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# "The Difference Between No. 1 1928 and No. 1 1930 Is Great Indeed."

## Theodosius Dobzhansky's Self-Imposed Exile From Soviet Russia – The "Dr. Zhivago Period"

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**Abstract:** This article chronicles the correspondence between Theodosius Dobzhansky (1900-1975) and his colleagues in the USSR in the years following his arrival in the United States on what was to have been a one-year fellowship working in the laboratory of T.H. Morgan at Columbia University. These letters chronicle a period during which Dobzhansky not only realized the enormous potential of Drosophila genetics for unlocking the secrets of evolution, but also that continuing this research would require finding a way to remain in the United States longer than either the Soviet Academy of Sciences, or the Rockefeller Foundation, would allow. Dobzhansky's exchanges during this period with mentors such as Yuri Filipchenko and Nikolai Vavilov, as well as fellow students and colleagues such as Nikolai Medvedev, highlight the precarious game Dobzhansky played as he attempted to appear eager to return to his homeland, while secretly maneuvering to delay it. By the time it was over Filipchenko would die an early death of meningitis and Vavilov—who had originally been urging Dobzhansky to return and contribute to development of genetics in Russia—would now advise him to remain in the USA. Dobzhansky was nearly forced to return to the USSR after a routine trip to Canada to renew his visa, an outcome that would surely have resulted in imprisonment or worse. In the end he was allowed to stay, however Dobzhansky's defection was so resented by the Soviet regime that even decades later he would remain an "un-person" in his homeland, whose name and contributions were never officially acknowledged during his lifetime, and his attempts at reconciliation were rejected.

**Keywords:** migration, genetics, *Drosophila melanogaster*, Soviet Union, United States

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December 20, 1927. Columbia University geneticist Thomas Hunt Morgan received a letter from Wallace Lund of the Rockefeller Foundation, informing him that they had been advised by their Paris Office that Doctor Theodosius Dobzhansky and his wife were sailing from Cherbourg on the steamship *Pennland*. The Dobzhanskys were due to arrive on Christmas Day, and Rockefeller assumed his laboratory would be closed till after New Year's. "If your rooms should be open," however, Lund asked, "I am sure that Doctor Dobzhansky will wish to get started as soon as possible."

"As a matter of fact, our laboratory is never closed," Morgan replied, "not even on Christmas – but it is inaccessible on Christmas Day, except to the initiated"[1].

By now Morgan's "fly room" at Columbia was famous. The nickname came from the fact that the focus of research was the domestic fruit fly, *Drosophila melanogaster*, which had become the model organism for genetic research. Dobzhansky planned to spend a year in Morgan's lab, after which he would return and contribute to the development of genetics in the USSR. However, three things were about to happen that no one anticipated.

One, Stalin would launch massive industrialization and collectivization campaigns, accompanied by a reign of terror, which made it clear to Dobzhansky he would be unable to continue the work he had begun under Morgan. Two, Russian geneticists, in terms of the application of genetics to Darwinian evolution, were well ahead of their U.S. counterparts. This meant three, Morgan would prefer Dobzhansky remain, and would do everything he could to make sure it happened.

Dobzhansky was born in 1900, the year of the rediscovery of Mendel's Laws. He was an only child, and his parents hoped he would grow up to become a doctor or an engineer. His interest in science was a disappointment to them[2].

When he was ten, the family was forced to move to a smaller home on the outskirts of Kiev, where they used the last of their savings to build a house large enough for boarders. Amidst their decline in fortunes Dobzhansky started high school, where he met Vadim Alexandrovsky, the son of a tutor to wealthy families in the neighbourhood. Their natural history teacher knew little about the subject, so he bribed Dobzhansky and his friend to stop asking so many pesky questions about natural history by granting them the key to the science cabinet – a small anteroom containing a microscope. Another resource at their disposal was Vadim's father's library, where one day they discovered a Russian translation of *On the Origin of Species*.

Like Darwin, Dobzhansky would become fascinated by the variety of nature to be found in the tropics. He got his first view of palm trees, bananas,

white sandy beaches, and the deep blue sea on a school trip south to the southern Caucuses. It was here the group learned the news of World War I. The Russian empire would soon fall apart.

Spring before the Bolshevik Revolution the snow melted and the rivers ran wild, overflowing their banks on the flat barren plains of Ukraine. On the Dnieper this gave rise to an odd biological phenomenon: insects and tiny animals drowned by the flood rose to the surface as floating debris, where the wind drove them to the shore. The Entomological Society of Kiev organized an expedition and used nets to collect the insects, the same method they used to trap butterflies in the air. It was here Dobzhansky discovered a new species of *Coccinellidae*—lady bird beetle—which became his first scientific publication.

Approaching the question of the evolution of species from the standpoint of beetles gave Dobzhansky unique insight he might not otherwise have because the answer is very specific. Either the sex parts fit together, or they do not. From these observable differences Dobzhansky would use what he learned from Darwin to begin the long process of determining the genetics of the origin of species.

Dobzhansky enrolled at the University of Kiev the following fall, as the Revolution was underway. Kiev was close to the front lines and soon there were shortages of food and fuel. Refugees began pouring in from the countryside – including scientists with whom he had the privilege of sharing now crowded lab space. The depth of experience and variety of points of view Dobzhansky was exposed to made up for the increasingly tenuous nature of any other kind of education. The windows of the buildings on campus were blown out, the heat ceased working, as students and professors peered into microscopes, bombs flying overhead.

Kiev changed hands several times between the Red and White armies, and Dobzhansky worked for both sides. He began his first professorship at age 19 at a *Rabfak* – i.e., worker's university organized by the communist government. Next, he worked for the International Red Cross aboard a hospital train that travelled hundreds of miles, crisscrossing the countryside to provide healthcare and relief. Somehow the University remained functioning, and eventually Dobzhansky resumed what he could of his studies. His mother would choke to death right in front of him on a piece of bread before what he would call the "Dr. Zhivago period" of Russian history came to an end[3].

