

The Destroying of an Eminent Geneticist: Dontcho Kostoff and the Biological Conference in Bulgaria, 1949

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Dontcho Kostoff (1897–1949) is the most outstanding Bulgarian geneticist, recognized world-wide for his large scope-research on cytogenetics, cytology, immunology, plant mutagenesis, phylogenesis, evolution, interspecific hybridization and polyploidy, published in the most prestigious international journals. The Biological Conference in Bulgaria (4–8 April 1949, Sofia), a dark echo of the “historical” August Session of the Agrarian Academy of USSR (VASKhNIL) (Moscow, 1948), was organized by the Bulgarian Academy of Sciences (BAS) while inspired, prepared and dominated by the Bulgarian Communist Party (BCP). Researchers from all branches of biology and from all scientific institutions (about five hundred) were obliged to attend the Biological Conference named “The situation of the biological science in Bulgaria in the light of Michurin’s teaching”. Professor Kostoff was slandered at the conference and did not withstand this dramatic moral collapse, and soon died (9 August 1949).

Keywords: Dontcho Kostoff, cytogenetics, Biological Conference, Bulgarian Communist Party.

Dontcho Kostoff (1897–1949) is the most outstanding Bulgarian geneticist, recognized world-wide for his large scope-researches on cytogenetics, cytology, immunology, plant mutagenesis, phylogenesis, evolution, interspecific hybridization and polyploidy, published in the most prestigious international journals. After graduating from Halle University, Germany (1924) he specialized at Harvard University (1926–1929) as a Rockefeller grant winner. The work in the Laboratory (later Institute) of Genetics at the Academy of Sciences of USSR (1932–1939) in close cooperation with the eminent biologist N.I. Vavilov was the most fruitful period in his scientific career yielding over one hundred publications. D. Kostoff’s stay in USSR coincided with the upsurge of the biological and agricultural sciences, irreversibly broken up unfortunately by the appearance and domination of Lysenkoist pseudo-scientific teaching imposed by political means (Tsikov, 1997; Edreva, 2009). In these heavy times, Kostoff was on the side of classical genetics. Moreover, he co-authored of one of the first papers (Konstantinov, Lysitsin, Kostov, 1936) criticizing Lysenko from strictly scientific positions. In 1939 Kostoff returned to Bulgaria forced by the dangerous situation in USSR which could no longer provide conditions for normal research work. In his country he headed the Central Agricultural Research Institute in Sofia (1939–1949) and deployed his remarkable scientific and organizational potential (Tsikov, 1997; Edreva, 2009). The fundamental work “Cytogenetics of the genus *Nicotiana*” (Kostoff, 1941–1943) published in this period (1941–1943) is an irreplaceable guide in tobacco research until now.

The Biological Conference in Bulgaria (4–8 April 1949, Sofia), a dark echo of the “historical” August Session of the Agrarian Academy of USSR (VASKhNIL) (Moscow, 1948), was organized by the Bulgarian Academy of Sciences (BAS) while inspired, prepared and dominated by the Bulgarian Communist Party (BCP) (Edreva, 2010; Mintchev, 2004). Before the Conference a series of articles (Emanuilov, 1948) was published in the BCP daily newspaper “Rabotnichesko delo” (November 1948) launching accusations at the adherents to the classical genetics for “reactionary” views, “useless” research detached from the practice, and not adopt-

