

This editorial article is dedicated to the late Acad. Roumen Tsanev, the first Editor in Chief of 'Biotechnology & Biotechnological Equipment'; whose strong wish – albeit sadly unfulfilled – was to revisit the true events of April 1949 that led to the untimely death of the eminent Bulgarian geneticist Acad. Dontcho Kostoff.

REMINISCENCES OF THE SECOND INTERNATIONAL WORKSHOP ON LYSENKOISM (VIENNA, AUSTRIA, JUNE 21–24, 2012): BULGARIAN CASE PRESENTED

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One year ago, Vienna University hosted the Second Workshop on Lysenkoism, getting together participants from all over the world, the USA, Russia, Canada, Japan, Mexico, France, Italy, England, Switzerland, Germany, Norway, the Czech Republic, Hungary, Romania, Poland, Bulgaria, while following up the tradition of the First International Workshop on Lysenkoism held in New York, USA, December 4–5, 2009. Both events were organized by William deJong-Lambert (City University of New York, USA) (1, 2). The Bulgarian case in Lysenkoism controversies was largely discussed by the Bulgarian participants in the Vienna Workshop, being highlighted by the role of the Biological Conference in Sofia (April, 1949) and the dramatic fate of the world-wide recognized Bulgarian geneticist Dontcho Kostoff (1897–1949).

The sixth anniversary of the decease of the eminent Bulgarian molecular biologist Roumen Tsanev (5 Oct. 1922 – 23 July 2007) (3), a close collaborator of D. Kostoff, returned me to the Lysenkoist controversies and Vienna Workshop last year, and reminded me a story, equally intriguing and sad.

In June 2007 the Bulgarian Academy of Sciences (BAS) organized a celebration of the 110th anniversary of D. Kostoff. The purpose was to give honor to his remarkable scientific contribution and commemorate his life and tragic end in the context of that cruel epoch. At the ceremony, two disciples of D. Kostoff, R. Tsanev and D. Tsikov, shared personal impressions about the common work with him, emphasizing the simple human side of his character, his modesty, cordiality, generosity, and exceptional self-control in unusual situations. After the ceremony, R. Tsanev proposed to appoint a meeting of the organizers of the celebration (K. Gecheff and myself, from the Institute of Genetics, BAS) and both disciples. The idea was to discuss the possibility to publish papers clarifying the last events in D. Kostoff's life, while pointing to the sinister role of the Biological Conference in crushing the classical genetics in Bulgaria and imposing Lysenkoism as a unique dogma.

The meeting took place at the beginning of July 2007 in the editorial office of *Biotechnology and Biotechnological Equipment* and was kindly hosted by its Executive Editor, Snejana Pavlova. In a highly emotional, even excited style, not quite typical of him, R. Tsanev recalled the story of the Biological Conference that he attended as a young assistant: the domination of the President of BAS Todor Pavlov, the accusations launched in the basic report delivered by Christo Daskaloff, the rough statements of responsible persons from the State Government, etc., and asked to reveal the truth about all these events. "We are obliged to do it", he repeatedly said. Then we determined the topics to be addressed, and fixed the date of the next meeting at which we were to discuss our papers. Alas! This meeting never took place. R. Tsanev passed away on 23 July 2007. The draft of the text he had prepared could not be found in his archives...

In an attempt to fulfill – at least partly – our promise, I submitted my text 'A dark echo' (devoted to the Biological conference) to the journal *Newsletter for the History of Science in Southeastern Europe* published in Athens, Greece (5), kindly invited by Alexander Kostov, the Bulgarian member of the Editorial Committee. Another article 'Dontcho Kostoff and his time' (4) appeared before that; the text was delivered at the National Conference of Genetics (Sofia, October 2009). These publications incited my invitation at the Second International Workshop on Lysenkoism (Vienna, 2012), where, together with Dinko Mintchev, we exposed the Bulgarian case in Lysenkoism controversies.

Today, five decades after the formal fall of Lysenkoism in the USSR, the interest in its history still persists and is even growing. This could be explained by Lysenkoism being an important socio-political phenomenon, not limited to the narrow frames of genetics and biological sciences. It embraces social problems such as the power of political dictatorship imposed on science, leading to distortion of scientific ideas and wrong practical implementations with destructive economical consequences; lack of tolerance, even

terror on and extermination of scientific opponents instead of fruitful debates and discussions; domination of false scientific concepts to serve political purposes. And last but not least, the strength of defective human characters – such as greed for power combined with ignorance, dominating over reason, mind and knowledge – is also to be considered.

