

# Japanese Lysenkoists after Lysenko's Downfall

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## Abstract

After Lysenko's downfall, many Japanese Lysenkoists abandoned Lysenkoism. However, during this period, Lysenko's remaining followers who were members of the Agrobiological Society of Japan started publishing the *Japanese Journal of Michurin Biology*, which lasted for 20 years, as a foothold of Japanese Lysenkoists. Michurin biology was initially connected with Lysenko's theory; however, it also slowly came to accept molecular genetics. After the 1970s, the *Japanese Journal of Michurin Biology* became one of the biological journals that opposed neo-Darwinism rather than the Lysenkoists' journal.

**Key words:** Lysenkoism, Michurin biology, molecular genetics, agrobiology, Michurinist Movement

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## 1. Introduction

After the August 1948 session of the Lenin All-Union Academy of Agricultural Sciences (VASKhNIL), Lysenko's golden age lasted for several years with Stalin's support. However, it began to decline in 1952 with criticism in *Botanical Journal* of Lysenko's theory about the transformation of species, and the criticism was hastened after the death of Stalin in 1953.<sup>1</sup> The great success in molecular biology in the same year, the proposal of the DNA Double Helix model and the solution of protein structure, all contributed to the anti-Lysenko camp. Finally, in 1956, Lysenko was forced to resign as President of VASKhNIL due to pressures brought by many scientists, such as the 300 scientists' letter (Письмо Трехсот). Since then, as shown by the fact that the Soviet delegation of UNSCEAR was occupied by anti-Lysenkoists, the number of molecular biologists and geneticists rose steadily.

However, at the end of 1958, Lysenko was rehabilitated through the direct intervention of Khrushchev. It became difficult to criticize Lysenko and his followers again. But after the establishment of molecular genetics based on the decipherment of the

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<sup>1</sup> See Valery N. Soyfer, *Lysenko and Tragedy of Soviet Science* (New Brunswick, NJ: Rutgers University Press, 1994), pp. 223–242.

genetic code in 1961, and elucidation of the mechanism of protein synthesis, the position of molecular biologists and geneticists became more stable. In January 1963, a joint decision on biology by the Central Committee of the Communist Party of the Soviet Union and USSR Council of Ministers was published in Pravda. After that, coexistence between molecular geneticists and Lysenko continued for a short while.

But in October 1964, Khrushchev was dismissed as Chairman of the Council of Ministers and First Secretary of the Communist Party. When Khrushchev was routed, Lysenko's primary support disappeared. Four months later, in February 1965, Lysenko was finally dismissed as the head of the Institute of Genetics. Lysenko completely lost influence and disappeared from the historical stage.<sup>2</sup>

In early 1950s Japan, the era of Lysenko's heyday, activities aimed at the application of Lysenko's theories to agricultural production (called Yarobi Cultivation) began with farmers in the Shimoina district, Nagano Prefecture. Some biologists and agronomists, supporting Lysenko's ideas, also joined in these activities, which was labelled the "Michurinist Movement." The Movement then spread throughout the country and the Japanese Society for Michurin Biology was formed in 1954.<sup>3</sup> When Lysenko resigned his post as the President of VASKhNIL, his authority was compromised and the Michurinist Movement gradually declined. It was under these circumstances, in 1961, that a group of scholars of the Japanese Society for Michurin Biology formed the Agrobiological Society of Japan. This society was closely tied to the Michurinist Movement, but only performed theoretical work. After Lysenko's downfall in 1965, the Agrobiological Society of Japan was strengthened and the *Japanese Journal of Michurin Biology* was published.<sup>4</sup> This journal, which essentially supported Lysenko's theory and was published over the next 20 years, became the last bastion of Lysenkoists in Japan. In this paper, I will clarify why Japanese Lysenkoist-biologists published a journal supporting Lysenko's theory after Lysenko's downfall and, in addition, I will explain the process of the acceptance of molecular genetics in this journal.

