

Biologists and the Ethics of Science during Early Stalinism*

Neither temptation nor salvation appear out of nowhere.
Each person carries within oneself their own Jesus and
their own Judas.

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The history of biology in the USSR is a popular topic for social historians of science. Mostly, they pay particular attention to Lysenko's activities, and his connections with general party-state policy. The biological community, as a rule, is depicted as a victim of the Lysenkoists. The question arises then, why did these scientists willingly cooperate with the Stalinist regime, often participating in its pseudo-scientific projects? We suggest that Lysenkoism appears as the ugliest result of the Stalinist regime because of its connections with the deformation of biologist's ethics during the years of the NEP and the "Cultural Revolution", i. e. between 1922 and 1932. During this period it was not only the political leadership, but also, and primarily, the scientists themselves, who initiated the ideologization of natural sciences. Displacement in the consciousness was reflected in the struggle within the biological community: in the reaction of various groups of scientists to the sovietization, proletarianization and dialectization moral of biology; in the influence of these processes on the themes and language of research; on the rituals of scientific events, on the ideas, values, and traditions of biologists; on their interrelationship with the authorities, and on the style of scientist's behavior (1).

In the historical literature these events are usually described from the perspective of some group that participated in the biological discussions during that period (2, p. 284). This research does not reveal the ethical and social-psychological motives of the activities of individuals, but

* The research was supported by the RGNF, grant № 97-03-04023. For the first time this report was read 28 June 1997 at the Annual conference of the German Society of History and Theory of Biology in Tübingen.

rather, automatically evaluates them as right or wrong. Although, many scientists, having been submitted to the terrors of World War I and the Civil War, and the deaths of close-ones from cold, hunger, pogroms and executions, were inevitably demoralized. This condition is manifested in their later scientific behavior. Biologists, as well as the suppressed majority of the scientific intelligentsia, evaluated the Bolshevik's seizure of power as a national catastrophe. S. F. Oldenburg, the Permanent Secretary of the Academy of Sciences, reported that: "Russia stands on the edge of destruction" (3, p. 5). Calls were soon heard from the government organs for the quick destruction of previous scientific institutions seeing them as "the completely unnecessary survivors of the pseudo-classical epoch in the development of class society" (4, p. 19).

Biologist's feelings about these conditions are exemplified by V. I. Vernadsky's statement in 1921: "Everything is befouled and deteriorating, nothing can be done to succeed... Higher education has long been crippled and is now suffering through a terrible crisis" (5). The situation in the Academy of Sciences (AN) was evaluated as such: "... in general, there is the strongest feeling of slavery, and a complete absence of improvement of any kind" (6). During the Civil War, of the great biologists only K. A. Timiryazev demonstrated the compatibility between Darwinism and Marxism. As a result of the arrests and searches, the future Coryphaei of Soviet biology (V. I. Vernadsky, physiologist A. A. Ukhtomsky, geneticist N. K. Kol'tsov, hydrobiologist K. M. Deriugun, and others) trained themselves to be loyal to the Soviet authorities and their ideology.

This loyalty was necessary to the communist leaders, whose faith in the possibilities of science induced them to create new institutes and universities at a level that pre-revolutionary scientists could never have dreamed of.

The Bolshevik's pro-science policies was also embodied in the organization of departments for new branches of biology, in the creation of journals, and in the translation of the essays of classical biology scholars and Western scientists. Close attention was devoted to evolutionary biology and genetics, in which there were great hopes for the transformation of society, agriculture and nature. It was not happenstance that geneticist and biologist N. I. Vavilov became the first president of the Lenin All-Union Academy of Agricultural Sciences (VASKhNIL). The

Bolsheviks, in the beginning, allowed almost all biologists, independent of their origins and political views, to continue their previous research; head laboratories, departments, and institutes, and to train the next generation of scientists. As a result, great biologists such as I. P. Pavlov refused to emigrate (7). Realizing their dependence on the government, biologists strove to collaborate with the authorities, and to find patrons in the party leaders using them to solve organizational and financial problems.