Once it did, Dobzhansky began teaching at the Kiev Polytechnical Institute, where he came across an article in a popular science magazine, *Prioroda*, which described the astounding discoveries of an American scientist, Thomas Hunt Morgan, and his students at Columbia University in New York City. The article was written by a geneticist in Petrograd, Iurii Filipchenko.

Filipchenko's articles were a revelation, and Dobzhansky knew he must meet him.

Dobzhansky also became more familiar with Morgan's work from the literature being brought from the West by Nikolai Vavilov. Vavilov's classes were being held in the Houses of Scientists, established in former homes of royalty in Moscow and Petrograd, between which Vavilov commuted on his mission to rescue Russia from the perpetual cycle of famine imposed by its punishing climate. Vavilov had visited the United States and Western Europe – and had convinced Lenin to support his plan for testing and improving new plant varieties by building a plant breeding empire across the Soviet Union (Pringle 2008, 96-97). Dobzhansky knew Vavilov was another man he must meet (Soyfer 1994, 47-48).

Dobzhansky applied for the documents necessary to allow him to travel to Moscow and Petrograd and live in their respective Houses of Scientists. There he met other young biologists from all around Russia, some of whom, such as Sergei Chetverikov and Aleksandr Serebrovsky, would join him among the first Soviet geneticists[4].

Chetverikov had a laboratory in Moscow where he allowed Dobzhansky to examine mutant strains of *Drosophila melanogaster*. Dobzhansky followed up on his studies on speciation as determined by the sexual apparatuses of beetles, to see if something similar would be discovered in the genetics of fruit flies. And indeed it was. Change in one gene – a mutation – could modify a trait – genitalia – to determine which flies could mate with which. He published his work, Filipchenko read it, then sent him an offer to join his lab. Dobzhansky enthusiastically accepted (Konashev 1994, 69-70).

By now Dobzhansky had married Natalia Sivertzeva, and his relationship with Filipchenko quickly evolved from mentor and protégé to friend. Dobzhansky's precocious talent was evident, and he became a star student in the lab. Soon it was time to introduce Dobzhansky to Vavilov.

Filipchenko joked that it would actually be easier if Vavilov never kept living quarters. He only slept four or five hours a night, most of it on the train between Moscow and Leningrad (Soyfer 1965, 381-394; Joravsky 1965, 381-394). Dobzhansky quickly picked up on Vavilov's impatience with thinking in figures less than a million. Small things did not interest him – his visions were only of a grand scale. Though not inclined to subscribe to any particular political vision, Vavilov's ambitions did align with the official belief that communism made possible the development of science to an extent bourgeois countries could only dream of. Vavilov sincerely believed all of this could be done, and he was hard at work on accomplishing it[5].

In Leningrad, Dobzhansky continued to focus his attention on ladybird beetles and *Drosophila* flies. Filipchenko's interests were eugenics and animal breeding, neither of which Dobzhansky cared about. However, he was able to

take advantage of his mentor's interest by proposing summer research expeditions to Central Asia where he could study the livestock raised by native tribes. Dobzhansky was eager to measure the effect of centuries of breeding by different tribes separated by natural geographic barriers such as mountains and valleys.

These expeditions took place in the summers of 1925, 1926 and 1927, and Dobzhansky was able to assemble extensive data on variances in the fat content of milk apparent in different populations of sheep, horses, goats and cows. In fact, there seemed to be more cows than people[6]. However, there were people around him- his colleague Nikolai Medvedev in particular – who were beginning to arouse his suspicion.

Medvedev was a student at Leningrad University and joined their expedition under the auspices of the State Institute for Experimental Agronomy (GIOO). He was not a member of Filipchenko's Institute, he worked for the Soviet government. Dobzhansky wrote Filipchenko that Medvedev was "dark as the night" – closed, inscrutable. He did not complain or express any displeasure, but always had to be told to do something and then only did it half-heartedly. Medvedev blamed others if something went wrong, and only raised the topic of their work to suggest doing less[7].

A few days later Dobzhansky's suspicions were confirmed when Medvedev, along with another member of their group who was also there with the GIOO, secretly bought a number of glass bottles at the market in Semipalatinsk to use for collecting samples of cow and goat's milk to analyze on their own. When Dobzhansky discovered what they'd done he pointed out that they should sample horses and sheep as well – but anyway, why didn't they tell him they had such a thing in mind? They were only duplicating research? At this point Dobzhansky realized they weren't there for Filipchenko – their loyalty was elsewhere. Dobzhansky asked Medvedev who had told him to collect his own samples, but when Medvedev started to answer he seemed to realize he'd already said too much and stopped talking[8]. When Dobzhansky returned from the expedition he began his application for a fellowship from the Rockefeller Foundation.

Dobzhansky's nascent plans to learn more about the genetic origin of species were evident in his application to the Rockefeller Foundation. When asked to "Describe in detail the study or investigation you wish to carry on," he answered, "The problem of manifold effect of genes in *Drosophila melanogaster*." This meant to study the various ways in which a given gene could affect an organisms' appearance.

"In order to study at length the above-mentioned problem," he added, "I should consider a detailed investigation of the morphology of mutants of Drosophila conforming to my purpose." In other words, since a mutation was

the appearance of something new, mutant fruit flies were the place to begin searching for the origin of new species.

"Why do you wish to carry on the study or investigation above named at the place you have chosen?" he was asked.

"As the problems I am most interested in have arisen and been intensively studied by Prof. Dr. Th. Morgan, Columbia University," he replied, "I should be able to fully master the material and methods of work of this kind only there."

"What are your plans following completion of fellowship?"

"To continue my work in Russia at my present situation."

And this was true. He and Natasha packed only what they needed and left behind anything of sentimental value, when they departed on December 3rd [9]. Because there were no formal diplomatic relations between the United States and the Soviet Union, they first had to travel to Latvia for a visa. Once they swore they were neither communists, nor anarchists, nor prostitutes who were planning to overthrow the U.S. government by force, the process was relatively straightforward. The officer asked Dobzhansky what kind of visa he wanted – one for a professor or one for a student. Dobzhansky hadn't the faintest idea if it made any difference so he said, "Give me any kind of visa you want." It was a decision he would bitterly regret later[10].

