Hormones and the Bolsheviks

From Organotherapy to Experimental Endocrinology, 1918–1929

By Nikolai Krementsov*

ABSTRACT

The discipline of endocrinology emerged over roughly the same period in Britain, France, Germany, Russia, the United States, and elsewhere, and its practitioners across the world shared research practices and agendas to a considerable degree. Yet the discipline’s institutions, networks, and social practices were firmly embedded in the particular social fabric of concrete locales, and they were built on specific local traditions, resources, and patronage. Through analysis of the origins and early progress of Soviet endocrinology, this essay uncovers numerous factors and multiple actors involved with the institutional development of the discipline in the first decade of Bolshevik rule. As elsewhere in the world, the medicinal use of animal tissue extracts—organotherapy—paved the way for wide acceptance of the ideas of the nascent science of endocrinology by both the Soviet medical community and the general public. Organotherapy also supplied the new discipline with “seed” institutions, technologies, and personnel—the veterinarian Iakov Tobolkin and the therapist Vasilii Shervinskii. But the specific institutional, political, economic, and ideological landscape of Soviet Russia shaped the discipline in a particular way.

On 16 October 1924 the Russian Endocrinological Society held its inaugural meeting in Moscow. In his opening address, Russia’s leading therapist, Vasilii Shervinskii, eloquently defined the meaning of the event: “At this very moment, a new collective entity, a new complex organism[,] is being born and has to take its first timid and unsure steps; this young, not yet very strong organism needs, perhaps, [a] certain

* Institute for the History and Philosophy of Science and Technology, Victoria College, University of Toronto, 91 Charles Street West, Toronto, Ontario M5S 1K7, Canada.

Research for this essay was supported by a Standard Research Grant from the Social Sciences and Humanities Research Council of Canada and by the U.S. National Institutes of Health Grant G13 LM008632.

©2008 by The History of Science Society. All rights reserved.
0021-1753/2008/9903-0025$10.00
amount of support from the outside, but most importantly, [it needs] a harmonious unification of its forces on the inside.”

His flowery style notwithstanding, Shervinskii identified precisely the two distinct but interconnected problems that face anyone seeking to establish a new scientific discipline: the problem of internal consensus and the problem of external legitimacy. Having spent the previous six years laying a foundation for the discipline of endocrinology in Russia, Shervinskii knew very well what he was talking about. He was working hard to create specialized institutions to advance this particular field of scientific inquiry. Of course, he did not do it alone: he had a very able partner, the veterinarian Iakov Tobolkin. Together they fostered and nurtured a close-knit group—a network—of entrepreneurs, scientists, clinicians, and patrons, all interested in pursuing and exploiting this particular line of inquiry, who carried out the actual work of discipline building.

As Shervinskii emphasized in his address, the founders of the new discipline needed to develop internal consensus as to its research practices and theoretical concepts. But getting a group of like-minded people together and reaching agreement on how to do their science was only one problem. For that group to succeed on the wider scientific and social stage, they needed, as Shervinskii put it, “support from the outside.” They had to establish the external legitimacy of their discipline-building plans in the eyes of allies, competitors, patrons, and society at large. In order to create specialized institutional structures—laboratories, societies, periodicals, conferences, teaching departments, clinics, museums—for the new discipline, its founders had to mobilize the available material, financial, infrastructural, human, and cultural resources; such mobilization constituted an important part of these scientists’ social practices.

Historians and sociologists of science have paid close attention to scientists’ research practices, which generate various forms of knowledge—facts and artifacts, conventions and languages, tools and methods, hypotheses and theories. They have explored how research practices and the knowledge they yield influenced discipline-building processes, helping to erect, maintain, or dismantle boundaries between various disciplines. The

2 See Paul Starr, The Social Transformation of American Medicine (New York: Basic, 1982), esp. Ch. 3, “The Consolidation of Authority,” pp. 79 –144. The question of what constitutes “internal” and “external” spheres for a discipline requires further clarification. Depending on the specific purpose of the analysis, one can distinguish multiple distinct “internal” and “external” spheres in which creators of a discipline need to build up consensus and establish legitimacy. One can, for instance, treat the national scene as an “internal” and the international one as an “external” sphere. At the same time, one can treat the emerging disciplinary community as an “internal” sphere and the established or competing community as an “external” one. Furthermore, one can treat science as a whole as an “internal” sphere and society at large as an “external” one.
historical development of scientists’ social practices—which produce institutions and careers, networks and patrons, allies and competitors, hierarchies and etiquettes, standard roles and titles, popular images and symbols, rituals and games—has thus far attracted considerably less scholarly attention. Such social practices of discipline building are the particular focus of this essay.

Taking the origins and early progress of Soviet endocrinology as a case study, this essay unveils the numerous factors and multiple actors that contributed to the institutional development of the discipline in the first decade of Bolshevik rule. This development was shaped by alliances and rivalries among entrepreneurial scientists and clinicians pursuing their own agendas, by the personal afflictions of influential Bolsheviks, and by opportunities accorded by the institution-building frenzy that seized the fledgling Bolshevik government in the postrevolutionary years. The development of endocrinology largely followed the institutional trajectories and technical traditions of organotherapy—the medicinal use of animal tissue extracts—that had emerged within the budding “science of internal secretions” long before the Bolsheviks seized power in Russia in October 1917 and that can be seen as well in the institutionalization of the discipline elsewhere. Organotherapy also supplied the “seed” personnel—a therapist, Shervinskii, and a veterinarian, Tobolkin—whose alliance played the pivotal role in the creation of the discipline’s flagship institutions in Moscow: the Russian Endocrinological Society, the Institute of Experimental Endocrinology, and the journal *Herald of Endocrinology*. Unfolding on the specific political, institutional, economic, and ideological landscapes of Soviet Russia, the founders’ personal interests gave the discipline a particular shape. In contrast to their Western counterparts, major Russian endocrinological institutions united production, research, and clinical facilities under one roof. They developed largely independently from the pharmaceutical industry, which served as an important patron in the emergence of the discipline elsewhere. Physiological institutions and physiologists as a group, so prominent in the development of endocrinology in the West (particularly Britain), played a relatively minor role in the discipline’s institution building in Russia, which was spearheaded and dominated by clinicians.

The discipline of endocrinology emerged over roughly the same period in Britain, France, Germany, Russia, the United States, and elsewhere, and its practitioners across the world shared research practices and agendas to a considerable degree. Yet, as we will see in the case of Soviet endocrinology, the discipline’s institutions, networks, and social practices were firmly embedded in the particular social fabric of concrete locales, and they were built on specific local traditions, resources, and patronage.

**THE SCIENCE OF INTERNAL SECRETIONS IN IMPERIAL RUSSIA**

The early development of Russian endocrinology paralleled that in other European countries. As in Europe, studies of “internal secretion” and its “organs” began in Russia in the mid-nineteenth century, following Claude Bernard’s pioneering research into the *milieu intérieur* of the living organism. Probably the first Russian work on what would
today be called endocrinology was a doctoral dissertation, “On the Role of the Suprarenal Glands in the Animal Organism,” presented in 1862 at the Military-Medical Academy in St. Petersburg by Lev Galuzinskii. The dissertation described the results of experiments with the removal of the suprarenal glands (the adrenals) in guinea pigs, rabbits, and mice.6

Over the next twenty-five years, about fifty publications on internal secretion appeared in Russia. Some of them dealt with clinical and epidemiological aspects of various diseases of endocrine glands, including goiter, Addison’s disease, and diabetes. Others focused on anatomical, histological, and physiological investigations of “the organs of internal secretion,” including the thyroid, pancreas, adrenals, hypophysis, testicles, liver, and ovaries.

As elsewhere in the world, during the 1890s, following Charles Brown-Séquard’s sensational announcement that injections of testicular extracts had rejuvenating effects on the human organism, a new direction in the study of endocrine organs emerged in Russia—organotherapy.7 Several entrepreneurial pharmaceutical companies, including the leading firms of Aleksandr Pel’ [Poehl] in St. Petersburg and Karl Ferrein in Moscow, immediately began producing and marketing extracts of various endocrine organs—primarily, of course, testicles.8 They also initiated and funded research on the physiological and medicinal effects of such extracts in the laboratory and in clinical practice. In 1900, Pel’ even added the word “organotherapy” to the name of the Journal of Medical Chemistry he had founded a few years earlier. He also established a special “organotherapeutic institute” to produce and study various extracts, beginning with “spermin.”9

By the turn of the twentieth century—again, as elsewhere in the world—studies of internal secretions had diverged in Russia into three well-defined subfields: clinical work on the diseases of endocrine organs; laboratory research into the physiology, anatomy, chemistry, and histology of endocrine organs; and pharmacological studies and therapeutic applications of the extracts of endocrine organs. The three subfields differed not only

---


8 For the only English-language account of the Russian pharmaceutical industry see Mary Schaeffer Conroy, In Health and Sickness: Pharmacy, Pharmacists, and the Pharmaceutical Industry in Late Imperial, Early Soviet Russia (New York: Columbia Univ. Press, 1994). Unfortunately, this book contains very little information on Pel’s and Ferrein’s firms and even less on organotherapy.

in their particular focus—the disease, its mechanisms, and its treatments, respectively—but also, and most importantly, with regard to the institutional settings and workforce engaged in each of them. Although there was a certain overlap in the personnel, the first subfield was primarily the domain of clinicians; the second of a group of pathologists, physiologists, and, to a lesser extent, chemists concentrated in the laboratories of various educational and research institutions (such as the Moscow and St. Petersburg universities, the Military-Medical Academy, and the Institute of Experimental Medicine); and the third of a group of pharmacists and chemists involved with the production and distribution of endocrine gland extracts and practicing physicians who used these extracts in the treatment of their patients. But, as we will see, early endocrinology also attracted a variety of scientists, clinicians, and entrepreneurs.

