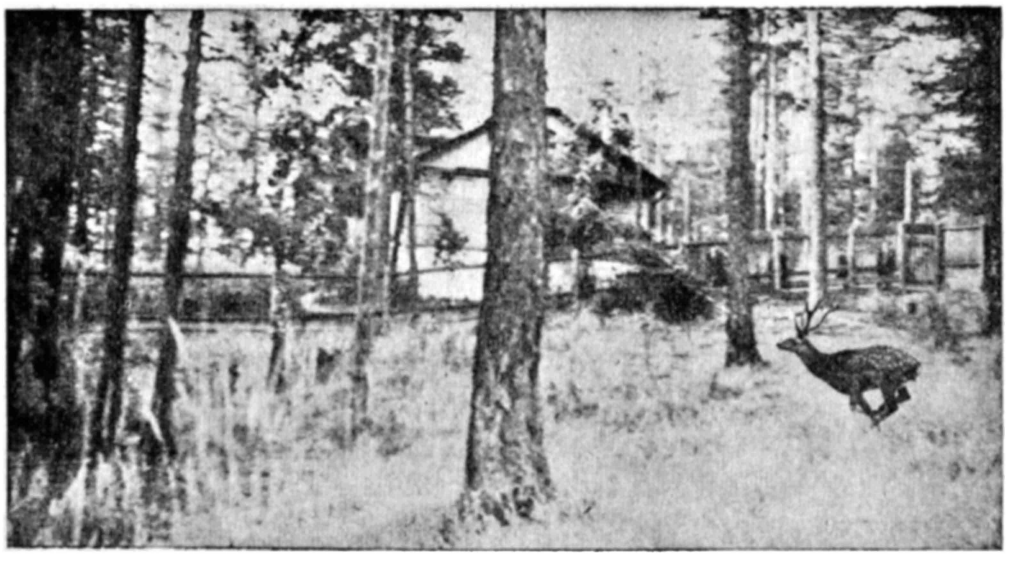
MOTORING THROUGH THE URALS—5

Ilya Agranovsky and Vladimir Polynin leave Magnitogorsk and continue their trip through the Urals

Paradise for Geologists



Alexei Lyapunov (*left*) is a mathematician. Nikolai Timofeyev is a biologist. Our correspondents found them working together, developing the science of "bio-mathematics," in the famous Ilmen nature preserve. The spotted deer, however, did not wish to have his picture taken!

THE Ilmen Nature Preserve—it was here that we really first saw the Urals as we had imagined them to be from our childhood years—with their projecting cliffs, age-old pines, the lakes that sparkle with all the colours of precious stones, which we had read about in our geography books and in the tales of the Urals bard, Pavel Bazhov.

But what we saw was even more extraordinary and more beautiful than what we had read about or imagined.

We had heard of the strange beauty of the Ilmen Preserve while still in Moscow. Some 125 miles north of Magnitogorsk, the personification of the new Urals, created by Soviet people, we found this bit of the Urals, almost as Mother Nature created it millions of years ago.

Marvels of Nature

The preserve covers rather more than a hundred square miles—and is an area which has long been a paradise for geologists. Many come here from abroad to see these marvels of nature, which has stored up, in a relatively small area, an incredible collection of almost 200 different minerals, among them rare ones found only in these Ilmen Mountains.

At the beginning of the present century this paradise was in danger of being plundered. Rapacious people, great and small, began to come here in search of gold, topaz, rubies. But the revolution saved the Ilmen. In the spring of 1920, a decree signed by Lenin declared these places a reservation in view of their exceptional scientific significance, and to protect their natural mineral riches.

We read this decree of Lenin's in the Preserve's museum, which is visited annually by up to 30,000 holidaymakers.

We made a hurried tour of the museum — as you may glance through the table of contents of a book before getting down to reading it. And then our car rode up a forest path, deep into the preserve itself.

Back to Childhood

On the way we saw some wood-grouse which lazily stepped aside as we drove by, a herd of deer, the dams built by beavers on the streams, the tracks of deer brought here from the shores of the Pacific Ocean.

Among the pines we caught glimpses of lakes trimmed with mountains covered with a blue haze. When we stopped our car and the noise of the motor, so unusual for these places, died down, we seemed to have been carried back to the very childhood of the earth.

Here, however, we met people engaged on the most modern problems, scientists who, in this out-of-the-way place, are intruding upon new, unstudied fields of science.

In the scientific colony on the shore of Lake Ilmen we met Alexei Lyapunov, Professor of Moscow University and a leading Soviet cyberneticist.

