

Universität des Saarlandes



Fachrichtung – Mathematik

Preprint Nr. 403

**The Queen of Rhymes and the Queen of Formulas
(around the poem “In Vyborg”)**

Darya E. Apushkinskaya and Alexander I. Nazarov

Saarbrücken 2019

The Queen of Rhymes and the Queen of Formulas (around the poem “In Vyborg”)

Darya E. Apushkinskaya

Saarland University
Department of Mathematics
P.O. Box 15 11 50
66041 Saarbrücken
Germany
darya@math.uni-sb.de

Alexander I. Nazarov

Steklov Institute of Mathematics at St. Petersburg
Fontanka 27, 191023, St. Petersburg, Russia
and
St. Petersburg State University
Faculty of Mathematics and Mechanics
Universitetskii pr. 28
198504, St. Petersburg, Russia
al.il.nazarov@gmail.com

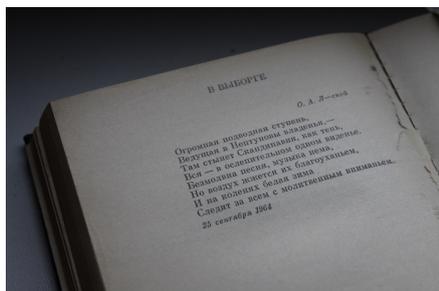
Edited by
FR – Mathematik
Universität des Saarlandes
Postfach 15 11 50
66041 Saarbrücken
Germany

Fax: + 49 681 302 4443
e-Mail: preprint@math.uni-sb.de
WWW: <http://www.math.uni-sb.de/>

The Queen of Rhymes and the Queen of Formulas (around the poem “In Vyborg”)

Darya E. Apushkinskaya and Alexander I. Nazarov

Abstract How often do the poets dedicate poems to mathematicians? We will tell you about the friendship between the great Russian poet of the twentieth century Anna Akhmatova and the prominent mathematician Olga Ladyzhenskaya, and about the history of Akhmatova’s poem “In Vyborg”.



The poem you see in this picture is a sign of the friendship of two prominent personalities of 20th century. The heroines of our story are the world-known poet Anna Akhmatova and young bright mathematician Olga Ladyzhenskaya. At first glance, two very different people...

Darya E. Apushkinskaya
Saarland University, P.O. Box 151150, 66041 Saarbrücken, Germany
Peoples' Friendship University of Russia (RUDN University), 6 Miklukho-Maklaya Street, 117198
Moscow, Russia
Chebyshev Lab, St. Petersburg State University, 14th Line V.O., 29B, 199178 St. Petersburg, Russia
e-mail: darya@math.uni-sb.de

Alexander I. Nazarov
St. Petersburg Department of Steklov Math Institute, Fontanka 27, 191023 St. Petersburg, Russia
St. Petersburg State University, Universitetskii pr. 28, 198504 St. Petersburg, Russia
e-mail: al.il.nazarov@gmail.com

Anna Akhmatova

Anna Andreevna Gorenko, better known by the pen name Anna Akhmatova, was born 23 June 1889 near Odessa.

She started writing poetry at the age of 11. Her father did not want to see any verses printed under his “respectable” name, so in 1906 she chose to adopt her great-grandmother’s distinctly Tatar surname *Akhmatova* as a pen name.



From 1912 to 1922 she published 5 books of poems – *Evening*, *Rosary*, *White Flock*, *Plantain* and *Anno Domini MCMXXI*.

In 1910, Akhmatova married an influential poet Nikolay Gumilyov.¹



Fig. 1 A. Modigliani. Anna Akhmatova (1911)

In 1912, she gave birth to son Lev Gumilyov (later a famous historian and anthropologist).

In 1910–1912 Akhmatova visited Paris and northern Italy. In Paris she met Amedeo Modigliani, who painted a series of Akhmatova’s portraits.

In 1918, Akhmatova divorced Gumilyov and married an orientalist, poet, and translator Vladimir Shileyko, whom she left in 1921.

In 1922, Akhmatova became Nikolay Punin’s² common-law wife.

The poetry of Anna Akhmatova was unofficially banned by the Communist Party resolution of 1925. Her poems could not be published. In 1926 Akhmatova began an academic research on Alexander Pushkin. Due to the financial troubles she also translated articles on art and poetry.