In the 1910s the budding discipline of endocrinology found an unusual institutional setting under the auspices of the Russian Society for Goat Breeding. In early 1911 the society’s Moscow branch established a farm on a small estate of its patroness, Princess Sofia Shcherbatova, in the village of Vsekhsviatskoe on the outskirts of Moscow. The farm’s major goal was to provide goat milk—believed to be beneficial for TB sufferers—to sanatoria, clinics, and orphanages, as well as to paying customers in the Moscow region. The farm was created and run by one of the society’s founding members, the veterinarian Iakov Tobolkin (1870–1941).10

Information on Tobolkin’s early years is rather sketchy.11 Born in 1870 in the small Siberian town of Tobol’sk, Iakov apparently came from a humble background. Judging by his surname, which denoted the town of his birth, his father was probably a low-level priest in the Russian Orthodox Church, and in all likelihood Iakov began his education at a local seminary. Sometime in the early 1890s he entered the Veterinary Institute established in 1874 in Kazan’, a large industrial city in the eastern part of European Russia, renowned for its university. The choice of this educational institution supports the hypothesis that Tobolkin’s family had roots in the Russian clergy. Unlike universities, which required entrants to have completed eight years of secondary education at a classical gymnasium, veterinary institutes enrolled gymnasium students who had not completed their education as well as graduates of the so-called real schools (a Russian analogue of the German Realschule) and seminaries, which had lower educational standards, required fewer years of attendance, and were considerably cheaper to attend than the gymnasia. In 1910 graduates of seminaries constituted more than half of the student body at Russian veterinary schools.12

Veterinary medicine was a rare and not very prestigious profession in Russia. At the turn of the twentieth century there were only four veterinary schools (institutes)—in

10 See Ukazatel’ 1-oi oblastnoi vystavki kozovodstva (Moscow, 1914), pp. 22–23.
11 Tobolkin’s 1925 curriculum vitae, preserved in the archives, is very opaque on details of his prerevolutionary life and career. See the State Archive of the Russian Federation (GARF), fond [collection] A-482, opis’ [directory] 41, delo [file] 3347, listy [pages] 2–6; hereafter such references will be given as GARF, f. A-482, op. 41, d. 3347, ll. 2–6. I am indebted to the archive’s staff for help in locating relevant documents in its enormous holdings. I am also grateful to Tobolkin’s niece, Ol’ga Georgievna Amerikova, for clarifying certain details of her uncle’s life and granting me access to the family photographs, as well as for permission to use them in this publication.
Kazan’, Khar’kov, Iur’ev, and Warsaw—which together produced fewer than a hundred graduates per year to serve the enormous, predominantly agricultural empire. Veterinary institutes were certainly second- (if not third-) rate educational institutions: professors were not required to have completed doctoral degrees, curricula were outdated, and research facilities were lacking. After four years of study, graduates received the degree of “bachelor in veterinary medicine,” and most of them found employment with the military, the state, or private horse-breeding establishments. With Russia’s very slow tempo of industrialization and urbanization, the horse remained the main means of transportation, and horse breeding was patronized by the Russian royalty and nobility.

Information on Tobolkin’s career after his graduation in 1897 from the Kazan’ Veterinary Institute is sparse (see Figure 1). There are some indications that around 1899 he came to Moscow and joined the Russian Society for the Prevention of Cruelty to Animals to head one of its animal clinics. He also had a small private practice and occasionally served as a veterinarian for the Moscow zoo. He obviously did well for himself, for the Moscow address book of 1910 lists him as the owner of a house in a prestigious neighborhood—Arbat—and of a private veterinary clinic. It was apparently at around that time that he managed to attach himself to the Russian Society for Goat Breeding and proved instrumental in setting up its Moscow branch. He was accorded a “membership for

Figure 1. Iakov Tobolkin after his graduation from Kazan’ Veterinary Institute (1897). Courtesy of Ol’ga Amerikova.

In 1893 the Kazan’ institute had only 212 students in toto: Mineeva, Istoriia veterinarii, p. 228. This volume offers a brief survey of the history of Russian veterinary science and education.
The goat farm was Tobolkin’s pet project, and he oversaw all facets of its operations. As he later reported, almost immediately after the farm was established physicians began bombarding him with requests for milk from goats with excised thyroid glands, as well as for thyroid hormone (thyroidin) produced from the glands. Most likely these requests were prompted by the display of a goat whose thyroid glands had been excised at the society’s first exhibition in late February– early March 1911. The goat attracted considerable attention as a “particularly interesting [specimen], appearing [in Russia] for the first time,” that might have important medical implications. As a report on the exhibition published in the society’s journal emphasized, milk from goats with excised thyroids might have a medicinal effect on patients suffering from Basedow’s disease (hyperthyroidism).15

Tobolkin acceded to the doctors’ requests. On 7 April 1912 he delivered a report to a general meeting of the Moscow branch of the Russian Society for Goat Breeding on “the thyroid gland in the animal organism, the technique of its extirpation in goats, and the demand for the milk from the goats with excised thyroids in the treatment of Basedow’s disease in humans.”16 By September 1912 the farm had produced its first 180 glasses (about 45 liters) of “medicinal goat milk.” Production increased steadily, and during the next year the farm produced 9,675 glasses (about 2,400 liters) of milk, satisfying the requests of sixty-one physicians and earning nearly 2,000 rubles (quite a sum in those days) from the sales. With shrewd business acumen, Tobolkin also rented his goats to private sanatoria in the region and sold thyroidectomized goats to doctors in the provinces, including the Crimea, Odessa, Kiev, the Caucasus, and even Siberia. In 1913 alone he performed thyroidectomies on 178 goats for various private practitioners. The farm prospered and expanded considerably: in 1914 its milk production reached 11,511 glasses (almost 3,000 liters).

Although the demand for the “medicinal milk” was huge, there was very little evidence of its actual medicinal properties.17 Belief in the therapeutic effects of the milk from thyroidectomized goats was grounded in the contemporary understanding of the action of the thyroid glands and their secretions. Under normal conditions, the thyroid hormone was thought to “neutralize” a particular “toxin” circulating in the blood. In a patient suffering from hyperthyroidism, the glands excreted far more hormone than was “necessary,” producing the characteristic symptoms of Basedow’s disease: goiter, rapid pulse, nervousness and irritability, tremor of the outstretched hands and tongue, and “goggle eyes.” In the goats with excised thyroids, and hence with no hormone, the “toxin” accumulated in the blood and made its way into the goats’ milk. Thus it was believed that drinking this


15 Regarding the numerous requests for the milk see GARF, f. A-482, op. 25, d. 18, l. 2. On the display of the goat see M. S. Karpov, “Pervaia vystavka moskovskogo otdele Rossiiskogo obschestva kozovodstva,” Ross. Kozovodstvo, 1911, 5:4–7. In Russia, hyperthyroidism was called Basedow’s disease after the German physician Carl Adolph Basedow (1799–1854), who in 1840 produced a classic description of its symptoms. In English-speaking countries it was known as Graves’ disease, after the Irish physician Robert James Graves (1796–1853).

16 See Rossiiskoe Sel’sko-Khoziastvennoe Zhivotnovodstvo i Rossiiskoe Kozovodstvo, 1912, 5:17–18.

milk would provide patients with the “toxin” necessary to offset the excessive amounts of the hormone produced by their own overactive glands. Medicinal milk certainly presented a welcome alternative to the then-available treatment of the condition—surgical excision of a part or the entire thyroid gland to reduce the quantity of hormone in the patient’s blood.

The farm had neither facilities for research nor ways of controlling the actual uses of its product. So, with his characteristic entrepreneurship, Tobolkin got several researchers involved in studies of goat milk and its medicinal properties. In 1913–1914, at Tobolkin’s request, the director of a “veterinary-biological laboratory” at the Moscow zoo, Nikolai Babushkin, conducted comparative physical and chemical analyses of milk, blood, and urine from normal and thyroidectomized goats. He discovered certain differences in the chemical composition and physical characteristics of the fluids from normal and thyroidectomized animals but was unable to identify any substances that might have been responsible for the reputed therapeutic effects of the milk from the latter. Tobolkin also appealed to doctors who purchased the milk, asking them to collect all possible information relating to its use and its effects on patients. Among the early enthusiasts of the “medicinal milk” was a professor at Moscow University medical school, Vasilii Shervinskii (1850–1941).

Unlike Tobolkin, Shervinskii was born into a family of the old Russian intelligentsia. His parents died when he was only three years old, and Vasilii was raised by his relatives, first his aunt and then his uncle, Russia’s leading mathematician, Pavel Chebyshev. In 1873 Vasilii Shervinskii graduated from the medical school of Moscow University and became an assistant in its Department of Pathological Anatomy. Six years later he defended a doctoral dissertation on “lipoid embolism” and was appointed a professor in the Department of Pathology. A renowned therapist and a founder of the Moscow Therapeutic Society (see Figure 2), Shervinskii chaired the Russian Anti-Tuberculosis League for many years. Perhaps it was through his involvement with the league that he first learned about Tobolkin and his farm; after all, its stated purpose was the production of goat milk for TB sufferers. Shervinskii also had a long-standing interest in the diseases of internal secretion. In 1910 he published a long essay on the “clinical importance of internal secretions” in Russia’s leading medical journal. He became very interested in “medicinal milk,” and he actually performed an autopsy on one of Tobolkin’s thyroidectomized goats, investigating the anatomical and histological changes induced by the operation.

As the head of a Moscow University therapeutic clinic and a therapist with an extensive private practice, Shervinskii had a number of patients who suffered from hyperthyroidism, and he began using milk from the goats with excised thyroids on them. As he reported to

18 See “Moloko ot koz s udalennymi shchitovidnymi zhelezami kak lechebnoe sredstvo pri Basedovoi bolezni,” in Ukazatel’ 1-oi oblastnoi vystavki kozovodstva (Moscow, 1914), pp. 29–30.
20 For a brief biography see A. M. Tsiklik, V. D. Shervinskii (Moscow: Meditsina, 1978). Shervinskii’s memoirs are preserved in the Historical Museum of the Sechenov Moscow Medical Academy (HMMMA), OF 605/699; NVF 737/295. I am grateful to the museum staff for help in locating relevant documents.
the Moscow Therapeutic Society in 1913: “Based on my personal experience, I can safely say that in some cases the milk of thyroidectomized goats certainly exerts a positive effect on patients with Basedow’s disease. Although we do not yet have thorough research directed specifically to the elucidation of this question, the practice seems to justify this treatment.”

The contact established between Tobolkin and Shervinskii over the use of “medicinal milk” would prove fateful—not only for the two men personally, but for the entire field of endocrinology in Russia.

ORGANOTHERAPY AND REVOLUTION

The outbreak of World War I in the summer of 1914 impeded the work of Tobolkin’s farm. With the medical community’s attention turned to urgent military needs, the farm—haunted by shortages of everything (and particularly animal feed)—was all but abandoned throughout the war years. A new chapter in its history began after the Bolshevik revolution of 1917.

On 25 October 1917 a radical faction of the Russian Social-Democratic Labor Party, the Bolsheviks, carried out a coup d’état in Petrograd and declared the establishment of a socialist republic. Within months, a new form of governmental administration, “soviets,” came to control almost all the territory of the former Russian Empire. In early March 1918

23 St. Petersburg was renamed Petrograd at the beginning of World War I in 1914; in 1924 it was renamed Leningrad; and it regained its original name—St. Petersburg—in 1991.
the Bolsheviks concluded a separate peace treaty with Germany, ending Russia’s participation in World War I. But within a few weeks a civil war erupted between the “Reds” and the “Whites.” The Bolsheviks adopted an economic policy of “War Communism,” which featured the nationalization of industry, the abolition of money, the forced requisition of agricultural production, and the administrative distribution of food and goods. In the spring of 1918, threatened by the White forces advancing on Petrograd, the Bolshevik leadership moved from Petrograd to Moscow, where they began to create a new governmental apparatus.

