

## Botany and Lysenkoism in Poland

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The main reason for the emergence of Lysenkoism in Polish science was linked to Polish dependence on the Soviet Union. Not only was Lysenkoism implemented by virtue of administrative pressure, but it was also propagated at several conferences (i.e. Warsaw 1949, Kuźnice 1950/51, Dziwnów 1952, Kortowo 1953 and 1955). Nevertheless, only a few botanists published works on Lysenkoism, out of whom, few in number made significant scientific achievements prior to that period. Among the Lysenkoist publications, summaries of the papers delivered at successive conferences, as well as reprints of the Soviet works, constituted the majority. Additionally, the publications popularizing the principles of Lysenkoism and its achievements (grounded on the Soviet publications) formed a large group. There was a relatively insignificant number of works that reported the results of the studies conducted on the basis of the theory of Lysenko. Polish botanists adopted a different stance towards Lysenkoism, the vast majority of whom dealt with areas of research that did not require direct references to the “new biology”. In Polish botany, Lysenkoism was a thoroughly marginal phenomenon.

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Lysenkoism (also referred to as: Michurinism–Lysenkoism, creative Soviet Darwinism, the new biology) embodies a highly intriguing phenomenon in the history of science. From the standpoint of today’s science, it was a pseudo–scientific theory. A Ukrainian agrobiologist and botanist Trofim Denisovich Lysenko (1898–1976) was its founder. Lysenkoism owed its origin to the ideas formulated by its author, or implemented from other biologists, such as vernalisation, the theory of stadiality of the development of organisms or the immediate transformation of one species into another under the influence of external conditions. Furthermore, Lysenko incorporated into his theory the Lamarckian ideas of the inheritance of acquired traits, and subsequently even abiogenesis. Lysenkoism in its complex form was to be a modern anti–Mendelian theory of evolution, raising the issue of the development of living matter (i.e. the ideas of Olga Lepeshinskaya 1871–1963), these laws governing its development, as well as regularities, which control the formation and transformation of species, with reference to agricultural and orchard practices (i.e. the ideas of Ivan Michurin 1855–1935), and the philosophy of dialectical materialism. Lysenkoism served to achieve the immediate results, namely the increase of yields, quick acquisition of varieties resistant to frost, parasites and pests, or the production of entirely new species which would be economically useful. An important feature of Lysenkoism was the brazen practicalism of reducing botany to an auxiliary science of agriculture and forestry.

During the session of the 31st of July – 7th of August 1948, the Lenin All–Union Academy of Agricultural Sciences (VASKhNIL) adopted Lysenkoism as the only lawful theory in the biological and agricultural sciences cultivated in the Union of Soviet Socialist Republics (Lysenko, 1948). The resolution terminated a period (lasting over a dozen years) of disputes between Lysenko and his supporters on the one hand, and their opponents on the other (i. e. the supporters of genetics and biology based on it to date). For a period of sixteen years, Lysenkoism became a component of Stalinist ideology and the official scientific mainstream in the USSR. From 1952 on, moderate criticism of certain Lysenkoist formulations started to be voiced in the

Soviet Union. Nevertheless, Lysenkoism almost irrefutably reigned in science for more than ten years. Only with the removal of Nikita S. Khrushchev (1894–1971) from the post of General Secretary in 1964 did it lose the support of the government of the USSR.

It was even before World War II that Lysenkoism crossed Soviet Union borders. In some countries it had already been known, e. g. in Japan, since the late 1930s (Saito, 2009, p. 186). After the VASKhNIL session in August, western biologists who were members of Communist parties in their own countries, were asked to pay respect to the theories of Lysenko as much as their Soviet colleagues. This led to frequent tensions, suspicions, arguments and splits between the party and the academics. In Britain it was John Haldane, in Belgium Jean Brachet and Paul Brien, and in France, amongst others, Marcel Prenant. One of Lysenko’s notable supporters in the West was the British Nobel Prize–winning playwright George Bernard Shaw (Paul, 1983; Schandewyl, 2000, p. 2). At the beginning of the 1950s Michurinist societies were established in France, England, Belgium, Argentina, and Japan. The *Association française des amis de Mitchourine* (1950–1963) was particularly active. The implementation of Lysenkoism followed in countries dependent on the Soviet Union in late 1948 or early 1949 (Krementsov, 2000, p. 183–184; Matalová, Sekerák, 2004).

### The implementation of Lysenkoism and the collapse of its propaganda in Poland

A prominent role in propagating Lysenkoism in Poland was played by the Association of Marxist Naturalists [Koło Przyrodników–Marksistów, renamed in 1950 into: Zrzeszenie Przyrodników–Marksistów]. The Association was founded in the spring of 1948, and it was associated with the editorial board of *Nowe Drogi* [New Routes], an organ of the Central Committee of the Polish Workers’ Party, and from December 1948 – the Polish United Workers’ Party (PUWP)<sup>1</sup> (the Communist party holding power at the time). The Association aimed at, *inter alia*, combating “the penetration of reactionary ideas in natural science of capitalist countries with reference to the achievements of leading, progressive Soviet science” (Świątkowska, 1955). The Association organized seminars for its members with invited guests. The goal of these seminars was to clarify the concepts of natural science in the light of dialectical materialism and critical assessment of scientific research activities perceived from the Marxist perspective. Primarily, the theory of dialectical materialism was propagated. At the end of 1948, the Association embarked upon the propaganda of Lysenkoism as the embodiment of the theory of dialectical materialism in biology.

In the summer of 1948, a faction of Stalin’s ardent supporters from the Polish Workers’ Party co–governing Poland, came to power. Bolesław Bierut (1892–1956)<sup>2</sup>, who led the group,

<sup>1</sup> The Polish United Workers’ Party (PUWP) was founded as a result of the merger between Polish Workers’ Party and Polish Socialist Party in December 1948.

<sup>2</sup> Bolesław Bierut (1892–1956), a KGB agent trained in Moscow, in August–December 1948 he was the First Secretary of the Central Committee of Polish Workers Party (after removing Władysław Gomułka from power), since December 1948 till his death he was the First Secretary of the Central Committee of Polish United Workers Party (PUWP), at the same time he was Polish President in 1947–1952, 1952–1954 – Prime Minister, in 1947–1954 he headed the Political Bureau Commission for Public Security of the PUWP, which supervised the Stalinist apparatus of repression in Poland. [http://pl.wikipedia.org/wiki/Bolesław\\_Bierut](http://pl.wikipedia.org/wiki/Bolesław_Bierut) [access 9 April 2009].

began to introduce totalitarian Stalinism whose ideological component was already Lysenkoism (Davies, 2008, p. 1030–1033).