Since 1935, political terror was increasing its grip on Soviet life. This year Lev Gumilyov and Nikolay Punin were arrested but soon released after Akhmatova

¹ Nikolay Stepanovich Gumilyov (1886–1921) was a famous Russian poet, literary critic and traveler. He was a co-founder of the Acmeist movement. During WW1, for his bravery he was awarded two St. George Crosses. In 1921, he was arrested and executed on a baseless accusation.

² Nikolay Nikolayevich Punin (1888–1953) was a Russian art scholar and writer, an important figure in the Russian art world. He was the author of some monographs, edited several magazines, and was also a co-founder of the Department of Iconography in the State Russian Museum. In 1949, he was arrested on accusations of “anti-Soviet” activity and perished in a Gulag camp.



succeeded to convey a personal appeal to Stalin. The birth of the famous poem *Requiem* is associated with these events. In 1938, Lev Gumilyov was re-arrested and imprisoned in Leningrad. Then he was deported to Gulag camp for 5 years. The same year, Akhmatova and Punin separated. However, a housing shortage obliged Akhmatova to continue living in Punin's apartment.

The ban on publishing was slightly lifted in 1940, when Stalin approved the publication of one volume of Akhmatova's

poetry *From Six Books*. However, the collection was withdrawn from all public libraries after only a few months.

The beginning of Great Patriotic War found Akhmatova in Leningrad. In September 1941, she was evacuated first to Chistopol,³ then to Tashkent, where the collection of her patriotic poems *Wind of War* was published. In May 1944, she returned to Leningrad, to the Fountain House.⁴

In April 1946, the great poetic evening of Anna Akhmatova and Boris Pasternak was successfully held in Moscow.

But in the August of that year Akhmatova (together with the satirist Mikhail Zoshchenko) was publicly harshly and unfairly criticized by Communist authorities. Official ban was imposed on all her publications, and her books were taken away from the libraries.



Fig. 2 A. Akhmatova and B. Pasternak, 1946

In 1949, Lev Gumilyov and Nikolay Punin were arrested again. Punin died in prison camp, while Gumilyov was released "due to the absence of a corpus delicti" in 1956.

Akhmatova was again recognised among Soviet poets after Stalin's death in 1953. Her poems began to re-appear in 1956.

³ Chistopol' is a town on the bank of Kama river, about 100 kilometers from Kazan'.

⁴ Fountain House was built in the 18th century at Fontanka River Embankment as a palace for the noble Sheremetev family. Akhmatova lived in the northern garden wing of the Fountain House (V. Shileyko's apartment) in 1919–1921, and in the southern wing (N. Punin's apartment) in 1924–1952. From 1989, Akhmatova Literary and Memorial Museum is located in the latter.

Olga Ladyzhenskaya

Olga Aleksandrovna Ladyzhenskaya was born 7 March 1922 in Kologriv, a tiny town in Kostroma region, five hundred kilometers northeast of Moscow. She was the youngest of three daughters of a mathematics teacher. Already at the age of 8 Olga demonstrated fine mathematical abilities.

In 1937, her father, a former nobleman, was arrested and executed. Because of that Olga was considered to be the daughter of an “enemy of the people” and was not admitted to the Leningrad University in 1939, despite getting excellent grades on the entrance exams.



From 1939 till 1941 Olga studied mathematics at the Second Leningrad Pedagogical Institute. After the beginning the Great Patriotic War, she returned to Kologriv, where she taught mathematics at school.

In 1943, Olga was finally admitted to the Moscow University. She showed herself as a brilliant student and graduated with honor in 1947 (her supervisor was Ivan Petrovsky⁵).



After graduation, Olga married Andrey Kiselev, Leningrad mathematician,^a and attended graduate school at Leningrad University. Her advisor was the world-known expert in PDEs and function theory Sergey Sobolev.

Ladyzhenskaya got her PhD in 1949. Soon afterwards, taking just two years, she wrote her Habilitation thesis, which she could only defend after Stalin’s death in 1953.

In 1956, Olga’s father was posthumously exonerated due to the absence of a corpus delicti.

^a divorced in 1956.