## 2. The background of the foundation of the Agrobiological Society of Japan

The organization of the Japanese Society for Michurin Biology in 1954 marked the golden age of the Japanese Michurinist Movement. Since Lysenko's resignation in 1956, the Michurin movement had steadily declined. The total number of delegates and observers in the general meeting of the Japanese Society for Michurin Biology decreased

<sup>2</sup> Ibid., pp. 272–294.

<sup>3</sup> Teiri Nakamura, *Nihon no Ruisenko Ronso (The Dispute on Lysenkoism in Japan)* (Tokyo: Misuzu Shobo, 1997), pp. 202–238.

<sup>4</sup> Michurin Seibutugaku Kenkyu Henshu Jimu kyoku (The editorial office of the *Japanese Journal of Michurin Biology*), "Nihon Nogyo Seibutugaku Kenkyukai no Honnen no Katudo Jokyo (The State of Movement of the Society in this Year)," *Japanese Journal of Michurin Biology*, vol. 1, no. 1 (1965): 178–180.

from about 756 people in 1954, to about 430 people in 1955, to about 250 people in 1956, to about 120 people in 1957, to about 110 people in 1958, and finally about 100 people in 1959.<sup>5</sup> Japanese Lysenkoists had sensed an impending crisis.

Cytologist Hajime Matsuura, who was installed as the chairman of the Japanese Society for Michurin Biology in 1955, had complained previously of orthodox genetics, and moreover, he had paid attention to the fact that the Japanese Michurinist Movement, outside of the scientific society, challenged the Japanese scientific society. Matsuura said, "Michurinist Movement should be activities linking farmers' practices and scientists' research," and he requested scientists to participate in the movement with scientific autonomy.<sup>6</sup> Given the rapid decline of the Michurinist Movement, the Agrobiological Society of Japan was established in 1961 to strengthen the work of scientists aiming to defuse the crisis. The rules of this society state: "the aims of this society are to study Michurin's theory, to promote exchanges between researchers and to contribute to the advancement of biology and Japanese agriculture."<sup>7</sup> At this time the society did not yet operate systematically, and its workshops were not held regularly; however, the bulletin was issued several times a year and the general meeting was held once a year.

### 3. The publication of the *Japanese Journal of Michurin Biology* in 1965

In August 1964, a Japanese delegation, composed of 61 people and headed by physicist Shoichi Sakata, took part in the Peking Science Symposium which was held in Beijing in opposition to the western academic world.<sup>8</sup> Matsuura, ex-chairman of the Japanese Society for Michurin Biology, joined the delegation as an advisor and several other Japanese Lysenkoists (Michurinists) also joined it. Noboru Yanashita, gave a lecture as the representative of the Agrobiological Society of Japan. Japanese Lysenkoists exchanged opinions with not only Chinese Michurinists but also Indonesian, Vietnamese, Iraqi, Pakistani, and so on.<sup>9</sup> After the 1964 Peking Science Symposium finished, three Japanese science symposiums were held in Sapporo, Osaka and Kyoto under the influence of the Peking Symposium. After accomplishing his duties as head of the Japanese delegation, Shoichi Sakata wrote in the report of the Peking Symposium: "the Western scientists, controlled by imperialism and neocolonialism, have been suffocated

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<sup>5</sup> Teiri Nakamura, *Nihon no Ruisenko Ronso*, p. 225.

<sup>6</sup> *Ibid.*, p. 225.

<sup>7</sup> Michurin Seibutugaku Kenkyu Henshu Jimu kyoku, "Nihon Nogyo Seibutugaku Kenkyukai no Honnen no Katudo Jokyo", op. cit., p. 179.

<sup>8</sup> See Noboru Yanashita, "Atarasii Kagaku Sozo no Shuppatu ten: 1964 nen Pekin sinpojiumu ni okeru 30 nitikan sono 1 (The Starting Point to Creating the New Scientific Works: For 30 days in the 1964 Peking symposium I)," *Japanese Journal of Michurin Biology*, vol. 1, no. 1 (1965): 151–161.