Lyapunov spends his annual holiday in the Ilmens, not only because he is an ardent lover of minerals, but chiefly because Professor Nikolai Timofeyev-Resovsky of Sverdlovsk—a biologist, well-known not only in Russia but abroad as well—also spends his summer here.

These two scholars are working together, developing a new branch of science which they call "mathematical biology" or "bio-mathematics."

What is bio-mathematics? Professor Lyapunov told us that, whereas, when designing cybernetic machines, he had taken the human brain as its prototype, he was now trying to build cybernetic machines on the principle of the living cell, which is so simple in its structure and at the same time so subtly controls a number of the most intricate processes, among them the most intricate one—heredity.

That explains why he, a mathematician, is so in need of the co-operation of a biologist who has penetrated the "mechanism" of the cell.

Boldly Advancing

We visited the superbly modern biophysical laboratories which Professor Timofeyev-Resovsky has put up here.

The problems on which this Sverdlovsk scientist is now working require a mastery of modern biology and physics and the most intricate mathematical calculations and exact analysis.

A scientist who has travelled the world and returned, in his old age, to his native land, Professor Timofeyev-Resovsky, with the help of the spirited, fearless youngsters that surround him, is boldly advancing towards the solutions of these problems.

Reluctantly leaving the Ilmen, we headed for Zlatoust, the Sheffield of the Urals, famous for its high-grade steel.

On the way we drove through Miass, the former capital of the Urals gold prospectors. It was here that a tremendous gold nugget weighing nearly 80 lb. was found. That nugget is still intact.

". . . Driving into Zlatoust, we passed a fine monument to the great Russian metallurgist, Pavel Anosov"

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At the plant we had a talk with its 30-year-old chief designer, Kurov, who has already designed two new lorries which went into production last year, the Ural-355 and Ural-381.

Driving into Zlatoust, we passed a fine monument to the great Russian metallurgist, Pavel Anosov, in the central square.

In 1731 Anosov, then the manager of the Zlatoust Armoury, laid the foundation for scientific metallography, first applying the microscope to the study of metals. Anosov developed a method of remaking pig-iron into steel by resmelting, which was later called the open-hearth method.

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Old and New

But Zlatoust is not content with merely preserving the memory of its former glory. It keeps enhancing it. There is, as yet, no other plant in the Soviet Union which puts out such an assortment of high-grade steel as the Zlatoust Works—350 types. Zlatoust is a well-known name in Western Germany, in Italy, Czechoslovakia, India.

Zlatoust recently celebrated its 250th birthday. It is one of the oldest centres of the Urals iron and steel industry. The old and the new live side by side, everywhere here.

We enjoyed a talk with Boronnikov, who heads a group of masters who have inherited from their ancestors the art of engraving on steel.

We spoke to Vasily Anosov, a steel-worker who, during the years of the war, was the first to smelt high-grade steel alloy not in electric furnaces but in open-hearth furnaces.

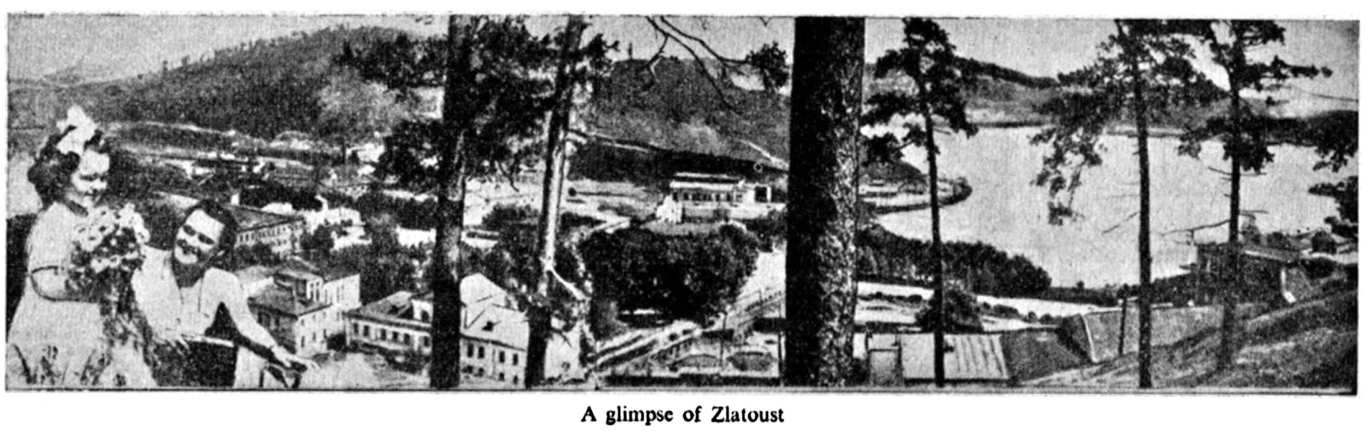
We also visited Fyodor Korostelev, a veteran of the revolution. Now retired on a pension, he and his wife grow apples, plums and cherries of kinds new to the Urals.