⁵ Ivan Georgievich Petrovsky (1901–1973) was a prominent Soviet mathematician, working mainly in PDEs. Later, from 1951 to 1973, he was a Rector of the Moscow University and turned it into an outstanding scientific center.

The relocation to Leningrad had another very important consequence for Ladyzhenskaya – she met Vladimir Smirnov.⁶ Later she wrote [1]:

Fortune granted me the companionship of Vladimir Ivanovich during roughly 27 years. <...>

Deep friendship linked me with my father. Vladimir Ivanovich replaced him. This could only happen because of some wonderful intrinsic resemblance between V.I. Smirnov and my father. <...>

But this was only at the beginning. The longer I interacted with him, the deeper was the understanding that I was learning something permanently from him.

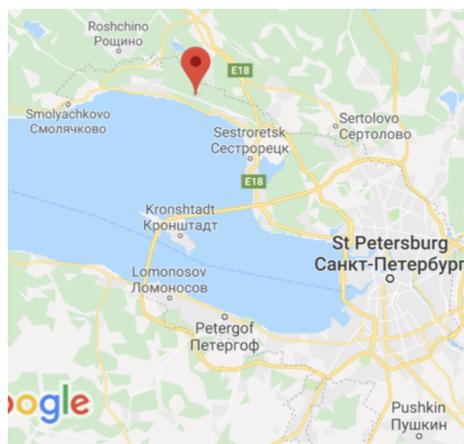


Fig. 3 O.A. Ladyzhenskaya and V.I. Smirnov at the seminar, 1968

Starting 1950 Ladyzhenskaya worked at the Physics Department of the Leningrad University, where in 1955 she became a Full Professor. Since 1954, she was a Fellow of the Leningrad Branch of Steklov Mathematical Institute (LOMI).

Komarovo

From the mid-1950s the lives of both heroines of our story have been connected with the village Komarovo (former Kellomäki – ‘Ring hill’ (Finnish)), a settlement about 50 km from the center of Leningrad (St. Petersburg).



Like many settlements located on the Karelian Isthmus, Kellomäki was developed in the late 19th – early 20th century at the height of the summer-resort boom.

After WWII, the President of the Academy of Sciences of the USSR Vladimir Komarov suggested to build 25 dachas for members of the Academy in Kellomäki. Standard houses manufactured in Finland on account of war reparations, were transported and assembled on the spot.

⁶ Vladimir Ivanovich Smirnov (1887–1974) was a famous Russian and Soviet mathematician, outstanding educator and organiser of science.

In 1948, Kellomäki was renamed to Komarovo in memory of V. Komarov. Later dachas were also distributed among the writers, composers, theater and cinema artists. Komarovo was immediately surrounded by some kind of intellectual aura. It was a unique place where one could meet composer Dmitry Shostakovich, ballet dancer Galina Ulanova, physicists Abram Ioffe and Vladimir Fock, mathematicians Vladimir Smirnov and Yuri Linnik, philologist Dmitry Likhachev. It was quite natural that Anna Akhmatova appeared here as well.

[In May 1955,] the Literary Fund had allocated Akhmatova a *dacha* at Komarovo, a little weather-boarded house, which she called, good-naturedly rather than disparagingly, her Cabin, as she did the little hut near Odessa where she had been born. <...> Akhmatova once said that one had to be a rare architect to give such a house only one living room. Indeed, there was a tiny kitchen, and a room of average proportions if rather dark, and all the rest was corridors, a verandah and a second porch. [2, pp.3-4]



In the 1950s Ladyzhenskaya often visited V.I. Smirnov and V.A. Fock in Komarovo. Later, she also rented dacha, mostly during the winter. There she relaxed and worked on her book about mathematical aspects of hydrodynamics.

It was there that the life paths of our heroines had crossed. According to A.M. Vershik, V.I. Smirnov introduced Olga to his neighbor Anna Akhmatova [3, p.8]. We guess that it happened at the very beginning of 1960's.



Friendship

Arts and science are often perceived as unconnected worlds. But not in the case of our protagonists.

