

## WAS MENDELIAN GENETICS TAUGHT DURING THE LYSENKOIST PERIOD IN POLAND?

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*ABSTRACT* - The content of Polish textbooks of botany, zoology and rudiments of evolutionism of Lysenkoist times was analysed, along with a methodical manual for biology and a set of guidelines. On this basis, and taking into account the memories of eyewitnesses, it can be stated that Mendelian genetics was not taught in schools in Poland during the Lysenkoist period.

The issue of teaching genetics (Mendelism) during the Lysenkoist period in the Eastern Bloc is sparking growing interest. In 2012, during the Second International Workshop on Lysenkoism in Vienna, one of the participants gave a talk entitled 'The Survival of Mendel in the Lysenkoist Classroom, 1934-64'. The author of the paper had found some information about Mendel in a number of handbooks published in the Soviet Union during the Lysenkoist period. On this basis, the author came to the conclusion that *despite the rise of Lysenko and Lamarck, to some extent and in some ways, Mendelian genetics and morphology were still being taught in lessons dealing not just with agriculture and horticulture but evolutionary biology as well.* The author drew far-reaching conclusions. By teasing out remnants and hints of Mendelism in the textbooks and pedagogical works of these years, she argued in her paper *that despite the Party's seemingly complete control over the rhetoric and teaching of genetics, Mendel's (and Vavilov's) work never faded completely from the biological lexicon that defined Soviet biology. Such conclusions carry significant implications for how we think about the contested nature of Soviet biology and the potential for alternative 'truths' to coexist and at times even collude within Party discourse and within the lived Soviet experience.* As the narrative proposed by the author did not seem correct, I studied Polish biology textbooks for those years.

To answer the question posed in the title of this paper, one should first examine the content of biology and Darwinism textbooks issued during the era of the promotion of Lysenkoism in Poland, i.e. 1949-56. Then, one should examine methodical manuals for biology issued at that time, followed by the contemporary curriculum, and in the end ask witnesses who could confirm or deny that they had been taught Mendelism during Lysenkoist times. Such a scheme has been adopted for this study.

### WHEN AND HOW LYSENKOISM WAS INTRODUCED TO POLISH BIOLOGY TEXTBOOKS?

At the end of August and beginning of September 1948, the faction of ardent supporters of Stalin, headed by Boleslaw Bierut (1892-1956) triumphed in the Polish Workers' Party (the Communist party) and ultimately seized power in the country. The introduction of orthodox Stalinism, of which Lysenkoism was already a component, began in Poland. On 30 October 1948, a council of educational activists of the Polish Workers'

Party identified the need to overcome indulgence against erroneous and negative reactionary ideology which continued in the field of education, the need to deepen the understanding of the spirit of internationalist upbringing and to strengthen ties and cooperation with the USSR. The council decided, among other things, on the revision of curricula at all levels of education with the object of thorough removal of the influence of reactionary ideology and filling it with the ideology of historical materialism and enrichment of issues relating to the Soviet Union with emphasis on its leading role in the struggle for peace and democracy.<sup>1</sup> Here it should be explained that for the educational activists of the Party, this 'erroneous and negative reactionary ideology' component in biology was genetics. It was towards genetics that the words of the decision quoted above, referring to the uncompromising removal of reactionary ideology, were directed. In its place a materialistic ideology represented by Lysenkoism was to be introduced.

Another impetus for the implementation of 'creative Soviet Darwinism' in the curriculum was the meeting of the Circle of Marxist Naturalists on 26 January 1949. It was then proposed simply that the Michurin-Lysenko theory should be taught in schools along with genetics.<sup>2</sup> The final step towards the introduction of Lysenkoism was made on 29 May 1949, when the First All-Poland Congress of School Inspectors established that the scientific worldview would henceforth be the basis for teaching in Polish schools.<sup>3</sup> For biology, this meant putting Lysenkoism in place of genetics in school curricula.

The final stage in the process of introducing Lysenkoism into teaching was organised by the Circle of Marxist Naturalists: the Central Course for Teachers of Biology, which took place on 17-19 June 1949 in Otwock at the Central Institute of Educational Personnel Training of the Ministry of Education.<sup>4</sup> Summer courses for biology teachers had been organised even before the era of Lysenkoism. These courses served to improve teachers' skills, and classical biology was taught.<sup>5</sup> The June course in Otwock in 1949 was the first at which the 'new biology' was propagated. It was then that the resolution of the May First All-Poland Congress of School Inspectors was put into action: in the school curriculum, genetics was replaced by Michurin-Lysenko theory.<sup>6</sup> Starting with the school year 1949-50, in place of genetics, the 'rudiments of evolutionism', including Lysenkoism, were introduced into curricula.<sup>7</sup>

## MANUALS

As late as 1948, a Polish translation of a work of Gregor Mendel was published.<sup>8</sup> The interested reader could find in this publication information both on Mendel himself and on his work and achievements. It was one of the last publications on Mendel issued before the Lysenkoist era in Poland.