*"Now Professor Morgan…"*

Next, they travelled from Riga to Berlin, then took the train to Paris, where yet another fateful encounter occurred. As the train rolled along, he and Natasha arrived for lunch in the dining car and sat next together at a table for four. Across from them was a well-dressed gentleman with a grey moustache and a pince-nez. Natasha remarked on the extraordinary number of silverware on the table for their meal, and their companion smiled and said, "I understand Russian. It is sometimes useful to know that your neighbour understands your language."

They began to talk, and he asked where they had come from, where they were going to and why. As the conversation continued, Dobzhansky had this feeling that he recognized him, he had seen this man or his photo somewhere before. Eventually the meal came to an end, they stood up, shook hands, and the man smiled again and said, "I don't know whether I should tell you my name or not. It is a bad name. My name is Milyukov."

Pavel Milyukov had served as Foreign Minister in the Russian Provisional Government after the Revolution, when he proposed returning the tsar to the throne as a constitutional monarch, and opposed his country's withdrawal from World War I. Afterward he had been forced to flee and narrowly

survived an assassination attempt at the Berlin Philharmonie. Now he lived in Paris where he published an émigré newspaper. Milyukov was a malodorous name to the Soviet government. Meeting him was not desirable, but there they were and it had been a very nice lunch. They would meet again[11].

On December the 17th the Dobzhansky's boarded the British steamship *Pennland*[12]. Two weeks later their subsequent boat arrived, and they were delivered uptown by car to finally meet with Morgan and his students who, from the distance of Leningrad, Dobzhansky had come to regard as semi-divine beings. Natasha came with him and they were nervous. Finally, after years of waiting ended by a journey across a continent and an ocean, Dobzhansky crossed the threshold of the Fly Room.

He was shocked. It was filthy. It was small. The equipment appeared to be inferior to what he'd left behind in Leningrad.

Morgan and his students – Alfred Sturtevant and Calvin Bridges – worked together in a single room, and there were three other desks for visitors, one of which Dobzhansky was to now occupy. His only previous experience with something so crowded had been in his student days in Kiev, during the war, when he had been forced to share space with refugees. Though this apparent disadvantage proved useful once he appreciated how much knowledge he was gaining, it would still take him a while to understand how the back and forth banter of the Fly Room life was also the best training he could ever have imagined.

Part of the reason it took time was that he barely spoke English. Dobzhansky first tried conversing with Morgan in German, but Morgan refused, even as he – following the phonetics of the Russian alphabet – pronounced Dobzhansky's name "Dober-zansky." Bridges' English was absolutely incomprehensible, a situation made worse by the fact that when he saw the look of confusion on Dobzhansky's face he tried to compensate by speaking faster and louder.

And again there was the dirt and disarray. Morgan's desk was cluttered with all kinds of things, and in the centre was a filthy porcelain counting plate covered in mould and dead flies. After a few weeks Natasha would attempt to please Morgan by washing it, but when he arrived the next day to find his plate clean Morgan asked testily, "Who was doing things on my desk?"

Bridges' desk was covered in prototypes of his various gadgets constructed of found materials, and Sturtevant's was piled high with paper of every sort. When Dobzhansky opened the drawer of the kitchen table, in the centre of the room where the bottle washer worked, he discovered the inside literally moving. Once his eyes focused, he realized he was watching cockroaches swimming in agar paste – the jelly concocted to feed the flies. He shut the drawer but then saw another cockroach, and then another. He had never seen so many cockroaches per square inch. They were everywhere.

Before he had even left Russia, Dobzhansky had already decided that the first thing he would ask Morgan was to indicate to him what he would like him to focus research on. Despite the fact that so far nothing was turning out as he had expected, he followed through on his initial plan and asked for research directions and subjects. Little did he know what others had long before also figured out the hard way: not only did Morgan not like to tell anyone what to do, but he had a difficult sense of humour.

"Now Professor Morgan," Dobzhansky asked, "could you give me some publication or some reprint describing the sort of work which is now being done in your laboratory?"

Morgan opened the drawer to his desk and pulled out the reprint of a paper by one of his former graduate students, whose specialty had been biostatistics. Dobzhansky knew nothing about measuring rates of the development of *Drosophila* flies, how they might be affected by temperature, physical chemistry and so on. He was horror-stricken and returned home from his first day in the Fly Room utterly dejected[13].

Dobzhansky corresponded regularly from New York with Vavilov and Filipchenko. Eventually, he learned to look past the filth of the Fly Room, and had nothing but lavish praise for Morgan, Bridges and Sturtevant. Though sceptical of Dobzhansky's hero worship, Filipchenko was happy Dobzhansky was learning so much that could be put to good use upon his return. However, by Dobzhansky's first Spring in New York, the reasons he might not wish to were already apparent.

In March, Vavilov wrote Dobzhansky that Filipchenko's genetics lab – which he had founded himself – was being taken over by the State Institute of Experimental Agronomy. Filipchenko confirmed the news[14]. This would mean Filipchenko would lose control over the direction and topics of his research. At the same time, Morgan was recruited by the newly founded California Institute of Technology to establish a biology division to do whatever he wished, an offer he was happy to accept given the vastly greater resources Cal Tech could provide. However, it was also at this juncture that the latent tensions in Morgan's lab began to surface. Wilson commented that, "Morgan has made one and only one important discovery in his life; that discovery was Sturtevant." Somehow Sturtevant heard of the remark and, despite his otherwise circumspect demeanour, was inclined to repeat it (Kohler 1994, 121-122).

Morgan was eager for Dobzhansky to extend his stay and join him in California, an offer Dobzhansky felt he could not refuse. He happily wrote Filipchenko the news, and his old mentor became disconcerted and confused. Did one more year mean 1929 or 1930?[15] In the lab they had just recently been toasting their absent colleague who was now working in New York under Morgan. His colleagues missed him[16]. The clouds were already closing in. What did this mean? Filipchenko was also picking up on a change in the tone

of Dobzhansky's letters. He wrote disparagingly of their future overseers – referring to them as the "Leningrad Generals" – even as he continued to relentlessly praise "General Morgan"[17].

