in outstanding people is so much belated. The scope of Friedmann’s talent was already evident in his lifetime. It was even more highly appreciated with the advance of astrophysical theories which began to be developed in the second half of the 1940s. Friedmann’s mother was still alive at that time; his uncle was not yet too old; one could find his relatives in the father’s line; dozens of his students and colleagues were alive and fully active. Among them were Friedmann’s school and university companions, Academician Vladimir Ivanovich Smirnov and Professor Alexander Felixovich Gavrilov. My father, Ya. I. Frenkel, worked with Friedmann for more than four years at the Faculty of Physics and Mechanics in the Polytechnical Institute. His small home library had, since pre-war years, two books by Friedmann: one, written jointly with V. K. Frederiks, was a mathematical introduction to a course in the theory of relativity. The book came out in 1924, and its title page had the author’s dedicatory inscription. The other book, *The Hydromechanics of a Compressible Fluid*, was published posthumously in 1934. The book opened with Friedmann’s portrait, the same which opens the present book. The sad expression of his face in this picture seemed natural to me when my father told me about his untimely death. He added that he was an exceptionally gifted scientist, but – alas! – I did not ask him to tell me more about Friedmann at the time. As a matter of fact, among the relatively few people whom I met, many were Friedmann’s close acquaintances – Professor R. O. Kuzmin, and researchers at the main