On 10 July 1918 a congress of soldier, peasant, and worker deputies adopted the first constitution of the Russian Soviet Federated Socialist Republic (RSFSR). The next day, 11 July, the leader of the Bolsheviks, Vladimir Lenin, signed a decree establishing a special agency to “protect the health of the people” in the newborn republic: the People’s Commissariat of Public Health (Narodnyi Komissariat Zdravoohraneniiia [Narkomzdrav]).24 Issued by the highest governmental agency, the Council of People’s Commissars (Soviet Narodnykh Komissarov [SNK]), the decree formed a ruling body—the Collegium—composed of Party members with medical backgrounds and appointed a Bolshevik doctor, Nikolai Semashko, to head the new Commissariat.25

Just a few weeks after the establishment of Narkomzdrav, at the beginning of August, Semashko received a note from the SNK chief of staff, Vladimir Bonch-Bruevich. It introduced a short memorandum, written by Iakov Tobolkin, that requested nationalization of the goat farm in order to “put the treatment of Basedow’s disease on wide democratic principles.”26

Why, we may wonder, did Tobolkin appeal to Bonch-Bruevich? And why did the SNK chief of staff decide that his appeal deserved support? Several documents preserved in Bonch-Bruevich’s personal archive provide answers to these questions.27 As it happened, Tobolkin had a longtime association with several influential Bolsheviks. During his years at the Kazan’ Veterinary Institute in the early 1890s, Tobolkin had befriended a fellow student, Nikolai Bauman. Unlike Tobolkin, Bauman did not graduate, leaving the institute in his fourth year of study. He turned to politics and chose the career of a professional revolutionary. He became one of the founding members of the Bolshevik Party and eventually came to head its Moscow chapter.28

Tobolkin shared with many members of the Russian intelligentsia a disdain for the monarchy and high hopes for a democratic revolution. In the early 1900s he took part in the activities of the Socialist-Revolutionary Party, one of the most popular “agrarian” parties of the time. During the first Russian revolution of 1904–1905 the Moscow Police Department kept Tobolkin under surveillance, and his name appeared in several police reports on revolutionary activities in the city. The head of the Police Department’s Special

24 The name of this agency is more accurately translated as “People’s Commissariat of Health Protection.” For the sake of convenience, however, I have used its traditional English name: “People’s Commissariat of Public Health.”
26 GARF, f. A-482, op. 1, d. 98, ll. 45.
27 See the Bonch-Bruevich collection in the Manuscript Division of the Russian State Library in Moscow (OR RGB), f. 369. I am grateful to Marina Sorokina for calling my attention to this collection.
28 Bauman would attain a “saint’s” status as a martyr of the first Russian revolution of 1904–1905, and after the Bolshevik revolution the Kazan’ Veterinary Institute would be given his name. For a biography of Bauman see M. A. Novoselov, Nikolai Ernestovich Bauman (Moscow: Molodaia Gvardiia, 1955).
Division (Okhrannoe otdelenie) characterized him as “politically unreliable.” During this time Bauman used Tobolkin’s Moscow house as a drop for Party propaganda materials and correspondence, as well as a place for clandestine meetings with fellow revolutionaries. At these meetings Tobolkin met a number of Bolsheviks, including the future SNK chief of staff Bonch-Bruevich. After the defeat of the 1905 revolution Tobolkin, like many other members of the intelligentsia, abandoned his political radicalism and turned to advancing his professional career. But with the Bolsheviks now in power, Tobolkin’s early flirtations with the revolution proved very useful.

In 1918, his high official title notwithstanding, Bonch-Bruevich was first and foremost the personal secretary to his longtime friend Vladimir Lenin, now the SNK chairman. As it happened, Lenin’s wife, Nadezhda Krupskaia, suffered from Basedow’s disease, and Bonch-Bruevich’s wife, Vera Velichkina, a doctor, provided her medical care. In the spring of 1918, after the move of the Bolshevik government to Moscow, Krupskaia’s condition worsened. Velichkina had evidently heard about goat “medicinal milk” that supposedly helped patients with Basedow’s disease, and she suggested that Krupskaia try it. Bonch-Bruevich called Tobolkin to his Kremlin office and asked him to procure some “medicinal milk” for Krupskaia. Tobolkin obliged. He thyroidectomized one of the goats remaining at the farm and began supplying its milk to the Kremlin. Reportedly, the treatment alleviated Krupskaia’s condition and, according to Bonch-Bruevich, “literally, put her back on her feet.”

Tobolkin immediately employed this success to revive his “medicinal milk” operation, and Bonch-Bruevich readily provided the necessary introduction to the head of Narkomzdrav. As a result, on 2 August 1918, with Semashko in the chair, the Narkomzdrav Collegium listened to Tobolkin’s presentation of his case. The farm was in desperate straits: only thirteen of the original herd of seventy goats remained. There was no feed for the animals, no food, money, or fuel for personnel; moreover, the farm was in constant danger of being looted or even torched by “revolutionary peasants” in nearby villages. Tobolkin asked that the farm be nationalized and taken under the wing of Narkomzdrav as an important medical institution. This would both provide protection from the local “revolutionaries” and, through Narkomzdrav’s subsidies, allow the farm to revive its operations. The Collegium was clearly impressed by the presentation: its members resolved that the farm should be “taken temporarily under Narkomzdrav’s auspices in order to use it for the treatment of Basedow’s disease.” It obviously helped that one of the Collegium’s seven members was Vera Velichkina herself. The Collegium asked Tobolkin to prepare an inventory of the farm’s properties.

---

29 Regarding the police surveillance of Tobolkin in 1904–1905 see GARF, f. 102, op. 3, d. 383, l. 1, d. 880, l. 4; op. OO-1905, d. 104, part 6, ll. 8, 13–13 rev. I am grateful to Marina Sorokina for calling my attention to this collection. For his characterization as “politically unreliable” see GARF, f. 102, op. OO-1907, d. 9; part 35, l. 185.

30 They would also prove useful later on. During the “cultural revolution” of the early 1930s Tobolkin’s loyalty to the Bolshevik regime was questioned, as was that of many other “bourgeois specialists.” Apparently to exonerate himself, Tobolkin referred to his association with Nikolai Bauman during the first Russian revolution. To check out his claims, a special commission set up to investigate his conduct sent an inquiry to another Bauman—Karl Bauman, the head of the Communist Party Central Committee Science Department. Although Karl Bauman could not confirm Tobolkin’s early involvement with the Bolshevik Party, the investigation was terminated. The documents relating to this episode are preserved in Tobolkin’s personal file in the Narkomzdrav archive; see GARF, f. A-482, op. 41, d. 3347.


32 GARF, f. A-482, op. 1, d. 98, l. 48.
A week later, Tobolkin presented the inventory and a preliminary operational budget to the Collegium. At its meeting on 10 August 1918 the Collegium resolved that the farm should be nationalized and allocated funds for its daily operations plus a special sum of 20,000 rubles for the purchase of more goats. Commissar Semashko personally signed the mandate indicating that the farm was now the property of Narkomzdrav. Although the mandate certainly helped Tobolkin to protect the farm, the promised funds proved much more difficult to obtain.

A month later, on 16 September, Tobolkin again appealed to the Collegium for the pledged 20,000 rubles to buy additional goats and feed. This time the Collegium forwarded the request to a recently created Scientific-Medical Council—a consultative body made up of eminent medical researchers and practitioners and chaired by the country’s leading bacteriologist, Lev Tarasevich. The Collegium asked for an appraisal not only of Tobolkin’s request for funds but also of the entire project of maintaining and expanding the farm of thyroidectomized goats. It took the Council almost a month to get to the matter: on 19 October Tarasevich notified Semashko that the Council was unable to assess the project properly because it lacked necessary information on the farm and its operations.

Semashko immediately sent a message asking Tobolkin to prepare a report and provide all the relevant materials on the farm. Tobolkin promptly supplied the Council with an eight-page memorandum that outlined the farm’s history, plans for its expansion, and even a program of future studies. The memorandum clearly demonstrated that Tobolkin had not been waiting idly while the Council pondered his initial appeal. In September he had delivered a report about the farm at the new State Institute of Experimental Veterinary Science (created in January 1918) and secured an agreement with a number of the institute’s members for “cooperative” research on the properties of the blood, milk, and urine of thyroidectomized goats. The memorandum also listed several prominent physicians familiar with the farm’s work, who, in Tobolkin’s opinion, should be invited to take part in any discussion of its future. The first name on the list was Vasilii Shervinskii.

Tobolkin’s memo obviously made the desired impression on the Council members. They invited Tobolkin, Shervinskii, and Sergei Pavlushkov, another graduate of the Kazan’ Veterinary Institute, who at the time headed the veterinary-biological laboratory of the Moscow zoo—which had conducted the first analyses of the farm’s products in 1913—to come to the Council’s meeting on 1 November to present and discuss the issue. As a result of this discussion, the Council recommended that the farm be expanded. It also suggested that a special commission be set up to study the medicinal properties of milk from thyroidectomized goats and to develop the production of several “hormonal” preparations, among them “rodagen” (condensed milk), “antithyroidin” (the blood serum from the thyroidectomized goats), and “thyroidin” (an extract from the excised thyroid glands). The Council forwarded its recommendations to the Collegium.

The Collegium, however, was not satisfied. On 9 November it returned the Council’s recommendations, requesting additional materials. The Collegium members wanted a detailed justification for the farm’s expansion: they asked exactly what size farm would be necessary for conducting scientific experiments; how the milk from the thyroidectomized

33 GARF, f. A-482, op. 1, d. 98, l. 59.
34 GARF, f. A-482, op. 25, d. 18, l. 2; and GARF, f. A-482, op. 1, d. 98, ll. 75.
35 GARF, f. A-482, op. 25, d. 18, ll. 4–7 rev.
36 GARF, f. A-482, op. 1, d. 82, ll. 205, 207–207 rev.
goats would be studied; and how the farm would manufacture the proposed preparations. Perhaps the Collegium’s dissatisfaction derived in part from concurrent discussions regarding the establishment of a State Institute of People’s Health Protection (Gosudarstvennyi Institut Narodnogo Zdravookhraneniia [GINZ]), an institution that was to address questions pertaining to the entire field of public health. Just a few weeks earlier, on 18 October, the Collegium had approved the founding of the first research institute that would become a part of GINZ—the Institute of Tropical Diseases. Apparently, compared to the detailed justifications for the establishment of this institute, which had been prepared by the “Malaria Commission” of the Pirogov Society of Russian Physicians, headed by Russia’s leading specialist in tropical diseases, Evgenii Martsinovskii, the Council’s recommendations—based on Tobolkin’s memo—regarding scientific research at the farm looked weak to Collegium members.

To satisfy the Collegium request, the Council appointed a special commission to exercise “scientific control over the farm of thyroidectomized goats.” This commission was to supervise “experiments [with] and production of organo-therapeutic preparations at the farm.” It consisted of four members of the Council: its head, Tarasevich; the surgeon Aleksei Martynov, dean of the Moscow University medical school; the eminent therapist Dmitrii Pletnev (the chairman); and a specialist in nutrition, the physiologist Mikhail Shaternikov. The commission also included one “invited member”—Vasilii Shervinskii.