от проф. Дочо Костов - 8
 Уважаеми джурно председател,
 Имах голямо желание да взема уча-
 стие в биологичната конференция, но
 за съжаление здравето ~~не~~ сега не ми по-
 възва да стора това.
 Аз съм работил вече четиридесет век
 в областта на биологичните науки по
 време на различни етапи на нейното развитие.
 Мойда проблематиката е била предимно, изгле-
 двана ~~на~~ влиянието на факторите на средата
 вън. и наследственото, ~~в~~ организменния живот на
 организмите ~~на~~ и ~~на~~ ~~са~~ ~~то~~ ~~да~~ ~~не~~ ~~е~~ ~~м~~ ~~и~~ ~~а~~ ~~з~~ ~~ч~~ ~~а~~
 серия от работи и вярно, изменчивостта
 следва хибридизацията.
 През последния четиридесет век пре-
 минава теоритична конференция в екс-
 перименталната и теоритична биология
 на менделелизма, развит от Нюхалсен на Мо-
 ган и неговите последователи.
 Работейки през този период аз имах
 много работи с морганистична поста новка
 и с морганистична имперпретация на доби-
 ти резултати.
 Изследвайки обаче проблемата, а не кон-
 стативността, динамиката, а не статич-
 ната, аз се казах на ред пъти в оръжи-
 е с формализма в биологията и още в 1930
 година закрих сива констативност
 на кисти теорията на Нюхалсен, а с това
 формализма в менделелизма.
 Наред с това съм ценял учението
 за стабилност, развитие и самоотропа-
 бландирая у нас наред с делото на Мичу-
 рин, като съм също собствувал и ва-
 жното развитие. Ще спомена че

Fig. 1. Original manuscript of the address of D. Kostoff to the Biological Conference

ing Michurin-Lysenko's teaching. Later, in December 1948, strong criticisms were addressed from the supreme tribune of BCP, the Fifth Congress, the speeches of the Party leaders and ministers V. Chervenkov and T. Chernokolev being particularly offensive. The main targets of all attacks were the eminent biologists Dontcho Kostoff and Metodii Popov, members of BAS.

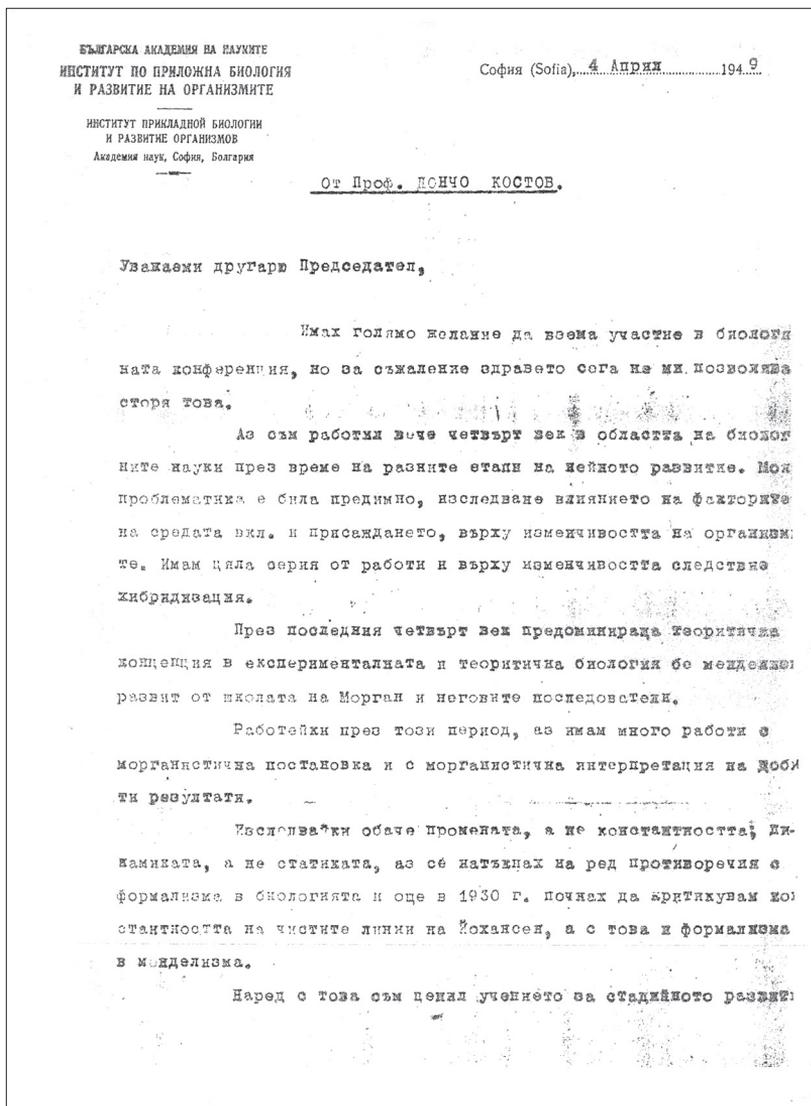


Fig. 2. Typed copy of the original manuscript of the address of D. Kostoff to the Biological Conference