[Akhmatova] was a superbly educated person. She studied really well in gymnasium and, thanks to her excellent memory, remembered everything she was taught. She said: "I remember even physics, but in my school time, we studied it only up to the telephone." She was interested in everything and appreciated the real knowledge, especially if it was formulated briefly and expressively. [4]

Vyacheslav Ivanov,⁷ close friend of Akhmatova, wrote [5]:

Around 1961, the first edition of the book of astrophysicist I.S. Shklovsky *Universe, Life, Intelligence* was published. I enthusiastically read it overnight and spoke about it when I met Akhmatova <...>. She became very interested in and immediately responded: "I would like to read such a book." At our next meeting, it turned out that she had already read it and praised it a lot.

Earlier, [when I visited Anna Andreevna] in Leningrad, she said that she has found something about the relativity theory on the bookshelf among the old books. She spoke of [this theory] with understanding. Such topics were always interesting to her.

Once in the poems that I read to her, she saw the interpretations of the modern physics theories and, as she well knew how, rephrased it, making transparent and clear everything that was in the poems obscure and confusing: "What was it, the notion of the particle flow?"

In turn, the colleagues of Ladyzhenskaya noted [6] that Olga's focus of life was not limited to mathematics and science. She was deeply interested in arts, literature, music, and intellectual life in general.

Thus, Ladyzhenskaya and Akhmatova soon became friends. Moreover, Olga also enjoyed a warm companionship of the young poets close to Anna Andreevna – Anatoly Nayman, Joseph Brodsky (later the Nobel Prize laureate), Dmitry Bobyshev and Evgeny Reyn.

A. Nayman (Akhmatova's literary secretary) wrote later:

Olga Aleksandrovna Ladyzhenskaya <...> was the famous mathematician, whom Akhmatova commended to her occasional visitors as the Sofya Kovalevskaya of our time and to those close to her as a 'dog mathematician', in a parody of a 'woman mathematician'... [2, p.183]



Fig. 4 A. Nayman and A. Akhmatova, Komarovo

⁷ Vyacheslav Vsevolodovich Ivanov (1929–2017) was a prominent Soviet and Russian philologist, semiotician and anthropologist.

Ladyzhenskaya remembered with a smile:

...Joseph Brodsky bothered me with all sorts of nonsense. In our company, that revolved around Akhmatova, he was the most thorough one. He kept asking: what is the technology of scientific work? Can you see the formulas in moments of inspiration? Anna Andreevna never asked such questions... [7]



Fig. 5 J. Brodsky and A. Akhmatova, Komarovo, 1963

The evidences of close relations between Akhmatova and Ladyzhenskaya can be traced in several sources. For instance, Lydia Chukovskaya⁸ described her visit to Akhmatova in hospital on January 1, 1962, after Akhmatova's third heart attack:

We sat on the stand-alone sofa. <...> Anna Andreevna said that, besides Admoni and Silman,⁹ she was nursed by a wonderful woman:

– She is a mathematician, Ladyzhenskaya; Sophia Kovalevskaya is a zero compared to her. She brought me meal, fed me with a spoon, and even washed the dishes herself. She lives nearby. [8, vol.2, p.479]

We also present an excerpt from the reminiscences of Vyacheslav Ivanov [5] related to 1964:

When I was in Leningrad I have heard that Akhmatova was hospitalised with suspected heart attack. I hurried to her <...>

She told me about a conversation with mathematician O.A. Ladyzhenskaya who came to visit her in the hospital. She asked Akhmatova what kind of arts to pursue – she was fascinated by both poetry and painting. Akhmatova, with her usual attention to every person passionate about arts, discussed in detail with me the plan that she outlined for Ladyzhenskaya: choose just one type of art, not all at once. She [Akhmatova] took this very seriously.

⁸ Lydia Korneyevna Chukovskaya (1907–1996) was a Soviet writer, editor, publicist, and memoirist. She was a lifelong friend of Anna Akhmatova and her chronicler for almost 30 years [8].

⁹ Vladimir Grigoryevich Admóni (1909–1993) and Tamara Isaakovna Sil'man (1909–1974), a married couple, were famous philologists and close friends of Akhmatova.

Car rides



Fig. 6 Here is Olga (but this is not her car)

Among various joint interests, Akhmatova and Ladyzhenskaya shared a passion which was not that usual in the USSR during that time. Both loved cars and car rides.

