



HAL
open science

**Andrei Nikolaevitch Kolmogorov's visits to France.
Resuming the scientific relationship between France and
Soviet Union after Stalin's death.**

Laurent Mazliak

► **To cite this version:**

Laurent Mazliak. Andrei Nikolaevitch Kolmogorov's visits to France. Resuming the scientific relationship between France and Soviet Union after Stalin's death.. 26th International Congress of History of Science and Technology, Jul 2021, PRAGUE, Czech Republic. hal-03666914

HAL Id: hal-03666914

<https://hal.science/hal-03666914>

Submitted on 12 May 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



**Andrei Nikolaevitch Kolmogorov's visits to France.
*Resuming the scientific relationship between France and Soviet
Union after Stalin's death.*¹**

Laurent Mazliak²

Abstract : *In 1958, the star of the university of Moscow mathematical department Andrei Nikolaevitch Kolmogorov (1903-1987) came for a long stay invited by the university of Paris. This visit was highly symbolic as it was the first of a Soviet mathematician after Stalin's death and an attempt to resume normal scientific exchanges between France and Soviet Union which had become rather limited since the 1930s. The paper focuses on how Kolmogorov participated to the academic exchanges between France and USSR.*

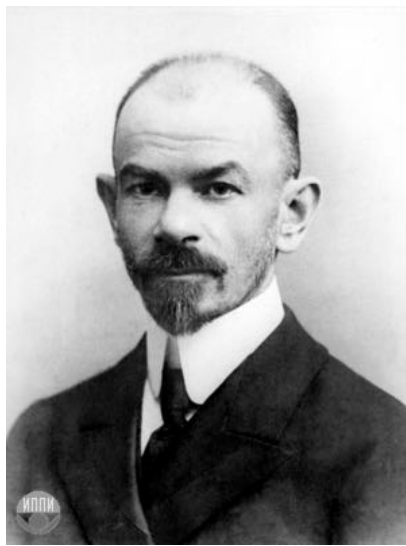
The last five years of the Stalinist regime in the USSR between 1948 and 1953 had seen an almost complete interruption of scientific exchanges between the two sides of the Iron Curtain, and particularly between France and the USSR. After the consolidation of Soviet power in the 1920s, France had been one of the first capitalist countries to recognize the new USSR in 1924.³ There was a very slow progression of intellectual exchanges between the two countries. Members of the intellectual emigration of the former tsarist empire, who were numerous in France at the beginning of the 1920s gradually lost their influence.⁴

¹ The present note was presented at the 26th International Congress of History of Science and Technology in a Symposium on «The role of universities in Soviet science» organized by Sergey Shalimov (Institute of History of Science, St Petersburg, Russia) and Hirofumi Saito (Tokyo Institute of Technology, Japan) in July 2021.

² Sorbonne Université, LPSM Paris, France. laurent.mazliak@upmc.fr

³ See for instance Michael Jabara Carley, "Episodes from the Early Cold War: Franco-Soviet Relations, 1917–1927." *Europe-Asia Studies* 52.7 (2000): 1275-1305.

⁴ On the topic of the academic Russian emigration in France, see Laurent Mazliak and Thomas Perfettini. *Under the Protection of Alien Wings. Russian Emigrant Mathematicians in Interwar France: A General Picture and Two Case Studies of Ervand Kogbetliantz and Vladimir Kosticyn* L. Mazliak and R. Tazzioli



Dimitri Fëdorovich EGOROV
(1869-1931)



Nikolai Nikolaevich LUZIN
(1883-1950)

Since the 1910s, the mathematical field had been active in the exchanges between Russia and France, in particular because of the strong links existing between the two main leaders of the Moscow School of Theory of Functions, Dimitri Fedorovich Egorov and his pupil Nikolai Nikolaevich Lusin, and French analysts such as Emile Borel or Henri Lebesgue whose work the Moscow mathematicians enthusiastically followed and extended.⁵ Under Lusin's impetus, a group of young active students went into the field of mathematical analysis and formed the talent-driven basis of the Soviet mathematical school which took off in the 1920s. Several members of this group had the opportunity to go on a study mission abroad, often combining a period in Germany and a period in France.⁶