The archives of BAS still keep documents about the incredible efforts of D. Kostoff to convince the BCP and State leaders — G. Dimitrov, V. Kolarov, V. Chervenkov¹ — in the absurdity of the accusations against him. He felt however that the reasonable arguments were futile, and referred to himself as a “scape goat”, a doomed man.

Researchers from all branches of biology and from all scientific institutions (about five hundred) were obliged to attend the Biological Conference named “The situation of the bio-

¹ Scientific Archives of the Bulgarian Academy of Sciences, 198k, op. 1: Archives of D. Kostoff. № 555, 560, 638.

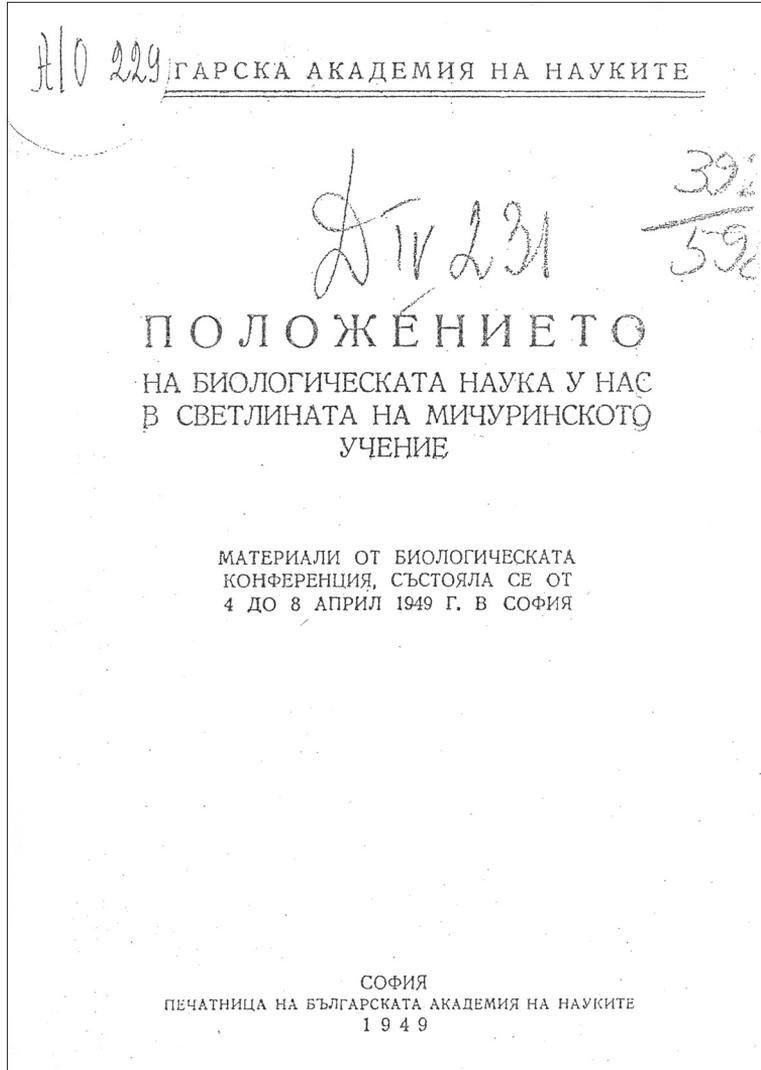


Fig. 3. Address of D. Kostoff to the Biological Conference announced at the Conference and published in the Proceedings of the Conference (Polozhenieto na biologicheskata nauka... 1949)