In 1960, Olga acquired an executive car «Volga GAZ-21» and famously drove her “beige beauty”. [9]

In turn, the attitude of Anna Andreevna to cars is described as follows:

[Akhmatova] had read Einstein and understood the theory of relativity, but her enthusiasm for the achievements of technology was fairly muted. She was hostile to lifts, but tolerated them; she could not bear typewriters, especially in conjunction with carbon paper. <...> Only the automobile met with her unreserved approval. <...> It gave her pleasure when even car-owners she did not know well offered to take her out for a ride; she fairly often found a reason for telephoning for a taxi to go somewhere to do something, and sometimes she would telephone for no reason at all: “Let’s go out for a ride.” [2, pp.180-181]

<...> Amongst all those people in Leningrad who gave Akhmatova rides in their cars, Olga Aleksandrovna Ladyzhenskaya had a special place. [2, p.183]

<...> In the evenings, Berkovskys or Ladyzhenskaya would come with their cars and take Anna Andreevna for a long ride. [10, p.513]

<...> The usual route for <...> car rides was along the Gulf of Finland, no further than the Black River,¹⁰ where Leonid Andreev was buried, and one such trip is celebrated by Akhmatova in *This land, though not my native land*.¹¹ [2, p.183]

*This land, though not my native land,
Will be remembered forever.
And the sea’s lightly iced,
Unsalty water.*

*The sand on the bottom is whiter than chalk,
The air is heady, like wine,
And the rosy body of the pines
Is naked in the sunset hour.*

*And the sunset itself on such waves of either
That I just can’t comprehend
Whether is the end of the day, the end of the world,
Or the mystery of mysteries in me again*

1964, September 25, Komarovo



<...> But more often she [Akhmatova] ask the driver to stop on the Coastal Highway between the 60th- and 70th-kilometer markers, where there was a wild deserted beach sown with enormous granite, boulders... [2, p.183]

¹⁰ About 15 kilometers from Komarovo.

¹¹ Cited by [11]. Translated by J. Hemschemeyer.

Vyborg

The poem *In Vyborg*, mentioned at the beginning of our paper, was born as a result of an amusing sequence of circumstances. A. Nayman wrote:

[In September 1964], I had a visit of a Moscow friend who was driving through Leningrad and I asked Akhmatova if she would like to go for a ride. We chose a pretty road which run from the Coastal Highway to the Vyborg Highway and were driving along in a leisurely way when suddenly one of us had the idea of going to Vyborg. She agreed, and then we threw ourselves into a race against time... [2, pp.183–184]

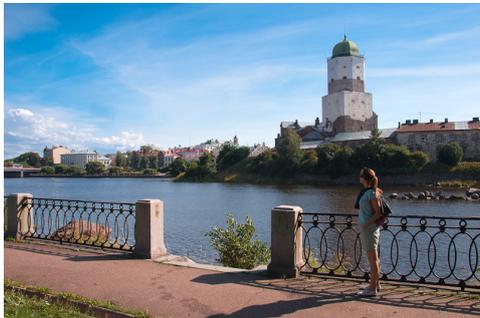
The reason of this crazy race was that Akhmatova was expecting a visitor in evening, and Vyborg was more than 120 km away.

<...> We hurtled to the town at [100 km] an hour or more, spun round alongside the park and the quay, without getting out, had an Eskimo ice-cream each and returned with equal speed. [2, p.184]



Fig. 7 A. Nayman and A. Akhmatova, Komarovo, 1964

Akhmatova recalled this trip with humor [12] but Vyborg itself did not impress her. ‘A settlement of moderate interest’, – were her words.



However,

<...> A few days later Ladyzhenskaya visited Akhmatova and told her that she had been to Vyborg, what a splendid place it was, and what a great impression the granite monolith whose steps went down into the water had made upon her. [2, p.184]

From the young age and to the last days of her life, Olga was an enthusiastic traveler and had the wonderful skill of a storyteller when sharing her impressions with friends [6]. On this occasion Anna Andreevna was amazed by Ladyzhenskaya’s emotional speech.

<...> Akhmatova looked at me with mock distress and pique and told her visitor that we had not seen anything of the kind. Two days later, if not the next day, she wrote the poem which begins with the words ‘A huge underwater steps’¹² and so on, and dedicated it to Ladyzhenskaya. [2, p.184]

¹² Cited by [11]. Translated by J. Hemschemeyer.