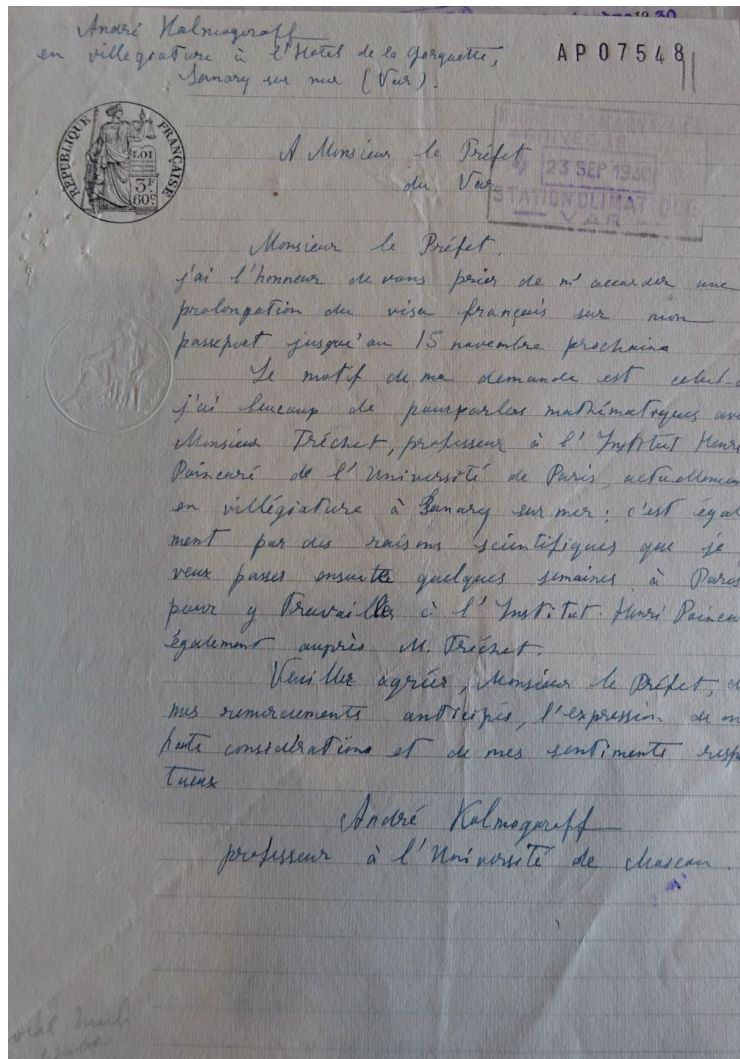
The future star of Soviet mathematicians Kolmogorov joined Lusin group in 1922 at the age of 19,⁷ and he had a first opportunity to come to France in 1930, together with his colleague and friend Pavel Alexandrovich Aleksandrov. Kolmogorov, who was then becoming a world's leading specialist in probability, had then the opportunity to get to know better the French mathematician Maurice Fréchet as he was invited for a few summer weeks in Fréchet's holiday home on the coast of the Mediterranean Sea. Documents from the police archives show that there was a close surveillance of the Soviet mathematicians by the authorities during their stay, a sign of a not particularly relaxed situation. This was besides not a real secret and both Soviet mathematicians knew that they were under inspection and tried to keep their situation absolutely regular.

(eds.), *Mathematical Communities in the Reconstruction After the Great War 1918–1928*, Trends in the History of Science, Springer, 2021 and *Exile's Experts. Some Considerations on the Activity of the Russian Academic Group in Paris* M. Borgato et al. (eds.), In *Foreign Lands: The Migration of Scientists for Political or Economic Reasons*, Trends in the History of Science, Springer, 2022

⁵ On this topic see Demidov Sergej S., « Les relations mathématiques franco-russes entre les deux guerres mondiales », *Revue d'histoire des sciences*, 2009/1 Tome 62, p. 119-142.