logical science in Bulgaria in the light of Michurin's teaching" (Polozhenieto na biologicheskata nauka... 1949). The dominating personalities were T. Pavlov, President of BAS, and Prof. Ch. Daskaloff who delivered the basic report. The Bulgarian biologists were feeling themselves as defendants who were constrained to disclaim their former "erroneous" views and works based on classical genetics, i.e. on Mendel — Weisman — Morgan concepts, and to swear in the new Lysenkoist credo. The main subject of criticisms and accusations in both the basic report and the speeches of the leaders and some participants was Kostoff (Polozhenieto na biologicheskata nauka... 1949). Deadly ill, he was not present at the Conference; however he was forced to send an address to the Conference recognizing the "mistakes" in his work and

promising full reorientation to Lysenkoist positions. Actually, Kostoff sent such a letter to the Conference. The original manuscript and its typed copy (which are fully identical) (Fig. 1, 2)² presented here as an English version (Suppl. 1) revealed Kostoff's efforts to explain his former and present scientific positions in a civilized way. However a completely different version of the address was announced at the auditorium and later published in the Proceedings of the Conference: Fig. 3 (*Polozhenieto na biologicheskata nauka...* 1949); Suppl. 2, English version of it. It was an obvious falsification that humiliated the personality of the scientist having nothing to do with the original. Strikingly, neither the content of the text nor the style and the language corresponded to Kostoff's writing. Despite some guesswork the authorship of the falsification remained obscure. Kostoff could not withstand this dramatic moral collapse, and soon died (9 August 1949) struck by heart infarction. For long years in the country his name was suppressed, and his work denied and neglected. In contrast, in the scientific world the importance of the great geneticist was continuously growing, his work being highly recognized until now.

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Supplement 1. English version of manuscript of the address of D. Kostoff to the Biological Conference

Sofia, 4th of April 1949

Bulgarian Academy of Sciences
Institute of Applied Biology and
Development of Organisms

By Prof. Dontcho Kostoff

Respected comrade President,

I was feeling a great wish to participate in the biological conference but unfortunately health problems don't allow me to do it.

² Scientific Archives of the Bulgarian Academy of Sciences, 198k, op. 1: Archives of D. Kostoff. № 667.

For a quarter of a century I have been working in the field of the biological sciences during the different stages of their development. My problems have predominantly been the research of the influence of environmental factors, including grafting, on the variability of organisms. I have a whole series of works on the variability as a result of hybridization.

In the last quarter of the century the dominating theoretical concept in the experimental and theoretical biology was the mendelism developed by the school of Morgan and his followers.

During this period I have many works with morganistic set-up and with morganistic interpretation of the results obtained.

However while studying the variation but not the constancy; the dynamics but not the statics, I found a number of contradictions with the formalism in biology, and still in 1930 I started criticizing the constancy of the pure (inbred) lines of Johansen, and together with it the formalism in the mendelism.

Along with it I have always been appreciating the teaching of the stage development, and was propagandizing it in our country along with the work of Michurin, thus promoting their development. I will note that the only works on vegetative hybridization in our country belonged to the led by me (until three months ago) institute; their author is the associate professor Rayna Georgieva.

Having in mind, however, that the adoption of every new teaching is a process and not a moment, I have to say that many years have passed before I start to criticize the idealistic concepts in biology, such as the teaching of Weisman, De Vries, Betson, Lotzi et al., the latter being based on the Mendelism and Morganism. It was of course before 1948.

Lately in the Soviet Union a number of discussions in the field of literature, art, and some branches of the science took place. They were directed against the formalism, for complete dialectical – materialistic reorientation, aiming to support the building in a socialist country such as USSR. These discussions were reflected in our country, as it is also building socialism.

In our country, when Bulgarian Communist Party has already taken the leading role in the government and the building, a fight with the formalism, for the dialectical materialism, has started. This was clearly underlined both in the report of comrade minister Vulko Chervenkov at the Vth Congress of the Bulgarian Communist Party and in the resolution of the congress.

The Scientific Board of the Institute of Applied Biology and Development of Organisms, led by me, being entirely on the positions of Michurin's teaching as a right materialistic dialectical teaching, in a number of sessions has revised the program of the Institute and has elaborated a new working plan in which themes about the stage development were envisaged, as well as themes about the grafting components, although such topics have also been studied during 1948.