<sup>9</sup> See Noboru Yanashita, "Atarasii Kagaku Sozo no Shuppatu ten: 1964 nen Pekin sinpojiumu ni okeru 30 nitikan sono 2 (The Starting Point to Creating the New Scientific Works: For 30 days in the 1964 Peking symposium II)," *Japanese Journal of Michurin Biology*, vol. 2, no. 1 (1966): 184–195.

under an atmosphere poisoned by silly empiricism and vulgar pragmatism.”<sup>10</sup> While a long decline in the scientists’ movement had continued since the decline of the Democratic Scientist Association (Minka), founded in 1946, the Japan Scientists’ Association started functioning in December 1965, aiming for the reconstruction of the scientists’ movement, by leftist scientists. Japanese Lysenkoists, in reaction to this trend, probably intended to strengthen the Agrobiological Society of Japan. On the other hand, we can consider that they were obliged to rearrange their theoretical foothold in the face of an unfortunate reality, that is, the complete downfall of Lysenko.

On February 13, 1965, as soon as news of Lysenko’s dismissal arrived in Japan, the 5th annual general meeting for the Agrobiological Society of Japan was held in Tokyo. The meeting had 23 participants and established the leadership of the society. Shusaku Nishida, a specialist in animal breeding, was installed as president of the society. Mitoshi Tokuda, a zoologist, became the chief secretary. In addition, thirteen secretaries—Noriyuki Masubuchi, Toshihiro Yamagishi, Hiroshi Ikehashi, Kiyoshi Takahashi, Masao Kobayashi, Teruo Motomatsu, Hyoji Namai, Noboru Yanashita, Hideo Tabata, Kenzo Kamei, Kuniyoshi Konishi, Hiromu Ohashi, Junichiro Ninomiya—were elected from among agricultural scientists and biologists.<sup>11</sup> The organizational structure of the society was thus strengthened. Also, the publishing format of the *Japanese Journal of Michurin Biology* and the editing system were determined. The Editorial Committee consisted of thirteen scientists, including prominent researchers who had supported Lysenko’s theory—Matsuura, Shoichiro Usami, Youichi Fukushima, Tokuda, and Junjiro Kasahara were among those included. Such a rapid response shows how shocking Lysenko’s dismissal was for the members of the Agrobiological Society of Japan. The society determined to hold its workshops three or four times a year.

Tokuda and Kasahara reported on the topic, “About Dismissal of Lysenko,” in the first workshop, held in April 1965. In their report they emphasized that Michurin’s theory of biology was correct. They conceded that Lysenko’s theory had some mistakes but argued that his dismissal was due to domestic issues in Soviet Union, and moreover they declared that they would learn and improve Michurin’s principle in the future.<sup>12</sup>

The first issue of the *Japanese Journal of Michurin Biology* declared the purpose of the journal with a “Proclamation” on the front cover, which boldly proclaimed: “we define Michurin biology as correct biology based on Darwinism, from a philosophical viewpoint, as biology based on dialectical materialism. Our journal will carry large scientific studies based on such a theory.” The declaration further called the theory of

<sup>10</sup> Mitoshi Tokuda, “Kagaku Undo no Hoko (Scientists’ New Movement in Japan),” *Japanese Journal of Michurin Biology*, vol. 2, no. 1 (1966): 196–202.

<sup>11</sup> Michurin Seibutugaku Kenkyu Henshu Jimukyoku, “Nihon Nogyo Seibutugaku Kenkyukai no Honnen no Katudo Joukyo”, op. cit., p. 179.

<sup>12</sup> Ibid., p. 178.

natural selection combined with genetics neo-Darwinism, and criticized it as a vulgarization of Darwinism. Few papers referred directly to Lysenko's theory, though some hinted at support of Lysenko's theory, for instance the theory of phasic development, under the pretext of supporting Michurin biology.