The Bolsheviks, needing in a scientific intelligentsia, but not trusting the current one, started creating new establishments by the time of the Civil War. The new Communist Academy (Komakademia), Communist Universities (Komvuz), and the Institute of the Red Professors (IKP) trained party personnel in the natural sciences and other fields. Subsequently, instructors found themselves without enough work. But, in the words the future Nobel Prize laureate I. E. Tamm (8), all that was required to receive "rations, board, salary, and the general material provisions needed to pursue our scientific work" was a declaration of adherence to materialism.

The ideologization of biology, which also began during the NEP, was originally carried out by Marxists who had a confused understanding of biology. They indiscriminately divided it into dialectical and metaphysical concepts, supporting their ideas with the laws of dialectics: A. N. Bartenev, L. Bogolepov, G. A. Gurev, M. Popov-Podolsky, V. Sarabianov, and others. Blamed for vulgarizing Marxism they were forced to relinquish their positions to professional biologists. In 1925 botanist B. M. Koso-Polyansky, systematist A. A. Liubishchev, psycho-neurologist V. M. Bekhterev, geneticist A. S. Serebrovsky, and embryologist M. M. Zavadovsky, published works in which they desired to demonstrate to the authorities their devotion to the official philosophy.

The discussions became politicized when young biologists and philosophers, having received an often accelerated education in the Rab-Facs (Department of Young Worker's Education), IKP, and Komvuz's, began to participate. Right from the very beginning these new biologist discussed scientific problems from a dialectical materialist perspective. They include: botanist I. M. Poliakov, physiologist B. M. Zavadovsky, and geneticist N. P. Dubinin. Especially telling are the activities of

I. I. Agol, S. G. Levit, V. N. Slepko, and E. A. Finkelstein. At the close of the NEP they were heading organizations directed at the solving of biological problems using dialectical materialism. Having learned from their experiences during the Civil War and the party and student purges, they actively used political arguments. They introduced a spirit of irrecconcilability to their opponent's views, accusing them of vitalism, mysticism, idealism, and teleology. The ideological uncompromisingness of this generation of biologists was largely adopted from their German teachers, amongst who were M. L. Levin and Ju. Schaxel; "erster Marxist unter den Biologen und erster Biologe unter den Marxisten". Other participants in the discussion also adopted a similar style. Aggressiveness increased in the formulaic language. Speaking at the Communist Academy on November 20, 1926 geneticist A. S. Serebrovsky invoked those present to "disperse the fog of Lamarckism" and called for an uncompromising war "in the name of revolutionary Marxism everywhere, starting here in the camp of our own Communist Academy" (9, p. 231-232). Th. Dobzhansky writes in his reminiscences that by 1926 the arguments in the biological debate often appealed to dialectical materialism (10, p. 230).

Arguments concerning the practical significance of scientist's views to the construction of a new world, also became common. For example, M. Volotskoi maintained that the violent prevention of the birth of individuals with undesirable genes (including sterilization) would allow for the improvement of human populations, and hasten the construction of socialism. Sterilization, in his opinion, would stop the reproduction of offspring with pathological-anatomical deviations, would lower the intensity of the struggle for existence in society, would put an end to anarchy in reproduction, and would add a systemic organization to social processes (11). Another example of this concern is N. I. Vavilov's many foreign expeditions, which were financed during a state of severe crisis. During these expeditions Vavilov searched for the materials which would enable the quick breeding of the highly productive and stable sorts of plants he had promised.

Under the forming totalitarianism, ideological discussions resulted in personnel shifts and department rearrangements (Orgvyvody). Open careerism was often masked with ideology, which is why it is now so difficult to establish the original motives of particular individuals' ac-

tions. Young biologists objectively perceived the traditional scientific schools as competitors, and, attempting to hasten their professional careers, accused their own teachers and colleagues of devotion to 'bourgeois' science. But, many biologists of the older generation participated in Marxist organizations and journals, attempting to preserve or raise their status, to receive financial support, to overthrow competitors, and to defend themselves against malicious attacks.