Shervinskii was the only member of the commission who had dealt previously with the farm and had firsthand experience in the use of its main product—“medicinal milk.” His opinions obviously carried considerable weight with the other members and were clearly reflected in the commission’s report, presented to the Council on 20 December. The report emphasized the general importance of organo-therapeutic preparations as the main reason for the preservation and expansion of the farm. It repeated almost verbatim Shervinskii’s earlier statement regarding certain “practical” evidence for the therapeutic effects of “medicinal milk,” despite the lack of direct scientific investigations on the subject. Indeed, the report stressed that it was the need for such investigations—conducted simultaneously by several doctors in different clinics—that necessitated the farm’s expansion. The report went on to suggest that the farm should be expanded, at minimum, to its prewar size to satisfy the demands of research and to supply milk to at least a portion of the patients suffering from Basedow’s disease. It also proposed that a special manufacturing “laboratory”—modeled after the existing Russian establishments involved with the production of organo-therapeutic preparations—be set up at the farm to manufacture the proposed preparations. Shervinskii’s presentation to the Council obviously made a very favorable impression: the members approved the commission’s report and forwarded it to the Collegium. Furthermore, that very day Shervinskii himself was “elected” to the Council.

At the end of January 1919 Shervinskii and Tobolkin could celebrate their first success:

37 For the Collegium’s questions about the expansion of the farm see GARF, f. A-482, op. 1, d. 82, l. 193. On the early history of GINZ see the special volume issued for its fifth anniversary: L. A. Tarasevich and V. A. Liubarskii, eds., Gosudarstvennyi institut narodnogo zdravookhraneniia imeni Pastera (“GINZ”), 1919–1924 (Moscow: GINZ, 1924). Hereafter references to this collection will be given as GINZ (1924).
38 For the justifications put forward in support of the Institute of Tropical Diseases see GARF, f. A-482, op. 1, d. 82, ll. 116–123 rev.
39 GARF, f. A-482, op. 1, d. 82, ll. 223, 227.
40 GARF, f. A-482, op. 1, d. 82, ll. 252 rev–253 rev.
41 GARF, f. A-482, op. 1, d. 82, l. 249.
the Collegium approved the farm’s expansion and recommended that the patients for clinical tests be concentrated in one of Moscow University’s clinics. The Collegium recommendation meant that control over the tests and over precious “medicinal milk” would remain in the hands of commission members Dmitrii Pletnev and Vasilii Shervinskii. Given the fact that Pletnev was one of the trusted physicians frequently invited to treat patients in the Kremlin, the Collegium recommendation indirectly supports other evidence indicating that Lenin’s wife was one of the intended beneficiaries of the tests. A few months later, perhaps inspired by their success in establishing the farm on a firm footing under Narkomzdrav patronage, Shervinskii and Tobolkin took further steps toward the institutionalization of their interests. In early March they suggested that the farm be transformed into a special “organotherapeutic institute.”

It seems likely that the primary motive for this suggestion was the appearance of a formidable competitor. In mid-January 1919 a certain doctor, Nikolai Ishlondskii, had presented a detailed project to Narkomzdrav urging the “organization of a special institute for the production of organotherapeutic preparations.” This project promised to “resolve the current medicaments crisis in the country” by establishing a manufacturing facility that would produce preparations from a variety of “endocrine organs,” including “the adrenals, hypophysis, blood, spleen, and pancreas.” Appended by a list of the sixty-seven “most popular organotherapeutic preparations in Europe” and the names of the pharmaceutical companies that produced them, the project proposal claimed that “manufacture of the most important and valuable preparations such as adrenaline and pituitrin could be organized immediately with very low initial costs.” Ishlondskii estimated that approximately 300 liters of adrenaline (valued at 200,000 rubles) could easily be produced every month. He described the personnel, supplies, and equipment that would be needed and asked for 500,000 rubles to organize the projected institute.

Ishlondskii had managed to get his project endorsed by the head of the Moscow Regional Sanitary-Military Administration, and the Narkomzdrav officials took it quite seriously. In just two weeks the project had reached Semashko’s desk, and the commissar forwarded it to the Scientific-Medical Council for evaluation. As was its custom, the Council created a commission to address the issue. The chairman of this commission was none other than Shervinskii.

In evaluating Ishlondskii’s project, Shervinskii faced the challenging task of undermining the competitor while endorsing his central idea. He accomplished this task admirably. Shervinskii began his report to the Council by emphasizing the practical and theoretical importance of organotherapeutic preparations, but he also noted the considerable difficulties of the manufacturing processes, as well as the need for veterinary control of raw materials (animal glands) and for reliable, skilled personnel to do the work of making the preparations. He stated that establishment of an institute of the sort Ishlondskii was proposing should be motivated not by the hope of financial gain—thus hinting that

42 The Collegium also decided to send an inquiry to the Supreme Council of People’s Economy regarding the agency’s plans to organize a laboratory or a factory for the production of organotherapeutic preparations, but as far as I have been able to ascertain they never got a response; see GARF, f. A-482, op. 1, d. 116, ll. 24 rev–25, 130.
44 For the further steps see GARF, f. A-482, op. 25, d. 18, ll. 16–16 rev; for the suggestion that the farm become an “organotherapeutic institute” see GARF, f. A-482, op. 1, d. 82, l. 303.
45 GARF, A-482, op. 1, d. 82, ll. 316–325.
46 GARF, f. A-482, op. 25, d. 91, ll. 6–7 (the quotations in the next few paragraphs are all from this document).
this was the primary motive behind the project at hand—but by research and clinical needs. He further asserted that, with regard to research and clinical applications, the creation of such an “institute” was indeed timely and desirable.

Then Shervinskii turned to the proposed project itself, focusing primarily on its author’s “commercial projections and estimates” and stressing that the market for organotherapeutic preparations was relatively small and unstable. He dismissed Ishlondskii’s claim that creation of the institute would “resolve the current medicaments crisis,” for organotherapeutic preparations could not even theoretically replace other drugs. He recommended that the project be rejected as “unsubstantiated.”

Yet this recommendation was not the end of Shervinskii’s report. He went on to suggest that, as a first step, the manufacture of organotherapeutic preparations could be organized at “existing laboratories” if their personnel and equipment were expanded. He projected that these laboratories “in time would grow into a large organotherapeutic institute, with all the required departments,” including research and clinical facilities. He proposed that “the commission created for overseeing the production of preparations at the farm of thyroidectomized goats [i.e., Shervinskii himself] work out the issues of manufacturing organotherapeutic preparations and improving the existing laboratories created for this purpose.”

On 7 March 1919 the Council approved Shervinskii’s report—both its recommendation to reject Ishlondskii’s project and its proposal to “work out” the issues of manufacturing organotherapeutic preparations—and forwarded the verdict to Narkomzdrav. A few days later Shervinskii and Tobolkin presented to the Council their own appeal for the establishment of a special “organotherapeutic institute” at the goat farm. It seems likely that—apart from the threat represented by Ishlondskii—Shervinskii and Tobolkin were encouraged by the rapid institutional development of GINZ. By March 1919 GINZ included four separate research institutes—Microbiology, Sanitary Science and Hygiene, Control of Vaccines and Sera, and Tropical Diseases—administered by a board composed of the director and leading researchers of each institute. Although Shervinskii and Tobolkin’s initiative did not find much support in the Council at this time—the civil war was at its height, and the Moscow medical community was fighting horrendous epidemics of typhus and Spanish flu—the farm’s “supervisors” continued their efforts to expand it.

Under the conditions of “War Communism”—with shortages of literally everything and the Bolsheviks’ strict administrative control over the distribution of food and goods—the goat farm offered attractive employment. Not only could its employees obtain daily food rations distributed by the government—consisting mainly of bread and pickled herring and barely sufficient for sustenance—but they could supplement these meager allowances with produce from the farm’s vegetable garden and milk from its herd of goats that had not been thyroidectomized. Not surprisingly, the farm’s supervisors had no shortage of applications.

In the summer of 1919 the biochemist Aleksei Bakh, a longtime Bolshevik Party sympathizer who had recently returned from political exile in Geneva, approached Shervinskii with an offer to perform analyses of “the enzymatic constants in normal and thyroidectomized animals.” Bakh suggested identifying the median quantity of certain blood enzymes—a technique he had perfected during his studies in Switzerland—in

47 GARF, f. A-482, op. 1, d. 82, l. 303.
normal and thyroidectomized animals and investigating how these numbers changed when animals were injected with thyroid preparations. Obviously realizing what a valuable ally Bakh would make, Shervinskii immediately penned a recommendation and presented it at a meeting of the Scientific-Medical Council on 4 July. He characterized Bakh’s proposal as “extremely desirable,” noting that such analyses could provide a “solid and positive basis for the evaluation of the action of organotherapeutic preparations,” as well as improve the production of such preparations. The Council approved the recommendation and permitted Bakh to conduct his experiments at the farm.49

Tobolkin, in turn, cultivated his patrons in the Narkomzdrav Collegium. On 10 July 1919 he reported to the Collegium “on the situation at the farm and on the course of scientific investigations into the influence of the milk from thyroidectomized goats on the patients suffering from Basedow’s disease.” The Collegium reaffirmed the control of the farm supervisors over its products: “only with a prescription” issued by the members of “the scientific commission that studies the medicinal properties of the milk” could patients get access to “medicinal milk.” At the same time, Shervinskii expanded his own influence in the Council. In August he came to chair a special “permanent pharmacological commission” instituted to “control the production, distribution, and use of various medicinal preparations” in the entire country.50

Over the next year, the farm steadily increased its milk production and expanded its “research agenda.” In February 1920 Shervinskii reported to the Council on the first encouraging results of studies on the therapeutic effects of the milk from thyroidectomized goats on patients with Basedow’s disease. He proposed that the “clinical tests” be expanded to include patients with TB. Several high-level Bolsheviks, notably the chairman of the fearsome “Cheka,” Feliks Dzerzhinskii, and his deputy, Viacheslav Menzhinskii, suffered from tuberculosis. Given the close connections of the farm supervisors (particularly Pletnev) with the top level of the Bolsheviks, it seems likely that Shervinskii’s proposal meant that the “medicinal milk” would now be administered not just to Krupskaia but to other inhabitants of the Kremlin as well.51 The Council approved Shervinskii’s proposal. Its members also recommended that Bakh broaden his research on the enzyme composition of “medicinal milk” by performing analyses of changes in the blood of patients treated with it.52

In October 1920 Shervinskii proudly reported to the Council that “the farm’s laboratory” had produced its first two preparations—thyroidin and antithyroidin.53 In fact, this “laboratory” existed only in Tobolkin and Shervinskii’s reports to their patrons. The farm itself had neither space nor equipment for production, much less research. The preparations had been “home made,” as it were: the farm’s technician had manufactured them in the basement of Tobolkin’s house on Arbat in the center of Moscow. Not surprisingly, Tobolkin and Shervinskii regularly petitioned the Council to provide appropriate quarters

49 See GARF, f. A-482, op. 25, d. 41, l. 46; and GARF, f. A-482, op. 1, d. 82, ll. 365, 370. For a description of Bakh’s technique and its use at the farm see A. N. Bakh and S. Zubkova, “Kolichestvennoe opredelenie katalazy, proteazy, perekisidazy i esterazy v kaple krovi,” in GINZ (1924), pp. 223–225; and Bakh and E. P. Kheraskova, “Pokazatel’ katalazy u tireodektomirovannykh koz,” ibid., p. 227.