Our plan as every plan is not a dogma, and undergoes changes and additions, and we are apt to revise it once more. It has to be taken into account however that the plan is elaborated not only with a view to which has to be studied but also with a view to which is possible to be done in the available conditions today and tomorrow, otherwise we should have been far from the reality. And the concrete situation is: the Institute is under construction, there are not yet greenhouses, there are not organized experimental fields, there are not laboratories, there are not necessary installations, and the scientific staff consists only of three assistants.

I feel particularly flattered at the interest demonstrated to my Institute, moreover, only to it, given that in the Academy there are many biological institutes, such as the Institute of Microbiology, Institute of General Biology and Anthropology, Institute of Biology of Domestic Animals, Institute of Zoology, Institute of Botany, Institute of Experimental Medicine, Institute of Experimental Veterinary Medicine, etc. Moreover in the country there are about 100, may be even more institutes belonging to the Higher Educational Institutions and to the different Ministries. Some of them are central ones, others are peripheral, being consolidated, and disposing of well-trained cadres. Thus it would be good to pay some attention to them, it would be useful for the country.

Given the availability of dozens of agrobiological institutes, the agronomists want the Institute of Applied Biology and Development of the Organisms to be necessarily agrobiological, being limited in agrobiological topics (such as they do not want to deal with), although the Institute is not purely agrobiological. In the same way the foresters will want us to solve forestry problems, the stock-breeder will recommend us to solve problems related to animal husbandry, the chemists and technologists will want us to work on biochemical problems related either directly with the practice or with the developments of the organisms, the botanists and zoologists will want us to work on ecological and physiological problems, the physicians – on problems of interest for them – either in the field of serology, respectively immunity, or on the problems of cancer, the pathogenicity of parasites, the effect of antiparasitic substances on the cell, etc.

Now we are engaged with themes which we can actually accomplish with the available means and cadres. Other themes will be undertaken when conditions will be created. In 1948 we got into contact with 12 institutes in the country and are apt to enlarge the scope. However the wish for collaboration should be bilateral because there are institutes not disposed to collaboration.

At the end I will say: let the adoption of the dialectical materialism be virtually and not in word; let us concretely solve the problems with a view to the actual situation and possibilities, but not out of touch with reality, partially, personally, narrow-mindedly.

Dontcho Kostoff

Supplement 2. English version of Address of D. Kostoff to the Biological Conference announced at the Conference and published in the Proceedings of the Conference (Polozhenieto na biologicheskata nauka... 1949).

Letters to the Conference

Letter of Prof. Dontcho Kostoff, member of the Bulgarian Academy of Sciences

Sofia, 4th of April, 1949

To the comrade President of the Biological Conference —
Todor Pavlov,
member of the Bulgarian Academy of Sciences

Respected comrade President,

I was feeling a great and ardent wish to most actively participate in the biological conference organized by our Academy of Sciences which has no equivalent in the development of the natural sciences and particularly in the development of the biological science in our country. The conference has to play an enormous historical role but unfortunately health problems don't allow me to take part in it.

It is well known to you as well as to a great part of the participants in our biological conference that for a quarter of a century I have been actively working in the field of the biological sciences and particularly in the field of genetics and breeding. Both my higher education and my further scientific work were under the influence of the mendelism-morganism. In fact, after my departure to the Soviet Union I made efforts to stand on the positions of the dialectical materialism, which helped me to direct my research to the variation and dynamics and not to the constancy and statics in plant organisms, this allowing me to admit that I was standing on progressive positions in biology. However in my research I was often coming upon difficulties and contradictions which I was unable to explain by the aid of mendelism-morganism, but I could neither break up with it nor consistently apply dialectical materialism for explanation of