⁶ Smilka Zdravkovska, Peter L. Duren (Eds). *Golden Years of Moscow Mathematics*, American Mathematical Society, 2007.

⁷ Albert N. Shiryaev. *Kolmogorov: Life and Creative Activities*. *The Annals of Probability*. 17, 3. 1989. pp. 866-944



Hence this letter by Kolmogorov to the French authorities, found in the police surveillance file of strangers at French National Archives :⁸

I ask you to grant me an extension of the French visa on my passport until November 15th. The reason for my request is that I have a lot of mathematical talks with Mr. Fréchet, professor at the Henri Poincaré Institute of the University of Paris, currently on vacation in Sanary-sur-mer; It is also for scientific reasons that I want to spend a few weeks in Paris to work there at the Henri Poincaré Institute, also with M. Fréchet.

A funny aspect of the surveillance reports is the perceptible perplexity of the police officers about the mathematical activity of the potential suspects. It did not seem to be reprehensible, but they were not absolutely confident.

⁸Archives Nationales, Pierrefitte. 19940457/176

In 1934, the Soviet government wished to promote a certain rapprochement with France as part of a policy of alliance to contain the Nazi threat.⁹ Various bilateral initiatives were encouraged by the new ambassador Charles Alphan, who was a fervent supporter of a rapprochement between France and the USSR.¹⁰

The attempts were not always successful in those years when Stalin's grip on Soviet society was becoming an absolute control. Kolmogorov was supposed to come to Paris in April and to present a series of six talks on the theory of random motions at the Henri Poincaré Institute. All was ready, even the posters mentioning the various seances. However, the mathematician did not succeed to obtain the permission from the Soviet authorities. Already in January, he had written to Maurice Fréchet that obtaining all the needed documents required "a lot of energy". Despite of Borel's attempts with the ministers of foreign affairs and of public instruction up to the last moment (in the archive one finds exchanges from March and April 1934),¹¹ the operation failed. In September 1934 again, Kolmogorov wrote that it was quite unreliable that he would be able to go to Paris at the end of 1934.¹² Fréchet's long journey in Central and Eastern Europe in the Fall of 1935,¹³ during which he spent several weeks in USSR (and met in particular Kolmogorov in Moscow) can besides probably be interpreted as a compensation for the missed opportunities of the previous year (Fréchet was sufficiently lucid to understand that an improvement of the inner Soviet situation would be long to come).



Some common Franco-Soviet activities took place nevertheless. There were for instance sport events, such as a car race organized by the car builder André Citroën in September 1934, but also intellectual exchanges.

In May 1934, a blatant “French scientific decade in the USSR” was organized in Moscow in which took part a pleiad of French scientists whose notoriety is recognized, including the physicist Jean Perrin (who had founded the same year in Paris the Committee for the vigilance of anti-fascist intellectuals), the

⁹ See Scott, William Evans. *Alliance against Hitler*. Duke University Press, 1962. Also Vershinin, Aleksandr (2020). "My task is to get into the French army": Soviet strategy and the origins of Soviet-French military cooperation in the 1930s". *Journal of Strategic Studies*. 44 (5): 685–714.

¹⁰ Mikhail Matveevich Narinskiĭ et al. (eds). *La France et l'URSS dans l'Europe des années 30*, Presses Université Paris Sorbonne, 2005.

¹¹ Archives Nationales, AJ/16/6994

¹² These letters are in Fréchet's personal papers at the Archives of Paris Academy of Science.

¹³ On Fréchet's journey, see <https://images.math.cnrs.fr/Le-voyage-de-Maurice-Frechet-en-Europe-de-l-Est-en-1935.html>

mathematician Jacques Hadamard or the geologist Charles Jacob.¹⁴ In addition to a busy program of visits, the French were invited to give lectures followed by demonstrations and practical exercises. The event received much attention from the Soviet press.