That summer Dobzhansky joined the Fly group on their annual pilgrimage to Woods Hole. Fly Room alumni H.J. Muller's discovery that radiation mutates genes were "all the rage" (Carlson 1981, 153; Kohler 1994, 113-114)[18]. When Dobzhansky wrote Filipchenko of his own work with Muller's *bar*-eyed flies, Filipchenko dismissed it as a student's enthusiasm. He told Dobzhansky it reminded him of some ultimately fruitless ideas he'd pursued himself in his younger days, and just said to view it as a learning experience, get the most out of it while he could[19].

But Dobzhansky knew better, and was disillusioned by his mentor's failure to see how his research might progress in the U.S. A longer stay made sense, and when he and Natasha were out one day, they were surprised to run into the man they had met on the Berlin-Paris train – Pavel Milyukov.

Milyukov and his wife were in Woods Hole as guests staying at the estate of Charles Richard Crane. Crane was a wealthy industrialist who had been appointed a member of Woodrow Wilson's Special Diplomatic Commission to Russia in 1917, where he and Milyukov had met. Dobzhansky and Milyukov began meeting regularly, and Dobzhansky realized that his fear of associating with Milyukov was dissipating due to the realization that he might not want to return to Russia after all. The news from Filipchenko was not good, and Muller's X-rays made it clear a new era in genetics was just beginning, even as his homeland seemed increasingly cut off.

But Dobzhansky knew extending his stay would raise questions – especially since he'd stated in Riga that he was not a communist. And then there was Milyukov, whose name could come up when he was interviewed before being admitted back into the USSR[20]. This was his thinking as another Rockefeller fellow working at Johns Hopkins, Vladimir Alpatov, came for a visit[21]. One evening they were walking along the beach, watching the sunset and sea, when suddenly Alpatov asked, "Don't you think it would be much better for you to stay in this country for good?"

Dobzhansky realized his subconscious had been revealed and knew the thought would not go away. His fate seemed even more accompli once Morgan, presumably ignorant of her role in the insulting act of cleaning his counting plate, asked if Natasha would accept a job as stock keeper for the lab flies. To Dobzhansky it was characteristic of the "Old Man's" informality that he made the offer in a most unsuitable place – the men's room of the Woods Hole laboratory[22].

Now that the offers were in, he and Natasha made the cross-country trip to Pasadena to view their new accommodations. The palm, orange and lemon trees, the flowers they could not have been more thrilled with. Despite the

blazing heat the Dobzhanskys were still so excited by the tropics it did not seem excessive at all[23]. It was like the southern Caucuses, the climate of his boyhood adventures, but this time with a more promising uncertainty than war and revolution. Everything seemed to be only getting better, when one day Morgan approached Dobzhansky and asked, "Would you like to join our lab as assistant professor?"[24]

When Dobzhansky wrote Filipchenko the news the latter seemed still hopeful for an eventual return to Russia, but resigned. "Stay there another two or three years," he wrote Dobzhansky. "When you return you will be crowned with the halo of genetics"[25].

Yet the unpredictability was still disconcerting[26]. The Rockefeller Foundation had granted Dobzhansky the money he needed to travel to Pasadena, but that did not mean they envisioned him staying[27]. Morgan wrote to the foundation in August to inform them that Dobzhansky would be applying for a second year. "His appointment turned out to be an excellent one," Morgan wrote. "I am enclosing a summary of the work he has already accomplished, and he has on hand certain other problems that promise to yield important results"[28].

Dobzhansky concurred, though not necessarily for the reasons Morgan might have imagined. As he wrote Filipchenko, though Morgan, Bridges and Sturtevant were cool towards Muller, that summer at Woods Hole had taught Dobzhansky they didn't understand his research. And if they couldn't understand that, they couldn't understand his own work either. If you are going to prove that the natural selection of genetic mutations in nature explains all of evolution, then being able to induce mutations at will is enormously helpful [29]. As far as Dobzhansky was concerned, Morgan's "one and only one important discovery" was not Sturtevant – it was Muller.

### *Nothing Short of Calamity*

The laboratories at Cal Tech were finally ready for the fly group to start work, as the officials at Rockefeller requested Dobzhansky submit a formal application for renewal, so they could consider his case[30]. Any claustrophobia Dobzhansky may have been feeling about the shortening timeline on Rockefeller's calendar should have been mitigated by the enormous amount of space in Pasadena, compared to New York. But it was not.

Morgan's new Fly Room was not a room, but over three dozen on two floors. So Dobzhansky was stunned when Morgan asked who he would like to share room with. Morgan had it in mind that the free-flow atmosphere of the Fly Room could be replicated in some fashion, but Dobzhansky wanted a lab of one's own (Kohler 1994, p. 124). There were few stories about Bridges that

did not include either women or alcohol, and most included both. Once he even tried to dance with Natasha[31]. Dobzhansky chose to share with Sturtevant, but what was most annoying was even their lab tables were too small.

Perhaps the strangest thing however, as Dobzhansky wrote Filipchenko, was Sturtevant's invitation to join a scientific Society—Sigma Xi. The rest of the Fly Room members were also members of Sigma Xi. It was an honour. For an annual payment of $10 he would be entitled to two dinners at the Society. Dobzhansky was mystified[32]. Why would he want to pay $10 for two dinners?

On the eve of Dobzhansky's one-year anniversary in the U.S. he finally received a reply from Rockefeller: His request to stay had been rejected[33].

As one Rockefeller official, W.E. Tisdale noted, the fact that Dobzhansky had done "excellent work" and was an "excellent man" was the reason they'd given him the fellowship in the first place, not a reason to continue. If "he is a good man we can take the excuse of his goodness to keep him a fellow as long as he lives." Not only that, but Dobzhansky was working with fruit flies, which required no special equipment he couldn't get in Russia. There was no real specific justification for him to stay[34].