Following the above-mentioned resolutions, changes were introduced into textbooks. The content of selected books of botany, zoology and rudiments of evolutionism relating to Lysenkoism and genetics is discussed below.

### - Botany

When Lysenkoism made its appearance on the Polish scene, a textbook of botany by Władysław Kociejowski and Edmund Malinowski was in use in schools.<sup>9</sup> In 1949, this manual was criticised from the Lysenkoist point of view for the absence of economic and educational issues and for lack of information on the achievements of the rationalisation of agriculture and on Michurin and Soviet agrobiolgy.<sup>10</sup> In response to this criticism, the authors of the textbook wrote: *Now we would like to point out that the Department of Genetics,*

School of Life Sciences in Warsaw, under the leadership of Prof. E. Malinowski, was the first in Poland to obtain new plant varieties by grafting with Michurin's method which characteristics were transferred via seeds. Work is being carried out on a large scale, and in 1950 the Department will arrange an exhibition of its achievements to familiarise the teaching world, *inter alia*, with these issues. All the employees of the Department are involved in this project.<sup>11</sup> As can be seen, the line of defense of the authors was characteristic for the Lysenkoist period. The authors of the textbook disproved allegations of lack of information about Lysenkoism (i.e. the suspicion of reactionary bourgeois ideas and practice of pseudoscience) by showing that they stood at the forefront of the struggle for the 'new biology'.

In 1950, a handbook, *Botanika dla klasy IX* [Botany for the ninth class], prepared during the Lysenkoist period, was published by Jan Radomski and Stanisław Tolpa (photo 1).<sup>12</sup> In this manual, the 'new biology' was already adequately represented. The chapter 'Agrobiologia' was dedicated to Lysenkoism, including the following issues: the linking of agricultural practice with the theoretical achievements of the biological sciences, Ivan Michurin and his work, Trofim Lysenko and his work, and the grass-field system of Williams. The handbook discussed various examples of methods and applications of Lysenkoism such as vegetative hybrids (photo 2) and vernalisation (photo 3), but contained no information about Mendel's work.

The end of the era of Lysenkoism led to a gradual change in subsequent editions of this manual. The edition of 1958 no longer mentioned Lysenko, only Michurin. The title of the chapter was changed from 'Agrobiologia' to 'The union of agricultural practice with the theoretical achievements of the biological sciences'. This chapter contained the following topics: the work of Michurin, acclimatisation and selection, guiding plant development and creation of new varieties, the importance of Michurin's work, and the theory of stadial development of plants. In subsequent editions the chapter's title was again changed, to 'Agriculture and Horticulture', including, among others, a subchapter, 'The Work of Michurin', including the following topics: grafting and selection, hybrids, the mentor method, the importance of the work of fruit growers. Until use of the manual was discontinued in 1968, the above topics were reprinted without change, which is very surprising. I suppose that reviewers of subsequent releases of the manual did not properly apply themselves to their responsibilities and did not compare the content of the manual with the latest achievements of science. No matter to what extent the crossing (introduced by Michurin) of forms that were distant in systematic terms, or those that were systematically related but coming from mutually distant

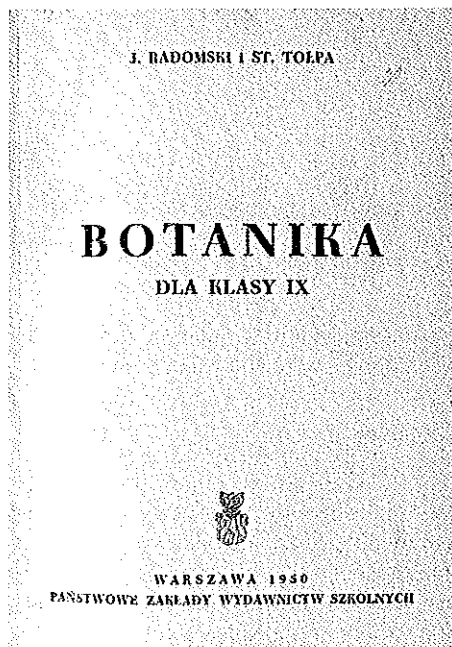
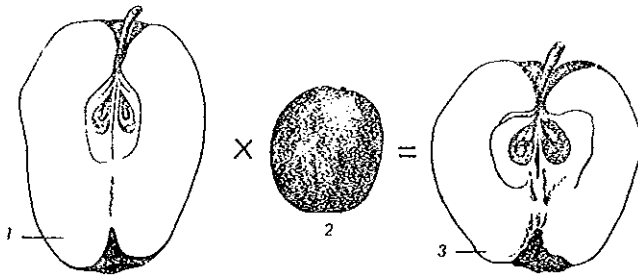


Photo 1. *Botanika dla klasy IX* [Botany for the ninth class] by Jan Radomski and Stanisław Tolpa (cover).