In France, the communist newspaper *L'Humanité* published several articles on the topic. In the clipping above, the journalist mentions that no comment is necessary « after the unreserved praise bestowed by the scholars on the Bolshevik builders who brought the USSR to the forefront in all fields of human activity. »

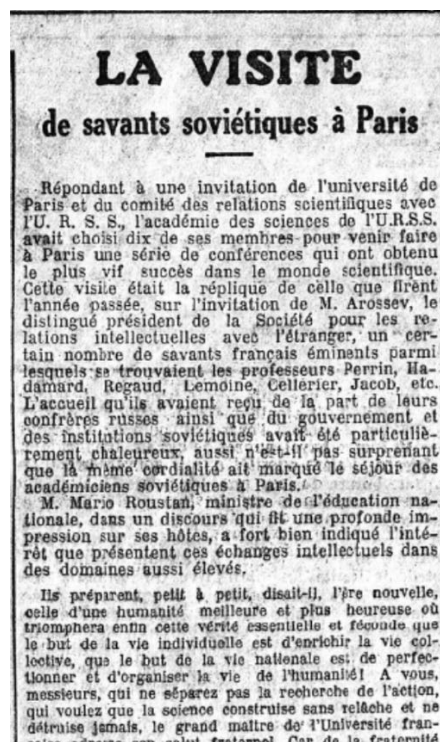


In 1935, the president of the council Pierre Laval went to Moscow and met Stalin ; this was the first official summit meeting between France and the USSR. Contrary to the jovial aspect of the picture, the

¹⁴ On the Franco-Soviet decade, see Rachel Mazuy, « La décennie scientifique franco-soviétique de 1934 », *Cahiers du monde russe*, 43/2-3 | 2002, 441-448.

communication was rather difficult.¹⁵ The French delegation was most of the time carried around Moscow to admire the realizations of the new regime and Laval only obtained a short hard-fought interview with Stalin. Nevertheless, a better cooperation was on its way between the two countries and that same year, a Franco-Soviet week was officially organized by the University of Paris from November 23rd to December 2nd. The initiative seems to have been mainly due to the physicist Paul Langevin, a longtime Communist sympathizer and a fervent supporter for a rapprochement with the USSR and to André Mazon, director of Paris Institute for Slavic studies.¹⁶

The Soviet delegation was explicitly presented as an emanation of the USSR Academy of Sciences. There were two leading mathematicians in this delegation : Sergei Natanevich Bernstein and Otto Yulianevich Shmidt. Only Bernstein's lectures at the Henri Poincaré Institute dealt in fact with mathematics, for Shmidt gave a talk on the great Arctic exploratory expedition he had organized the previous year, and he was also honored as the editor-in-chief of the Soviet Encyclopedia¹⁷ by his French counterpart, the historian Lucien Febvre who was at the head of the enterprise of the *Encyclopédie Française*.¹⁸ The eminently political character of the demonstration did not escape anyone. The Soviet delegation was for instance received by the President of the Republic Albert Lebrun on November 25th and the press did not fail to give a certain resonance to the event.



¹⁵ Boisdrion, M. (2005). Le projet de pacte oriental (février 1934 - mai 1935). *Guerres mondiales et conflits contemporains*, 220, 23-43.

¹⁶ L.Mazliak and T.Perfettini. A French response to the 1934 Franco-Soviet scientific decade in Moscow: trying to consolidate a fragile alliance. *Forthcoming*.

¹⁷ Brian Kassof. A Book of Socialism: Stalinist Culture and the First Edition of the Bolshaia sovetskaia entsiklopediia. *Kritika: Explorations in Russian and Eurasian History*. Volume 6, Number 1, 2005. pp. 55-95

¹⁸ Nicole Racine, « Lucien Febvre et l'encyclopédie française », *Vingtième Siècle : Revue d'histoire*, no 57, 1998, p. 132-133

The national newspaper *Le Temps* published on December 8th, 1935 an enthusiastic comment on the fraternal communion between Soviet and French scholars. It reports the declaration of the French Minister for Education Marius Roustan that

“intellectual exchanges are gradually preparing the new era, that of a better and happier humanity in which will finally triumph this essential and fruitful truth that the goal of individual life is to enrich collective life, that the goal of national life is to perfect and organize the life of mankind.”