50 For the Collegium’s reaffirmation of the farm supervisors’ control see GARF, f. A-482, op. 1, d. 121, l. 72; on the permanent pharmacological commission see GARF, f. A-482, op. 25, d. 41, ll. 55–56.

51 “Cheka” was the popular abbreviation for the name of “the extraordinary commission to combat counter-revolution, sabotage, and speculation,” which was the main instrument of the Red Terror. There is some evidence that Shervinskii personally treated Menzhinskii; see the Shervinskii collection, HMMMA.

52 See GARF, f. A-482, op. 25, d. 103, l. 9 rev.

53 GARF, f. A-482, op. 25, d. 18, ll. 36–36 rev.
for manufacturing and research. At the end of the year, the duo also appealed to the Council to rename the farm an “institute of medicinal milk.” They argued that the existing name—“the farm”—impeded research and even day-to-day operations because of the confusion it created in various state agencies. Some bureaucrats evidently thought that the farm was an agricultural, not a medical, institution, and they refused to provide the supplies and equipment that were ordered or even requested that the farm deliver milk as part of the obligatory “natural” tax imposed on all agricultural producers. Although the Council did not explicitly approve the name change, Shervinskii ordered a letterhead stamp with the new name and began using it in official correspondence.

HORMONES AND THE BOLSHEVIKS

By 1921 the civil war had spent its fury; the Bolsheviks regained control over the country. But they paid a steep price for the victory: seven years of continuous warfare left Russia economically devastated. Industry was ruined, cities were depopulated, agriculture was destroyed, transport was in shambles. Food, fuel, and raw materials were everywhere in short supply. Faced with severe economic crisis, the Bolshevik government abandoned “War Communism” and adopted the “New Economic Policy” (NEP). Preserving state control over key industries and banking, the Bolsheviks partially restored private property and private initiative in trade and the production of consumer goods. They abolished the forced requisition of agricultural products and reinstated the use of money.

The introduction of the NEP and the subsequent rapid restoration of the national economy facilitated the discipline-building efforts of Russian scientists. But for Shervinskii and Tobolkin this was a mixed blessing, for in January 1921 they lost one of their most valuable assets—Bakh. Using his personal contacts with influential Bolsheviks and his affiliation with the farm as a springboard, Bakh managed to convince Narkomzdrav officials to establish a separate Institute of Biochemistry for his own research under the GINZ umbrella. Perhaps inspired by this institutional success of one of the farm’s associates, Shervinskii and Tobolkin continuously bombarded the Council during 1921 with requests that a special “institute for the manufacture of organotherapeutic preparations” be organized. Council members duly discussed the requests and formed several commissions to address the issue, but in the end they could not make up their minds.

Having failed to establish a separate institute, Shervinskii and Tobolkin adopted a different tactic in their efforts to transform the farm (a.k.a. the Institute of Medicinal Milk) into a full-fledged research and production facility: they attempted to put the farm—as an independent department—under the aegis of an existing institute. The Institute of the Physiology of Nutrition, established as part of GINZ in late 1920, seemed an ideal candidate for such a move. The institute’s director, Mikhail Shaternikov, was a member of the Scientific-Medical Council and a member of the original 1918 commission created to exercise “scientific control over the farm.” Although too busy with his own research and institution building to contribute much to the commission’s work, Shaternikov was familiar with the farm and might look favorably at taking it under his wing, particularly

54 GARF, f. A-482, op. 25, d. 104, l. 59.
55 On the appeal for a name change see GARF, f. A-482, op. 25, d. 18, l. 38; regarding the change that appeared in official correspondence see GARF, f. A-482, op. 25, d. 104, ll. 55–60.
56 On Bakh’s new institute see GINZ (1924), pp. 25–27. For Shervinskii and Tobolkin’s request see GARF, f. A-482, op. 25, d. 18, ll. 39–42; for the discussion and action taken see GARF, f. A-482, op. 25, d. 104, l. 151; for the final decision see GARF, f. A-482, op. 25, d. 177, l. 5.
because he had planned to establish—within his own institute—“a special department to study the influence of the organs of internal secretion on growth and nutrition.”

On 22 September 1922 Shervinskii presented the idea to the Council in a special report. He argued that the farm’s inclusion in Shaternikov’s institute would help “expand its scientific research” and provide it with “necessary direction.” As always, the Council formed a commission to assess the issue. Composed of the three persons most interested in the entire project—Shervinskii, Tobolkin, and Shaternikov—the commission quickly came to an agreement. They recommended that the farm be included in the Institute of the Physiology of Nutrition, on the condition that “its budget, administrative subordination, and practical activities should remain fully autonomous.” The institute was to provide only a “general direction for scientific work,” through the cooptation of “the institute’s representatives [i.e., Shaternikov and his deputies] into the existing commission for control over the farm [i.e., Pletnev, Shervinskii, and Tobolkin].” On 17 November, after receiving the consent of the GINZ board, the Council approved the commission’s recommendations.

Shervinskii’s latest institutional maneuver was a very crafty move indeed. This new “inclusion” actually meant that the farm would become a financially independent unit within the system of GINZ institutions, with only nominal affiliation with Shaternikov’s institute. Such an arrangement satisfied everyone involved. It meant, first of all, that the farm supervisors could now claim a share of resources—most importantly space and equipment—allocated by Narkomzdrav to the quickly expanding GINZ. It also enabled the farm to gain access to researchers, equipment, and information about investigative practices at other GINZ institutes. At the same time, it provided researchers at GINZ institutes with access to the farm’s products—“medicinal milk” and organoanabolic preparations.

The arrangement worked: the researchers at Bakh’s Institute of Biochemistry and Shaternikov’s Institute of the Physiology of Nutrition began almost immediately to utilize the farm’s products in their own research. Furthermore, in just a few months the farm’s “manufacturing laboratory” became operational: with new funding in hand, Tobolkin rented several rooms in the former beer-joint next to his own house on Arbat. The lab quickly expanded its production beyond “medicinal milk” and its derivatives—thyroidin and antithyroidin. It began manufacturing a whole new range of organoanabolic preparations, including extracts of the hypophysis, mammary, and testicular glands. Accordingly, the expanded “laboratory” was rechristened the “Institute of Organotherapeutic Preparations.”

Having finally succeeded in establishing the manufacturing facility on a firm footing, Shervinskii moved to institutionalize his own interests further. In November 1923 he made a presentation to Commissar Semashko on the work of the new institute (see Figure 3). He proposed that an outpatient facility to treat patients using organoanabolic preparations be established as a first step toward creating a special “organoanabolic clinic.” Shervinskii argued that such a clinic, together with the farm’s laboratory “for manufacture and pharmacological studies” of organoanabolic preparations, would form an “institute for

57 See *GINZ* (1924), pp. 21–23.
58 GARF, f. A-482, op. 25, d. 177, l. 158 rev (quotation); and GARF, f. A-482, op. 25, d. 236, l. 7 rev.
the study of organotherapy.” The commissar decided that the issue should be discussed by the Scientific-Medical Council.61

A month later, on 21 December 1923, Shervinskii addressed the Council, urging the establishment of an outpatient unit and its integration with the manufacturing laboratory into an “institute for the study of organotherapy.” He stated that the demand for organotherapeutic preparations had grown considerably but complained that the physicians who used such preparations had failed to report back to the laboratory on their actual therapeutic effects. The laboratory itself had been testing its products on animals, but these tests, though important in ascertaining pharmacological effects, remained insufficient to judge the clinical efficiency of preparations. Shervinskii insisted that the creation of the “institute for the study of organotherapy”—combining the manufacture, animal research, and clinical studies of endocrine preparations—was paramount for establishing organotherapy on a “solid foundation.” After a prolonged discussion, the Council members agreed that creation of an outpatient facility was indeed “desirable, in principle.” But because the laboratory was currently part of GINZ—a research, not a clinical, institution—they could not reach a final decision without the input of the GINZ board.62

Without waiting for the Council’s final decision, Shervinskii expanded his institution-

---

61 GARF, f. A-482, op. 25, d. 279, ll. 32–33.
62 GARF, f. A-482, op. 25, d. 279, ll. 72–74.

---

Figure 3. The three men who made Soviet endocrinology (left to right): Shervinskii, Semashko, and Tobolkin at the opening of the Institute of Experimental Endocrinology (1925). Courtesy of the Historical Museum of the Sechenov Moscow Medical Academy.
building activities in a very unusual way. He penned a proposal to establish a “museum of organotherapeutic preparations.” Museums had long provided an institutional springboard for disciplines, ranging from zoology to anatomy, that rooted their research methodology in collecting and examining particular specimens. Not surprisingly, several disciplines followed this trajectory in establishing their institutional base in Soviet Russia. For instance, Soviet anthropology began its institutionalization with the creation of an anthropological museum under the auspices of Moscow University; it soon gave birth to a teaching department (kafedra) and then a research institute. Perhaps the Bolsheviks’ active support for various museums as a vehicle both for the popularization of science and for antireligious propaganda encouraged scientists to adopt this particular strategy in the institutionalization of their own interests. But creating a museum for endocrinology was (and still is) quite unorthodox.

It seems likely that the field’s champion drew inspiration for his latest institutional move from a template employed in the discipline building of Soviet social hygiene. This discipline began its institutionalization in 1919 with the establishment of a State Museum for Social Hygiene in Moscow. The museum provided a foundation for a kafedra of social hygiene, organized in late 1922 at Moscow University. And a few months later, in April 1923, by the order of Narkomzdrav, the museum became a State Institute for Social Hygiene. Perhaps Shervinskii hoped that by emulating the discipline-building template of the field that was Commissar Semashko’s personal fiefdom he would improve the chances for the successful institutionalization of his own field. Whatever his thoughts were, Shervinskii first circulated the draft of his proposal among the members of “the commission on the manufacture of organotherapeutic preparations” and then put the issue on the agenda of the Council’s first meeting of 1924. On the eve of the meeting Shervinskii got sick, and it fell to Tobolkin to present the proposal to the Council on 15 January.

Tobolkin outlined the structure and goals of the proposed institution. The museum was to include five separate departments—anatomy, experimental physiology, pathological anatomy, clinical studies, and organotherapy—with each department collecting materials related to all endocrine organs. Tobolkin explained the proposed structure using thyroid glands as an example. The department of anatomy was to hold anatomical and histological preparations of human and animal thyroid glands, drawings of the gland’s nervous and vascular apparatus, and models and drawings of its embryonic development. The department of experimental physiology was to gather information on the gland’s extirpation and on the injections with thyroidin and antithyroidin, diagrams illustrating the changes in blood pressure and the chemical composition of blood in experimental animals under the influence of the gland’s extracts, and information on the history of physiological research on the gland. The department of pathological anatomy was to assemble materials on the pathological changes in various organs produced by the gland’s dysfunction. The clinical department was to accumulate clinical data (blood and urine analyses, temperature and pulse frequency curves, metabolic tables, etc.) on patients at various stages of Basedow’s

65 GARF, f. A–482, op. 25, d. 310, ll. 5–8 (the quotations in the next few paragraphs are all from this document).
disease and goiter, provide clinical assessments of various treatments, and compile particularly interesting individual case histories. The department of organotherapy was to collect thyroid preparations manufactured by various producers, descriptions of possible methods for their production and testing, and results of their chemical analyses.