Ryc. 217. Krzyżówka „Kandil-Sinaj“ (forma ojcowska) x „Chinka“ (forma macierzyńska): 1 — owoc „Kandil-Sinaj“, 2 — owoc „Chiuki“, 3 — owoc nowo powstałej odmiany „Kandil-Chinka“ (zinniejszone)

Photo 2. Vegetative apple hybrids.



Photo 3. Vernalisation:  
1 and 3 - nonvernalised  
wheat, 2 and 4 -  
vernalised wheat.

geographic localities, achieved positive results, Michirin's 'mentor method' and 'education of seedlings' were still pseudoscience.

### - Zoology

In 1950, a new zoology textbook, *Zoologia dla klasy VI* [Zoology for the sixth class], was published by Stanisław Feliksiak and Włodzimierz Michajłow (photo 4).<sup>13</sup> This handbook already included 'new biology'. Students learned from this book, among other things, about the great benefits of the application of Michurin-Lysenko theory. These benefits were illustrated with various examples, such as a description (including a drawing) of a variety of pig called 'white Ukrainian', which was to be bred by using the methods of Michurin-Lysenko (photo 5). In subsequent editions of the textbook, the content did not change. Only with the fall of Lysenkoism did the 'new genetics' disappear from the pages of the manual: the 8<sup>th</sup> edition of 1957 (approved by the Ministry of Education in a letter

dated 29 March 1956) no longer contained information about Michurin, Lysenko, or their 'achievements'.

**- Rudiments of evolutionism**

One subject, introduced in the school year 1949-50 in place of genetics, was called 'rudiments of evolutionism'; within its framework, Lysenkoism was taught. Initially there were no suitable textbooks in Polish. To fill this gap, the journal for teachers *Biologia w Szkole* [Biology in the School] published two instalments of a bibliography containing the majority of the literature on Lysenkoism then available in Poland.<sup>14</sup> Soon, the Soviet textbook *Rudiments of Darwinism* by Melnikov, Shibanov and Korsunskaya was translated into Polish<sup>15</sup> (photo 6) and introduced by a letter of the Ministry of Education, dated 2 April 1951, as an aid to teachers and students in the eleventh class. It was a rich source of information on Lysenkoism, to which, in particular, its entire Chapter IV, 'Michurin's science as a higher stage of

development of the life sciences', was devoted. This chapter discussed the following issues: the life and work of Michurin, the basic assumptions of Michurin's science, the unity of an organism and conditions of its life necessary to it, heredity, inheritance of acquired characteristics, stadial development of organisms, managing the development and formation of plants, choosing parents in order to obtain seedling-hybrids, the origin of species in the light of Michurinian biology.

This handbook went through seven editions, the last of which was approved for the school year 1956-7 by a Ministry of Education letter dated 6 February 1956 (the edition was released in March 1956). Subsequent editions did not differ significantly. However, as

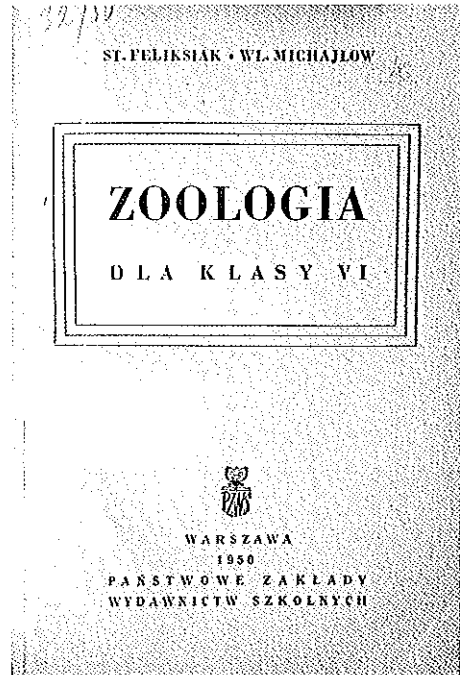


Photo 4. *Zoologia dla klasy VI* [Zoology for the sixth class] by Stanislaw Feliksiak and Włodzimierz Michajłow (cover).