In fact, the rapprochement between France and the USSR at the end of the 1930s failed, in particular because of the opposition from London, and the promising announcements of December 1935 remained without a follow-up. From 1938, the succession of events (the Munich conference, the dismemberment of Czechoslovakia, the German-Soviet pact and finally the outbreak of the Second World War) led to the outright interruption of all communication between France and the USSR.

In the aftermath of the conflict, when a new world equilibrium dominated by American power was being established, Stalin insisted that new seductive initiatives be directed towards the countries of Western Europe, and especially France, a country which combined a strong influence of the Communist Party (linked to its participation in the resistance against the German occupier) and General de Gaulle's desire to contain the American influence, of which Stalin was perfectly aware.¹⁹

In June 1945 a solemn event on the occasion of the 220 years of the Russian Academy of Sciences was organized in Moscow.²⁰ The strangeness of the number 220 clearly indicates how urgent the initiative appeared to the Soviet leaders. The French university was particularly well treated there. Stalin delegated his foreign minister Molotov and a special plane to take 22 French scientists to participate in the festivities. If some of the scholars displayed Communist sympathies (the physicist Joliot-Curie or the mathematician Chapelon for example), the group included people of very diverse opinions, showing a real success of the operation of charm. Mathematicians were exceptionally well represented by world glories of the discipline (Emile Borel, Elie Cartan, Jacques Hadamard).



¹⁹ Norman Naimark. *Stalin and the Fate of Europe: The Postwar Struggle for Sovereignty*. (Harvard University Press, 2019).

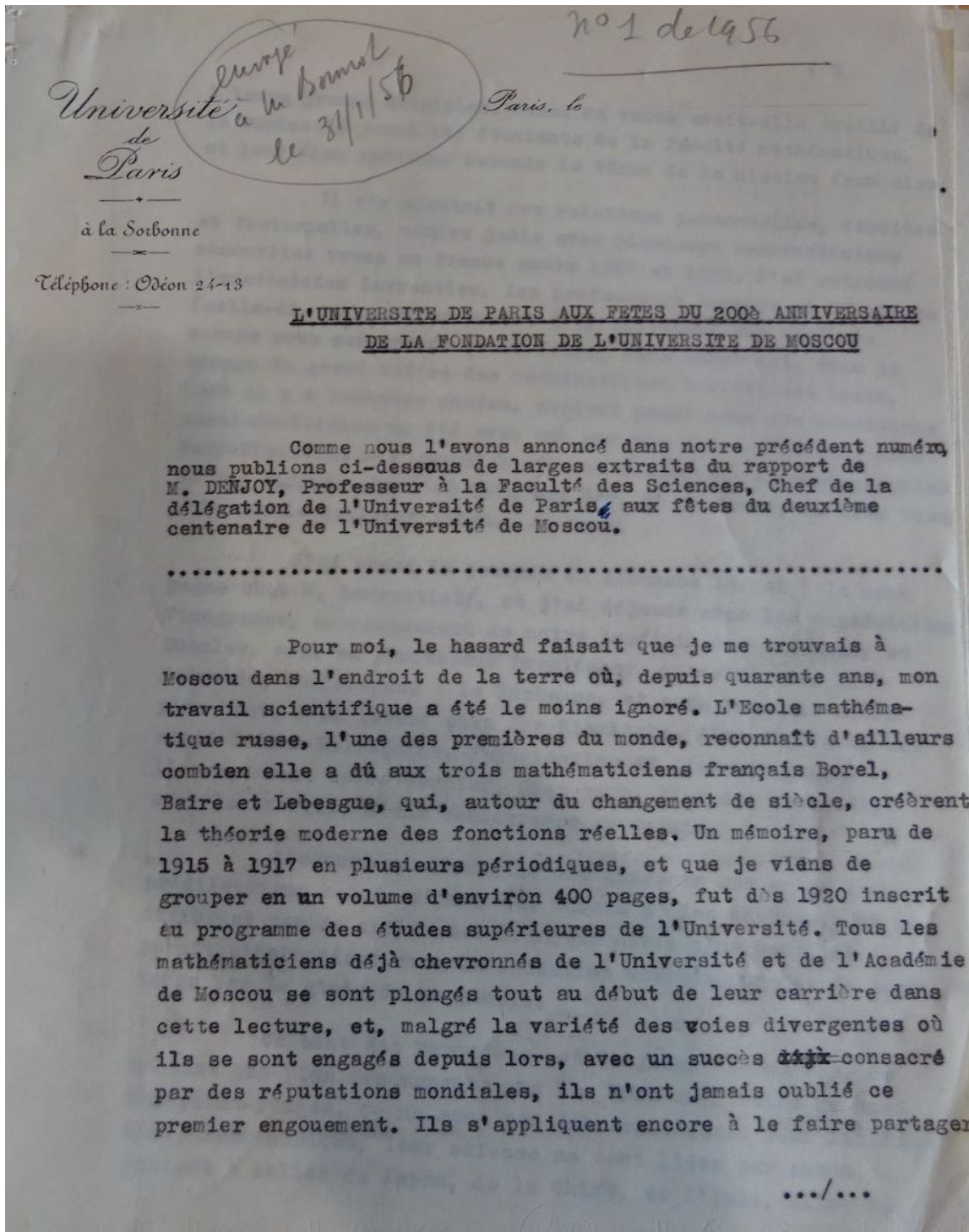
²⁰ Korzun V.P., Gruzdinskaya V.S. *The 220th Anniversary of the Academy of Sciences of the USSR in the Victorious 1945: A Scenario of Celebration in the Sociocultural Context of the Era* // *RUDN Journal of Russian History*. - 2020. - Vol. 19. - N. 2. - P. 374-392