The first stages of the stalinization of biology occurred on the background of an ideological struggle between the representatives of various trends in biology, for example, between the proponents of Darwinism and Lamarckism, the adherents of V. A. Wagner, I. P. Pavlov, A. A. Ukhtomsky, and V. M. Bekhterev in physiology and psychology. In the absence of clear notions of dialectical methodology they could declare that the conceptions dear to them corresponded to Marxism, while the views of their opponents and competitors did not. There are instances during the course of the discussions when a scientist's views did change, but each time it appeared that they were based on Marxism. For example, the future director of the medical-genetics institute S. G. Levit was, at first, certain that it was essential for Marxists to recognize the inheritance of acquired characteristics (12). But his later acquaintanceship with geneticists changed his views. He then argued that only natural selection and the chromosomal theory of inheritance corresponded to dialectical materialism (13).

In an environment of bitter discussions on the general theoretical problems in biology, and in the struggle with "pavlovism", "bekhterevism", "raikovism", and "kornilovism" the practice was formed of labeling opponents, and ostracizing them as reactionaries and accomplices of the world bourgeoisie. These aspirations took the form, not so much of convincing one's opponents, but rather of pointing out to the 'powers that be' the harmfulness of their views. Not many dared to speak out openly against the dialecticalization of biology (14, p. 81). The majority of scientists limited themselves to statements concerning the materialistic direction of their research.

The situation sharply changed with the beginning of the "Cultural Revolution" and the "Great Break", which were called upon to definitively subordinate science to the problems of the construction of socialism. Before this the authorities had not interfered in the discussions,

using internal scientific competition to carry out its policies. But it seems that the system of preparing 'proletarian' personnel in the Komakademia, the IKP, and the Komvyz's, created by the authorities, had not succeeded in displacing 'bourgeois' specialists. For example, in the natural sciences the party layer made up an insignificant minority. The desire to quickly change that situation is one of the causes of the 'Cultural Revolution'.

In April of 1929 the director of the Komakademia M. N. Pokrovsky called for ending the peaceful existence with non-Marxist-naturalists and the overcoming of 'fetishism before bourgeois scientists'. Shortly after, at the 2nd All-Union Conference of the Marxist-Leninist Organizations, the mechanists were condemned for having demonstrated that contemporary natural science was, in and of itself, dialectical. Rather, A. M. Deborin's ideas, concerning the restructuring of natural science on the basis of materialist dialectics, received official support. It had now become possible to reject any scientific conception for not corresponding to Marxism, and Deborin's opponents suffered under steady criticism.

In just two years time the "deborinists" themselves were accused of capitulating before bourgeois science, alienating theory from practice, political indifference, and academism. The requirement of relating science to the problems of the construction of socialism allowed for both the liquidation of any biological trend, and the accusation of alienating practical work.

In order to ideologically control scientists all plans for scientific work and educational programs were required to be presented to the Association of Natural Science of the Communist Academy. The previous organizer of the worker's militia in Germany, E. Kol'man, became the Association's director at the beginning of 1931. Kol'man was even ready to rework Newton's Laws, and Boyle's Law from the perspective of dialectical materialism. He asserted that biology in the USSR was swarming with saboteurs; geneticists were supporting eugenic measures, zoologists and botanists were resisting the creation of giant Soviet farms, ichthyologists were unnecessarily lowering the capacity of ponds and rivers (15, p. 71-81). The works of Deborin's followers in biology (I. I. Agol, S. G. Levit, M. L. Levin, A. S. Serebrovsky, and others) were declared anti-Marxist. Their places at the heads of the Komakademia, and Marx-

ist societies and journals were occupied by the subsequent cohort of biology dialecticizers led by B. P. Tokin. Included in their number were several representatives of the old intelligentsia (A. N. Bakh, B. A. Keller, V. R. Williams, A. I. Oparin, A. B. Nemilov, and V. P. Bushinsky). All scientists were subjected to verification and "scrutiny", but the overthrown leaders of "dialectical biology" were first compelled to repent of their "political and philosophical mistakes".