After that, the editors of the *Japanese Journal of Michurin Biology* sent a letter to the Soviet journal *Agrobiologiia* (*Агробиология*), which was edited by Lysenko and his co-workers. In their letter the Japanese editors introduced their journal and solicited contributions to the journal.<sup>13</sup> Soon after, the Japanese editors received a reply from a Soviet editor. The point of the reply was as follows: (1) Lysenko will contribute to the *Japanese Journal of Michurin Biology*; (2) The Soviet Editorial Committee requests contributions to *Agrobiologiia*; (3) An article about the new Japanese journal will be reported in *Agrobiologiia*.<sup>14</sup>

After receiving the reply letter, the Japanese editorial committee called upon all members of the journal to contribute to *Agrobiologiia*. Moreover, the members of the committee announced their hopes that they would partner with the Michurinists of the Soviet Union, China and North Korea. Presumably Japanese Lysenkoists, feeling very lonely in their homeland, hoped to go on the counterattack by starting international cooperation.

#### 4. The discontinuation of the publication of *Agrobiologiia* and its impact

Despite the wishes of the editorial committee of the *Japanese Journal of Michurin Biology*, publication of *Agrobiologiia* was discontinued at the end of 1965. As a result, Lysenko could not keep his promise to contribute to the Japanese journal; the designs of the editorial committee failed completely. In early 1966, the Institute of Genetics, which had been controlled by Lysenkoists for a long time, was dissolved and reorganized into the General Institute of Genetics, whose head was N. P. Dubinin.

The new situation in the Soviet Union, the discontinuation of the publication of *Agrobiologiia* and the reorganization of the Institute of Genetics, had a great impact on Lysenkoists of the Agrobiological Society of Japan. The Japanese Journal of Michurin Biology, issued in August 1966, had a special feature article, "History of Biological Science in Japan and its Connection with Michurin Biology." Two historians of biology (Tomoyuki Ishii, Hisaharu Tsukuba) and an agrobiologist (Konishi) contributed to the issue and Tokuda commented three of the articles. Ishii insisted in his article that the so-called "general biology" was realized in Michurin Biology, and wrote of the significance

<sup>13</sup> Michurin Seibutugaku Kenkyu Henshu Jimu kyoku (The editorial office of the *Japanese Journal of Michurin Biology*), "Sobieto Agrobiorogiya si tonu Koryu (On the Exchange between the Journal of Agrobiorogiya in USSR)," *Japanese Journal of Michurin Biology*, vol. 1, no. 1 (1965): 176–177.

<sup>14</sup> An article about the *Japanese Journal of Michurin Biology* was reported in *Агробиология*, no. 2 (1965), p. 296.

of Michurin Biology: "Michurin Biology has the principle of unification between organisms and the environment and it explains every life phenomenon based on substance metabolism...there is perfect unity of theory and practice in Michurin Biology and that is a characteristic of this Biology."<sup>15</sup> Tsukuba pointed out that Japanese farmers independently invented ideas about the inheritance of acquired characters and small variation and gave an outline of the historical process of the ideas.<sup>16</sup> Konishi concluded that agricultural biology was a science of biological reaction to the environment, and wrote, "The largest defect of established breeding is...mutant theory imported from pure biology. The external factors caused by mutants was unfairly underestimated. But, on the other hand, the opposing argument appeared with a new point of view that internal cause and external cause were related organically and external cause could change into internal cause, in other words, that is so-called Michurin Biology. The biological controversy in the Soviet Union has such a character but, from another view, we can consider it the challenge of agricultural biology to pure biology. Here is the direction to advance agricultural biology."<sup>17</sup>

Tokuda, in his comments on three authors' articles, agreed with their statements to support Michurin Biology, but he criticized Tsukuba for not making it clear whether he supported the inheritance of acquired characters or whether he supported small variation. And Tokuda also criticized Konishi for not taking a standpoint confronting Japanese government breaking agriculture. Now, it should be noted that there appeared to be a difference in the valuation of Lysenko's theory by Japanese Lysenkoists. As mentioned above, Tomoyuki Ishii said that understanding all biological phenomena as metabolism was the true significance of Michurin Biology. Tokuda criticized Ishii's opinion: "I consider that Ishii's standpoint is a serious defect of Michurin Biology at the present time," "Metabolism is a physiological phenomenon of the individual. How can we attribute every biological phenomenon to this physiological phenomenon?" "I think that we must overcome this methodological weakness for the development of Michurin biology in Japan."<sup>18</sup> The discord between Ishii and Tokuda, I think, suggests the conversion of Japanese Lysenkoists afterward.