The Polish Workers' Party being preoccupied with factional struggles, did not even notice the August session of VASKhNIL. It was not until the beginning of October 1948 that a series of articles by Włodzimierz Michajłow (1905–1994)<sup>3</sup> on the session appeared in the *Głos Ludu* [Voice of the People], the official organ of the Polish Workers' Party Central Committee (Michajłow, 1948b). In autumn, Ivan E. Glushchenko (1907–1987), Lysenko's disciple and associate, came to Poland. He participated in the celebration of the 75th anniversary of the Polish Academy of Sciences and Letters in Kraków on 25th–27th October 1948, during which he delivered (in Russian) a lecture entitled “Michurin's doctrine against idealism in biology” (Köhler, 2002, p. 184)<sup>4</sup>. Afterwards, he gave lectures in Kraków, Wrocław and Warsaw, in which the basis for the Michurin–Lysenko theory and the results of his works on vegetative hybrids were discussed (Michajłow, 1949a, p. 124). On the 30th of October 1948, a conference of educational activists, members of the Polish Workers' Party, was held in Warsaw. The conference stated the need to overcome the indulgence of the erroneous and harmful reactionary ideology still existing in education, the need to deepen the understanding of the internationalist spirit of education, and to strengthen ties and cooperation with the USSR.

It was decided to revise curricula at all levels of education, aiming at the absolute removal of the influence of reactionary ideology, replace it with the ideology of historical materialism, as well as enrich it with the issues concerning the Soviet Union, with emphasis on its leading role in the struggle for peace and democracy (anonym, 1948).

Following these regulations the press began to publish articles on Soviet agrobiological achievements. Translations of Russian books and original popular Polish works devoted to the “new biology” started to be released. The Scientific Council at the Ministry for Agriculture and Agrarian Reforms organized two scientific–discussion meetings for the researchers, during one of which, Edmund Malinowski (1885–1979)<sup>5</sup>, a leading contemporary Polish plant geneticist, a student of Erich von Tschermak–Seysenegg (1871–1962), a biologist who rediscovered — together with two other biologists — Mendel's work on genetics in 1900, presented the results of his work on genetics in the light of the Michurin–Lysenko theory; whereas Jan Dembowski (1889–1963), director of the Institute of Experimental Biology and head of the Department of Experimental Biology of Łódź University<sup>6</sup>, discussed the theses of the paper he delivered on

<sup>3</sup>Włodzimierz Michajłow was a zoologist, a graduate of Warsaw University. In the Lysenkoist period he was a director of the Department of Higher Education and Research in the Ministry of Education, in 1950–1952 — a director of the Department of Research in the Ministry of Higher Education and Research, in 1952–1959 a deputy of the Secretary for Research of the Department II of Biological Sciences of the Polish Academy of Sciences, in 1948–1952 — an editor of *Biologia w Szkole* magazine (Śródka, 1997). He was the first who propagated Lysenkoism in Poland.

<sup>4</sup>There is every likelihood that this paper was published, after having been delivered many times, for in 1950 a publication by I.E. Glushchenko under the similar title was released (Głuszczenko, 1950).

<sup>5</sup>Edmund Malinowski was a graduate of Geneva University. In 1920–1961 he was a professor of the Main School of Agriculture in Warsaw and a head of the first in Poland Department of Genetics and Plant Cultivation (in Skierniewice). He was an active member of PASL and a regular member of Polish Academy of Sciences (Śródka, Szczawiński, 1995).

<sup>6</sup>Jan Dembowski graduated from universities of St. Petersburg and Vienna. In 1934–1939 he was a professor of Stefan Batory University in Wilna, in 1940–1941 a lecturer of Marxism–Leninism University in Vilnius [Soviet Lithuania]. In 1944–1947 he was a scientific attaché of Polish Embassy in the USSR, as well as a researcher of the Institute for Experimental Biology in Moscow. In 1947–1952 —

the 30th of March 1949 (Michajłow, 1949a, p. 124–125). The 26th of January 1949 constitutes a meaningful date, as for the first time at the meeting of the Association of Marxist Naturalists it was suggested that the Michurin–Lysenko theory should also be taught in schools alongside genetics.

This “new biology” was propagated by media and scientific conferences. The former was primarily aimed at a popular audience, while the latter were intended to ensure conformity in the scientific community. The first conference was held on the 30th of March 1949 in Warsaw. It was (like the August session of VASKhNIL) a great debate of biologists organized by the Association of Marxist Naturalists. The conference was devoted to the official presentation of the Michurin–Lysenko theory. The paper entitled “On the new genetics”, previously discussed and approved by the Ministry of Agriculture and Agrarian Reforms, was put forward by Jan Dembowski (Dembowski, 1949). Włodzimierz Michajłow, representing the Polish government, stated that “the government would provide full support for the research on application and deepening of the new biological theory” (Dembowski, 1949, p. 166). In the following months Dembowski re-read his paper during lectures for scientists and intellectuals in Warsaw, Łódź and Wrocław (Michajłow, 1949a, p. 124–125; Michajłow, Petruszewicz 1954a, p. 716). In June 1949 the Association of Marxist Naturalists organized a biology course for teachers. The course contributed to the initiation of major changes in the teaching of biology in schools; namely, the Michurin–Lysenko theory was introduced into the school curricula in place of genetics (Sikorska, 1949). At the same time, in the academic year 1949/1950, lectures on genetics were suspended at universities. On the occasion of a national holiday, i. e. the 22nd of July 1949, Jan Dembowski received a State Prize of the 1st degree for “not only an outstanding contribution to spreading the Michurin–Lysenko theory, but also for a breakthrough leading to Marxist biology in Poland” (Petrusewicz, 1949). In 1949 a collection of papers and discussions of the VASKhNIL session held in August 1948 was soon translated into Polish (Łysenko, 1949). As of 1949, many translations of books and articles by Soviet theorists of the “new biology” were published, a substantial number of them in 1950. In the autumn of 1949 Soviet Marshal Konstantin K. Rokossovsky (1896–1968) was appointed as Minister of National Defence by order of Stalin, and became a member of the Polish government (since 1952 he was even Deputy Prime Minister). Together with Rokossovsky, more than 500 Soviet military advisers took over managerial functions in the Polish army.

In 1950 the Association of Marxist Naturalists set up its branches in all university centres (Świątkowska, 1955; Michajłow, Petruszewicz, 1954a, p. 708–709). Between the 7th of December 1950 and the 13th of January 1951, a conference of biologists, agrobiologists and physicians took place in Kuźnice. 119 scientists from Poland and a three-person delegation from the Academy of Sciences of the USSR attended. It was convoked by the Association of Marxist Naturalists, the Ministry of Higher Education and Science, the Ministry of Health and the Ministry of Agriculture. A number of papers broaching various biological problems in terms of Lysenkoism were proposed during the conference (anonym, 1951). The conference strived to encapsulate the first phase of the development of the “new biology” in Poland and blaze a trail for other researchers to follow.

a professor of Łódź University, in 1947–1961 a director of the Institute for Experimental Biology in Warsaw, in 1952–1960 a professor of Warsaw University. In 1952–1956 a president of the Polish Academy of Sciences. In 1952–1957 a chairman of Polish Parliament and at the same time a deputy of the chairman of the State Council (L. Kuźń., 1987).

<sup>7</sup>Prof. Jadwiga Wilkoń–Michalska's memories from the above meeting — see Köhler (2006, p. 53).