Altogether, the museum would amass materials on the anatomy, physiology, and pathology of all endocrine organs, as well as on the manufacturing techniques and clinical effects of organotherapeutic preparations. Tobolkin described the museum’s dual goal: to provide consultations to the manufacturers of organotherapeutic preparations and to the physicians who used them; and to disseminate knowledge of endocrine physiology and pathology among practicing doctors and the general public. Tobolkin’s report clearly indicated that the envisaged “museum” was in fact to become the country’s clearinghouse for the entire field of endocrinology.66

Shaternikov immediately came to support Tobolkin’s presentation, noting that the creation of such a museum was “extremely desirable from both scientific and practical perspectives.” Council chairman Tarasevich, however, appeared much more skeptical. He allowed that, in theory, no one could object to the project. The issue was whether, in practice, the creation of the museum was feasible—whether the necessary funds, equipment, and space were available. He noted that Tobolkin had addressed none of these questions in his presentation and suggested that the decision be put on hold until Shervinskii and Tobolkin provided at least a preliminary budget for the organization and maintenance of such a museum. The Council voted in favor of Tarasevich’s suggestion.

Shervinskii was not discouraged by the failure of his latest attempt to squeeze the Council into backing his institutional plans. He moved to widen his support base. He managed to instigate the publication of an article in the country’s major newspaper, Izvestiia. On 11 April the newspaper published a short laudatory report on “the Moscow organotherapeutic institute,” which stated that “a museum of organotherapeutic preparations is being organized at the institute according to Prof. Shervinskii’s project” and that “an outpatient facility for the treatment of endocrine diseases is being planned.” The article lamented “the lack of funds” that impeded these undertakings.67 A few weeks later Shervinskii also presented his ideas about the museum of organotherapeutic preparations at the Seventh Congress of Russian Therapists, held in Moscow under his chairmanship.

At the same time, Shervinskii began creating an endocrinological society. He drafted a charter for the society and spent several months gathering support among Moscow’s leading clinicians and researchers. His initiative found a receptive audience. On 18 April 1924, following the established bureaucratic procedure, Shervinskii sent the charter of the “Russian Endocrinological Society” to the People’s Commissariat of Internal Affairs (Narodnyi Kommissariat Vnutrennikh Del [NKVD]) for approval. Cosigned by several of Shervinskii’s colleagues from the Moscow University medical faculty, the charter called for the “unification of all individuals working scientifically in the field of endocrinology in Russia.”68

On 5 September 1924 the NKVD approved the charter. A month later, on the evening of 16 October, the Russian Endocrinological Society held its inaugural meeting in Moscow’s “House of Scientists.” More than a hundred participants listened to the opening address delivered by society founder Shervinskii, who carefully crafted his speech to

---

68 GARF, f. A-2307, op. 17, d. 115, l. 284; and GARF, f. A-482, op. 28, d. 3, l. 20 (quotation).
highlight and rally support for his current institutional efforts. After a brief excursion into the history of endocrinology, with tributes to Claude Bernard and Charles Brown-Séquard, he proceeded to describe his vision for a specialized endocrinological clinic. Shervinskii emphasized that only a clinic could provide the opportunity for the multifaceted investigations of endocrine organs and their pathology, surgical and therapeutic treatments for various diseases of the endocrine system, and clinical testing of available organotherapeutic preparations. He admitted that at the moment establishing such a clinic as an independent institution seemed impossible: “it would require such a large amount of resources that the very thought of it kills all hopes for any possibility of its realization.”

But, he suggested, the clinic could perhaps be established within an existing hospital. Shervinskii outlined three main directions for endocrinological studies: laboratory research, production of endocrine preparations, and clinical investigations. He emphasized that only the combined efforts of specialists in different fields—biology, surgery, physiology, pathology, therapy—could advance endocrinological knowledge. The main goal of the new society, he reiterated, was to unite all those involved in endocrinological research.

Next, Gavriil Sakharov—Shervinskii’s “brother-in-arms” in establishing the society and a fellow professor of pathology at Moscow University—took the stand to outline “the urgent tasks of endocrinology.” Responding to Shervinskii’s call for the “harmonious unification of [endocrinology’s] forces on the inside,” Sakharov focused his report on methodology and research directions. He identified three sets of tasks that needed to be addressed within the field as a whole in order to forge internal consensus among its practitioners: unification of methods and methodology of endocrinological research, studies of individual glands (the thyroid, the hypophysis, etc.), and studies of correlations among various endocrine organs. Sakharov gave examples of particular problems within each of the three sets of tasks, illustrating his points with results from his own research and from recent publications both in Russia and abroad.

From the “urgent tasks of endocrinology,” the meeting participants turned to the urgent tasks of their newborn society—first, the election of its governing board. They unanimously chose Shervinskii as the society’s chairman, while Sakharov and yet another professor on the Moscow University medical faculty, the pediatrician Aleksandr Kisel’, were elected as his deputies. Two more representatives of the faculty, Professors Dmitrii Rossisskii and Vladimir Rozanov, became members of the board, while two younger colleagues, Nikolai Shereshevskii and Mstislav Serdiukov, were selected as “scientific secretaries.” The participants decided that the society would convene once a month, and the meeting was adjourned. Starting in November, the society began to hold regular monthly meetings. Attendees discussed research papers and particular clinical cases—usually accompanied by the presentation of a patient, along with his or her X-rays and clinical analyses—and accounts of these meetings appeared in the pages of Izvestiia.
Though busy organizing the society, Shervinskii did not lose sight of his main goal. During the summer he had continued to pester the Council with requests for funds necessary “for the expansion and additional equipment for the [manufacturing] laboratory at the Institute of Organotherapeutic Preparations.” His persistence paid off: over the course of the year, the manufacturing facility grew quite substantially, and both the quantity and the variety of its products increased considerably.

At the end of November, Tobolkin and Shervinskii proudly presented the Council with a list of thirty-nine (!) preparations currently produced by the institute. In addition to its “signature” thyroidin and antithyroidin, the institute now manufactured extracts from the adrenals, hypophysis, ovaries, thymus, testicles, liver, pancreas, placenta, spleen, prostate, and mammary glands. The institute obtained the glands of cattle, pigs, and sheep from Moscow slaughterhouses and offered most preparations in both liquid and dry (tablet or powder) forms. In a report accompanying the list, Tobolkin stated that members of the scientific commission that supervised the institute had tested all the preparations in their own clinical practice and research, with very favorable results. He also included with his report the protocols of successful animal tests of the two most important preparations—adrenaline and pituitrin—conducted at the State Chemical-Pharmaceutical Institute and the State Institute of Experimental Veterinary Science. On 19 December 1924 the Council discussed Tobolkin and Shervinskii’s presentation. Its members approved all but two preparations (the extracts of spleen and liver) for medicinal use throughout the country and recommended that they be included in a new edition of the Soviet Pharmacopoeia.

The events that unfolded during the next few months demonstrate that Tobolkin and Shervinskii’s presentation of their institute’s products impressed not only the Council but also the Narkomzdrav Collegium and Commissar Semashko himself. The successful production of Soviet adrenaline constituted a major achievement. Adrenaline had been the first hormone industrially manufactured in pure form and was widely employed in medical practice around the world. Since the early 1910s an American firm, Parke-Davis and Company, had virtually monopolized the adrenaline market, and the hormone had never before been produced in Russia. Adrenaline was also the most expensive of “organo-therapeutic preparations,” and Narkomzdrav had to import it, spending large sums of precious hard currency. Achieving Soviet independence in the production of adrenaline undoubtedly testified to the viability of Tobolkin and Shervinskii’s endeavors and justified their repeated appeals for expansion and additional funding. As a result, in just a few months Tobolkin and Shervinskii saw almost all of their institutional ambitions realized.

At the beginning of 1925 Narkomzdrav transformed the Institute of Organotherapeutic Preparations into a new, full-blown establishment—the Institute of Experimental Endocrinology, separating it from GINZ both financially and administratively. Narkomzdrav allotted a large building to the new institute and expanded its budget and personnel considerably, appointing Shervinskii as the director “for scientific affairs” and Tobolkin

---

508 HORMONES AND THE BOLSHEVIKS

---

72 GARF, f. A-482, op. 25, d. 310, ll. 100, 109, 116–117.
73 For the presentation of the thirty-nine preparations see GARF, f. A-482, op. 25, d. 320, ll. 1–4; for the Council’s discussion of these preparations see GARF, f. A-482, op. 25, d. 311, ll. 76–78.
74 On Parke-Davis see Milton Hoefle, “The Early History of Parke-Davis and Company,” Bulletin for the History of Chemistry, 2000, 25:28–34. The Moscow firm Karl Ferrein and the Petrograd firm Aleksandr Pel’ produced a variety of adrenal extracts. Pel’ even advertised a preparation called “adrenal-chloride.” There are some indications that Ferrein began research on the manufacture of adrenaline during World War I, but it remains unclear whether either firm actually produced pure adrenaline in any quantity.

---
as his deputy “for administrative affairs.” At the same time, Narkomzdrav founded a new journal, the Herald of Endocrinology [Vestnik Endokrinologii], with Shervinskii as editor-in-chief and Tobolkin as a member of the editorial board. The back cover of the journal’s first issue carried a list of the preparations that could be ordered from the institute, with adrenaline topping the roll (see Figure 4). By September 1925 renovations of the new building for the Institute of Experimental Endocrinology had been finished and the institute staff moved into the new quarters.75

By the end of 1925, then, endocrinology had become an established discipline in Soviet Russia. The creation, in quick succession, of the Russian Endocrinological Society, the specialized journal Herald of Endocrinology, and the Institute of Experimental Endocrinology completed the discipline’s institutionalization under Narkomzdrav’s patronage. It also laid a solid institutional basis for the further development of laboratory research, production, and clinical applications. Indeed, as a bibliography of Russian publications on endocrinology indicates, in the 1920s the field experienced almost exponential growth, with the number of publications doubling every year. All major conferences in both medical and biological fields—ranging from congresses of therapists and zoologists to

75 On the new institute and its heads see the unsigned and untitled editorial in the first issue of the Herald of Endocrinology: Vestnik Endokrinol., 1925, 1(1):iii–iv; for the list of preparations see ibid., back cover. The move to the new building is described in “Institut eksperimental’noi endokrinologii,” Izvestiia, 8 Oct. 1925, p. 3.
meetings of physiologists and surgeons—held special sessions on issues related to endocrinology.76

Tobolkin’s inexhaustible inventiveness kept the attention of the discipline’s patrons—first of all, Semashko—glued to the field. In late 1925, when it seemed that all of his institutional goals had been achieved and that he could now simply enjoy the fruits of his earlier labors, Tobolkin came up with yet another new idea—to establish a “monkey farm” that would supply the Institute of Experimental Endocrinology and other Narkomzdrav research institutions with monkeys (including anthropoids). After canvassing leading biomedical specialists—including the country’s Nobelist, the physiologist Ivan Pavlov—all of whom, of course, wholeheartedly endorsed the opportunity to have a domestic supplier of primates for their research, Tobolkin presented the idea to Semashko. The commissar immediately bought it.