Thus, it was not so much a struggle with 'bourgeois' scientists, as much as it was a competition for leadership posts, patronage of the Party elite, finances, and greater influence, that were the driving forces in the stalinization of biology. The victors occupied the liberated positions with clear consciences, often having assisted in the overthrow of their predecessors. After directing biology in the Komakademia B. P. Tokin (16, p. 12) was prepared to battle with Vavilov. But Tokin did not succeed in dealing with the 'mechanist materialists and the Menshevik idealists' as is shown by O. B. Lepeshinkaya's (the future author of the concept of 'living matter') proposal to the Commission of Party Control to begin an investigation of Tokin's own actions (17). There are many documents in the archives, which show that the future inexorable champions against Lysenkoism were not squeamish to use Marxism to discredit their scientific opponents.

At every stage of the "Cultural Revolution" increasingly aggressive groups came to leadership, and the ideological terrorizing of biologists became stronger. The rivalry was especially cruel between people who were aspiring to cooperate with the authorities. In the end, the future Lysenkoist, I.I. Prezent became a victor in the struggle. Prezent opportunely adopted the idea that, readiness to blindly follow Stalin's politics, and to alter one's views accordingly, had become the single criterion of truth in biology. This allowed for Prezent's "success" all the way up to his 'golden hour' at the August session of the VASKhNIL in 1948.

In the years of the "Cultural Revolution" Prezent directed the natural science sections of both the Society of Militant Materialist-Dialecticians (OBMD), and the Society of Biologist-Marxists (OBM); the Biological Section in the Leningrad Branch of the Komakademia (LOKA), which appeared in 1931 at the Institute of Natural Science, the department of nature's dialectics and general biology at the university, and a series of other organizations. These organizations were created to carry

out Party policies amongst biologists and to eradicate all pretensions of nonconformism. Prezent, like no other, was able to impart to any discussion a character of intense class struggle whether it be on teaching methods or environmental protection. In March of 1931, at the first meeting of the Biological Section (LOKA) he prophesied: "The October Revolution has just begun to reshape the theoretical environment... We need to scrutinize everything. We should conduct a general survey and gather material widely and massively from all establishments" (18).

Originally it was proposed: to study the reactionary flows in genetics and botany and to explain their harmful influence on the work of applied establishments, to study the preparations of the All-Union congresses with the goal to seize the leadership of scientific societies; and a methodological survey of all biology departments in the high schools, and their works from the entire period after the revolution. References to party documents were demanded from all scientists, declaring that in biology there are no scientific schools, there are only party schools and anti-party schools.

A clear manifestation of these new tendencies in Stalinist biology was the shattering of the traditional schools. The All-Union congresses in genetics, zoology, botany, physiology, and environmental protection showed that many scientists were ready to enter 'the avantgarde in world science' and conduct scientific research in agreement with party directives. For example, in the first All-Union congress in genetics, selection, seed-growing, and pedigree animal-husbandry, genetics was accepted as a model of science. It was not simply capable of miracles, but was already working wonders in the shortest time and was able to transfer its achievements to the field. Likening the geneticist to a creator, Vavilov said that the geneticist 'should act as an engineer, he is not only obliged to study the materials for construction, but he can and should build new types of living organisms' (19). Vavilov included the Genetic-Selection Institute in Odessa, where T. D. Lysenko was already working, in the number of establishments, which "were ahead of the scientific organizations of the entire world" (20).

Thus, geneticists themselves began to cultivate a faith in the quick acting methods of agricultural development. Although, the harvest of that faith from the Stalinist fields was reaped by the Lysenkoists. A geneticist A. S. Serebrovsky (21) suggested switching to socialist eugen-

ics, or as he referred to it anthropotechnics the essence of which consisted of increasing the number of offspring with desirable traits by way of artificially fertilizing females with sperm taken from talented and valued males. In his opinion, this would allow for completing the Five Year Plan in two and a half years.

Recently it was shown that competition between applied fisheries science and the State Oceanographic Institute resulted in the liquidation of the Murmansk Biological Station and the arrest of its workers (22). These scientists were accused of insufficiency in economic knowledge of catching herring in the Barents Sea and in advocating harmful theories of happenstance herring migrations to the shore.