The assets of the existing academic institutions in Poland, i. e. the Polish Academy of Sciences and Letters (PASL) and the Warsaw Scientific Society (WSS), were nationalized, which made those institutions entirely dependent upon state subsidies. Soon it became apparent that neither the PASL, nor the WSS would fulfill the directives of the party. The outcome being the creation by the Communists of their own academy of sciences (Hübner, 1999). From the 29th of June to the 2nd of July 1951, the First Congress of Polish Science took place. It was a peculiar turning point in Polish science, ushering in the stage of its history — the development of science within the model rooted in the Soviet system. A new Polish Academy of Sciences, modelled on the Soviet Academy of Sciences, was created by the Act of the 30th of October 1951. Previous academic organizations: the PASL (the tradition going back to 1815) and the WSS had to cease their activities till the end of 1952. Biological sciences (including botany) were included within Division II of the new Polish Academy of Sciences. The propaganda of Lysenkoism was one of the tasks of the Division.

On the 2<sup>nd</sup> of March 1952, the Association of Marxist Naturalists merged with the Copernican Society of Polish Naturalists [Polskie Towarzystwo Przyrodników im. Kopernika]<sup>8</sup> (Hurwic, 1952). Kazimierz Petruszewicz (1906–1982) became the head of the Society<sup>9</sup>. Since that time, the Copernican Society of Polish Naturalists was a major exponent of Lysenkoism among the public. On the 24th of May 1952, the first session of the Presidium of the new Polish Academy of Sciences took place. Jan Dembowski, the president of the Academy, gave an inaugural speech, in which Michurin, Lysenko and Lepeshinskaya's achievements in the conscious application of the method of dialectical materialism in science were proclaimed as remarkably successful. The method was to contribute to the expansion of this research effort, the quickening pace of work done by scientists and the acceleration of the pace of scientific development (anonym, 1953c, p. 35). From the 7th of July to the 7th of August 1952, a subsequent course of this “new biology”, organized by the Ministry of Higher Education and the Commission of Evolutionism of the Polish Academy of Sciences, took place in Dziwnów (Petrusewicz, Michajłow, Skowron, 1952). The number of participants of the session amounted to 140–150, mostly young naturalists.

The official reasons for abandoning Lysenkoism in Poland were also political. On the 5th of March 1953, Joseph Stalin died. Initially, political transformations in the Soviet Union after his death were not felt in Poland. Cautious attempts to eliminate a totalitarian form of governance were embarked upon in the spring of 1954. The process of dismantling Stalinism in Poland was sharply accelerated as a result of broadcasting a cycle of programmes (September 1954) by Radio Free Europe, in which the former vice-director of the 10th Department of the Ministry of Public Security (who fled to the West in 1953) denounced the work of the security services in Poland<sup>10</sup>. The outcome being that the Central Committee of the PUWP appointed a commission to investigate irregularities in the security services. On the 7th of December 1954, the State Council<sup>11</sup> issued a decree abolishing the hated Ministry of Public Security. A large group of officers and innocent civilians incarcerated, were released (including Władysław Gomułka (1905–

<sup>8</sup> The Copernican Society of Polish Naturalists was established in Lwów / Lemberg in 1875.

<sup>9</sup> Kazimierz Petruszewicz was a graduate of Warsaw University. In 1949–1952 he was the head of the Department of Research and Higher Education of the Central Committee of the PUWP, in the period of Lysenkoism, in 1952–1957 he was a secretary of research of the Department II of Biological Sciences of the Polish Academy of Sciences and the head of the Commission of Evolutionism of the Polish Academy of Sciences (Michajłow, 1987).

<sup>10</sup> Józef Światło, vice-director of 10th Department of Ministry of Public Security, in September 1954 applied for political asylum in the USA. [http://www.ipn.gov.pl/portals/pl/203/1587/Jozef\\_Swiatlo.html](http://www.ipn.gov.pl/portals/pl/203/1587/Jozef_Swiatlo.html) [access 6 January 2010].

<sup>11</sup> In 1952–1989 the State Council played the role of the collective head of state in Poland.

1982), Bierut's opponent, who had been imprisoned since 1951), whereas several persons from the high ranks of the former Ministry of Public Security were arrested. In January 1955, the 3rd Plenum of the Central Committee of the PUWP took place, during which trenchant public criticism was centred on the controversial methods of the former Ministry of Public Security. The Plenum was perceived by many biologists as the admittance by the PUWP that errors made in science resulted from the fact that the party engineered the scientific life of the country.

Political events occurring in Poland after Stalin's death and the discussion of the works of Boshyan and Lysenko in the USSR caused great concern and confusion among Polish supporters of Lysenkoism. The example being that the “new biology” started to be refuted. The passive attitude of the people in charge of the biological sciences in Poland against criticism of Lysenko, in some cases attempts to defend false principles<sup>12</sup>, the continuous usage of platitudes and slogans, the concealment of sensitive issues made the crisis of the “new biology” as a scientific system inevitable by some, not only young, people (anonym, 1957, p. 9–10). In such an atmosphere, a follow-up Lysenkoist conference of young biologists was convened from the 18th of August to the 28th of August 1953 in Kortowo. The Commission of the Evolutionism of the Polish Academy of Sciences and the Copernican Society of Polish Naturalists were the organisers, and the conference brought together about 240 people. Discussions held in the USSR and Poland were expressed in delivered lectures: in some of them Lysenko was even slightly criticised (Michajłow, Petruszewicz, 1954b, p. 96).

The dismantling of the Stalinist system in Poland made it possible to talk more openly about the mistakes that had been made. On the 9th of May 1955, the Commission of Evolutionism of the Polish Academy of Sciences at its plenary meeting admitted to the failure of propagating Lysenkoism. Notwithstanding this fact, a resolution declaring a fight for the introduction of the “new biology” to Polish science was passed. The upshot of the resolution was the creation of the special four-person commissions that aimed at the supervision of the scientific works on Lysenkoism on the following topics: 1 — the inheritance of acquired traits, 2 — the stadiality of the development of organisms, 3—the process of speciation (anonym, 1955c; 1955d; 1955f, p. 177–179). The second conference in Kortowo, which brought together 246 participants, took place between the 17th — 25th of August 1955 (anonym, 1955a). During the conference Kazimierz Petruszewicz and Włodzimierz Michajłow, in their self-critical paper, confirmed the failure of Lysenkoism in Polish science. They pointed out the following reasons:

dogmatism, issuing orders and declarativeness, limited initiative and militancy of the organizers of science in the fight for this new biology. [...] Unable to persuade their opponents to accept this new Soviet biology, they used harsh commands, administrative pressure, they closed down papers levelling adverse criticism. [...] as a result, in the conference rooms and in the papers people talked about (and wrote) somewhat different issues than in private conversations. [...] we could not undertake to a sufficient degree, extensive research in Poland in the field of Michurinist biology. [...] criticism of Lysenko's views was adopted in Poland as a sign of the refutation of Michurinist biology in general, as the slogan which denoted the return to neo-Darwinism and formal genetics (Petrusewicz, Michajłow, 1955).