Back in 1903, Korostelev took part in a demonstration of workers fired upon by the tsar's gendarmes. We also met workers who, in 1929, organised the first shock teams that started the great socialist emulation movement in the U.S.S.R.

And we visited the specialised schools, where a new, highly educated shift is being trained to take the place of the skilled old Urals workers.

This territory was once proud of its steel and gold. Today it is an area of golden hands and steel-tempered people, who have created a new, socialist industrial Urals.

The next report from Ilya Agranovsky and Vladimir Polynin describes their visit to Chelyabinsk.



A glimpse of Zlatoust

Agranovsky I., Polynin V. Paradise for Geologists // Soviet Weekly. – 1958. – Oct. 16, – P. 12. – (Motoring through the Urals-5: Ilya Agranovsky and Vladimir Polynin leave Magnitogorsk and continue their trip through the Urals). – Математик Алексей Ляпунов и биолог Николай Тимофеев-Ресовский в Ильменском заповеднике и их совместная работа над развитием науки «биоматематики».

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Проездом по Уралу-5

Илья Аграновский и Владимир Полынин покидают Магнитогорск и продолжают свое путешествие по Уралу

РАЙ ДЛЯ ГЕОЛОГОВ

Ильменский заповедник — именно здесь мы действительно впервые увидели Урал таким, каким представляли его себе с детских лет — с его выступающими скалами, вековыми соснами, озерами, переливающи-мися всеми цветами драгоценных камней, мы читали в наших учебниках по географии и в рассказах уральского певца Павла Бажова.

Но то, что мы увидели, было еще необыкновеннее и красивее, чем то, о чем мы читали или воображали.

О диковинной красоте Ильменского заповедника мы узнали еще в Москве. Примерно в 125 милях к северу от Магнитогорска, олицетворения нового Урала, созданного советскими людьми, мы нашли этот кусочек Урала, почти таким, каким его создала мать-природа миллионы лет назад.

Чудеса природы

Заповедник занимает площадь более ста квадратных миль — и это территория, которая уже давно стала раем для геологов. Многие приезжают сюда из-за границы, чтобы увидеть эти чудеса природы, которая на сравнительно небольшой территории накопила невероятную коллекцию из почти 200 различных минералов, в том числе редких, встречающихся только в этих Ильменских горах.

В начале нынешнего века этому раю грозило разграбление. Хищные люди, большие и малые, стали приходить сюда в поисках золота, топазов, рубинов. Но революция спасла Ильмены. Весной 1920 г. указом, подписанным Лениным, эти места были объявлены заповедными ввиду их исключительного научного значения и для охраны их природных минеральных богатств.

Этот указ Ленина мы читаем в музее заповедника, который ежегодно посещают до 30 тысяч отдыхающих.

Мы совершили беглую экскурсию по музею — как можно просмотреть оглавление книги, прежде чем приступить к чтению. А дальше наша машина поехала по лесной тропинке, вглубь самого заповедника.

Назад в детство

По дороге мы видели глухаря, который лениво отходил в сторону, когда мы проезжали мимо, стадо оленей, плотины, построенные бобрами на ручьях, следы оленей, принесенных сюда с берегов Тихого океана.

Среди сосен мелькали озера, обрамленные горами, покрытыми синей дымкой. Когда мы остановили машину и шум мотора, столь необычный для этих мест, затих, мы словно перенеслись в самое детство земли.