Born in the Soviet system, in different forms and variants Lysenkoism spread outside the USSR, and influenced the cultural history of several countries in the period between World War I and World War II, particularly after the latter.

According to the organizer of the Workshop, W. deJong-Lambert, “among the important goals of the Vienna meeting was to continue widening the geographical diversity of case studies and address some of the central questions that have emerged in current research. These include situating the ‘Lysenko affair’ within the broader history of ‘pseudoscience’, describing individual motivations for involvement in the controversy, showing how it was instrumentalized in pursuit of various goals and objectives, current attempts to rehabilitate Lysenko’s reputation in Russia, as well as developing a definition for the term ‘Lysenkoism’ (2).

An impressive case study was reported by L. Loison and S. Tirard (France). After the August Session of VASKhNIL (Agrarian Academy) in Moscow (1948) heralding the full victory of Lysenkoism over classical genetics, eminent left-wing French biologists (Jacques Monod, Jean Rostand and Marcel Prenant) were asked by the French Communist party (FCP) to support Lysenko’s positions in newspapers and magazines. Only M. Prenant partly fulfilled this task, expressing, however, doubts about the Lysenkoist concept on heredity. In its difficulty to find well-considered, important, convinced scientists to defend Lysenko and to give some receivable arguments, FCP used the rhetoric of the poet Louis Aragon. Thus, French Lysenkoism was included in a political and ideological network more than in a scientific program. Along similar lines, F. Cassata (Italy) underlined the increasing politicization of Italian genetics in the Cold War confrontation, both on the national and international arena.

Lysenko’s theories were also promoted to both sides of the Pacific: Mexico and Japan. V. Garza-Almanza (Mexico) reported about the role of the eminent Mexican biologist Isaac Ochtoterena in dissemination of Lysenkoism. He provided information regarding how Ochtoterena, being the first person in Mexico to know about the ideas of Lysenko at the end of the 1930s, and being sympathetic with the socialist ideas, favored the diffusion of what was known as the Proletarian Biology and promoted it through conferences, papers, and textbooks; and how Lysenkoism impacted for years the approach of biology teaching in Mexican schools. These activities were compatible with the socialist state government established in the country in the 1930s. Fortunately, Lysenko’s approaches were not implemented in the agricultural practice.

The Lysenkoism in Japan can also be regarded in a strong political context. The Japanese participants (T. Fujioka, H.

Saito, K. Ida) explained the reasons for the important influence of Lysenko’s theories in the country: first, the isolation of Japanese geneticists from world-wide standards of genetics prior to World War II that made them apt to uncritically accept Lysenko’s doctrine; and second, the anti-Americanism during the Cold War opposed to the respect and admiration for socialism, the USSR, and Lysenkoism, largely distributed between left-wing scientists. The speakers noted that almost all Marxists supported Lysenkoism in those days, but nowadays their number is reduced to a core of committed followers.

W. deJong-Lambert (USA) and L. Campos (USA) analyzed the reasons of the perplexed behavior of two great geneticists, J.B.S. Haldane and H.J. Muller, in Lysenkoism controversies determined by the conflict between their rigid Marxist ideological convictions (dictating to defend Lysenko and the USSR) and the decree of their scientific conscience.

In the talk of K. Rossiianov (Russia), the Lysenko affair was presented in terms of theory, practice and ideology in late Stalinist scientific discourse. M. Konashev (Russia) discussed the case of the 7th International Genetics Congress to be held in Moscow, 1937, which was cancelled on ideological grounds. Current attempts to exonerate Lysenkoism were addressed by E. Kolchinsky (Russia). He stated that a careful examination of the socio-cultural, political, ideological and scientific justifications of Lysenkoism demonstrate that they are rooted in the conviction in a distinctive character of Russian science and the priority of practice over fundamental research.