Discussions over Lysenkoism, political discussions and the increasingly apparent lack of empirical confirmation of the assumptions of the “new biology” denoted that the situation in

<sup>12</sup> An example being the activities of Kazimierz Petruszewicz, a chairman of the Copernican Society of Polish Naturalists, who on 30 May 1953 assigned a task of conducting an ideological offensive to the Society, consisting in e.g. spreading basic methodological assumptions of the “creative Darwinism” (Petrusewicz, 1953).

the biological sciences in Poland at the time resembled the “Emperor’s new clothes” story by H.Ch. Andersen: a few activists (i. e. Jan Dembowski, Kazimierz Petruszewicz, Włodzimierz Michajłow, Teodor Marchlewski (1899–1962)<sup>13</sup>, Stanisław Skowron (1900–1976)<sup>14</sup>, Szczepan Pienią ek (1913–2008)<sup>15</sup>, and Aniela Makarewicz (1905–1990)<sup>16</sup>), and several institutions still officially declared their loyalty to orthodox Lysenkoism, while the majority of the naturalists “unofficially” against it, “officially” stayed silent. In mid–December 1955 an article “Darwinism and Lysenkoism” with the heading: “Let’s stop the conspiracy of silence” was published in *Po Prostu* magazine — the title, heading, and the content accurately reflected the situation in science at the time (Kuźnicki, 1955).

On the 14–26th of February 1956, the 20th Congress of the Communist Party of the Soviet Union officially condemned the cult of personality. This also influenced the situation in Poland. Bolesław Bierut, the First Secretary of the PUWP, the main protagonist of the Stalinist regime in Poland, participated in the 20th Congress and died in Moscow on 12 March 1956. The cautious steps taken in order to eliminate “perversions” (of what was supposedly the correct ideology), and in fact, to weaken the totalitarian form of government, turned out to be delayed and inconsistent. The country’s inflation rate was rising, the cracks in the monolithic unity of the PUWP started to be revealed. Since March 1956 simmering political disputes and polemics in the press were sparked off in Poland. Discontent reached a critical point in June, when the first mass demonstrations of workers against the Polish communist regime took place in Poznań. These events brought about changes at governmental level: Stalinist “hard-liners” ruling in Poland since 1948 were replaced by more pragmatic communists, and in October 1956 Władysław Gomułka became the First Secretary of the Central Committee of the PUWP. It was the culmination of the Polish “thaw”. Marshal Rokossovsky was dismissed from all the positions he held in Poland, and returned to the Soviet Union with more than 500 Soviet military advisers. The PUWP resigned from its ideological struggle so as to maintain political power (Davies, 2008, p. 1041–1044).

When the 20th Congress of the Soviet Communist Party took place in Moscow, a meeting of the Commission of Evolutionism of the Polish Academy of Sciences was held in Warsaw (anonym, 1956a). A conference on the inheritance of acquired traits was planned. As part of its preparatory work, it was decided to gather information about the research conducted in Poland on this issue: a poll was addressed both to those engaged in crop cultivation and to researchers, so as to acquire information on whether they had assembled relevant facts from their own practices, such as those concerning the inheritance of acquired traits, or carried out research involving this issue in any other way, published any paper about it, delivered a speech on the subject, or were interested in the above issue, and finally, whether they wanted to participate in the discussions on the afore-mentioned issue. The results were expected to be submitted by the 1st of July 1956 (Tele yński, 1956). (I have not come across a published response to the above questionnaire.)

<sup>13</sup> Teodor Marchlewski was a zoologist, a graduate of the Jagiellonian University in Kraków, and in 1948–1956 its rector (Z.K., 1987).

<sup>14</sup> Stanisław Skowron was a zoologist, a graduate of the Jagiellonian University in Kraków. In the Lysenkoist period of 1947–1949 — a dean of the Faculty of Medicine at the Jagiellonian University (M.J., 1987).

<sup>15</sup> Szczepan Pienią ek was a fruit–farmer / orchardist and botanist, a graduate of Warsaw University. He was a professor lecturing fruit–growing, and in 1951–1983 a director of the Institute of Fruit–Growing of the Main School of Agriculture in Warsaw (anonym, 1984, p. 743–744).

<sup>16</sup> Aniela Makarewicz was a graduate of the Main School of Agriculture in Warsaw. She obtained the title of the *extraordinary* professor in the course of the extra-ordinary procedures in 1954. In 1951–1957 she was employed at the Main School of Agriculture in Warsaw, and then in the Unit of Genetics of Polish Academy of Sciences (Niemirowicz–Szczytt, 1996).

As a result of the ongoing discussions, lasting from March, on Lysenkoism, on the 17th of April 1956, a meeting of biologists was held in the editorial board of the *Po Prostu* magazine. During the meeting, a number of the propagators of Lysenkoism still pledged loyalty to the “new biology”, yet most of the participants voiced criticism of the past period. Waclaw Gajewski (1911–1997)<sup>17</sup> recalled the history and methods of the implementation of Lysenkoism in the USSR. He put forward an idea of forgetting about that “sad episode” instantly, recovering and resorting to normal science, grounded on experimentally verifiable facts (anonym, 1957, p. 100–107).

During the 6th Session of the General Assembly of the members of the Polish Academy of Sciences on the 11th and 12th of June 1956, the management of the Polish Academy of Sciences was severely criticized, as well as its activities, as manifested by the imposition of Lysenkoism; the “new biology” was referred to in terms of the past (anonym, 1956b, p. 5–6, 38–44, 52, 75). In response to this criticism, the entire presidium of the Polish Academy of Sciences along with Jan Dembowski, its president, resigned. In the school year 1957–1958 genetics returned to the curricula of schools and universities.

Botanists took an active part in propagating Lysenkoism as well. The most active of whom included Aniela Makarewicz,<sup>18</sup> Szczepan Pienią ek and Anatol Listowski (1904–1987).<sup>19</sup> In addition to publishing their works and presenting lectures at numerous conferences, they also propagated the “new biology” on the air waves of Polish Radio. In 1948–1952 a series of programmes “A Natural Base for the View of the World” was beamed as a part of “Radio University”. Each of those botanists gave several lectures in the afore-mentioned series, which were subsequently published.

## The review of the research and major publications of Lysenkoist botany in Poland

### A. Research

Engineering of science by PUWP facilitated the introduction of Lysenkoism to the research programmes of scientific institutions. Below, I propose the main problems of the “new biology” that were within the scope of interest of a few Polish botanists<sup>20</sup>.

<sup>17</sup> Waclaw Gajewski graduated from Warsaw University, where he worked in the Botanical Garden after 1937. He was barred from lecturing during the Lysenkoist period due to his open adherence to genetics. Gajewski later organized the Department of Genetics at Warsaw University, and the Department of General Genetics at the Polish Academy of Sciences. His publications were devoted to a wide range of issues, including floristics, experimental taxonomy, cytogenetics and molecular genetics (Rodkiewicz, Szweykowski, 1987).

<sup>18</sup> Aniela Makarewicz directly writes about her participation in propagating Lysenkoism (1956b). She admits that faults were committed during the fight for the primacy of Michurinist biology, science was commanded, and Western science was not properly evaluated. She warns, however, against rejecting Lysenkoism. In reply to this article Tadeusz Godziszewski from Dębina village (district of Otwock) wrote a letter, in which he suggests that the Lysenkoist animators should not correct the faults of the past period, but withdraw from teaching youth and start learning genetics [the Archive of the Polish Botanical Society in Warsaw].

<sup>19</sup> Anatol Listowski was a graduate of the Jagiellonian University in Kraków. After *habilitation* in 1947 he was appointed *extraordinary* professor at the Jagiellonian University. Since 1951 he was employed at the Institute for Crops, Fertilization and Soil Science in Puławy and at the Main School of Agriculture in Warsaw, in 1954 he was appointed a *full* professor (Haman, 1988).

<sup>20</sup> More on research in Köhler 2010.