In addition, we must pay attention to paleontologist Shoji Ijiri's opinion in a book

<sup>15</sup> T. Ishii, "Iwayuru [Seibutsugaku gairon] to Michurin Seibutsugaku (On the Relation between the so-called 'General Biology' and Michurin Biology)," *Japanese Journal of Michurin Biology*, vol. 2, no. 2 (1966): 286–289.

<sup>16</sup> Hisaharu Tsukuba, "Kakutoku Keisitsu to Sho heni no Iden o meguru Nihonjin no Shiso (On Thought and its Change in Japan in regard to the Inheritance of Acquired Characters and Small Variation)," *Japanese Journal of Michurin Biology*, vol. 2, no. 2 (1966): 289–294.

<sup>17</sup> Kuniyoshi Konishi, "Nogyo Seibutugaku no Hoko (Course of Development in Agrobiology)," *Japanese Journal of Michurin Biology*, vol. 2, no. 2 (1966): 295–297.

<sup>18</sup> Mitoshi Tokuda, "Ishii, Tsukuba, Konishi shoshi no Ronbun o Yonde (An Additional Note on Discussion about History of Biological Science in Japan and the Direction of Michurinism)," *Japanese Journal of Michurin Biology*, vol. 2, no. 2 (1966): 297–299.

review of *Курса Лекций по Дарвинизму* Н. В. Лебедева (*Lectures on a Darwinism* by N. V. Lebedef) in the same issue. Ijiri was an originator of the Association for the Geological Collaboration in Japan (AGCJ, Chidanken) and a fervent, well-known Lysenkoist in Japan. He said, "How can we combine the former, insisting the inheritance of acquired characters and based on the materialistic dialectic, and the latter opposing them.... There is no other way to settle the problem but to put the following into practice; the former standing on dialectical materialism proves and solves the inheritance of acquired characters by every method of the latter at not only the macrocosmic stage, as Darwin, Michurin and Lysenko, but also at the microcosmic stage, molecular stage, and every biological phenomenal stage."<sup>19</sup> As Japanese Lysenkoists had criticized genetics and molecular genetics for a long time, the acceptance of molecular genetics meant recanting Lysenkoism. Many Japanese Lysenkoists recanted their assertion the moment they approved molecular genetics. Ijiri, who had been insisting that we should call "Michurinism" instead of "Lysenkoism" for a long time, developed "Self-movement theory" and led Michurin biology with Mitoshi Tokuda in Japan.<sup>20</sup> Ijiri's statement in the book review suggested a new standpoint of Michurinism, going on searching for the mechanism of inheritance of acquired characters under acceptance of the existence of genes.

The news about Lysenko's dismissal caused unrest among Japanese Lysenkoists. To learn more about the situation of Lysenkoists in the Soviet Union, Tokuda visited Moscow in the summer of 1966. Though he couldn't speak with Lysenko personally, he was able to talk with other Lysenkoists, such as N.I. Feiginson, G.V. Nikolsky, and V.P. Naumov, among others. Tokuda, through his visit to Moscow, realized again the critical situation of Michurin biology in the Soviet Union. The report of Tokuda's visit to Moscow was carried in an issue of the *Japanese Journal of Michurin Biology* (vol. 3, no. 1, 1967).<sup>21</sup> Tokuda said in the report: "If today's retreat of Lysenkoists is related to political and agricultural problems, we need to reconsider Lysenko's theory as a purely biological problem, cutting off the political parts from Lysenko's theory." And he deplored that Lysenko and Michurin's achievements were deleted from new textbooks of biology and some Michurinist approved this. He said, "If people, ate the forbidden fruit once, insisted they did not eat it in order not to be scolded by their teacher, that's a caricature. Anyway, people cannot forget the taste of the fruit they ate once, so Michurinists will regain their strength someday."

<sup>19</sup> Shoji Ijiri, "Rebedefu *Dauinizumu* ni manabu (Что учился о Курсе Лекций по Дарвинизму Н. В. Лебедева)," *Japanese Journal of Michurin Biology*, vol. 2, no. 2 (1966): 323–325.