these contradictions. In the discussion between the weismanist-morganist and the michurin-lysenkoist concept of Darwinism which has started in the Soviet Union I was in the ranks of the former. My further scientific work however more strongly pointed out the incapability of the mendelism-morganism to solve many basic problems of biology, and I was becoming more and more convinced that the mendelism-morganism is a metaphysical and idealistical teaching in biology. My breeding practice strongly contributed to this conviction and on the other side suggested me that the michurin-lysenkoist concept of Darwinism more correctly solves these problems, and that is why for long years, until the end of the biological discussion in the Soviet Union, I started popularizing Lysenko's concept about the stage development of plants and yarovization. However it didn't mean at all that in my theoretical and practical work I am standing on Michurin — Lysenkoist positions. Today however when the discussion on the biological front has finished with the full victory of the creative concept of Darwinism by Michurin-Lysenko (which in fact is a victory of the Soviet science over the bourgeois influences in biology, and is a novel, higher stage in the development of the biological science) I finally realized the full inconsistency of the weismanism-morganism, and definitely stood up on the positions of the creative Soviet Darwinism represented by Michurin-Lysenko.

I have to recognize that I expect the biological conference to help for the reorganization of our biological front on the positions of the creative Darwinism and to help personally me in this reorganization. You know that the reorganization is not a one-act moment but a long process. However I dare to assure our biological conference that — provided I consolidate my health — I will do my best this process to be sooner completed, to be completed the process of both my personal reorganization and the reorganization of the whole biological front.

Today it is more than clear that in the conditions of planned economy and socialist building, where the unity of theory and practice is absolutely necessary, it is not possible to reorganize our agriculture, to build our socialist husbandry on the bases of weismanism-morganism. It is possible only on the positions of the creative Darwinism, of the michurin-lysenkoist stage of biology. Only from the positions of that stage of biology, which is based on the creative method of marxism-leninism, we will be able to purge all remainders of the bourgeois and reactionary science in the field of biology and generally in the natural sciences.

Comrades! It has to be clear to all of us that to be today against the Soviet creative Darwinism, against the achievements and the victory of the Soviet biological science, that means to be against the Soviet Union, against its science, against the progress. No honest, conscientious, and progressive scientist can ever do it. I can not but noting here that after my return from the Soviet Union I was doing my best for the familiarization of the Soviet science, of the great Soviet Union, for the rapprochement with it, even more, in the frames of my possibilities, I was fighting to defend the Soviet science.

To finish, from all my heart I once more wish a successful work to our biological conference, being convinced that it will complete its tasks, will unite all our cadres around the right scientific biological positions of the creative Soviet Darwinism, will make our biological science to face our socialist building, will uncover the mistakes and the defects in our biological front, will fertilize our agrobiological practice and will raise the rich experience of this practice to right theoretical generalizations, so that the agrobiological practice and the theory become inseparably united.

I am also deeply convinced that the conference will accomplish its appropriate task — put by the Fifth historical Congress of our glorious Communist Party headed by our leader and teacher, the great defender and protector of the science, comrade Georgi Dimitrov — our biological science, our biological cadres, young and adults, to take most active and conscious part in the building of socialism in our country.

With comradely greetings:

D. Kostoff

**Уничтожение выдающегося генетика:
Дончо Костов и биологическая конференция в Болгарии в 1949 г.**

ПУБЛИКАЦИЯ И КОММЕНТАРИИ А. ЕДРЕВОЙ

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Дончо Костов (1897–1949) — наиболее выдающийся болгарский генетик, всемирно признанный благодаря его масштабным исследованиям в цитогенетике, цитологии, иммунологии, мутагенезе растений, филогенезе, эволюции, межвидовой гибридизации и полиплоидии, опубликованным в наиболее престижных международных журналах. Биологическая конференция 1949 г. в Болгарии — тёмное эхо августовской сессии ВАСХНИЛ — была организована Болгарской академией наук, но готовилась и вдохновлялась Болгарской коммунистической партией. Исследователи из всех областей биологии и всех научных учреждений (около пятисот) обязаны были участвовать. Профессор Костов не смог присутствовать, но написал письмо. В его отсутствие он был оклеветан, не вынес удара и вскоре скончался (9 августа 1949 г.).

Ключевые слова: Дончо Костов, цитогенетика, Биологическая конференция 1949 г., Болгарская коммунистическая партия.