Among all the ideas of Lysenkoism it was the possibility of obtaining vegetative hybrids that attracted the greatest interest. Beginning in 1948, the Department of Genetics and Plant Cultivation of the Main School of Agriculture in Warsaw (located in Skierniewice), directed by Edmund Malinowski, researched vegetative hybrids of potatoes and tomatoes. The studies were supposed to lead to the generative reproduction of several varieties of potato propagating only vegetatively (Malinowski, 1950b, p. 202–203). Konstanty Moldenhawer (1889–1962)<sup>21</sup> of the Department of Genetics and Cultivation of Plants at Poznań University performed experiments aimed at obtaining vegetative hybrids by grafting. The initial results were published (Moldenhawer, 1949a; 1949b), and after that he concentrated on vegetative hybrids within the families *Solanaceae* and *Compositae* (Moldenhawer, 1951). The State Scientific Institute of Agriculture (from 1951: Institute of Cultivation and Acclimatization of Plants [Instytut Hodowli i Aklimatyzacji Roślin]) carried out research on the vegetative hybrids of beets. In the spring of 1950, work on vegetative hybrids in beet was started. After two years the possibility of wider vegetative hybrids in beet was stated (Bejnar, 1952a, p. 252, 257). Some time prior to 1953 the Forest Research Institute [Instytut Badawczy Leśnictwa] in Warsaw started vegetative hybridization of aspen (anonym, 1953a, p. 78). It lacked exact details. A part of Michurin's original collection, brought from Michurinsk (USSR) by the Germans during World War II, was located in the Arboretum in Kórnik<sup>22</sup>, near Poznań<sup>23</sup>. In Kórnik Stefan Białobok (1909–1992)<sup>24</sup> was to carry out field research on vegetative hybrids in order to create forms more suitable for the Polish climate, and to obtain better fruit from apple, pear and cherry trees (Pienią ek, 1950, p. 396). Using the Michurinist methods, Białobok organized special courses to teach students the techniques of vegetative hybridization (Dominik, 1950, p. 203), and conducted work on cultivating new varieties of poplar (Białobok, 1953a). The titles of other studies undertaken in Kórnik — “variability of trees and shrubs with special consideration given to directional variability of plants,” “a method of cultivation based on the achievements of Michurin's biology” — also evinced the influence of Michurinism (Białobok, 1953b, p. 108).

The introduction and acclimatization of the new and useful plant species from other climatic regions was, for research as well as economic reasons, of paramount importance to the practitioners of the “new biology”. Following the theoretical assumptions of Lysenkoism (i. e. underlying that plant organisms have a natural, unlimited ability to adapt to different external conditions, and that characters acquired by organisms during their lifetime are inherited by their offspring), researchers endeavored to acclimatize species not normally found in Poland. These included **castor bean** (*Ricinus communis* L.), sweet sorghum (*Sorghum bicolor* (L.) Moench), Dalmatian pyrethrum (*Chrysanthemum cinerariaefolium* (Trev.) Vis.), and lavender (*Lavandula* sp.) (anonym, 1951, vol. 1, p. 317–325). Experiments with cotton (*Gossypium* sp.), sesame (*Sesamum indicum* L.) and common coffee (*Coffea arabica* L.) failed immediately (Bikont and Zagórski, 1998). Other experiments, such as the attempts to acclimatize rice (*Oryza sativa* L.), lasted for a few years. Yet, despite great effort and expense,

<sup>21</sup> Konstanty Moldenhawer graduated from the University of Breslau [then: German Empire], and began working at the University of Poznań after World War I (K. St., 1987).

<sup>22</sup> In 1952 the department was renamed the Department of Dendrology and Pomology of the Polish Academy of Sciences [Zakład Dendrologii i Pomologii Polskiej Akademii Nauk].

<sup>23</sup> Written information obtained from Władysław Chałupka (letter of 22 October 2007 from Kórnik).

<sup>24</sup> Stefan Białobok graduated from the Main School of Agriculture in Warsaw. From the end of the World War II until 1979 he supervised the Arboretum (from 1975: the Institute of Dendrology of the Polish Academy of Sciences) in Kórnik near Poznań. He was nominated *extraordinary* professor in 1954, and *full* professor in 1970 (Boratyński, Dolatowski, Oleksyn, 1993).

these were eventually discontinued as well (Łazarewicz, 2000, p. 9–10). The detailed process of cultivation and its related work belongs to the history of agriculture, therefore it needs to be placed outside the scope of this study.

Polish Lysenkoist botany took up issues on stadiality of the development of organisms. In the years 1952–1954, tests on beech (*Fagus sylvatica* L.) and fir (*Abies alba* Mill.) seedlings were conducted at the Higher School of Agriculture [Wyższa Szkoła Rolnicza] in Kraków. These studies did not confirm the hypothesis of Yablokov about the existence of the vernalisation stage and light stage in the annual life cycle of trees (Bałut, 1954, p. 198). In the Department of Genetics of the Polish Academy of Sciences and Department of Genetics of the Main School of Agriculture in Skierniewice Edmund Malinowski, together with his team, continued to conduct experiments at least until 1954 or 1955, the task of which was — as he wrote — the study of the “heredity of [characters acquired during] ontogenesis,” and the “progress of stadiality and its connection with phenological phases” (Malinowski, 1954, p. 467). Notwithstanding, there is a lack of accurate information on the progress and results of these studies. In the Bydgoszcz-based State Scientific Institute of Agriculture over a two-year research conducted on beet seemed to confirm — according to the author's report — that the data of the Soviet scientists demonstrated that flowering was the result of these stages of development (Bejnar, 1952a, p. 252, 257).

As it may be inferred from the review of the studies herein, research conducted in Poland pursuant to the theory of Lysenko was scarce. Individual botanists or few teams endeavoured to carry out such research in the early 1950s. When no results assumed by the Lysenko theory were obtained, the studies were quickly terminated.

## B. The most important publications

The publications of Polish Lysenkoist botany can be divided into two groups. The first one includes reports on the results of research carried out in line with the “new biology” (the reports are mentioned in the previous chapter), as well as theoretical works. The other one consists of publications (frequently acting as propaganda) about the founders of Lysenkoism and their achievements. The translations from Russian, which appeared in print, will not be discussed.

As early as 1948, a short work on Michurin and Lysenko was composed (Michajłow, 1948a). It constituted one of the first Polish Lysenkoist publications.

In 1949 other works on Michurin and Lysenko, their theories, a review article about the history of research on vegetative hybrids in plants, as well as work in this field carried out in the Soviet Union of the time, were published (e. g. Dembowski, 1949; Kłodzki, Bejnar, 1949; Michajłow, 1949b, 1949c). A handbook of botany, in which Anatol Listowski added a comprehensive section containing information on new genetics, Lysenko and Michurin, etc. was also released and published (Listowski, 1949).