The "Cultural Revolution" was supported by emigrants from new sections of society who did not have sound professional knowledge, but who were striving to quickly raise their own status. Young people aspired to eliminate the exclusivity of science by drawing the broad masses into the discussions of scientific problems and by the exposure of 'reactionary' professors. In reward for their participation in the struggle with 'bourgeois' specialists they were promised a fast career. They conducted their operations keeping a steady eye on the party leadership. Present's wife B. G. Potashnikova, referring to the struggle with Vavilov, noted: "Vavilov's case should have been discussed with the ObKOM (Regional Party Committee)" and concluded that, " ... regarding the scrutinization of Vernadsky, Pavlov and others, we can no longer touch them" (7).

Brigades were formed from such 'specialists', who were bursting to go into action, 'scrutinizing' the theories of the leaders of scientific schools in genetics, biogeochemistry, ecology, and forestry. The brigades arranged lectures, debates, audited the study plans of students and graduate students, prepared themselves for the All-Union conferences of the various biological fields, and discussed plans to reorganize scientific societies. The caste character of which, especially aimed at stirring up the youth who did not have printed work. The activities of these brigades made it very unpleasant for the biologists who fell under scrutiny. Others were arrested and sent to remote cities, third were condemned and spent many years in the work camps. Executions also began.

The main goal of the "Cultural Revolution" — to attract a large number of scientists to Marxist organizations and to 'stratify' the special-

ists — failed. Part of the biological community, outwardly adopting the new terminology and rituals of scientific measures, continued to work as before. Others openly came out against the attempts to ideologize biology, calling it demagoguery and phrase-mongering (V. I. Vernadsky, M. G. Popov, V. I. Taliev, B. E. Tishchenko, I. N. Filip'ev). The scientists recognized the danger and repulsed the critics. The largest societies, created for the control of biologists, numbered not more than two hundred members, and that was the official tally. The mobilized communists requested them 'to fill out all cards upon entrance to the societies, not aspiring to even know their names' (25). From the application forms it is apparent that the majority of people simply mechanically filled them out and, most likely, did not even know they had enrolled in the society. Complaints about the absence of the scientific public's support, and the passivity of their own cells soon became the main leitmotif of the speeches at the innumerable meetings of the presidiums, boards and bureaus. While carelessly prepared graduate students could not seriously criticize biologists the struggle against them was more successfully conducted by both the Commission for 'Purging' the Academy of Sciences, VASKhNIL, and the universities; and later, also by the OGPU (The Secret Police), which arrested and exiled disagreeable biologists.

The Stalinist "mass campaigns of revolutionary youth on science" (26, p. 77) cultivated a generation that was always at the ready to search out enemies of socialism, and which became the basis of Lysenkoism. But in the years of the NEP and the 'Cultural Revolution' the goals of the Party policies in biology were not achieved. In comparison to the theoretical and practical aspects of racial hygienics and anthropology in Nazi Germany, the Party politic was not successful in creating a 'Proletarian' biology (24). There were no mass movements controlled by the Party similar to those of the hygienists and eugenicists in Germany. Also, no Marxist biology textbooks were published.

In the Summer of 1932 the liquidation of organizations and journals, which had been created for the indoctrination of Marxism into biology, began. In the subsequent repressions the main dialecticizers of natural science, excluding Present, perished. The vacated offices were occupied by the administrative workers who were promoted during the "Cultural Revolution". In the end, the "Cultural Revolution" provided

quick careers for a new generation of Soviet scientists by hastening the renovation of the biological cadre.

However, the constant changing of campaigns and slogans showed that the most vulnerable people were those who participated in the propaganda of official ideology. These "fluctuations" following the Party line did not guarantee survival. It prompted quick movements, the necessity of which were understood first by the geneticists who took part in the struggle against Present and Lysenko in the mid-1930's. After the war biologists from other specialties joined them, and, later in the 1950's, physicists, mathematicians, and chemists. They all used the methods that were worked out during the previous debates, coming out in the name of dialectical materialism and appealing to the authorities as the supreme arbiter in the scientific discussions.

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