In Vyborg

to O.A.L.

*A huge underwater step
Leading to Neptune's kingdom –
There Scandinavia chills, like a shade,
All of it – as a single shining apparition.
Song falls silent, music is dumb,
But the air burns with their fragrance,
And white winter, on its knees,
Observes everything with reverent attention.*

1964, September 24, Komarovo

Later Anna Andreevna explained:

I didn't have time to inspect Vyborg, but Ladyzhenskaya told me so well about the rock that I seemed to see it myself. [8, vol.3, p.242]

Diaries

In the handwritten notes of Anna Andreevna [13], the name of Ladyzhenskaya is mentioned about 30 times. Here are some of the notes.

December 31, 1963. *Day of surprises. Greetings to <...>, O.A.*

January 1, 1965. *Evening – Ladyzhenskaya (suggests to listen Mozart)*

September (?) 1965. *Yesterday very late O.A.L. came and spent here the night. A long night talk...*

May (?) 1965. *<...> In the evening [I'll go] to Olga Aleksandrovna. There will be music to words of Marina*



The last event was later described by Boris Tishchenko¹³ in an interview [14]:

<...> I presented my Second symphony based on Marina Tsvetaeva poems in the apartment of Olga Aleksandrovna Ladyzhenskaya,¹⁴ one of the greatest Soviet mathematicians (she was a friend of Akhmatova).

She invited Anna Andreevna to this performance. Akhmatova came wearing large black bead necklace. And when I finished to play the symphony, she touched the beads and said: "These beads were given to me by Marina."

¹³ Boris Tishchenko (1939–2010) was a famous Soviet and Russian composer, a student of Dmitri Shostakovich. Author of Vocal Orchestral *Requiem* to the poem of A. Akhmatova.

¹⁴ Ladyzhenskaya did not play any instrument but she have bought a good piano for home concerts given by her friends. [15, p.135]

We would like to especially highlight three of Akhmatova's notes:

April (?) 1963	Poem	R
	<...>	<...>
	<...>	9. <i>O.A.</i>
	<i>11. Olga Aleks.</i>	<...>
August 30, 1964. <i>Tape recorder for O.A.</i>		

So, what is written here? '**Poem**' apparently means *Poem Without Hero*, one of the central creations of Akhmatova. She worked on the *Poem* more than twenty years. Though some parts of the *Poem* were published in the USSR beginning 1958, the full text without censorship cuts was published there only in 1987.¹⁵

The letter **R**, according to the experts, means *Requiem*, the poem with quite dramatic history.

REQUIEM¹⁶
<i>Not under foreign skies</i> <i>Not under foreign wings protected –</i> <i>I shared all this with my own people</i> <i>There, where misfortune had abandoned us</i>
[1961]
INSTEAD OF A PREFACE
<p>During the frightening years of the Yezhov¹⁷ terror, I spent seventeen months waiting in prison queues in Leningrad.¹⁸ One day, somehow, someone 'picked me out'. On that occasion there was a woman standing behind me, her lips blue with cold, who, of course, had never in her life heard my name. Jolted out of the torpor characteristic of all of us, she said into my ear (everyone whispered there) – "Could one ever describe this?" And I answered – "I can." It was then that something like a smile slid across what had previously been a face.</p>

Surely, the poem about the evils of Gulag, where 'one hundred million voices shout' through the author's 'tortured mouth', not only could not be published in

¹⁵ The first foreign edition – 1961, US.

¹⁶ Cited by [11]. Translated by J. Hemschemeyer.

¹⁷ Nikolai Ivanovich Yezhov (1895–1940) was the head of the secret Soviet police in 1936–1938 and one of the main organizers of the Great Terror.

¹⁸ For almost a year and a half after the arrest of Lev Gumilyov in 1938, Akhmatova tried to find out something about his fate.

Stalin's years but even to keep the manuscript was life-threatening. For this reason, Akhmatova burned the hand-written verses of the *Requiem* after it was read and memorized by a few people she trusted. [8, vol.1, p.13]. Later she said about that:

Eleven people knew Requiem by heart, and nobody betrayed me. [8, vol.2, p.536]

In the beginning of the 1960s the political situation in the USSR has changed but the publication of *Requiem* was still impossible.¹⁹ In 1962, Anna Andreevna wrote down the full text of *Requiem* for the first time and started to give the manuscript for reading in her presence. We guess that Akhmatova's notes of 1963 mentioned above show that Ladyzhenskaya belonged to the circle of the first readers of both complete manuscripts (*Requiem* and *Poem Without Hero*).