The publication in *Problemy* magazine in 1949–1950 of an interesting discussion between Tadeusz Dominik (1909–1980)<sup>25</sup>, an opponent of Lysenkoism, the head of the Department of Phytopathology and Plant Protection at the University and Technical University of Wrocław, and Szczepan Pienią ek, a supporter of this theory, a professor in the Department of Pomology, the Main School of Agriculture in Warsaw, on the chromosomes, vegetative hybrids and

<sup>25</sup> Tadeusz Dominik was a graduate of Poznań University. After World War II he was employed at the State Research Institute of Agriculture in Puławy, in 1949–1954 — in Wrocław. Since 1956 — in Szczecin. He was appointed *extraordinary* professor in 1956, and *full* professor — in 1961 (Majewski, Majchrowicz, 1986).

inheritance of acquired characters, became an unusual event. Pienią ek claimed in accordance with the principles of Lysenkoism that

chromosomes do not possess exclusiveness in the transmission of hereditary characters, because biosomes play a similar role. We call all those extra-nucleus formations in plasma biosomes, which multiply themselves by division, such as chondriosomes. In addition, inherited characters may also be transferred by plastic substances, such as sugars, amino acids, organic acids and other chemicals that circulate in the plant (Pienią ek, 1949b).

Dominik responded to this article and noted (ironically) that the statement about the transmission of hereditary characters by chemical compounds such as amino acids and sugars may closely lead to the assumption that water and CO<sub>2</sub> circulating in a plant or animal can also transmit hereditary traits to a different plant or animal, with which they might accidentally have collided. He suggested a simple explanation of the “transmission of hereditary characters” by callus tissue and plasmodesmata (Dominik, 1949) (similar to the concepts of modern botany). Whereas Pienią ek, so as to support Lysenkoism, quoted arguments from Soviet literature, and also adduced to Polish experiments conducted by Edmund Malinowski (Pienią ek, 1949a). The above arguments, however, did not convince Dominik.

In 1950 further works popularizing and clarifying the principles of Lysenkoism were launched (e. g. Czartkowski, 1950; Pienią ek, 1950; Starmachowa, 1950). The ensuing review and articles reporting on further publications in Soviet journals confirming the validity of the “new biology” were published (e. g. Świętochowski, 1950). The book *Od Darwina do Miczurina* [From Darwin to Michurin] reported on “achievements” of Lysenkoism in Poland (Chomiński, 1950).

In 1951, the publications related to Lysenkoism were dominated by reports from the conference in Kuźnice (e. g. anonym, 1951; Jaczewski, 1951). Nonetheless, works popularizing the “new biology” did not cease to be published (e. g. Pienią ek, 1951; Rościszewska–Gašiorowska, 1951).

In 1952, a brief report on the conference in Dziwnów was published (Michajłow, 1952). Further elements of Lysenkoism, including *inter alia* a paper of Olga Lepeshinskaya on cell-less forms, works on the founders of Lysenkoism, as well as the review articles about the achievements of Lysenkoism in the USSR were published (e. g. Bejnar, 1952b; Michajłow, Petruszewicz, 1952; Skowron, 1951).

The fifth anniversary of the VASKhNIL session introducing Lysenkoism took place in 1953, the occasion of which an anniversary article was submitted for publication (redakcja, 1953). Several more works on Lysenkoist botany, including an article about the precellular forms of life (Kunicki–Goldfinger, 1953), the cultivation of poplar (Białobok, 1953a), or the stadiality development of trees (Obmiński, 1953) were published. A review article on the discussion in the Soviet Union about the origins of the species, quoting critical comments of the two Soviet biologists referring to the theory of Lysenko was published (Michajłow, 1953). In November 1953, a university textbook of plant anatomy by Edmund Malinowski, which deserves assiduous attention, was published (Malinowski, 1953). It is the second, revised edition of the “Anatomy of Plants” of 1938. The changes consisted in, *inter alia*, the failure to publish information or its removal, relating to the subcellular structures, which should not occur in the cell in accordance with the theory of Lysenko, such as chromosomes (chromatin) in the resting nuclei. In the foreword, the author declared his support for Lysenkoism. In 1953, a textbook or a course book

on geobotany by Józef Motyka (1900–1984)<sup>26</sup> was published, in which the author reassures that the method of dialectical materialism in geobotany could at least double the growth of wood in forests, productivity of hay in meadows could increase ten times on average in relation to the *status quo*, in many cases even more, without great effort. He also tries to employ the method of dialectical materialism to explain the distribution of trees and forests in Poland, herbaceous plants and any plant associations created by them (Motyka, 1953a). Even if the author does not allude to Lysenko, both this and the subsequent publication (discussed below) can be reckoned among the “new biology”, bearing in mind the belief that Lysenkoism is the result of a deliberate application of the method of dialectical materialism in botany. The course books preceded another work by Motyka — a theoretical treatise on the application of methods of dialectical materialism in geobotany (Motyka, 1953b). The ideas included in the textbook were developed and extensively expanded, making this publication one of the leading theoretical achievements of the “new biology” in Poland. Both Motyka’s works follow the recommendations of Jan Dembowski, the president of the Polish Academy of Sciences, who attempted to ensure researchers during the meeting of the Presidium of the Polish Academy of Sciences (on the 24th of May, 1952) that the deliberate use of the method of dialectical materialism in science would help to expand the horizons of the research, quickening the pace of work carried out by scientists and accelerate the rate of scientific development, the example being the achievements of Michurin, Lysenko and Lepeshinskaya (anonym, 1953c).

In 1954, a theoretical article about employment of dialectical geobotany in pedology, being explication of the afore-mentioned work of Motyka, was published (Strzemski, 1954). The achievements of biology, including Lysenkoism in botany in the post-war decade in Poland, were also recapitulated (e. g. Michajłow, Petruszewicz, 1954a). The summaries of the discussions in the USSR over the process of speciation were published as well (e. g. Bła ejewicz, 1954).

In mid-1955 (probably) the first article in Polish botany on the experimental demonstration of the erroneousness of Lysenko’s theory was published (Kudowicz, 1955). The author concluded that:

mutual grafting of alkaloid plants producing tropine alkaloids and nonalkaloid plants to increase or decrease the content of these compounds, yields no results. It is also not possible to force a plant to produce compounds not proper to it.

For obvious reasons, Lysenko’s name was not mentioned. In 1955 the articles by the supporters of Lysenkoism (e. g. Kunicki–Goldfinger, 1955; Listowski, 1955), and a review work on the discussion in the Soviet Union on the species and speciation were published (Guttowa, Pojmański, 1955). Additionally, several articles on the occasion of the centenary birthday of Michurin were printed (e. g. anonym, 1955e; Herniczek, 1955).

In 1956 a number of articles written on the occasion of the centenary birthday of Michurin were published (e. g. Barbacki, 1956; Makarewicz, 1956a). Some authors continuously justified Lysenkoism, and presented different Soviet concepts (including those of Michurin and Lysenko) on the developmental stages of woody plants (Bałut, 1956). Others still supported Michurin, yet they also reported on criticism of certain of Lysenko’s views in the USSR (Pienią ek, 1956).

<sup>26</sup> Józef Motyka graduated from the Jagiellonian University in Kraków. After establishing the Maria Curie–Skłodowska University in Lublin (1945) he moved there and became professor and head of the Department of Systematics and Plant Geography (Bystrek, 1985).

In 1957 a further work criticizing Lysenkoism and reviewing the period of its promotion in Poland was brought out (Obmiński, 1957). Likewise, a work — this time — popularizing Soviet achievements into research on the development of plants was also published (Grzesiuk, 1957).