The newspaper *Ce soir* (linked to the communist party) on June 10th, 1945 reported an interview by the secretary general of the France-USSR association, the biochemist and communist activist Jacques Nicolle, in which he mentioned : "you know which brilliant mathematicians are the Russians and how the Russian botanical research helped putting the Soviet agriculture on the first rank of the world" (the last sentence obviously referring to Lysenko's alleged successes²¹ in the reshaping of Soviet agriculture). The initiative again remained without a future and the relations were almost completely interrupted from 1947 until Stalin's death in March 1953.



Shortly after Stalin's death, in June 1955, the symbolic occasion of the 200 years of the University of Moscow allowed the Soviet authorities to attempt a new rapprochement with the countries of Western Europe. An official delegation of two members of the University of Paris came to participate in the festivities.

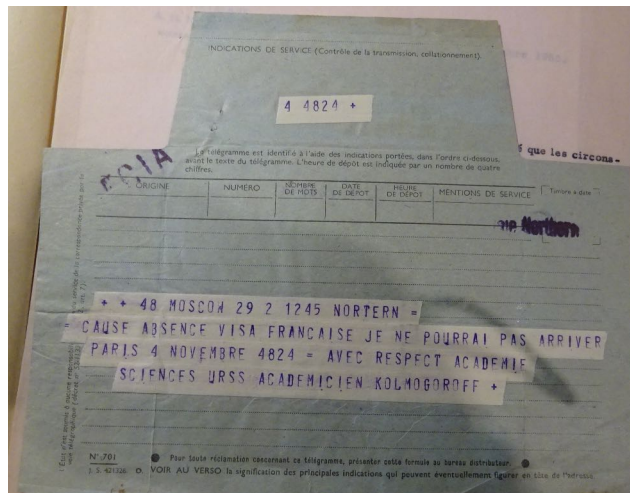
²¹ see Nikolai Kremontsov. *Stalinist Science*. Princeton University Press, 1997.



On his return, the mathematician Arnaud Denjoy sent the rector of Paris a lyrical and enthusiastic report on the reception he had received in Moscow.²² The beginning of his text once again underlines the strong mathematical links forged between Paris and Moscow. That same year, the University of Paris decided to include Kolmogorov on the list of honorary doctorates awarded for the year 1955, a proposition strongly supported by Maurice Fréchet.²³

²² Archives Nationales, AJ/16/6994.

