THE LYSENKO CONTROVERSY IN THE ARTICLES IN WESTERN JOURNALS AND MAGAZINES OF THE 1940s
— Classification of the Articles According to Four Approaches —

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1. Introduction

1.1. Purpose

Studies and documents with regard to Lysenkoism\(^1\) abound. These studies usually address domestic issues such as the effect of Lysenko’s genetic theory\(^2\) on Soviet agriculture and generally view Lysenkoism in a negative context. In the meantime, scant attention has been paid to the fact that in the 1940s, a sensational controversy over Soviet genetics took place in the West. This controversy is known as the “Lysenko Controversy,” and it has conventionally been considered in line with the traditionally negative assessment of Lysenkoism. This perspective considers the controversy to have been a nonproductive dispute that ended inconclusively, following a debate regarding whether Lysenko was scientifically and ideologically correct.

In fact, the Lysenko Controversy spurred a very interesting debate. The status of Soviet genetics aroused the interest of Western scientists and intellectuals, and they began to seriously consider the relation of science, politics, and society. During the course of this controversy, articles representing a diversity of perspectives were contributed to scientific journals, providing opinions on a variety of subjects and themes related to Soviet genetics. Some of these articles
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reflect issues between science and society at that time, and the authors’ stances illuminate their ideas with regard to these issues. Specifically, issues related to the atomic bomb, scientific journalism, eugenics, and the practical application of theory were put forward. Even articles written by scientific laymen had a specific value that has been ignored when, in fact, these articles can help us to understand the influence of the Lysenko Controversy on society outside the "ivory tower."

The purpose of this study is to examine representative articles by different authors and to reconsider the process of the Controversy from these articles. The documents referred to in this paper are English articles printed in Western scientific journals during the 1940s. Based on these articles, I will testify that the Lysenko Controversy was, in fact, not nonproductive, as it has been understood to be. For the purpose of this study, it was necessary to classify the articles in an order whereby the relationship between the subject and the stance adopted by the author would become apparent. It would appear that the large volume and complicated nature of the articles written, confused earlier researchers and made a systematic arrangement difficult. This may explain why the Lysenko Controversy of the 1940s has been disregarded thus far. In order to classify the articles, I have made use of a method used in archival science. On the basis of this method, I have created models that will enable the presentation of articles on the Lysenko Controversy in a classified fashion.

1. 2. Previous research

Nikolai Kremenstov was the first person to provide a detailed consideration of the Lysenko Controversy when he studied the Controversy in terms of international relations between Western countries and the Soviet Union. He explained that various interest groups within the community actively exploited every turn of the state’s foreign policy for their own benefit, striving to fulfill their own research and institutional agendas through the party apparatus. Kremenstov focused mainly on the actions of geneticists in the Lysenko Controversy and clarified that there was a certain anti-Lysenko campaign prevalent among Western geneticists. In this respect, Kremenstov’s study does not provide a comprehensive explanation of the controversy because he did not take into account articles written by authors who were not geneticists.

The examination of the influence of Lysenkoism on each country has become
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a popular approach in recent mainstream research. This is because the Lysenko Controversy developed on the basis of individual processes, in keeping with social conditions in each country during the postwar years. Oren Harman has provided a trail to identify the factors that promoted the development of the Controversy in Britain, for example. For this purpose, he focused on the divergent reaction of British cytologist C. D. Darlington to the Controversy, and explained that his reaction was a reflection of the social role of science—an issue that existed in postwar Britain. Eva Schandevyl studied the Controversy in Belgian academic circles, explaining that the Lysenko Controversy became a kind of test to measure the degree of loyalty of leftist scientists to the Communist Party. Teiri Nakamura addressed the Controversy in Japan, examining almost all of the Japanese articles that had been written concerning the Controversy. In Japan, in addition to scientists and intellectuals, peasants and college students were involved in the Controversy as well, and the Japanese situation was unique in this regard. However, the Japanese Lysenko Controversy was finally classified as a nonproductive ideological conflict. These three individual country studies are useful as case studies with regard to the behavior of scientists during a crisis. It would be interesting to compare the situation in each country toward the accomplishment of a comparative study on the Lysenko Controversy.

2. Articles and Methods

2.1 Articles on the Lysenko Controversy

In this paper, the journals and magazines related to the Lysenko Controversy have been classified in three fields, and the number of articles falling within the scope of each field has been counted. The results are displayed in Table 1. As is evident from the table, a number of articles were published in different fields, suggesting that the Lysenko Controversy was a concern that extended beyond these fields. The classification of each journal and magazine was made in keeping with the Library of Congress Classification (LCC).