Tobolkin spent the next two years building the primate station. He traveled to Germany to assess the market for exotic animals and to confer with Carl Hagenbeck—the leading dealer and the founder of Europe’s biggest zoo—about the problems of keeping monkeys in captivity. He went to France to learn about existing primate stations abroad, particularly the one established by Serge Voronoff for his notorious experiments with monkey gland transplants. He surveyed the shores of the Black Sea in search of a suitable locale, along the way courting local officials to support his endeavor. Tobolkin successfully marshaled the cooperation of scientists and administrators. By the end of 1927, as a result of his efforts, the institute’s primate station in the town of Sukhumi on the Black Sea had begun breeding several species of monkeys, including rhesus macaques and baboons (see Figure 5 and cover).77

While Tobolkin was busy with his latest project, his partner continued to expand the institutional base of Soviet endocrinology. In early 1926, with Shervinskii at the helm, the Russian Endocrinological Society instituted separate branches in Leningrad, Astrakhan’, Odessa, Bakú, and Voronezh and began issuing its own periodical—the Protocols.78 In the middle of 1926 Shervinskii established within the Institute of Experimental Endocrinology a “museum of endocrinological preparations” and an “exemplary laboratory” that came to be responsible for providing guidelines and standards for the manufacture of organotherapeutic preparations in the entire country. Building on their early success with adrenaline, the institute’s researchers moved on to developing techniques for the production of another wonder hormone—insulin—with Shervinskii presiding over a special “insulin committee” created by Narkomzdrav to oversee the project. By the beginning of 1928 the institute had succeeded in manufacturing the first samples of Soviet insulin, an achievement promptly announced in the pages of the leading newspapers with nationwide circulation, Pravda and Izvestiia (see Figure 6). A popular daily, the Evening Moscow, proudly reported this “victory of Soviet laboratories” and claimed that it would “save the country 50,000 golden rubles a year.” Perhaps as a reward for this achievement, at the end

76 For the bibliography see Rossiiskii, Sistematicheskii ukazatel’ (cit. n. 6). For special sessions on endocrinological topics see, e.g., Trudy vtorogo vsesoiuznogo s”ezda fiziologov (Leningrad: Glavnauka, 1926); and Trudy VIII vsesoiuznogo s”ezda terapevтов (Leningrad: GIZ, 1926).
77 Tobolkin’s success in marshaling cooperation is described in “Pitomnik obez’ian,” Pravda, 1 Oct. 1926, p. 3. On the primate station’s breeding program see “Obez’iany v Sukhumi,” Vecherniaia Moskva, 11 June 1927, p. 3; and P. V. Bochkarev, Obez’iany v Sukhumi: Ocherk istorii i sovremennogo sostoyaniia Sukhumskogo Gosudarstvennogo nauhno-issledovatel’skogo pitomnika obez’ian (Sukhumi: Abgiz, 1932).
of December the SNK awarded Shervinskii the title of “Worker of Merit,” a distinction that was also announced in both Izvestiia and Pravda.79

The country’s medical schools began to offer special courses in endocrinology, and in 1929 Shervinskii and Sakharov jointly compiled the field’s first Russian textbook, The Fundamentals of Endocrinology. Written by twenty leading specialists, with a first printing of ten thousand copies, the six-hundred-plus page compilation provided an overview of all major subjects in the field for both laboratory researchers and practicing physicians. At the same time, Shervinskii realized his long-cherished plans for unifying production, laboratory research, and clinical investigations under one roof: at the end of 1929 the Institute of Experimental Endocrinology established an outpatient unit, and a few months later a small clinic for the treatment of patients with various diseases of endocrine

organs opened. Simultaneously, the institute created a graduate program to train a new generation of endocrinologists. At the beginning of 1930, the country’s main publishing house for educational literature issued a five-hundred-plus page manual for “students and physicians” entitled Clinical Endocrinology.80

By the end of the 1920s, then, thanks to Shervinskii’s and Tobolkin’s untiring efforts, Soviet endocrinology had become a full-fledged discipline, with research laboratories, societies, periodicals, textbooks, teaching departments and graduate programs, clinics, manufacturing facilities, a standard-setting agency, a museum, and a growing number of researchers and clinicians engaged in endocrinological studies.

Of course, the story of the Tobolkin-Shervinskii partnership does not encompass the entire institutional development of endocrinology in the Soviet Union. The multiplicity of governmental agencies supporting science in the 1920s allowed other researchers to find patrons outside Narkomzdrav. A small endocrinology department, based in the former research laboratory of the Ferrein pharmaceutical firm in Moscow, emerged within the Chemical-Pharmaceutical Institute founded by the Supreme Council for National Economy in 1921. Another group created an endocrinological laboratory at the Timiriazev Biological Institute, established the same year under the patronage of the People’s Commissariat of Enlightenment (Narkompros). Yet another department—this too funded by Narkompros—sprang up in 1925 within Moscow University’s Clinical Institute for Experimental Therapy. Furthermore, because each republic of the Soviet Union had its own system of governmental agencies in charge of science and medicine, the development of endocrinology reached beyond the traditional centers of Moscow and Leningrad.

80 The textbook is V. D. Shervinskii and G. P. Sakharov, eds., Osnovy Endokrinologii (Leningrad: Praktitcheskaia meditsina, 1929). The treatment units are discussed in GARF, f. A-482, op. 28, d. 211, l. 2 rev. The manual is Klinicheskaiia endokrinologiia: Osnovy meditsinskoi endokrinologii dlia vrachei i studentov (Leningrad: Kubuch, 1930).
During the 1920s several important endocrinological institutions emerged in the Ukraine.\textsuperscript{81} These developments notwithstanding, the Tobolkin-Shervinskii tandem played the key role in the discipline’s institutionalization across the country by providing other researchers with a successful institutional template and a legitimization strategy, as well as a coordinating center (the Russian Endocrinological Society) and a disciplinary forum (the journal \textit{Herald of Endocrinology}).

\begin{flushright}
\textbf{DISCIPLINE BUILDING, SOVIET STYLE}
\end{flushright}

A variety of factors and a multitude of actors shaped the disciplinary development of Soviet biomedical sciences in the 1920s. The institution-building frenzy that seized the fledgling government apparatus during the first postrevolutionary (and particularly the post–civil war) years certainly facilitated the institutionalization processes. But alliances and rivalries among entrepreneurial scientists and clinicians pursuing their own agendas played a critical role.

In this respect, the partnership of Iakov Tobolkin and Vasilii Shervinskii, formed in the prerevolutionary era, was undoubtedly the single most important factor in the institutionalization of endocrinology in Soviet Russia. In less than ten years, having started with a small goat farm, they “double-handedly” created a society, a journal, and an institute for endocrinology in Moscow. In many ways, it was an alliance “made in heaven.” Tobolkin’s managerial acumen and entrepreneurship complemented Shervinskii’s clinical experience and scientific authority perfectly. To justify their institutional plans, both skillfully employed all available means: revolutionary rhetoric; the personal afflictions of influential Bolsheviks; direct access to patrons, first and foremost Commissar Semashko; vital products from their farm—initially “medicinal milk” and then “organotherapeutic preparations” such as adrenaline, pituitrin, and insulin; alliances with other influential scientists and physicians, such as Bakh, Pletnev, and Shaternikov; Shervinskii’s own position of power within Narkomzdrav’s Scientific-Medical Council. They used every means at their disposal to rally support for their plans from every possible quarter: the scientific and medical communities, prospective patrons, and the public at large.

The realization of these plans required enormous personal initiative, persistence, and devotion on the part of the discipline’s founders, particularly during the civil war years. We can only imagine the difficulties Tobolkin had to overcome simply to provide his goats with feed. During the period between 1918 and 1921, the country virtually disintegrated into a patchwork quilt of autonomous regions; peasants refused to provide the fledgling regime (or its opponents, for that matter) with their products, and the Bolsheviks had to send special military brigades to collect foodstuffs from the countryside; whatever remained of the country’s transportation system was mobilized to serve military objectives. Yet, somehow, Tobolkin kept the farm going and even growing. For his part, Shervinskii, who turned sixty-seven at the time of the Bolshevik revolution in 1917, walked almost five kilometers each way, whatever the weather, to attend the meetings of...

the Narkomzdrav Scientific-Medical Council and endured hours of discussions, with the temperature in the meeting room barely reaching 3 degrees Centigrade.82

This story illustrates several particular features in the institutionalization of Soviet endocrinology—the institutional templates employed, the constellation of scientific disciplines and medical specialties from which the founders recruited allies and supporters, the extent and strength of international contacts, the range of prospective patrons—that distinguish this case from both the institution building of other biomedical disciplines in Soviet Russia and the discipline’s institutionalization in other locales. Some of these features derived from the specific institutional, political, economic, and social landscapes of Bolshevik Russia, some from the personal characteristics of the discipline’s founders.

In contrast to many other biomedical disciplines that built their institutional bases during the early years of the Soviet regime, the institutionalization of endocrinology occurred almost completely independently from (even though contemporaneously with) that of its counterparts in Britain, France, Germany, the United States, and elsewhere.83 During the early 1920s several new biomedical disciplines, ranging from genetics to social hygiene, emerged in Soviet Russia. For the most part, their development was heavily influenced by their Russian founders’ close personal contacts with colleagues in the West. The Russian organizers of particular disciplines often “borrowed” institutional templates, legitimization strategies, and rhetoric, as well as methods of mobilizing necessary resources and occasionally the resources themselves, from Western colleagues. They used the cultural authority of foreign colleagues to support their own institutional plans. In the case of genetics, for example, the extensive exchanges of scientists between Russia and Germany, Britain, and the United States profoundly affected the discipline’s development in Russia. Similarly, Soviet–German contacts in social hygiene influenced that discipline’s formation in Russia.84

In contrast, the founders of endocrinology worked alone, without the benefit of support from their Western colleagues. Of course, Soviet endocrinologists regularly reviewed Western publications and translated quite a few of them into the Russian language. Some of them corresponded with colleagues in Europe and elsewhere. They also had access to organotherapeutic preparations produced by Western pharmaceutical companies and imported by Narkomzdrav. They closely followed the technical and intellectual developments of their field abroad. But (as far as I have been able to determine) until the summer of 1926, when Tobolkin went to Europe (to learn about “monkey farms”), the discipline’s founders had no direct contacts with their foreign colleagues, and they deployed neither institutional templates nor legitimization strategies advanced elsewhere. Indeed, the institutional template developed by Soviet endocrinologists was unique. Unlike its counterparts in Europe and the Americas, the Institute of Experimental Endocrinology joined together manufacturing, clinical, and research facilities. It quickly grew to include a museum for the propaganda of endocrinology, an exemplary laboratory for maintaining

82 GARF, f. A-482, op. 1, d. 82, l. 253.
the discipline’s standards, a primate station to supply practitioners with experimental subjects and materials, and a graduate program for training a new professional generation.