It was in 1958 that the last publications, which may be classified in terms of Lysenkoist botany, appeared in Poland. Nevertheless, they merely constituted summaries or translations of Soviet works (K.R., 1958), including those of I. Glushchenko (Głuszczenko, 1958). The study, revealing the results of further experiments disproving the theory of Lysenko (Wierszyłowski, 1958), and the review article explaining, on the basis of anatomy, the formation of hybrid strains (i. e. the vegetative ones according to the nomenclature of Lysenkoism), were printed (Wóycicki, 1958). A popular study on the history of evolutionism, refuting the theory of Lysenko, was also released and published (Halicz, 1958).

### Attitudes of Polish botanists towards Lysenkoism

Polish botanists took various standpoints towards Lysenkoism. On the basis of the available bibliographies<sup>27</sup> one can estimate that the vast majority of the botanists (over 96%) undertook research projects not requiring direct references to genetics and the “new biology”, and therefore did not publish any work on Lysenkoism. They were also discouraged by the brazen practicalism of the “new biology”.

Several botanists from the very beginning openly presented a hard-line stance on Lysenkoism, including Władysław Szafer (1886–1970), Wacław Gajewski and Maria Skalińska (1890–1977). Such an approach did require courage, a consequence of which for a university professor could be the loss of his/her department and the prohibition on publishing. It was already at the conference in Kuźnice (1950/1951) that Szafer distanced himself from Lysenkoism. In the following years he showed a consistently uncompromising stance towards the “new biology” imposed on Polish science, the result being that he was treated as an “enemy of the system.” Due to the utmost respect he evoked in the country and abroad he did not fall victim to repression (Köhler, 2009). Similarly, Gajewski adopted an implacably hostile attitude towards Lysenkoism. Those who recall his speeches affirm that he publicly criticized both the “new biology” and its propagators<sup>28</sup>. After several years, in his work “Lysenkoism in Poland” he expounded the history of Lysenkoism (Gajewski, 1990). Such an attitude resulted in the loss of his department at the university and a prohibition on publishing. A somewhat different approach towards Lysenkoism, yet a negative one, was favoured by Skalińska. She did not voice her criticism openly, she just ignored it. Skalińska continued to lecture on classical genetics at the Jagiellonian University in Kraków, though under an altered title “General Botany” (Jankun, 1991, p. 6). Those three names did not constitute the only opponents of Lysenkoism among botanists. They serve as an example of a negative attitude towards the “new biology”. Passive resistance of most botanists throughout Lysenkoism was so noticeable that it was presented in official reports (P., 1950; anonym, 1953b; 1955b). It is worth highlighting that amongst the botanists in Poland neither any *Society of Friends of Michurin* nor *Lysenko*, nor any section within the Polish Botanical Society was established, the activities of which would be Lysenkoist in character. The

<sup>27</sup> *Catalogue of Polish biological literature*, subsequent volumes of the years 1945–1959.

<sup>28</sup> Memories of the eye-witnesses, i. e. prof. Anna Medwecka–Kornaś and prof. Kazimierz Zarzycki on the 22<sup>nd</sup> of October 2009.

botanists working at the time assert that the topics related to Michurin–Lysenkoist biology were shunned. It is symptomatic that the *Acta Societatis Botanicorum Poloniae*, a scientific journal of the Polish Botanical Society, did not publish any Lysenkoist work (out of 359 articles edited in the years 1948–1958). Instead, a work showing the fallacy of Lysenko’s theory was printed (Ku dowicz, 1955).

Only 55 botanists published works on Lysenkoism, which amounted to about 3,3% of Polish botanists in those years<sup>29</sup>. Only a few of them were botanists who previously had significant scientific achievements (S. Białobok, Władysław Kunicki–Goldfinger (1916–1995)<sup>30</sup>, E. Malinowski, K. Moldenhawer, J. Motyka, S. Pienią ek). Most of the authors of the works on Lysenkoism were either novice researchers or people who later ceased to publish. Others published works, using the assumptions of Lysenkoism and vouching for the truthfulness of the “new biology” (A. Makarewicz, S. Pienią ek). For a scant number of its supporters almost each field of botany could serve for creative reference to Lysenkoism. Even in the issues as distant from current policy as plant geography, one could accommodate the desired ideological content of dialectical materialism. There were numerous reasons for such decisions, customarily extra-scientific (e. g. membership in the PUWP). A number of botanists, reluctant to be exposed to persecution, avoided a formal declaration or, where it was possible, “shielded themselves” with this Soviet science. This consisted in quoting the classics of Marxism and Lysenkoism both in oral presentations and publications, which was colloquially referred to as “quotation science [citatology]”. For those quoting, the references embodied a peculiar tribute paid either to put the vigilant censorship “to sleep”, or not to expose oneself to criticism which failed to be substantive.

Among the authors of the publications in the scope of the “new biology”, beside the sincere Lysenkoists, there were, in all probability, also opportunists, the example being Motyka or Kunicki–Goldfinger. Both botanists, publishing valuable works both before and after Lysenkoism, during the reign of the “new biology” in Poland were issuing (especially Motyka) works in accordance with the principles of Lysenkoism.

On the basis of the available bibliography<sup>31</sup> one may state that the Lysenkoist publications amounted only to about 140 out of a total of 3410, i. e. just 4.1 %. The share of the Lysenkoist works among all the botany-related publications edited each year was the most considerable in 1949 (11.5 %), and in subsequent years steadily decreased. The occurrence of Lysenkoism in various botanical publications was limited to ten years (the first ones were published at the end of 1948, and the last one — at the beginning of 1958). Given the long publishing period of up to two years, such an occurrence was even shorter — 8 years at the longest. Throughout the whole period, Lysenkoism was, let it be stressed, a completely marginal phenomenon. Among Lysenkoist publications, the majority were represented by the papers delivered at subsequent conferences, as well as reprints of Soviet works. The publications popularizing the principles of Lysenkoism and its achievements (on the basis of Soviet publications) comprise a relatively large group, whereas the number of works demonstrating the results of the studies conducted on the basis of the theory of Lysenko was disproportionate.

<sup>29</sup> See: *Catalogue of Polish biological literature...*

<sup>30</sup> Władysław Kunicki–Goldfinger graduated from the Jagiellonian University in Kraków. From 1951 on he became a professor at the Maria Curie–Skłodowska University in Lublin, then Wrocław University (where from 1955–1961 he headed the Institute of Botany), Warsaw University, and the Polish Academy of Sciences. His primary area of scientific interest was microbiology (Kuźnicki, 1996).

<sup>31</sup> *Catalogue of Polish biological literature...*

### Final remarks

Stalinism was characterized by, *inter alia*, the omnipotence of the apparatus of coercion (including the Security Service [Urząd Bezpieczeństwa]), the overwhelming atmosphere of intimidation and insecurity, preventive censorship, the top-down reduction of liberties, political show-trials, propaganda, or denunciation<sup>32</sup>. According to the words uttered by one of the members of the Polish Academy of Sciences recalling that period, “the terror of the Security Service and lawlessness ruled the state. The rector of the university disappeared from the university for several months and came back a ‘broken’ man” (anonym, 1956b, p. 79<sup>33</sup>). Lysenkoism in Poland was not an autonomous phenomenon. Mechanisms and reasons for its occurrence in Polish science and its abandonment require a separate analysis. At this point, one should only enumerate the most significant of them: extra-scientific ones, as well as those contained within Polish science itself.