Here, however, we met people engaged on the most modern problems, scientists who, in this out-of-the-way place, arc intruding upon new, unstudied fields of science.	Но здесь мы встретили людей, занимающихся самыми современными проблемами, ученых, которые в этой глуши вторгаются в новые, неизученные области науки.
In the scientific colony on the shore of Lake Ilmen we met Alexei Lyapunov, Professor of Moscow University and a leading Soviet cyberneticist.	В научной колонии на берегу озера Ильменском мы познакомились с Алексеем Ляпуновым, профессором Московского университета, ведущим советским кибернетиком.
Lyapunov spends his annual holiday in the Ilmens, not only because he is an ardent lover of minerals, but chiefly because Professor Nikolai Timofeyev-Resovsky of Sverdlovsk — a biologist, well-known not only in Russia but abroad as well — also spends his summer here.	Ежегодный отпуск Ляпунов проводит в Ильменах не только потому, что он страстный любитель полезных ископаемых, но главным образом потому, что профессор Свердловска Николай Тимофеев-Ресовский — биолог, известный не только в России, но и за рубежом — тоже проводит лето здесь.
These two scholars are working together, developing a new branch of science which they call "mathematical biology" or "bio-mathematics".	Эти два ученых работают вместе, развивая новую отрасль науки, которую они называют «математической биологией» или «биоматематикой».
What is bio-mathematics? Professor Lyapunov told is that, whereas, when designing cybernetic machines, he had taken the human brain as its prototype, he was now trying to build cybernetic machines on the principle of the living cell, which is so simple in its structure and at the same time so subtly controls a number of the most intricate processes, among them the most intricate one — heredity.	Что такое биоматематика? Профессор Ляпунов рассказал, что если при проектировании кибернетических машин он брал за прототип человеческий мозг, то теперь он пытается построить кибернетические машины на принципе живой клетки, столь простой по своему строению и в то же время Время так тонко управляет целым рядом сложнейших процессов, среди которых сложнейший — наследственность.
That explains why he, a mathematician, is so in need of the cooperation of a biologist who has penetrated the "mechanism" of the cell.	Это объясняет, почему он, математик, так нуждается в сотрудничестве биолога, проникшего в «механизм» клетки.
Boldly Advancing	**Смелое продвижение**
We visited the superbly modern biophysical laboratories which Professor Timofeyev-Resovsky has put up here.	Мы посетили великолепные современные биофизические лаборатории, которые устроил здесь профессор Тимофеев-Ресовский.
The problems on which this Sverdlovsk scientist is now working require a mastery of modern biology and physics and the most intricate mathematical calculations and exact analysis.	Проблемы, над которыми сейчас работает этот свердловский ученый, требуют владения современной биологией и физикой, сложнейших математических расчетов и точного анализа.
A scientist who has travelled the world and returned, in his old age, to his native land. Professor Timofeyev-Resovsky, with the help of the spirited, fearless youngsters that surround him, is boldly advancing towards the solutions of these problems.	Ученый, объехавший весь мир и вернувшийся в старости на родину. Профессор Тимофеев-Ресовский с помощью окружающих его энергичных, бесстрашных юношей смело идет к решению этих проблем.
Reluctantly leaving the Ilmen, we headed for Zlatoust, the Sheffield of the Urals, famous for its high-grade steel.	Неохотно оставив Ильмены, мы направились в Златоуст, Шеффилд Урала, славящийся своей высококачественной сталью.
On the way we drove through Miass, the former capital of the Urals gold prospectors. It was here that a tremendous gold nugget weighing nearly 80 lb. was found. That nugget is still intact.	По пути мы проехали через Миасс, бывшую столицу уральских золотоискателей. Именно здесь был найден огромный золотой самородок весом почти 80 фунтов. Этот самородок до сих пор цел.
And now almost every dweller of Miass likes to "fool around" in his free time "washing" the gold-bearing sand.	И сейчас почти каждый миассчанин любит в свободное время «подурачиться», «отмыв» золотоносный песок.
Here, too, modern electric dredges arc employed. But gold-mining has, in the main, long moved from the Urals to Siberia.	Здесь также используются современные электрические земснаряды. Но золотодобыча в основном давно переместилась с Урала в Сибирь.
Miass is'now known for its motor-vehicles. The Moscow Motor Works moved out here during the war, and when later, it returned to the capital, it left this offspring in Miass.	Миасс теперь известен своими автомобилями. Московский автомобильный завод переехал сюда во время войны, а потом, вернувшись в столицу, оставил это детище в Миассе.
The Miass factory specialises in lorries, which arc famous for their strength and ability to travel everywhere.	Миасский завод специализируется на грузовых автомобилях, которые славятся своей прочностью и вездеходностью.

At the plant we had a talk with its 30-year-old chief designer, Kurov, who has already designed two new lorries which went into production last year, the Ural-355 and Ural-381.

На заводе мы побеседовали с его 30-летним главным конструктором Куровым, который уже спроектировал два новых грузовика, запущенных в прошлом году, Урал-355 и Урал-381.

Driving into Zlatoust, we passed a fine monument to the great Russian metallurgist, Pavel Anosov, in the central square.

Въезжая в Златоуст, мы миновали прекрасный памятник великому русскому металлургу Павлу Аносову на центральной площади.