However, the note of August 30, 1964, is even more important in the history of *Requiem*. Namely, Olga Aleksandrovna convinced Akhmatova to make a tape recording of the *Requiem* and discreetly kept the recording for more than 20 years. We emphasize that the discovery of such a record by KGB²⁰ in the 1970s would have greatly jeopardize professional career of it's keeper and the record itself would have been confiscated.

So, thanks to Ladyzhenskaya, we can nowadays hear the immortal lines of *Requiem* performed by the author. It is available on *Youtube* [16].

Last years

In the last years of her life, Akhmatova received formal international recognition, and the first time since 1912 she was able to travel abroad.

In 1964, Anna Andreevna visited Sicily, where she was awarded the Etna-Taormina Prize.²¹

<...> Russia itself was sitting here, in the middle of the Sicilian-Dominican monastery garden. <...> The Grand Duchess of poetry granted an audience to poets in her own palace. The poets of all European countries stood in front of her; from the West and from the East; small, smallest and greatest; young and old; conservatives, liberals, communists, socialists. They stood, having lined up in a long line stretched along the gallery, and came up to kiss Anna Akhmatova's hand. [17]



Fig. 8 Akhmatova accepting the Etna-Taormina Prize in Catania, December 1964

¹⁹ The first foreign edition – 1963, BRD; the first edition in USSR – 1987.

²⁰ KGB was the name of the secret Soviet police force from 1954 to 1991.

²¹ From 2014, this prize is named after Anna Akhmatova.



Fig. 9 After the awarding ceremony in Oxford, June 1965

In June 1965, Akhmatova visited London, Oxford, Stratford-on-Avon, and Paris. In Oxford, she received an honorary doctorate from Oxford University.

On her return to Moscow, she told us with a smile how she marched along Oxford in Newton's robe. [18, p.297]

In London and Paris, Akhmatova met her old friends, from whom she was separated for almost half a century.

Twice, in 1965 and 1966, Anna Andreevna was nominated for the Nobel Prize in Literature.²² In 1965, her last poetry collection *The Flight of Time* was published.

Anna Akhmatova died of heart failure on March 5, 1966, in a sanatorium near Moscow. Though the authorities tried to avoid crowded ceremonies, thousands attended the Russian Orthodox funeral service in St. Nicolas Cathedral in Leningrad.

* * *

Olga Ladyzhenskaya outlived Akhmatova by 38 years. She wrote and co-authored 7 monographs and textbooks, as well as a number of research papers.

She became a Full Member of the Russian Academy of Sciences and was elected a foreign member to the oldest German academy Leopoldina, the Accademia Nazionale dei Lincei, and the American Academy of Arts and Sciences.

She was awarded many scientific prizes, including the Great Gold Lomonosov Medal.²³

She also received an honorary doctorate from the University of Bonn.



Fig. 10 President of the Russian Academy of Sciences Yu.S. Osipov gives O.A. Ladyzhenskaya the Great Lomonosov Medal, May 2003

Olga Aleksandrovna had 15 students, the number of her "scientific grandchildren and great-grandchildren" exceeds 200 [19]. Several of her students became world known mathematicians.

Olga Ladyzhenskaya passed away in her sleep on January 12, 2004, in St. Petersburg. The funeral service was held in the Church of Our Lady of Kazan in Zelenogorsk, near Komarovo.

²² The second nomination was interrupted due to the death of Akhmatova.

²³ The Great Gold Lomonosov Medal is the highest accolade of the Russian Academy of Sciences.

Again Komarovo. Cemetery

Seaside Sonnet²⁴

*Here everything will outlive me,
Everything, even the decrepit starling houses,
And this breeze, a vernal breeze,
finishing its flight from across the sea.*

*And the voice of eternity beckons
With unearthly irresistibility,*

<...>

1958, June, Komarovo



Left: the grave of Anna Akhmatova; right: the grave of Olga Ladyzhenskaya

According to Akhmatova's last wish, she was buried in the Komarovo cemetery.