<sup>20</sup> Teiri Nakamura, *Nihon no Ruisenko Ronso (The Dispute on Lysenkoism in Japan)* (Tokyo: Misuzu Shobo, 1997), pp. 109–110.

<sup>21</sup> Mitoshi Tokuda, "Hoso hokoku—Michurin Seibutsu gaku no Genjo Shisatu (Visit to Moscow—The Situation of Michurinism in USSR)," *Japanese Journal of Michurin Biology*, vol. 3, no. 1 (1967): 95–99.



Toshio Tabata, in his essay, asked “Is Lysenko’s theory worthless?” In the same issue, he also noted, “The biggest reason that the concept of Mendelian genetics has been criticized is not whether genes are real. It is obvious that they are there. It is a problem that the conception of genetics denies all ways to transform external conditions into internal conditions except by means of mutation.”<sup>22</sup> In spite of his criticism of genetics, he accepted the solution of the mechanism from DNA to protein synthesis.

### 5. Michurin biology without Lysenkoism

The number of articles on molecular genetics appearing in the *Japanese Journal of Michurin Biology* increased slowly from 1967 onward. The journal put together a special issue on critics of BSCS (Biological Sciences Curriculum Study).<sup>23,24</sup> BSCS was an educational curriculum for biology, made in America in the late 1960s, which introduced the achievements of molecular biology and molecular genetics. BSCS was criticized as a “mechanistic view of life” or “anti-Lamarckism” by Japanese Michurinists, but Japanese high school biology teachers supported BSCS as a way to grasp life at various levels—molecular, cellular level, organic level, the individual and social-biological.

The Japanese Journal of Michurin Biology (vol. 3, no. 2), issued in October 1967, is very important for showing the alternation of the Japanese Michurinist stance. This issue carried the new program of biological education in the USSR without comment. The most important points of changes in the program were the deletion of descriptions about Lysenko’s and Michurin’s theory and the introduction of descriptions about molecular genetics. Moreover, the same issue carried three reports on the synthesis of the Michurin Movement in Japan, along with chronology.<sup>25</sup> The results of the “Jarovi” cultivation-system were evaluated and the main point of the report was that the increase in production by Yarobi Cultivation was not absolute but conditional.<sup>26</sup> After this issue the Michurinist stance on genetics changed from a fight with critics to an internal struggle. For instance, Kazutami Wake and Usami, in “Commoner’s Criticism of Molecular Genetics”, criticized Central Dogma as DNA determinism, but their criticism was based on Commoner’s view point that the specialty of life is not decided by the genetic code of DNA, but by the mechanism of protein synthesis itself. As Barry Commoner’s criticism

<sup>22</sup> Toshio Tabata, “Ruisenko Riron ha Kuron nanoka (Lysenko’s Theory is the Empty One or not ?),” *Japanese Journal of Michurin Biology*, vol. 3, no. 1 (1967): 21–33.

<sup>23</sup> Hajime Nobuhara, Yoshihiro Iwata, “BSCS Kyokasho Hihan (Critics on the Principle of BSCS),” *Japanese Journal of Michurin Biology*, vol. 3, no. 1 (1967): 34–37.

<sup>24</sup> Shigeyoshi Honda, “Kyoto ni okeru BSCS no Hihanteki Kenkyu no Genjo (A Critical Study on the BSCS at the Teacher’s Circle in Kyoto),” *Japanese Journal of Michurin Biology*, vol. 3, no. 1 (1967): 37–40.

<sup>25</sup> Hjrōshi Shiga, “Nihon ni okeru Michurin Undo no Nenpyo (The Chronological Table of Michurin Movement in Japan),” *Japanese Journal of Michurin Biology*, vol. 3, no. 2 (1967): 184–196.

<sup>26</sup> Hajime Ikeda, “Nihon ni okeru Yarobi Noho Seika no Sakento (Evaluation of the Results of ‘Jarovi’ Cultivation—System in Japan),” *Japanese Journal of Michurin Biology*, vol. 3, no. 2 (1967): 197–205.



of Central Dogma was also a discussion within geneticists, the authors' criticisms were, I think, discussion within genetics, too.<sup>27</sup> In short, the central interest of the members of the Agrobiological Society of Japan changed from criticism of genetics itself into criticism of DNA determinism within genetics.