Morgan was shocked. He was in New York at the time and learned the news in a telegram from Pasadena. He phoned Rockefeller immediately to say that the decision to interrupt Dobzhansky's work and send him back to Russia "would be nothing short of a calamity." Dobzhansky was by "far and away the best appointee" Rockefeller had ever sent him. Morgan's biggest fear was that this was all his fault, because he'd been so confident of the renewal, he hadn't endorsed Dobzhansky strongly enough[35].

Once Morgan returned to California, he wrote Rockefeller again immediately. "As I told you over the 'phone, I am very much disappointed that Dobzhansky's application for a second year was refused, and I have been wondering whether I am in any way responsible for not having made a sufficiently strong statement concerning him. I always try to avoid giving an exaggerated account of the candidates," he added, "because I know from my own experience on some of the Rockefeller Boards that exaggerated statements are discounted." Morgan was shaken, and he closed by apologizing that perhaps he had been too confident that "such an exceptional candidate would be acceptable"[36].

The decision remained in place, and now Morgan got angry. In January, by which time Dobzhansky should have already been packing for Russia, Morgan splurged on a full-rate telegram to New York, declaring bluntly:

> DOBZHANSKY IN MIDST OF CRUCIAL WORK THAT CANNOT BE TRANSFERRED TO RUSSIA STOP ACCORDING TO TISDALES LETTER AN EXTENSION OF A FEW MONTHS IS GRANTED MORE OR LESS UPON THE ASKING I ASKED FOR FOUR MONTHS STOP

THE DECISION OF IMPOPRTANCE OF AN EXTENSION MUST BE CONCEDED TO ME

T H MORGAN[37]

They waited, and then finally in March received the news that Rockefeller had granted Dobzhansky a five month extension, dating from December 27 – the date of his arrival over a year before. This meant he was again almost overdue, but he was safe, for now[38].

Dobzhansky again spent the summer at Woods Hole where the cool temperature enabled him to at last recover from the smothering Texas[39]. One month after Dobzhansky was again supposed to have left for Russia he wrote Rockefeller that, "I hope I shall stay in this country longer than expected. This question is not yet solved, in spite of the fact that I have been appointed assistant professor of California Institute. When it will be solved entirely, I shall not fail to inform you"[40].

At the end of the summer Bridges and the rest of the Fly Room headed back to California, while Dobzhansky stayed on the east coast awaiting word on the renewal of his visa. In August he wrote Filipchenko that he was still not sure whether two months from now he'd be in Pasadena or Leningrad[41]. Filipchenko was beginning to doubt Dobzhansky was making the right decision. It could be that he would get less out of two years than just one. Filipchenko also cautioned him not to expect that coming back would be easy. As they both knew, the longer Dobzhansky stayed the harder it would be – for every imaginable reason[42].

Unlike Dobzhansky, Alpatov was not offered the opportunity to prolong his stay. He was back in Moscow, and the news was not good. Though Serbrovsky had recently scored a victory, it was in a discussion that was becoming an uncomfortably frequent source of debate – Lamarckian heredity. Jean-Baptiste Lamarck's theory of evolution according to the inheritance of acquired characters contradicted genetics, and would before long become a pretext for banning the science altogether. Meanwhile, Alpatov's letters to Dobzhansky combined news on the rise of Lamarckism with even worse developments. Collectivization of agriculture was underway, draining funding from research. Alpatov envied Dobzhansky being in California, and recommended he buy a home because land would make him rich.

Filipchenko also wrote to say he was happy to hear the good news on the renewal of Dobzhansky's visa. "And now you have another year ahead of you to work in peace," Filipchenko wrote, "after which, I hope, we'll see you and Natalia at last."

Filipchenko sounded energized – and apologized for not writing back sooner, but he had been away from St. Petersburg giving lectures. He told

Dobzhansky he was sowing two ideas in his mind these days – pure genetics and selection. "I don't know if you've heard the news," Filipchenko added, "but around the first of May the fourth meeting of Zoologists will be held in Kiev." Back when he'd thought Dobzhansky was going to be long back by then he'd asked the organizers to reserve a spot for him. Since "fortunately" for Dobzhansky he wouldn't have returned yet, Filipchenko inquired if Natalia might be coming back earlier, and would she be able to attend the session in his stead? "That would be really great," he said.

It was only when Filipchenko moved on to the subject of his Institute and the work taking place therein that the mood of his letter changed. It was October, already winter in St. Petersburg, and the chill was setting in. Medvedev, the student who'd aroused Dobzhansky's suspicions what seemed a lifetime ago during their research expedition in Central Asia, had by now decided he'd like to take up *Drosophila* genetics himself, and was conducting his research under Filipchenko. Filipchenko had written Dobzhansky before, asking he provide Medvedev with some guidance, but the situation had only gotten worse. Again, he begged Dobzhansky to please get in touch with him.

As for the other students, Filipchenko had just learned their performance on exams had been "disgusting," and two were on the verge of being kicked out of the university. Again, it would be helpful if Dobzhansky was around to mentor them, and this could begin as early as January.

And the rest of the laboratory? Not even worth writing about. "Idle," "half-baked" – he'd given up on this generation – the young cadre who were supposed to be charting the course of scientific socialism – and only hoped they wouldn't corrupt those coming up below them. He closed by assuring Dobzhansky that his old apartment would be there for him when he returned, but he needed to be proactive about following up with the academy to be sure[43].

Though Dobzhansky had yet to follow Alpatov's suggestion by buying a house in Pasadena he had, as he wrote back to Filipchenko, bought a used Ford automobile. His description of Natalia's enchantment with the Sears and Roebuck catalogue should have also dashed any hopes she was likely to return sooner than he did.

Morgan was determined to keep that from happening and wrote Filipchenko personally to ask whether it would not be best for Dobzhansky to remain in Pasadena. Dobzhansky's research depended upon ten years of data the Fly Room had accumulated and, without access to this, as well as the men who'd created it – Sturtevant and Bridges – his progress could not continue. Morgan's only regret was how these plans might interfere with Filipchenko's ambitions for his lab in Leningrad, but offered to send "some American as competent as Dobzhansky" in his place, should the opportunity arise. He hoped Filipchenko would understand[44].