Some articles that appeared in the sections of journals and magazines titled “Book Review,” “Discussion,” and “Correspondence” played a special role in the Controversy, and will be explained in the next chapter.
Table 1  The classification of journals and magazines and the number of articles printed in each field (This represents major journals and magazines catalogued in the LCC)

| Field               | Number of journals and magazines | Number of articles |
|---------------------|----------------------------------|-------------------|
| Natural Science     | 11                               | 54                |
| Human & Social Science | 8                              | 19                |
| General Magazines  | 11                               | 22                |

2. 2 The application of archival science

The principal method of archival science is to group documents that have a common provenance and to rearrange them in the order in which they originally appeared. Then, categories into which the documents are divided are defined according to their forms and functions and these categories are arranged in descending order. Finally, this arrangement model will take the shape of a tree. Thereafter, the documents in this model are described as members of a category rather than as individual documents.

The method adopted in this paper to classify the articles on the Lysenko Controversy is not strictly based on the standard method described above; rather, an analogous method is applied. Thus, as explained in Chapter 4, I have adopted four approaches whereby to classify and arrange the articles in categorized models.

3. The Lysenko Controversy in the 1940s

In this chapter, I will review the articles published in the 1940s. Focusing only on the important and representative articles from among those mentioned in Table 1. I will also illustrate the manner in which the stances and viewpoints of these articles changed during the 1940s. In particular, a drastic change after the Lenin All-Union Academy of Agricultural Sciences (LAAAS) in August 1948 can be identified.

3. 1 1940–1943: During World War II

Soviet genetics were rarely discussed in journals while the world was at war. However, during this period, fragmentary criticism of Lysenko’s theory did appear in natural science journals. Authors generally considered it unfair to regard Lysenko’s theory as incorrect due to the lack of information during the
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War. A wait-and-watch attitude was adopted because more information on Soviet genetics and Lysenko’s theory would be available only after the War, although active criticism on the subject was brewing behind the scenes.

3.2 1944–1945 (the end of World War II): Discussion in Science

During 1944–1945, an enthusiastic debate on Soviet genetics was suddenly sparked by three geneticists in Science. American geneticist L. C. Dunn started the debate with his article in Science Vol. 99. This article revealed respect for Soviet biology and opined that science could develop normally in a socialistic country. American geneticist Karl Sax countered this opinion in the Discussion section of the same volume, referring to the Genetic Controversy of the 1930s as evidence that research in Soviet genetics had taken place under unfavorable conditions. He stated a contrasting opinion: science in the Soviet Union, a totalitarian state, was subordinate to politics. In order to correct “Sax’s misconception,” Soviet representative geneticist Anton Zhebrak contributed to the Discussion section in Science Vol. 102. He introduced several works by Soviet geneticists and disregarded Lysenko’s work. Zhebrak stressed that favorable research conditions were being maintained for Soviet geneticists. Sax then angrily opposed Dunn and Zhebrak, writing in the Discussion section once again and calling attention to the disappearance of Nikolai Vavilov, an outstanding geneticist who had been purged in the Genetic Controversy. Sax asked emotional questions such as “Where is Vavilov?” and “How did he die and why?” In this manner, the Discussion section of Science provided an outlet for the unexpressed ideas of the three geneticists who sparked the Lysenko Controversy.

3.3 The end of World War II to mid-1947: Before the Cold War

According to Krementsov, following the War, the Soviet government encouraged scientific exchange with the West, and the Western geneticists fully utilized this situation to curtail Lysenko’s domination by launching an anti-Lysenko campaign.

Journal articles that appeared immediately after the War represented a kind of propaganda for Soviet science by biologists who approved of Socialism, rather than the mere criticism of Lysenko’s theory. British biologist Julian Huxley visited Moscow in June 1945. During his stay, he visited the genetics laboratories
and experimental institutes of the Lysenko era and discovered that the influence of Lysenko had not been very great. Upon his return, he wrote an informative article for *Nature*, in which he praised Soviet genetics.22

Two publications in 1946 marked another important phase in the Lysenko Controversy. The first was a short pamphlet authored by Hudson & Richen.23 It reviewed a series of articles written by Lysenko that were hitherto unknown in the West. The second publication was the more important of the two. American geneticist Th. Dobzhansky, a Soviet emigrant and a pioneer of synthesis, translated Lysenko’s Russian book on heredity into English; this provided Western geneticists with an understanding of Lysenko’s actual theory.24

Taking advantage of this publication, Western geneticists published reviews of Lysenko’s book in scientific journals.25 Kremetsov has suggested that the Western geneticists expected the Soviet people to read these reviews and that they were aimed at proving Lysenko wrong.26 In order to accomplish this, the geneticists strategically used the Book Review section of the journals; this fuelled more animated arguments regarding Lysenko in scientific journals during this period.