Moreover, in the 1969 issue, Masubuti and Shinichi Mukogawa introduced a biochemical theory of a mechanism to transform spring seeding wheat into winter seeding wheat. In spite of their support of Michurin theory, they had accepted the theoretical framework of protein synthesis based on the genetic code of DNA. Thus, we can consider that the Agrobiological Society of Japan finally embraced genetics by the end of the 1960's. Nishida, the president of the Agrobiological Society of Japan, said in the 1971 review, "Butterfly results from chrysalis. A revolution occurs in the body of the chrysalis.... It is desirable that the researchers who understood the significance of Michurin and Lysenko's theory keep researching Mendel's and Morgan's theory."<sup>28</sup> Of course, chrysalis is a metaphor of genetics. This statement, I think, was meant to send a signal to Japanese Michurinists that the era of Lysenkoism and Michurinism were over.

## 6. Conclusion

The Japanese Michurinist Movement reached its climax in the mid-1950s but gradually declined after Lysenko's resignation from the President of VASKhNIL. However, a group of biologists and agronomists of the Japanese Society for Michurin Biology formed the Agrobiological Society of Japan in 1961 for studying and developing Lysenko's theory.

Many members of the Agrobiological Society of Japan had sympathy for socialist countries such as the Soviet Union or China, and they were influenced by the Japanese Communist Party. In the early 1960s, the Japanese Communist Party criticized the peaceful coexistence policy of the USSR and supported the Chinese Communist Party, criticizing the Soviet Communist Party by calling Khrushchev a revisionist. In August 1964, Japanese leftist scientists took part in the Peking Science Symposium held by the Chinese Government for the purpose of exchanges between scientists worldwide while making every effort to improve sciences against imperialism and colonialism. The Japanese delegation, which was composed of 61 people and headed by Shoichi Sakata, included some members of the Agrobiological Society of Japan. The Peking Science Symposium influenced the academic world in Japan, and this resulted in the organization of three Japanese science symposiums in Sapporo, Osaka, and Kyoto. In December 1965,

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<sup>27</sup> Kazutami Wake, Shoichiro Usami, "Komona no Bunsu Idengaku Hihan (Evaluation of the Results of 'Jarovi' Cultivation—System in Japan)," *Japanese Journal of Michurin Biology*, vol. 3, no. 2 (1967): 197–205.

<sup>28</sup> Shusaku Nishida, "Shohyo Tokuda Mitoshi: Shinka Keito bunrui gaku (A Review of "Evaluation and Phylogenetic Taxonomy" by M. Tokuda)," *Japanese Journal of Michurin Biology*, vol. 7, no. 2 (1971): 200–204.

the Japan Scientists' Association was organized for the purpose of reconstructing the democratic scientists' movement in Japan. This kind of situation was the background that strengthened the leadership system of the Agrobiological Society of Japan and resulted in the publication of *the Japanese Journal of Michurin Biology* in 1965. In addition, the final downfall of Lysenko made an enormous impact on Japanese Michurinists. However, I believe, Lysenko's downfall brought a sense of mission succeeding Lysenko to Michurinists of the Agrobiological Society of Japan.

However, the leaders of the Agrobiological Society of Japan became uneasy in the face of discontinuation of publication of *Agrobiologia* and the closedown of the Institute of Genetics. In the summer of 1966, Mitoshi Tokuda visited Moscow to grasp the situation of Lysenkoists in the Soviet Union, and he returned home with great disappointment in Michurinists of the Soviet Union. After Tokuda's visit to Moscow, the articles on molecular genetics increased gradually. By the early 1970s, the Japanese Journal of Michurin Biology accepted a paradigm of molecular genetics. At the same time, the journal did not lower the flag of Michurinism and kept its criticism of DNA determinism. I believe this new Michurinism without Lysenkoism as anti-Mendelism should be called neo-Michurinism.

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