Dobzhansky followed up with a letter to Filipchenko a week later writing how he felt torn, describing his state as “a pain in my soul” and “damned if you do, damned if you don’t”[45]. Filipchenko wrote back that the news “struck me like thunder,” but admitted that if he were in Dobzhansky’s place he’d probably do the same. Filipchenko had always numbered his letters to Dobzhansky in case they arrived out of order or were lost in the mail. This letter was number 49, and the next he began again with 1[46].

“The difference between No. 1 1928 and No. 1 1930 is great indeed,” Filipchenko began. He mentioned the 1932 genetics congress in Ithaca, but confessed to doubts he’d be there. The university was undergoing “reforms” geared towards “overtaking capitalism.” He was told that the new genetics course he’d proposed did not fit the “plan.” His resignation was “gratefully accepted”[47].

Dobzhansky responded that Filipchenko’s letter had caused him to “shudder.” He had hoped one day to inherit his genetics lab, but now that lab was gone[48]. Dobzhansky realized he would have to find another position if he was forced to go back home and – without telling Filipchenko – wrote directly to Vavilov. Vavilov showed Dobzhansky’s letter to Filipchenko who felt betrayed. Filipchenko told Dobzhansky he needed to decide once and for all if he was going to stay in the U.S. or return. “This kind of ‘tooth ache’ is pulled it in one way,” he wrote – “make a decision!”[49]

So Dobzhansky did. He sent Filipchenko a one-word telegram: “Remain.” Dobzhansky then wrote two letters, one to the University and one to the Academy, describing his reasons for staying in the U.S. He forwarded both to Filipchenko and apologized for his appeal to Vavilov.

“Sometimes people grasp at any straw in the hopes one will be strong enough,” he wrote[50].

Filipchenko wrote back to tell him he was not bothering to forward his resignation letters because, for now, no one was asking. Filipchenko wrote again in April to tell Dobzhansky his institute had been shut down and he was all by himself. Filipchenko added that, should Dobzhansky change his mind, there could be a genetics position for him at the Timiriazev Institute in Moscow, but he’d have to be back by at least a year from this summer[51]. Dobzhansky never heard from Filipchenko again.

*“We have to ignore … the political matters with which we do not agree”*

May 21, 1930 Dobzhansky received a telegram.

“FILIPCHENKO DIED MENINGIT YOUR ARRIVAL DESIRABLE VAVILOV”[52].

Shortly after Vavilov’s message, Dobzhansky received a letter from Medvedev describing what had happened. Filipchenko’s final presentation had taken

place at the zoology meeting in Kiev he had once assumed Dobzhansky, or at least Natalia, would be back for. The weather was fine and warm as he returned, and Filipchenko went immediately to Peterhof, home of Russia's gardens of Versailles, where he sowed wheat and finished up his monograph. On the third day he slept poorly, woke with a fever, and left early for Leningrad where he went to bed. After that Filipchenko never got up. It took a while. No one talked about it in the lab, until his fever hit over 39, and he was falling in and out of consciousness. But when he awoke Filipchenko bragged that the worst had passed, and he had beat it. By the next evening the fever caught up with him and he died in pain, confusion, nausea and vomiting[53].

The next time Dobzhansky heard from Medvedev it was to discuss his prospects once he returned. Medvedev's tone made it clear that their positions were now reversed from the mountains and valleys of Central Asia. Medvedev told Dobzhansky he was not alone in his concerns. Dobzhansky's prospects were only going to grow fewer.

Medvedev told Dobzhansky what he already knew but was denying: he had broken Soviet law. His passport was no longer legitimate, so any time Dobzhansky was now spending away was illegal, and Medvedev had no idea if anything could be done about that. As for what he could expect by way of a job, he could be assigned to adjunct undergraduate courses. And this was of course all his fault. All of it, even – if Dobzhansky read between the lines – Filipchenko's death. This is what he was going to be returning to, and there was no avoiding it. Time was the only thing in between[54].

In October 1930, Vavilov arrived in California to join Dobzhansky and another Rockefeller fellow, Georgii Karpechenko, on an extended corn tour of the American Midwest. Vavilov also found time for a side-trip south to Mexico in search of the genetic origins of a rubber plant, *guayule*, that the British had used in their Far East colonies to put the Brazilians out of business. Though Vavilov brought some seeds home, the first sowing in Azerbaijan would prove a disaster as ninety percent of the plants died of frost bite (Pringle 2008, 160-161).

This was still far off, and Vavilov had been writing Karpechenko about the opportunities that awaited him once he returned to the USSR (Pringle 2008, 162). Dobzhansky stalled in his response to the same promises, asking Vavilov to be more precise about what he would be required to do[55].

Karpechenko was spending his last few months in the U.S. with Dobzhansky in Pasadena, where he rented a room in a boarding house. Vavilov and Karpechenko lived together until Vavilov's habit of describing every idea as it crossed his mind, and his ability to get by on only a few hours' sleep, had Karpechenko coming to Dobzhansky begging, "For God's sake take him away!"

Dobzhansky decided a week-long road trip to Sequoia National Park and an agricultural tour of the Central Valley, might be enough to sate Vavilov's

hunger for novelty. He talked continuously as they motored along – outlining why Dobzhansky should have no hesitation about returning home. He had no reason for concern – after all – as Vavilov was not shy to point it – he himself came from a bourgeois background. But this didn't matter because good work was favoured. That they were even having this conversation showed there were no limits on scientific freedom. As for the fact that – as Medvedev had so starkly stressed – Dobzhansky had now broken the law by remaining away, Vavilov could fix that.

That conditions for science in Russia were superior to what they were in the States, Dobzhansky was not inclined to disagree. He just doubted the cost. As for Vavilov's promise that he would be able to smooth over any questions of why Dobzhansky was remaining away so long, that might be true as well, for now[56].