On the other hand, Soviet geneticist Dubinin introduced a series of works by Soviet biologists in *Science*27 and demonstrated that the research conditions of Soviet genetics were being maintained appropriately even in the years immediately following the War. He attempted to appease Western scientists by suggesting that Lysenko’s influence was not as strong as believed.

Authors, especially geneticists, strived to remain involved in the scientific discussion of the criticism of Lysenko’s theory from a biological viewpoint.28 They avoided political criticism of the Soviet government and a direct attack on Lysenko, because they needed the cooperation of the Soviet Government for Lysenko’s retreat and for the rescue of their Soviet colleagues. They contributed mainly to *Nature* and *Science*. Because these journals wielded authority in the field of natural science, the editorial boards ensured that the authors did not stray from scientific discussion.29 This led Western geneticists to present optimistic views with regard to Soviet genetics.

3. 4 From mid-1947 to July 1948

Although optimistic views on Soviet genetics diminished with the commencement of the Cold War, the thought of Lysenko’s retirement was still dominant among Western scientists.
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During this period, many authors came to understand what was actually at the core of the Controversy and provided their subjective views. Many articles summarizing the Controversy appeared in the Modern Quarterly\textsuperscript{30} whose main subject was to examine the possibility of applying Marxism to the natural sciences. Because this magazine was not purely scientific, like Nature and Science, authors were able to address issues from a broader perspective.

3. 5 August 1948–1949: LAAAS and its consequences

The complexion of the Controversy underwent a drastic change after the establishment of the infamous LAAAS that would lead to the destruction of Soviet genetics.\textsuperscript{31} The number of articles published, particularly in human or social science journals, increased remarkably and many intellectuals and critics who were not themselves natural scientists became involved in the Controversy. Meanwhile, natural scientists, including geneticists, increasingly used these journals and magazines as the media for political criticism.

I wish to highlight two major changes in the stances adopted in the articles during this period. First, there was open criticism of Soviet science policy and of Lysenko. Second, there arose a contrasting tendency to approve LAAAS and Lysenko’s theory, although this appeared to be unusual. The former stance was taken up by groups of geneticists, and particularly the so-called scientific left who had earlier expressed their approval of Soviet science. They now expressed their disappointment regarding the Soviet science policy that allowed Lysenko to dominate Soviet biology. The latter and approving stance was adopted by groups of leftist intellectuals. In the following, I will examine representative articles by both groups, as well as other distinctive articles.

The first group comprised Ashby and Huxley, both of whom published critical articles in Nature,\textsuperscript{32} partly renouncing their belief in Soviet science. Goldschmidt contributed an article that warned of excessive political intervention in science with regard to Soviet genetics.\textsuperscript{33} R. Cook, the chief editor of the Journal of Heredity, authored an historical background of the Lysenko Controversy.\textsuperscript{34} H. J. Muller, a corresponding member of the Academy of Sciences, USSR, submitted his resignation, which was immediately made known worldwide through the Correspondence section of Science.\textsuperscript{35} The American Institute of Biological Sciences also published an official protest note to the Soviet government in Science.\textsuperscript{36} As the above instances imply, the Correspondence
sections of journals provides useful material to gauge the prevailing situation at that time.

The concern for Soviet genetics was not limited to biologists, but included atomic physicists as well. The Bulletin of the Atomic Scientists published feature articles on Soviet genetics. A series of articles in the May issue drew considerable attention to atomic physicists, particularly those who had been involved in the development of the atomic bomb.37

The human science and social science journals and magazines provided a separate section for biologists to express their political and sometimes radical views. In December 1948, a BBC program depicted LAAAS as an example of the suppression of scientific freedom, and four biologists were invited as commentators. Among them, Darlington and Fisher launched a direct and savage attack on Lysenko. British Communist J. B. S. Haldane criticized Lysenko’s theory but was hesitant to completely disregard his work. A record of the broadcast was also published in The Listener.38