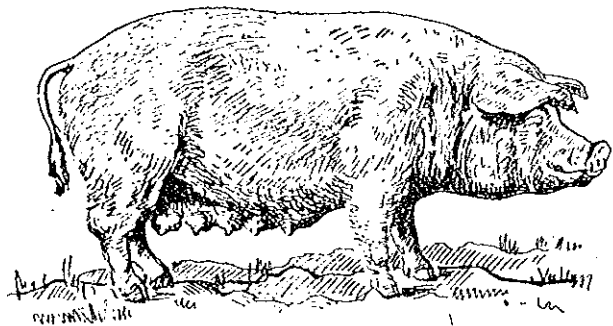


Photo 5. 'White Ukrainian' variety of pig bred according to the methods of Michurin and Lysenko.

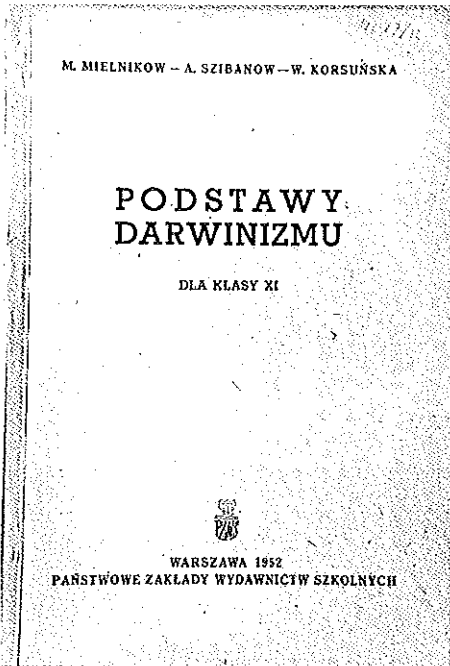


Photo 6. *Podstawy darwinizmu* [Rudiments of Darwinism] by Melnikov, Shibanov and Korsunskaya (cover).

a result of criticism, initiated in the Soviet Union, of Lysenko's views on the origin of species, in the sixth and seventh editions the chapter 'The origin of species in the light of the biology of Michurin', which focussed on the transformation of one species into another, was removed.<sup>16</sup>

#### CURRICULA

The curriculum of the former Polish educational system was a description of the objectives and tasks set by the Ministry of Education and other decision-making bodies.

In accordance with the guidelines of the educational activists' conference of 1948 and the First National Congress of School Inspectors in 1949, revisions of the biology curriculum in schools were introduced.<sup>17</sup> For example, the new botany curriculum contained less material on plant anatomy and systematics, but more issues emphasising the relationship between the structure of plants and the environment and the direct impact of the environment on the plants. Lectures on the

economic importance of each group of plants were expanded, and knowledge of agrobiolgy extended, by introducing information about the grass-field system of Williams. The number of hours allocated to the chapter 'Basic information on the state of agriculture and horticulture' and the section 'Linking agricultural practice with the theoretical achievements of the biological sciences' was doubled (7 instead of 3 and 8 instead of 4, respectively). These changes clearly indicated the need to expand students' practical and theoretical knowledge concerning the achievements of 'Soviet agrobiolgy'.<sup>18</sup> The zoology curriculum was also full of changes. Teachers were required to emphasise, among other items, the work of Soviet biologists in the field of animal husbandry based on the principle of 'creative Darwinism', including the cold rearing of calves.<sup>19</sup>

#### METHODICAL MANUAL AND GUIDELINES

Teachers were not autonomous in the selection of learning content. They had to teach in accordance with special manuals indicating which content should be emphasised and which omitted, and how it must be presented in order to obtain the desired results. During the Lysenkoist period the main objective of teaching was to convert students to the materialist worldview, then strengthen this view by showing the superiority of Soviet science over bourgeois and presenting the Soviet Union as the leading state in the transformation of nature.

In addition to teaching manuals, teachers had to follow certain guidelines in their work. These were detailed guidelines issued by the party administration concerning the

content of education, according to which a teacher using the manuals for botany, zoology and rudiments of evolutionism had to 'emphasise worldview moments'.<sup>20</sup>

In February 1953, a methodical textbook to teach biology in the fifth through eighth grades of secondary school, edited by Halina Jaczewska, appeared (photo 7).<sup>21</sup> The manual recommended – in order to convince pupils of the materialist worldview – discussing such issues as 'creative Soviet Darwinism', Pavlov's work on higher activities of the nervous system, or Lepeshinskaya's work on acellular life forms.<sup>22</sup> In December 1953, a second edition was published.<sup>23</sup>

As can be seen, in the Lysenkoist period, emphasis was placed on the ideological side of teaching. The main objectives of teaching included converting students to a materialistic worldview, followed by consolidation of that belief, showing the superiority of Soviet science over bourgeois, and presenting the Soviet Union as the leading state in the transformation of nature and the struggle for peace.