²³ Archives Nationales, 0020476/398-401



In fact, due to the delay to obtain the French visa, Kolmogorov could not attend the official ceremony in early November 1955 and he arrived in Paris only ten days later. Significant of a certain relaxation in relations between France and the USSR there is a mention of the award of the honorary doctorate to Kolmogorov in the newspaper "The Russian Thought" (*Русская мысль*), one of the main weekly newspapers of Russian emigration in France, on the issue of November 5th, 1955.



I found few direct traces of Kolmogorov's stay in France in 1955, which was rather brief. He made presentations at the Henri Poincaré Institute (in a short report that Arnaud Denjoy made in 1958 on Kolmogorov for the Academy of Sciences in Paris, he mentioned that the Parisian conferences of 1955 had attracted a large audience). Kolmogorov also received an invitation to give a conference in Nancy in the seminar of the mathematician Jean Delsarte, one of the founders of the Bourbaki group.²⁴

At the end of the 1950s, the France-USSR Association was the motor of the Franco-Soviet rapprochement. It invited on her own initiative Soviet academics in Paris. The absence of an official invitation by the University of Paris occasionally caused some tensions. A letter from the rector of Paris addressed to the president of the France-USSR association Georges Huisman mentioned that it was not allowed to use rooms of the Sorbonne for a meeting with a Soviet delegation of academics that had not been officially invited in Paris by the university.²⁵ It is possible that this fact prompted the French authorities to seriously face the question of exchanges with the USSR. One finds traces of such a preoccupation in the following years and an exchange protocol between French and Soviet academics was finally set up in 1958. In this capacity, Kolmogorov was appointed a visiting professor at the Sorbonne for the second semester of 1958.

²⁴ 26 November 1955. Dossier Kolmogorov. Archives Académie Sciences Paris.
²⁵ Letter to Georges Huisman, 13 April 1956. Archives Nationales AJ/16/6994



He gave two courses of ten sessions each: one in function theory and one more specialized in probability. The report he wrote for the Soviet authorities on his return has been preserved. Kolmogorov wrote :

From March 5th [sic] to June 6th, I gave two courses of eleven lectures each. The first course was relatively accessible and initially attracted about 70 and at the end about 40 students, of whom, however, more than half were well-known scientists and only less than half were students. The second course was of a more specialized nature and was attended mainly by specialists in the theory of probability. The audience was thus small, but highly qualified. The lecture notes compiled by Régnier after my processing and additions, are supposed to be published in the Annals of the Poincaré Institute (Paris).

I also gave a talk "Linear dimension of vector topological spaces" in the seminar "N. Bourbaki" in front of an audience of about 100 people.

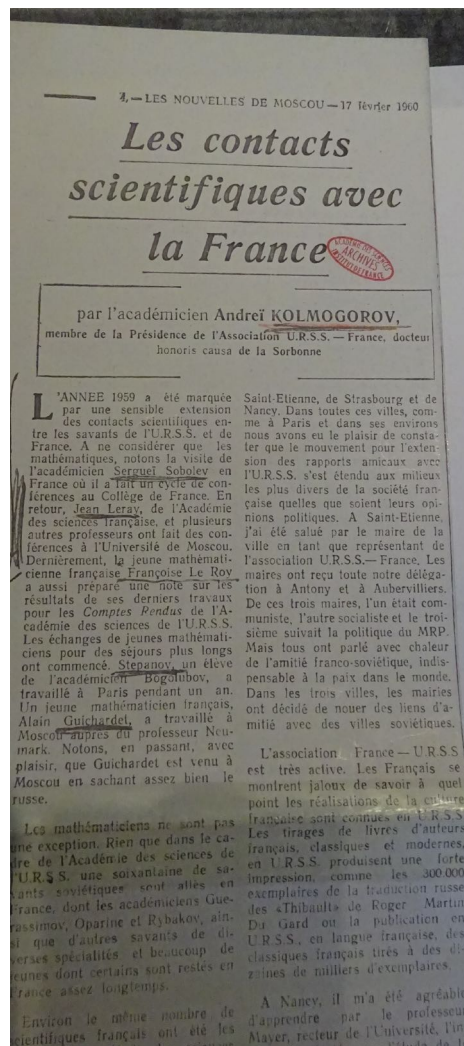
In addition, at the request of the university and in agreement with our embassy, a talk with a more general content, "On the Organization of Teaching Mathematics and Scientific Mathematical Research in the USSR," was organized, which gathered an audience of about 150 people.