Leftist intellectuals protested strongly against the BBC program and its commentators. The French writer Louis Aragon insisted that LAAAS protected scientific freedom, and criticized the BBC’s comparison of LAAAS to the Inquisition in the Middle Ages.39 He provided two facts as evidence of scientific freedom in LAAAS. First, many Soviet geneticists were permitted to read their papers. Second, Pravda provided a detailed, daily report on the progress of LAAAS.40 The editor of Labour Monthly—Scottish leftist Arnot Page—commented in his publication that Darlington and Fisher had made emotional speeches on the BBC program and criticized them, asking, “Did they write or speak as men of science?”41 J. D. Bernal, a Communist physicist who was known for the planning of science, regarded the LAAAS as leading to the independence of Soviet science, and declared himself to be in favor of it in an article in the Modern Quarterly.42 A. I. Oparin, was one of the most distinguished biochemists because of his work regarding the origin of life, contributed an article to Soviet Russia Today.43 In the article, he expressed his ardent admiration for Lysenko and his scientific approach that involved dialectical materialism.44 Oparin also sought cooperation between Western and Soviet scientists as an answer to the critical reactions by Western scientists. Some leftist authors expressed other distinctive viewpoints. Bernard Shaw defended Lysenko’s theory from the standpoint of anti-determinism.45 Huxley responded to Shaw’s arbitrary
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thought, commenting that Shaw had revealed his inability to comprehend the nature and methods of science.\textsuperscript{46} Meanwhile, Bernard Friedman contributed a clear endorsement of Lysenko's theory. In his article in \textit{Masses of Mainstreams},\textsuperscript{47} he cited many experimental results that supported Lysenko's theory, although it was most likely had not examined those results himself.

\textit{Science & Society} addressed the controversy in France\textsuperscript{48} and published two articles translated from \textit{La Penseé}.\textsuperscript{49} One of these articles was authored by Lévy. She expressed an honest approval of LAAAS and Lysenko's theory. The other article was authored by Communist biologist Prenant who adopted a wait-and-watch attitude toward supporting Lysenko’s theory while appearing to be slightly inclined to favor it. An article by Bernhard Stern that appeared in \textit{Science & Society} was unique. Stern examined biology textbooks and discovered that the contents were outdated.\textsuperscript{50} He assumed that Lysenko’s “crime” toward genetics stemmed from old genetic theories that had been retained due to a lack of interest in revising the textbooks.

In addition to the academic journals, general magazines of all kinds published numerous articles on the Lysenko Controversy,\textsuperscript{51} and their viewpoints ranged from those of the specialists to those of the laymen.

4. Classification of Articles

4.1 Four approaches to the classification of the articles

In this chapter, I will present models for the classification of articles on the Controversy. First, I will provide four approaches on the basis of which the articles can be classified.

I Classification by time period (in the 1940s)

This approach is not based on a method taken from archival science. However, it would appear to be effective to classify articles by time period. As noted above, the circumstances of the Lysenko Controversy changed under the influence of Soviet internal and external affairs in the 1940s, and in keeping with this, there was a change in the subjects of the articles written during each period in the 1940s. In particular, the stance adopted by geneticists changed drastically after August 1948, switching from the rescue of Soviet geneticists to the attack on the Soviet Government and Lysenko, or, in other words, a defense
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of scientific freedom. It is necessary then to divide the 1940s into several time periods and group the articles accordingly. I will divide the articles into four periods and prepare models for the classification of articles corresponding to these periods.

II Classification by publication (journals and magazines)

According to the methods of archival science, documents that have the same provenance must be grouped in the same category. I would like to suggest then that a modified or an analogical technique should be applied to the articles discussed herein.

First, it can be useful to group articles published in certain journals and magazines pertaining to the same field into a single category because the subjects of these articles are very similar. This is a modified method taken from archival science and contriving to regard a certain group of journals in the same field as a kind of provenance. For instance, some natural science journals, such as Nature, Science and Journal of Heredity, can be regarded as a single category that will then contain articles published in these journals. These journals mainly contained articles on scientific subjects such as the criticism of Lysenko’s theory.

Second, if the articles belonging to a particular journal or magazine have different or specific subjects, it can be useful to group them into a single category defined by individual journals and magazines. This method is analogous to methods used in archival science, whereby each journal or magazine is regarded as a provenance. In fact, some journals and magazines, particularly leftist ones, had their own editorial policy and published specific articles accordingly.

III Classification by function

This approach is based strictly on archival science. In archival science documents are arranged on the basis of their forms and functions. Therefore, articles published in particular sections should be categorized separately from mainstream articles.

With regard to the Lysenko Controversy, the media sections in journals and magazines performed characteristic roles. For instance, the Book Review section was strategically used as an anti-Lysenko medium by Western scientists. This is one of the unique features of the Controversy. The Discussion section was used for earnest debate and revealed the authors’ previously unexpressed ideas.
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The Correspondence section was used as a medium for information on the current situation. H. J. Muller’s resignation serves as an example.