Ladyzhenskaya's grave is in the Komarovo cemetery not far from Akhmatova's grave.

And now they lie almost nearby to each other.

Two friends.

Two Queens.

Acknowledgements This paper is an extended version of our talk at the First International Workshop on Literature and Mathematics in Óbidos, Portugal, in October 2016 [20]. We are grateful to José Francisco Rodrigues for the invitation to participate in this event.

We would also like to thank Yakov Nikitin and Yulia Yelkhimova for valuable comments, and Yuri Podstavka and Irina Il'gova for their help with photoshooting in Komarovo.

²⁴ Cited by [11]. Translated by J. Hemschemeyer.

References

1. Vladimir Ivanovich Smirnov, 1887–1974. 2nd extended edition. O.A. Ladyzhenskaya and V.M. Babich (eds.), Nauka, Moscow (2006), pp.181–187 [in Russian]. English transl. in: Apushkinskaya, D.E., Nazarov, A.I.: “Protect the footprints of man on the sand of time!” (V.I. Smirnov). *St. Petersburg Math. J.*, **30**, no. 2, 149–160 (2019).
2. Nayman, A.: Remembering Anna Akhmatova. Transl. by W. Rosslyn. Peter Halban, London (1991).
3. OLGA ALEXANDROVNA LADYZHENSKAYA (7.03.1922-12.01.2004) // Available at <https://icm2022.org/blog/newsletter-1-olga-ladyzhenskaya>
4. Roskina, N.A.: ‘As if I bid farewell anew...’, *Zvezda*, no. 6, pp.88–105 (1989) [in Russian].
5. Ivanov, Vyach.Vs.: Conversations with Anna Akhmatova. In: Reminiscences about Anna Akhmatova. Collected volume, Sov. Pisatel’, Moscow (1991), pp.473–502 [in Russian].
6. Friedlander, S., Lax, P., Morawetz, C., Nirenberg, L., Seregin, G., Uraltseva, N., Vishik, M.: Olga Alexandrovna Ladyzhenskaya (1922-2004), *Notices of the AMS*, **51**, no. 11, 1320–1331 (2004).
7. “Russian Scientific Daily”, 21.05.2003 [in Russian].
8. Chukovskaya, L.: Notes about Anna Akhmatova. Vol.1: 1938–1941; vol.2: 1952–1962; vol.3: 1963–1966. Soglasie, Moscow (1997) [in Russian].
9. Uraltseva, N.N.: Personal communication.
10. Gitovich, S.: In Komarovo. In: Reminiscences about Anna Akhmatova. Collected volume, Sov. Pisatel’, Moscow (1991), pp.503–519 [in Russian].
11. The Complete Poems of ANNA AKHMATOVA. Updated and expanded edition. Translated by J. Hemschemeyer, R. Reeder (ed.), 4th edition, Zephyr Press, Boston; Canonicate Books Ltd, Edinburgh (2000).
12. Venclova, T.: Memories about Anna Akhmatova. In: Anna Akhmatova: Last Years, Nevskii Dialekt, St. Petersburg (2001), pp.76–91 [in Russian].
13. Sketchbooks of Anna Akhmatova (1958-1966), Torino Publishers, Moscow (1996) [in Russian].
14. “Private Correspondent”, 15.08.2010 [in Russian].
15. Kiseleva, F.A.: Two Wings over Unzha, St. Petersburg (2018) [in Russian].
16. www.youtube.com/watch?v=P--7yKgBfro
17. Richter, H.W.: Euterpa vom Ufer der Newa oder Ehrung von Anna Akhmatova in Taormino, Sondereinband, Friedenauer Presse Verlag (1965) [in German].
18. Shervinskii, S.V.: Anna Akhmatova from the perspective of everyday life. In: Reminiscences about Anna Akhmatova. Collected volume, Sov. Pisatel’, Moscow (1991), pp.281–298 [in Russian].
19. <https://genealogy.math.ndsu.nodak.edu/id.php?id=54543>
20. Rodrigues, J.F.: Mathematics and Literature. An International Workshop held in Óbidos, Portugal, the 1st October 2016. In: CIM Bulletin no. 37, October 2016, pp.3–7.