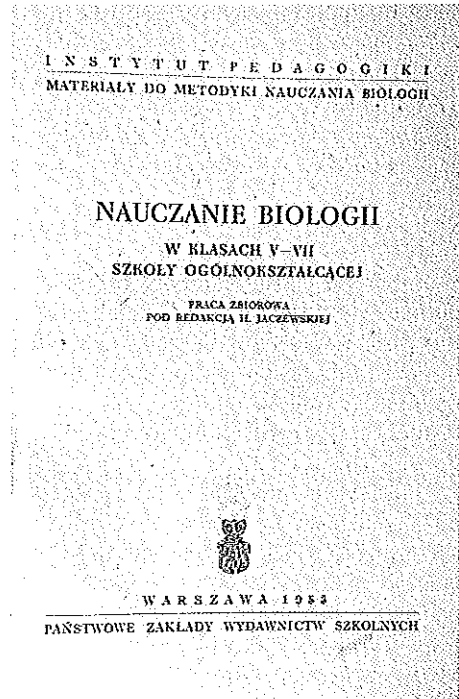


Photo 7. *Nauczanie biologii w klasach V-VII szkoły ogólnokształcącej* [Teaching biology in the fifth to seventh classes, inclusive, of comprehensive school] (cover).

#### EYEWITNESS ACCOUNTS

Analysis of biology textbooks, curricula, the methodical textbook and guidelines may not be sufficient to resolve the question of whether genetics (Mendelism) was taught in Poland during the Lysenkoist period or not. I believe that this problem can be settled only by eyewitness accounts. Professor Emeritus Tomasz Majewski of SGGW in Warsaw remembers biology teaching in school at that time in this way: *New content was taken into account at all levels of education, I remember it even in primary schools. In the secondary school years, when I studied (1954–8), the eleventh class was the last year of study, and at the same time the last year of a three-year course of biology. In the eighth class there was no biology; in the ninth we had a botany course; in the tenth, a zoology course. In the eleventh, beginning in 1951, rudiments of Darwinism' were taught according to the above-mentioned manual<sup>24</sup>; of course, there were Michurin, Lysenko and other Soviet scientists. Did the manual exhaust the programme of the eleventh class? It is not certain, although highly likely. [...] But in that year (1957–8) I was in the eleventh class and this manual was no longer in use. The subject called 'general biology' included 'normal' information about cytology, genetics, evolution, etc. There was no textbook at all! We studied texts dictated by the teacher, and additional recommended texts (unfortunately, I do not remember the titles)*.<sup>25</sup>

As can be seen from these recollections, during the Lysenkoist period the 'new biology' was taught rather than genetics. This is confirmed by the following words of Stanisław Skowron (1900–76), one of the promoters of Lysenkoism, published in 1956,

when the 'new biology' was rejected in Poland: *Even worse is the case of our young people who come to university completely devoid of any knowledge of formal genetics, which teachers dared not discuss, and steeped in vulgar information about the new biology. Even at universities, whole chapters which seemed too 'risky' to interpret were skipped from lectures and the teaching cultivated for several years at universities hampered the students' independent thinking and consideration of our information.*<sup>26</sup>

## CONCLUSIONS

Several Polish textbooks of botany, zoology and rudiments of evolutionism issued during Lysenkoist times were analysed, along with a methodical manual for teachers. On this basis, it was found that indeed Mendelism (genetics) was not taught as part of biology in Polish schools during the era of Lysenkoism. Teachers in their choice of content were required to follow ministry guidelines and methodical manuals rather than student textbooks. It was therefore not possible to teach genetics during the era of Lysenkoism in Poland. This is confirmed by interviews with people who attended school at that time.

As for the proposal of one of the participants of the Second International Workshop on Lysenkoism in Vienna in 2012, concerning the introduction of a new narrative, according to which genetics was taught at the periphery of Lysenkoism, in the light of my analysis of textbooks, such an introduction should be regarded as inaccurate. When such claims are made, Occam's razor should be consistently applied. At that time, the mere presence in textbooks of information about a theory did not testify to the fact that this theory was taught. Most important was the accompanying commentary. In the textbooks of that time, one could find both genetics and fascism, accompanied by equally negative commentary. Just as the presence in textbooks of information about fascism does not prove that fascism was taught, the mere presence of information about Mendel and his work does not prove that genetics was taught.

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