Scientific communication with specialists in the theory of probability was quite intense (especially with Prof. P. Lévy, Prof. R. Fortet and during several collective walks near Paris).²⁶

In 1960, Kolmogorov published a long article in the journal of the France-USSR Association on the subject of Franco-Soviet scientific relations. He wrote that

The year 1959 had been marked by a significant expansion of scientific contacts between scientists from the USSR and France. (...) We were pleased to note that the movement for the extension of friendly relations with the USSR has spread to the most diverse circles of French society, whatever their political opinions.

²⁶ Quoted in *Колмогоров юбилейное издание в трех книгах*. Том 1. Москва, Физматлит, 2003. pp.120-122 (original in Russian).



As early as 1958, the Paris Academy of Sciences had considered the election of Kolmogorov as a foreign correspondent. Denjoy strongly supported the idea but it only materialized a few years later, in 1966, when Fréchet (elected in 1958) and Lévy (elected in 1964) campaigned for this election.²⁷ Paul Lévy wrote an extremely laudatory report on Kolmogorov, presenting him as a leading mathematician of the 20th century. We note here a significant point in the history of mathematics. If the calculus of probabilities had been a discipline in full expansion in the 1930s in France, after the Second World War, it was met with skepticism (to say the least), for various reasons that I do not have time to detail here, by the members of the Bourbaki group whose authority on the French mathematical scene for several decades is well known. One therefore notices that it was not until when the two main French probabilists of the time, Fréchet and Lévy, had themselves been elected to the Academy, at a very advanced age, that Kolmogorov could join it. In the report written by the mathematician Jean Leray before the election of 16 May 1966, one can also read the mention that the Academy had "for a long time given a cold welcome to the calculus of probabilities", the discipline of which Kolmogorov had been the renovator. Leray did not forget to enforce his comment by mentioning that probability was gaining a still growing importance and above all by repeating the common place that the discipline had been created by "three French mathematicians Laplace, Poincaré and Borel" (one wonders why Pascal and Fermat do not appear as usual in the list!).

²⁷ Archives Académie Sciences Paris. Dossier Kolmogorov.

16 mai 66

Les Secrétaires perpétuels de l'Académie des sciences, à
Monsieur le Ministre de l'Éducation nationale.

Monsieur le Ministre,

Nous avons l'honneur de vous adresser, ci-joint, un extrait
du procès verbal de la séance de ce jour 16 mai 1966, en laquelle l'
Académie des sciences a élu M. André KOLMOGOROV, à Moscou,
à la place d'Associé étranger vacante par la mort de M. Arthur
HOLMES.

L'Académie vous prie de vouloir bien soumettre cette élection
à l'approbation du Gouvernement de la République.

Nous vous remettons aussi une note sur la vie et l'œuvre du
nouvel élu.

Veillez agréer, Monsieur le Ministre, les assurances de
notre haute considération.

Now a few quick concluding words. Kolmogorov's stays in France and his election to the academy that I have presented illustrate to a certain extent the normalization of scientific relations between France and the USSR in a context of detente which lasted during the two decades 1960 and 1970, with ups and downs linked to the state of international relations. It is probable that a further exploration in archives, in particular in Kolmogorov's personal papers, can provide valuable new information on the relations between Kolmogorov and French mathematicians. A particularly significant aspect of this point is related to the fact that Kolmogorov in some way personified the passing of the probabilist baton from Paris to Moscow after WW1 so that the aforementioned relation would also offer an insight on the development of modern probability during the 20th century.