Dobzhansky managed to catch a few hours' sleep only be leaving Vavilov awake with his own thoughts. He was sincere, he was convinced Dobzhansky should return. If any misgivings shadowed his mind, they were nowhere apparent.

"I have a kind of spectacles which permit me to see some things and not to see other things," he said. "We have to ignore, we have to leave out of consideration, the political matters with which we do not agree. We should, however, do our best for the advancement of science, particularly for the advancement of science in our country"[57].

This he believed, but he returned alone. Karpechenko would soon follow – not because he wanted to – but because he had no choice. Karpechenko wrote that he had visited Filiphchenko's grave on the anniversary of his passing where he'd met Medvedev, who then came to commiserate on how exhausted they all were by the work of training students whose qualifications were not what they had once been. With Filipchenko gone the fate of the entire genetics program rested on Karpechenko's shoulders. Karpechenko had received an invitation to attend the 1932 Genetics Congress in Ithaca, and hoped to attend, but there was little money now for this kind of thing. The only one who travelled was Vavilov, who he saw rarely now that he was back in the Moscow. Kapechenko's fate was now tied to his, and one could wonder if at some point later both did not remember the endless sunny plains of the valley, and the silence amid the enormous sequoia trees, and regret they had not stayed. Karpechenko wrote longingly of those lost days in Pasadena: "Fun and time flies like an arrow"[58].

As the letters between Dobzhansky and Vavilov continued, the former continued to pretend it was a matter of the formalities required to renew his passport and extend his visa, while the latter was doing his best to smooth things over with party officials. Vavilov highly recommended Dobzhansky exhibit good faith by applying immediately for a post in a genetics lab. It

would take months and he needed to act quickly so as not to continue making such an unfavourable impression. Any further letters from Morgan would be superfluous. Dobzhansky needed to get serious and focus on coming home with as little fuss as possible[59].

Once Dobzhansky submitted his application, Vavilov revealed that though he was now in charge of the Genetics Laboratory in Moscow, the budget was so limited many workers also took on duties at the Lenin Academy to get by. Dobzhansky should be prepared to do the same. Vavilov was himself feeling crushed by work. In addition to his research, he was in charged with managing plant breeding throughout the entire USSR. It was everything Vavilov had ever dreamed of, and nothing like he'd thought it would be.

And then there were the colleagues. At first Vavilov had thought that including animal genetics was a good idea, but it was not his interest and those responsible were not qualified. Vavilov had taken Morgan up on his offer to send someone in his stead until Dobzhansky was ready to return by inviting Bridges. However, he was now advising Bridges to postpone his visit till they were better organized, which would mean someday soon Dobzhansky would be back in a place he did not want to go, with Bridges arriving very briefly to great fanfare, then being allowed to leave. "Patience has its limits," Vavilov warned. "I do not think you have committed any crime, but frivolity will no longer do you good from an official point of view"[60].

Dobzhansky wrote back trying to clarify what kind of work he could expect to do at the Lenin Academy, and what precisely his salary was to be if it would be so low?[61] Vavilov responded with the most disconcerting news, the literature he should prepare to read in advance of his arrival. Though Vavilov appreciated the regime's demand that books be printed, he just wished they were more interesting.

Dobzhansky should begin with Marx's *Capital*, then continue familiarizing himself with the tenets of dialectical materialism. Dobzhansky had tried reading *Capital* once before, when he was twelve, but found the book so dull he didn't finish it[62].

And then there was Vavilov's own work, such as his recently published article, "Systematics of the Linnean View." It was a "cover," but he did not want to deny it had been useful too. Vavilov believed that by following what he called the "law of homologous series" – meaning that closely-related species are more likely to inherit the same genetic mutations – it would be possible to predict the inheritance of variations. Unlike Muller's radiation – it would not be random; they could know.

Vavilov was also following the law of not risking any suspicion of disloyalty. As he had described it to Dobzhansky back in California, Vavilov was looking through the spectacles that allowed him to only see what he wanted

to, ignoring politics he did not agree with. The advancement of science was all that mattered.

But that was already so long ago, and now envy crept through for Dobzhansky's luxury in not feeling any of this. They were bombarded with it and compelled to study journals with titles like *Under the Banner of Marxism* and *Natural Science and Marxism* "head to toe" to defend themselves. Vavilov warned him now to purge himself of any thoughts that could be interpreted as "mechanistic" – the Marxist deviation of believing that parts of things could be used to explain what they were – i.e., the exact research Dobzhansky was doing.

To Vavilov the advantage of dialectical materialism is that it was practical and prevented being detached from life's misfortunes. Dobzhansky could continue to work with *Drosophila*, but he must also keep in mind that genetics must serve practical needs. "People here also have two arms and two legs," he said, "no better or worse than in America." Certainly, life in California was more comfortable, but the new way of doing things in the USSR was, he believed, "more correct." Vavilov closed by predicting that in three to five years their country would be unrecognizable[63].

Vavilov wrote again a few days later with the good news he'd received confirmation that a position in the Genetics Laboratory of the Academy of Sciences would be awaiting Dobzhansky in Moscow upon his return. Vavilov had already warned him not to be "difficult" about the question of an apartment. In the meanwhile, he was still working on plans for Bridges visit – a problem made all the more delicate by his interest in lecturing on theoretical genetics. Practice – not theory – was the necessity these days. If Dobzhansky could persuade Bridges to think more in terms of how Vavilov was asking Dobzhansky to think – using genetics breed new plant varieties to thrive in the USSR – it would be helpful[64].

Dobzhansky did not respond to these letters for a few weeks, then wrote back towards the end of summer – apologizing that he had been away. It was time, he felt, to dash any hopes of his return.

"I had a lot to think about," he began. Dobzhanksy confessed to feeling sad Vavilov still would not accept the fact that he needed to stay longer, but in the end that was not the point – and everything Vavilov had written might very well be true. The problem was what Vavilov asked of him he could not give. Dobzhansky could not devote extra time on the side away from research to earn extra money to live. Sure, many people were now forced to do so but he knew it would be impossible for him. He couldn't fake it. It would be humiliating. Dobzhansky apologized if all this would bring Vavilov trouble but he was – and had been – writing frankly. He really would prefer to return. "I know many people doubt the sincerity of this desire," he said, "but that's their business, I say what I think." But he knew nothing would come of it if he did.