Participants from the ex-Soviet-allied countries reported about the strong impact of Lysenkoism on biological research and teaching. T. Herman (the Czech Republic) commented the specific situation of the Lysenkoist doctrine in the Eastern Bloc. He proposed that Lysenko’s theories can be viewed as specific part of a totalitarian ideological structure of dialectical materialism during the Stalinist period, and as instruments of an internal shift within the power structures in life sciences. P. Hampl (the Czech Republic) highlighted intriguing details about the role of rigid Marxists (V.J.A. Novak and I. Malek) in promoting Lysenkoism. Novak developed an explicitly communist evolutionary theory, with Lysenkoist and Lamarckian ideas implemented. Both Novak and Malek profited from the ideological background of Marxism and Lysenkoism for their personal career, taking dominant positions in Czechoslovak scientific institutions. In a slightly comic perspective M. Stella (the Czech Republic) talked about the ideologization of everyday-life practices (allotment gardening) regarded as a succession of Lysenko’s and Michurin’s work and legacy.

Ch. Oghina-Pavie (France) spoke about the influence of Michurinism – as opposed to Lysenkoism – on fruit tree breeding in Romania. She pointed out that, in the Marxist rhetoric, the practice of plant breeding was the expression of a science capable not only of explaining the world, but also of transforming it, i.e. to revolutionize the natural evolution of living organisms by human intervention, in full accordance

with communist ideology. P. Köhler (Poland) examined the important role of communist newspapers in the propaganda of Lysenkoism. Michurin–Lysenko theories were presented as a powerful tool for transformation of Nature and the gigantic achievements of agriculture in the USSR. The application of these theories in Polish husbandry was always positively underlined in the communist press. A. Strzadala (Poland) discussed the ‘newspeak’ as a type of language imposed in Polish biology as an essential element of propaganda in totalitarian countries. The reporter pointed out that this newspeak was based on oppositions such as ‘Michurinism’ vs. ‘Morganism’, ‘Creative Darwinism’ vs. ‘Darwinism’, ‘new biology’ vs. ‘old biology’, being featured by ritualization of language, military metaphors and neologisms. She underlined that the main purpose of newspeak was not better communication between people, but creating a new order, eliminating the freedom of speech, and dictating an ideological dictionary.

In my presentation (A. Edreva, Bulgaria) arguments were provided that Lysenkoism and communist ideology are highly compatible. In Bulgaria Lysenkoism was imposed by violent means analogous to those in the USSR and under the leadership of the Bulgarian Communist Party (BCP). A Biological Conference was organized (Sofia, 1949) as a dark echo of the August Session of VASKhNIL (Moscow, 1948), where Bulgarian biologists were forced to disclaim their former research based on classical genetics and acknowledge the new Lysenkoist credo. At the Conference, a falsified address by the eminent geneticist D. Kostoff was announced expressing his repentance for wrong Mendelist positions (6), which provoked the death of the scientist soon after it. These events were further discussed in light of the heavy consequences of Lysenkoism in biological research, education and agrarian economy. The moral damage caused by dictatorship in science and society was also commented on.

The other speaker from Bulgaria, D. Mintchev, described the events that preceded the Biological Conference, while

preparing the routing of classical genetics and imposing Lysenkoism: the attacks against notorious biologists, such as D. Kostoff and M. Popoff, addressed in the daily newspaper of BCP, and at the supreme tribune of BCP, the Fifth Congress (December, 1948). The dominating role of BCP in these events was underlined, personalized by the President of the Bulgarian Academy of Sciences, the philosopher T. Pavlov, main organizer of the Lysenkoist campaign. His unprincipled, ever-changing scientific positions questioned important ethical notions such as the moral of the scientist, in this case subordinate to the official Marxist philosophy.

The workshop concluded with a discussion panel featuring A. Kojevnikov (Canada), N. Roll-Hansen (Norway) and N. Kremontsov (Canada). W. deJong-Lambert summarized that “while there is clearly much work left to be done in terms of developing a cohesive understanding of the Lysenko phenomenon, a number of themes which date back to the first workshop remain clear. These include the problem of defining terms like ‘pseudoscience’ and ‘Lysenkoism’ (which are often treated as synonyms) and the question of how and why the controversy resonated so widely. The most obvious answer to the latter point seems to be that the ‘Lysenko affair’ operated as a cultural resource which was useful to a variety of actors in support of, or opposition to, diverse agendas” (2).

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