The political situation of the time played a decisive role among the extra-scientific reasons. The Stalinization of science was manifested in the engineered control by the PUWP (holding power at the time) (Chałasiński, 1957; Petruszewicz, Michajłow, 1955, p. 737, 740)<sup>34</sup>, which was entirely dependent on the Kremlin. Lysenkoism was a part of the then ideology of the PUPW. The main supporters of Lysenkoism were not only members of the PUPW, but they played a decisive role in Polish science. Kazimierz Petruszewicz was the head of the Department of Research and Higher Education of the Central Committee of the PUWP in 1949–1952, in 1952–1957 — a secretary of research of the Department II of Biological Sciences of the Polish Academy of Sciences, the head of the Commission of Evolutionism of the Polish Academy of Sciences, and in 1952–1959 — a head of the Copernican Society of Polish Naturalists. Włodzimierz Michajłow (a member of PUWP) was a director of the Department of Higher Education and Science in the Ministry of Education in 1948–1950, in 1950–1952 — a director of the Department of Science in the Ministry of Higher Education and Science, and in 1952–1959 — a deputy of the Secretary for Research of the Department II of Biological Sciences of the Polish Academy of Sciences. Jan Dembowski (non-partisan) was a president of the Polish Academy of Sciences in 1952–1956, in 1952–1957 — a chairman of the Polish Parliament and at the same time a deputy of the chairman of the State Council. Both individual careers of scientists and the fortunes of whole scientific institutions depended on the PUWP.

At least several factors existing in science itself facilitated the emergence of Lysenkoism in Poland, among which were war losses, the post-war reorganization of science and its isolation. During World War II, many scholars died for various reasons. Accordingly, after the war, one may note the insufficient number of academics, and in turn, students of greater seniority were employed to teach students of younger years. As a result of hostilities and the conscious activity of the occupant, many academic libraries were destroyed, and as a consequence, after the war there was an acute shortage of textbooks and specialist literature<sup>35</sup>.

<sup>32</sup> Compare e. g. Dybiec (2001) and a discussion after the presentation of the paper — p. 20–33; Salmanowicz (2006) and a discussion after the presentation of the paper — p. 95–104. Gabriel Brzęk — a zoologist, recalls the atmosphere existing at universities in those years (1992, p. 377, 383–386).

<sup>33</sup> A statement by J. Chałasiński.

<sup>34</sup> Engineered control of science was discussed on the reunion of biologists which was organized by the editorial board of “*Po Prostu*” magazine on 17 April, 1956 (anonym, 1957).

<sup>35</sup> The state of Polish higher education after World War II is described by Putrament in her own experience (1990).

The second factor facilitating the introduction of Lysenkoism was the post-war reorganization of scientific structures. Polish borders were moved westward, resulting in the loss of two universities (Stefan Batory University in Wilno [now: Vilnius, Lithuania] and Jan Kazimierz University in Lwów [now: Lviv, Ukraine]). After the war, new universities were established i. e. in Lublin, Łódź, Toruń, and Wrocław. The effect of the reorganization of science was, *inter alia*, a total dependence of science and higher education on the state authorities, i. e. the PUWP, the creation of a new Polish Academy of Sciences, and control over the careers of scholars by awarding subsequent degrees to the loyal ones or refusals to grant them to the insubordinate (or politically troublesome) ones.

The third factor was the isolation of Polish science. Contacts with western science, disrupted by World War II, were hardly re-established after 1945<sup>36</sup>. The latest scientific literature was not purchased in sufficient numbers. Scientists were rarely permitted to go abroad (Szafer, 1957, p. 61). The ones who could go were mainly those trusted by the authorities, often not the best in their field (anonym, 1957, p. 137–138)<sup>37</sup>. At the same time Poland was flooded with translations of Soviet publications (not always critical or noteworthy, not infrequently at an embarrassingly low level)<sup>38</sup>. This was accompanied by propaganda exaggerating every achievement of Soviet science, showing Lysenkoism as the theory proven in practice and generating enormous economic results.

One should not forget about the functioning of censorship. Conceivably, as a result of its activities, merely a few polemic works, or those proving the fallaciousness of Lysenkoist assumptions appeared in the early fifties. The editors and editorial staff also influenced the content of the publications: authors were forced to use ‘binding’ quotes of the classics of Marxism and Lysenkoism (Kuźnicki, 2002, p. 62–63).

Not only from verbal communication it is known that the period of Lysenkoism was a dreadful time. The botanists who did not accept it were pressurised in various ways. Even its own advocates in Poland — Aniela Makarewicz and Stanisław Skowron — point that out, saying that a major role in propagating the “new biology” was played by administrative measures, which, as usual were not too subtle. It is also known that a considerable influence was exerted by the fact that Michurinist genetics was “well seen” — those who wanted to benefit from subsidies, grants or “a good reputation” in general, could not insist on formal genetics (Makarewicz, Skowron, 1955, p. 749).

The university professors had to stop teaching genetics. Those few who taught it in spite of everything, risked denunciations, and moreover, censors could not let their works be printed. The “sole” thing they lost was their work place.

Despite the mobilization of the entire propaganda machine by the authorities and supporters of the “new biology” and the pressures of administrative support of the Polish Government, Lysenkoism in Polish botany proved to be a totally marginal phenomenon. The picture of Lysenkoism in Polish botany, depicted herein, is certainly not abundant. I cherish a hope that the future preliminary archival research will contribute to our knowledge of Lysenkoist botany in Poland.

<sup>36</sup> A good illustration of it is the number of foreign institutions with which the PASL maintained contacts before and after World War II (Köhler, 2002, p. 185–189).

<sup>37</sup> See e. g. A. Putrament’s speech during the meeting of biologists taking place at the seat of the editorial board of “*Po Prostu*” (anonym, 1957).

<sup>38</sup> The statement by T. Neuman during the meeting of biologists taking place at the seat of the editorial board of “*Po Prostu*” (anonym, 1957).

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## Ботаника и лысенкоизм в Польше

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Возникновение лысенкоизма в Польше было главным образом связано с зависимостью Польши от Советского Союза. Лысенкоизм не только насаждался сверху административными мерами, но и пропагандировался на различных конференциях (Варшава, 1949 г.; Кузница, 1950–1951 гг.; Дивнов, 1952 г.; Кортowo, 1953 и 1955 гг.). Тем не менее, опубликовали работы по лысенкоизму лишь немногие ботаники из тех, кто уже раньше сделал значительную научную карьеру. Среди публикаций по лысенкоизму подавляющее большинство составляли тезисы докладов, сделанных на различных конференциях, равно как и перепечатки советских работ. Кроме того, было много работ, популяризовавших лысенкоизм и его достижения (основанных на советских источниках). И сравнительно немного было научных трудов, излагавших результаты исследований, проведенных на основании теории Лысенко. Польские ботаники заняли позицию, противоположную лысенкоизму, так как подавляющее большинство их проводили исследования в таких сферах, где не требовалось обращения к «новой биологии». В польской ботанике лысенкоизм был исключительно маргинальным явлением.

**Ключевые слова:** Польша, лысенкоизм, ботаника, генетика, история, идеология, естествознание, пропаганда.