The institutionalization of endocrinology also differed from that of many other biomedical disciplines in Soviet Russia in that the discipline’s founders lacked any clearly defined research program. The Institute of Experimental Biology established by Nikolai Kol’tsov as a part of GINZ in early 1920, for example, was created to implement its founder’s extensive program of introducing experimental methodology into the studies of such biological phenomena as heredity, growth, metabolism, behavior, evolution, and embryonic development. In contrast, neither Shervinskii nor Tobolkin formulated institutional plans in terms of advancing particular research agendas. All the institutions they created—the farm of thyroidectomized goats, the Institute of Medicinal Milk, the Institute of Organotherapeutic Preparations, and, finally, the Institute of Experimental Endocrinology—focused first and foremost on manufacturing, not research. It is quite telling that the discipline’s founders did not publish a single research paper during the entire period of discipline building. Furthermore, in their numerous appeals and reports to the patrons, both Shervinskii and Tobolkin used the word “research” in a very limited sense, meaning simply clinical observations on patients and animal tests to ascertain the pharmacological effects of organotherapeutic preparations. Even after the establishment of the Institute of Experimental Endocrinology, the head of its newly created “experimental department,” Petr Bochkarev, restricted his publications almost entirely to general treatises on organotherapy for doctors and students and manuals on the collection, storage, and processing of raw materials for the production of organotherapeutic preparations.

The institutional development of endocrinology differed not only from that of other biomedical disciplines in Soviet Russia, but also from the discipline’s institutionalization in other countries. Many historians have pointed to the critical role of the pharmaceutical industry in the formation of endocrinology as a discipline in Europe and the United States. As we have seen, in the Soviet case this role was almost negligible. Although the links between pharmaceutical firms and endocrinological research had begun to emerge during the imperial period, particularly under the auspices of Russia’s largest companies, those of Karl Ferrein and Aleksandr Pel’t, the Bolshevik revolution and the subsequent nationalization of private industry disrupted these developments. With the partial restoration of private enterprise during the NEP, several entrepreneurs attempted to produce and market organotherapeutic preparations, but the Narkomzdrav Scientific-Medical

86 See P. V. Bochkarev, Organoterapiia prakticheskogo vracha (Moscow: IEE, 1926); Bochkarev, Endokrinologiiia zhenskoi polovoi sistemy (Moscow: IEE, 1927); Bochkarev, Endokrinologiiia muzhskoi polovoi sistemy (Moscow: IEE, 1928); Bochkarev, Uglevodnyi obmen, insulin i diabet (Moscow/Leningrad: Medgiz, 1929); and Bochkarev, Endokrinnoe syr’e, ego shor, konservirovanie, khranenie, perevozki (Moscow/Leningrad: Snabkoopgiz, 1931).
Council (with Shervinskii’s personal involvement as the head of the permanent pharmacological commission) blocked most, though not all, of these efforts. At the same time, overwhelmed with reviving the production of the most urgently needed medicines (gallenics, vaccines, and alkaloids), state-run industries had very little incentive and even fewer resources to become involved with the development of endocrinology. So, aside from the endocrinology department at the Chemical-Pharmaceutical Institute, the Soviet pharmaceutical industry did not contribute much to the field’s institutionalization in the 1920s.88

Furthermore, one can argue that the lack of involvement in the production of organo-therapeutic preparations on the part of Soviet pharmaceutical industry actually helped the founders of endocrinology in the institutionalization of their discipline. By “monopolizing” the production of such preparations—from “medicinal milk” to adrenaline and insulin—within their own institutions, Tobolkin and Shervinskii were able to exert considerable influence on their Bolshevik patrons, both the individual beneficiaries (Krupskaiia, Menzhinskii) and the institutional benefactors (Bonch-Bruevich, Semashko) of their enterprise. On the other hand, the patrons’ personal afflictions certainly affected not only the institutional but also the technical and cognitive aspects of discipline building. It seems quite likely that if an influential Bolshevik leader had suffered from diabetes Tobolkin and Shervinskii would have started their work on the production of Soviet insulin much earlier than 1927.

Similarly, the constellation of scientific disciplines and medical specialties, from which the founders of Soviet endocrinology recruited allies and supporters, differed considerably from that in other countries. As many historians have convincingly demonstrated, physiological institutions and physiologists as a group played a leading role in the disciplinary development of endocrinology in the West, particularly in Britain.89 Others have shown that studies of sexuality—gonads and sex hormones—and the work of sex researchers (from gynecologists to psychiatrists) contributed substantially to the emergence of endocrinology as an independent discipline in Germany, Austria, and the United States.90 In the Soviet case, the two groups most intimately involved in building institutional structures for the discipline were clinicians (pathologists, surgeons, and therapists) and experimental biologists, while physiologists played a relatively minor role and sex researchers took no part at all in institution-building efforts. Clinicians dominated both the governing council of the Russian Endocrinological Society and the editorial board of the Herald of Endocrinology. Certainly Shervinskii’s own specialty and institutional affiliations affected the

88 In the mid-1930s the manufacturing division was separated from the Institute of Experimental Endocrinology and established as an independent factory run by Narkomzdrav. For the only, though rather skewed, account of the Soviet pharmaceutical industry in the 1920s and early 1930s see Mary Schaeffer Conroy, The Soviet Pharmaceutical Business during Its First Two Decades, 1917–1937 (New York: Lang, 2006).


composition of the personal network he mobilized to support his endeavors. Of course, this network included more clinicians than laboratory researchers and more of Shervinskii’s colleagues from the Moscow University medical faculty—who made up the entire governing board of the Russian Endocrinological Society—than from any other institution.91

At the same time, struggling to establish their own institutions in their various fields of studies, Russian experimental biologists appeared keenly interested in forging an alliance with the founders of the nascent discipline of endocrinology and in utilizing the discipline’s methods, materials, and institutions for their own research. Aleksei Bakh’s partnership with Shervinskii and Tobolkin clearly demonstrated that a union between endocrinology and biochemistry would be beneficial for both disciplines. Such an alliance proved especially fruitful for researchers engaged in experimental embryology or “developmental mechanics,” as it was called at the time. Studies into the role various endocrine glands—notably the thyroids and the hypophysis—play in the processes of growth and embryonic development constituted a large portion of research conducted in the field during the 1920s.92 Understandably, embryologists were very interested in obtaining the hormones of these glands for their experiments and supported the production of organotherapeutic preparations—the extracts of these glands. At the same time, through their own research, experimental embryologists helped the would-be endocrinologists to develop novel methods for the biological standardization of endocrine preparations produced from the thyroids and the hypophysis. Not surprisingly, as early as its second meeting, in November 1924, the Russian Endocrinological Society scheduled a report by a leading experimental embryologist, Mikhail Zavadovskii, on the role of the thyroid gland in embryonic development.93

The relatively minor part physiologists played in the institutionalization of endocrinology stemmed to a large degree from Russian physiology’s long-standing tradition of focusing on nervous, not humoral, mechanisms.94 During the imperial era several prominent physiologists, notably Ivan Tarkhanov and Aleksei Kuliabko, had become involved in research on organotherapy.95 After the revolution, however, almost the entire discipline came to be dominated by a vocal opponent of humoral physiology, Ivan Pavlov, together with his numerous students. As a result, very few physiologists developed an interest in endocrinology in the 1920s. The only physiologist directly involved with creating the discipline and the only physiologist on the editorial board of its major journal—Mikhail Shaternikov, director of the Institute of the Physiology of Nutrition—serves as the

93 See the memoirs of the two leading experimental embryologists, the Zavadovskii brothers: B. M. Zavadovskii, *Zhivaia priroda v rukakh cheleveka: Zapiski okhotnika za gormonami* (Moscow: Sel’khozgiz, 1935); and M. M. Zavadovskii, *Stranitsy vospominanii* (Moscow: MGU, 1989). Regarding Mikhail Zavadovskii’s talk see *Protokoly Zasedanii Rossiiskogo Endokrinologicheskogo Obshchestva* (cit. n. 71).
exception that proves the rule. Although Shaternikov had begun his academic career under the personal tutelage of the father of Russian “nervism,” Ivan Sechenov, his interests soon diverged from “nervous mechanisms” to the study of metabolism, particularly the biochemistry and biophysics of breathing, vitamins, and nutritional standards. These interests resonated much more with those of experimental biologists than those of “traditional” physiologists. Furthermore, owing to his lifelong association with the Moscow University medical faculty, Shaternikov was a close friend and a member of Shervinskii’s personal network.

The institutional development of Soviet endocrinology also illuminates the much-debated issue of the relationship between organotherapy and endocrinology. Contrary to the denigrating views expressed by many twentieth-century endocrinologists, organotherapy was not a “pseudoscientific” deviation on the path to the “real science” of endocrinology—or, as the leading U.S. endocrinologist Herbert Evans put it in 1933, an “obstetric deformation” suffered by endocrinology at its very birth. The medicinal use of such animal tissue extracts as thyroidin, adrenaline, and, later, insulin paved the way for wide acceptance of the ideas of the nascent science of endocrinology both by the medical community and by the general public. Organotherapy helped would-be endocrinologists to shape and maintain consensus as to the methods, tools, explanatory hypotheses, and research agendas of the fledging discipline. At the same time, the public appeal of organotherapeutic preparations helped legitimize the institutional plans of the discipline’s founders in the eyes of allies, competitors, and patrons alike. Furthermore, as we have seen, organotherapy also supplied “seed” institutions, personnel, and technologies for the new science of endocrinology.

The case of Soviet endocrinology makes clear the relative importance of the local and the international in discipline-building processes. International transfer of the experimental practices and cognitive contents of a discipline, even though they require active “domestication” and careful adjustment to local intellectual and technical traditions, is relatively uncomplicated and is usually accomplished by a sustained flow of researchers, instruments, publications, and research materials across national borders. A similar transfer of social practices and institutional templates appears much more problematic. Scientists’ social practices are necessarily embedded in the particular social fabric of a concrete locale, for their major aim is the mobilization and utilization of intrinsically local financial, human, material, cultural, and infrastructural resources to secure and maintain institutions, networks, and patrons for the discipline. In the absence of an international patron willing and able to marshal resources in various locales (such as the Rockefeller Foundation, for example), scientists are necessarily forced to rely on local patronage and to adapt their social practices, language, and institutional templates to suit local political, institutional, economic, and ideological landscapes.

96 For a biography of Shaternikov see V. A. Shaternikov and L. E. Gorelova, Mikhail Nikolaeевич Шатерников (Moscow: Nauka, 1982).