"It was not easy for me to write this letter," he closed, "but worse not to write it at all." If he could still be of any use to Vavilov please let him know. "Despite everything I will never forget what I owe my country"[65].

*"Sadist"*

Dobzhansky's correspondence with Vavilov was interrupted by increasingly stern letters from Rockefeller asking when exactly he planned on leaving. Dobzhansky's start date as assistant professor under Morgan had been September 1929, and he had to remain two years before he could apply for a permanent visa. Meanwhile Rockefeller was still paying his salary, but that ended on June 27, 1931. For the past two months they'd survived on Natasha's job as stock keeper for the flies.

Finally, the time arrived, and they took a train north to Vancouver, Canada to visit the U.S. consulate and apply for permanent immigration status. They brought all the necessary documents, including letters from Cal Tech proving they were both staff members with tenure. Their suitcases were packed light with just what they'd need for a week. They checked into a hotel, visited the consulate where they were received very kindly, issued visas and told to return the next day. They were half done. The only other step was an official admission from the Department of Labour – which was typically a formality; but not that day.

They arrived to find a man Dobzhansky would later refer to as a "sadist" behind the desk. It was clear from the start he was determined to make trouble and, in their case, easily found a way. Yes, they had all the necessary paperwork proving he was a professor, and Morgan had hired Natasha as an assistant in the lab, but the visa he'd been issued all those years ago in Riga was for students. Neither of them had the right to work officially, meaning that in the U.S., as in Russia, they were breaking the law.

The Dobzhanskys were only admitted to Canada for a week and then would be sent back to the USSR. It was a death sentence, and they seriously discussed whether choosing to end their lives their own way was not the best option (Coe 1994, 20). They felt a wreck, it was torture. The only possible option was an appeal to the Secretary of Labour in Washington, so they spent a large amount of the money they'd brought with them on telegrams to Morgan, Sturtevant, and anyone else they thought might help. By the time they'd sent the last message they weren't sure there was enough left to pay for their hotel room. Their lives hung in the balance, condemned for the crime of loving life too much and not wanting to go home. Now they waited in purgatory for the sentence to be pronounced, terrified of what it might be.

Sturtevant responded first by alerting Morgan, who took the matter directly to the president of Cal Tech, Robert Millikan. Millikan knew Dobzhansky. He'd been at his residence once for lunch. Dobzhansky had recounted the afternoon to Filipchenko, emphasizing what an honour it was, what the locals called "society" – i.e., a placed he had never been admitted to before. Aside from that – or perhaps because of it – the day was deathly boring. After a "brutal" meal of nondescript dishes, two guests accompanied one another on the violin and piano to perform a concert of what Dobzhansky described as "tavern music." Millikan's wife joined in by singing love songs that seemed to go on forever.

Once it was over Dobzhansky fended off a request to sing something in Russian by insisting he couldn't sing, a weak excuse given nothing could be worse than Mrs. Millikan. Dobzhansky exited with a faux-pas by bidding the Millikans goodbye, incognizant that he was supposed to wait in line for his turn to utter, "Oh I really enjoyed it so much." Fortunately, foreigners were forgiven so long as they were white, and since – as far as Dobzhansky could tell – his skull was not shaped like a Mongolian, all was O.K. For this last he was particularly grateful given that, according to their landlady, "Russians were half-Mongol, meaning their skin colour should be darker than Europeans, yet lighter than Negroes or Indians"[66].

Now the ennui of that afternoon seemed a luxury as his life hung in a balance that could only be tipped by a host he'd taken for granted. It just so happened Millikan was aboard a yacht with U.S. President Herbert Hoover when Morgan told him of the Dobzhanskys predicament, and easily persuaded Hoover to telephone his Secretary of Labour, who reversed the decision. By now it had been over a week, which meant the Dobzhanskys were now illegal in Canada as well. The only place to go was back to the consulate where their visas were reluctantly stamped at last, and finally – nearly four years after arriving – they knew they'd never have to go back (Land 1973, 185-188)[67].

## *Conclusion*

Dobzhansky would never return to the Soviet Union, however three years before his death a film wherein he was featured was shown at the Congress of Geneticists and Selectionists in Moscow. As his name and face appeared on the screen, a ripple of applause emerged among the several hundred scientists in the audience. Suddenly, however, the film was shut off due to, it was claimed, technical difficulties. It was rescheduled for the next day and this time when the part with Dobzhansky began the soundtrack became garbled and it was impossible to understand a word he said. Only after his cameo ended did the sound return to normal.[68]

Today, however, Dobzhansky, like Vavilov, Filipchenko and many others whose lives and careers were consumed by Stalinism have been rehabilitated. Dobzhansky is no longer an "un-person" in his homeland. However, the loss to Russian biology remains.

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64 Correspondence, Nikolai Vavilov to Theodosius Dobzhansky, June 12, 1931. *Maximum Possible*, p. 421.
65 Correspondence, Theodosius Dobzhansky to Nikolai Vavilov, August 10, 1931. *Maximum Possible*, pp. 422-423.
66 Correspondence, Theodosius Dobzhansky to Yuri Filipchenko, Feb. 7, 1929. *Maximum Possible*, p.p. 142-143.
67 Reminiscences of Theodosius Dobzhansky, pp. 314-317.

68 Correspondence, Professor Mel Greene to Isadore Michael Lerner, February 24, 1972. B: L 563 Lerner. Medvedev, Z.A.—Materials 1972 #1 (Jan.-Apr.). The American Philosophical Society; "Breakdown in Moscow Blocks Film of Scientist," *The Washington Post*, February 11, 1972; "U.S. Critic of Lysenkoism, in Film, Stirs Soviet Parley," *The New York Times*, February 12, 1972.