In 1731 Anosov, then the manager of the Zlatoust Armoury, laid the foundation for scientific metallography, first applying the microscope to the study of metals. Anosov developed a method of remaking pig-iron into steel by resmelting, which was later called the open-hearth method.

В 1731 году Аносов, управляющий Златоустовской оружейной палатой, заложил основы научной металлографии, впервые применив микроскоп для изучения металлов. Аносов разработал способ переплавки чугуна в сталь, который впоследствии был назван мартеновским.

There was a time when swords made in Zlatoust smashed fine blades from elsewhere. We saw- those blades in the museum of the old plant, which once supplied the Russian army with all its “cold” weapons.

Было время, когда мечи, сделанные в Златоусте, разбивали прекрасные лезвия из других мест. Мы видели эти клинки в музее старого завода, который когда-то снабжал русскую армию всем ее «холодным» оружием.

Old and New

Старый и новый

But Zlatoust is not content with merely preserving the memory of its former glory. It keeps enhancing it. There is, as yet, no other plant in the Soviet Union which puts out such an assortment of high-grade steel as the Zlatoust Works — 350 types. Zlatoust is a well-known name in Western Germany, in Italy, Czechoslovakia, India.

Но Златоуст не ограничивается лишь сохранением памяти о былой славе. Он продолжает улучшать его. В Советском Союзе нет еще ни одного завода, выпускающего такой ассортимент высококачественной стали, как Златоустовский завод — 350 сортов. Златоуст — известное имя в Западной Германии, Италии, Чехословакии, Индии.

Zlatoust recently celebrated its 250th birthday. It is one of the oldest centres of the Urals iron and steel industry. The old and the new live side by side, everywhere here.

Недавно Златоусту исполнилось 250 лет. Это один из старейших центров черной металлургии Урала. Старое и новое живут здесь бок о бок повсюду.

We enjoyed a talk with Boronnikov, who heads a group of masters who have inherited from their ancestors the art of engraving on steel.

Мы получили удовольствие от беседы с Боронниковым, возглавляющим группу мастеров, унаследовавших от предков искусство гравировки по стали.

We spoke to Vasily Anosov, a steel-worker who, during the years of the war, was the first to smelt high-grade steel alloy not in electric furnaces but in open-hearth furnaces.

Мы поговорили с Василием Аносовым, сталеваром, который в годы войны первым стал выплавлять легированную высококачественную сталь не в электропечах, а в мартеновских печах.

We also visited Fyodor Korostelev, a veteran of the revolution. Now retired on a pension, he and his wife grow apples, plums and cherries of kinds new to the Urals.

Мы также посетили Федора Коростелев, ветерана революции. Сейчас на пенсии, вместе с женой выращивают яблоки, сливы и черешню новых для Урала сортов.

Back in 1903. Korostelev took part in a demonstration of workers fired upon by the tsar’s gendarmes. We also met workers who, in 1929, organised the first shock teams that started the great socialist emulation movement in the U.S.S.R.

Еще в 1903 г. Коростелев принял участие в демонстрации рабочих, расстрелянных царскими жандармами. Мы также встречались с рабочими, которые в 1929 году организовали первые ударные отряды, положившие начало великому социалистическому соревнованию в СССР.

And we visited the specialised schools, where a new, highly educated shift is being trained to take the place of the skilled old Urals workers.

И мы побывали в спецшколах, где готовят новую, высокообразованную смену на место старых квалифицированных уральских рабочих.

This territory was once proud of its steel and gold. Today it is an area of golden hands and steel-tempered people, who have created a new, socialist industrial Urals.

Эта территория когда-то гордилась своей сталью и золотом. Сегодня это край золотых рук и стального закала людей, создавших новый, социалистический индустриальный Урал.

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Следующий репортаж Ильи Аграновского и Владимира Полынина описывает их визит в Челябинск.

[Photo captions:]	**[Подписи к фотографиям:]**
Alexei Lyapunov (left) is a mathematician. Nikolai Timofeyev is a biologist. Our correspondents found them working together, developing the science of " bio-mathematics", in the famous Ilmen nature preserve. The spotted deer, however, did not wish to have his picture taken! «… Driving into Zlatoust, we passed a fine monument to the great Russian metallurgist, Pavel Anosov» A glimpse of Zlatoust	Алексей Ляпунов (слева) — математик. Николай Тимофеев – биолог. Наши корреспонденты застали их за совместной работой, развивающей науку «биоматематика», в знаменитом Ильменском заповеднике. Пятнистый олень, однако, не хотел, чтобы его фотографировали! «… Въезжая в Златоуст, мы миновали прекрасный памятник великому русскому металлургу Павлу Аносову» Взгляд на Златоуст.