IV Classification by stance (of the article’s author)

This approach is not based strictly on the method of archival science but can be thought of as a somewhat modified method. Since I provided categories defined by journals and magazines in Approach II, it is impossible to group articles written by the same author in a single category even if it is a method commonly adopted in archival science. Instead of categories defined by individual authors, it can be useful to classify articles according to an author’s stance that differed in keeping with his/her country of origin, field of expertise, and political background. These categories appear particularly in the models corresponding to the period after August 1948 when many leftist authors adopted similar stances in relation to the approval of Lysenko’s theory and of Soviet science policy.

4.2 Classified articles on the Lysenko Controversy

The classified articles on the Controversy are displayed in the following six models. The following are explanatory notes with regard to these models.

(i) Based on Approach I, each model corresponds to a particular period of the 1940s.

(ii) Categories defined by Approach II are enclosed by a solid line.

(iii) Categories defined by Approach III are enclosed by a broken line.

(iv) Categories defined by Approach IV are enclosed by a dotted line.

(v) Categories defined by Approach II are the top categories in each model, and their subordinate categories are those defined by Approaches III and IV.

(vi) The important feature of each category, or articles sharing common stances and subjects, such as a common purpose or role, are enclosed in brackets.

(vii) Of all the articles listed in Table 1, only important articles, that adequately represent a comprehensive picture of the Lysenko Controversy, have been included in these models.

(viii) Some articles appear in multiple categories. For example, Zhebrak (1945) appears in the category defined by Approach III (see Model 1) as well as in that of journals in the field of natural science (Science) defined by Approach II (see Model 2).
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Model 1  1940–1945: During the War

Model 2  1945–to mid-1947: Before the Cold War
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## General Magazines

### Modern Quarterly
- (Summary of the Lysenko Controversy)
- (The relationship between Marxism and science)
  - Davies (1947)
  - Fyfe (1947)
  - Lewis (1947)

### Nineteen Century and After
- (Radical criticism and savage attack on Lysenko by C. D. Darlington)
  - Darlington (1947b)

**Model 3** Mid-1947 to July 1948

## Natural Science

### Nature
- (Disappointment in the Soviet scientific policy)
  - Ashby (1948) *Nature*

### Science
- (Historical background of the Controversy)
  - Huxley (1949b) *Nature*

### Journal of Heredity
- (Anxiety over the spread of the harmful influence of LAAAS to other spheres)
  - Cook (1949b) *Journal of Heredity*

### Bulletin of Atomic Scientists
- **Issue:** May 1949
  - (Feature articles on the Lysenko Controversy)
  - (Increase in the level of interest of atomic physicists)

### Correspondence
- (Critical statements of the Soviet scientific policy)
  - (H. J. Muller's resignation from the Academy of Science, USSR)
  - *Science* (Vol. 108, p. 436, 1948)
  - (Protest against the Soviet government by the American Institute of Biological Sciences)
  - *Science* (Vol. 110, p. 124-25, 1949)

**Model 4a** August 1948–1949: LAAAS and its consequences
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**Human & Social Science**

**Labour Monthly**

(Approval of LAAAS and Lysenko by leftist intellectuals)
- Arnot (1949)
- Shaw (1949)

**Science & Society**

(Lysenko Controversy in France: English translation from *La Pensée*)
- Prenant (1949)
- Lévy (1949)

(Soviet Russia Today)

(Favorable viewpoint to the theory of Lysenko)
- Friedman (1949a)
- Oparin (1949)

(Saturday Review of Literature)

(Series of criticism by H. J. Muller)
- Muller (1948a, c)
- (Counterargument to Shaw)
- Muller (1949)

Model 4b August 1948–1949: LAAAS and its consequences

**General magazines**

**Masses & Mainstream**

(Approval of LAAAS and Lysenko by leftist intellectuals)
- Aragon (1949)

(Favorable viewpoint to the theory of Lysenko)
- Friedman (1949b)

**The Listener**

(Four biologists commented on LAAAS in a BBC program.)
- Harland (1948)

(Savage attacks on Lysenko)
- Darlington (1948)
- Fisher (1948)

(Communist biologist: Hesitation in supporting or attacking Lysenko)
- Haldane (1948)

**Modern Quarterly**

(Approval of LAAAS and the Soviet Government by Scientific lefts)
- Bernal (1949)
- Fyfe (1949)

Model 4c August 1948–1949: LAAAS and its consequences
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5. Conclusion

Thus far, I have reviewed important articles with regard to the Lysenko Controversy that were published during various time periods in the 1940s. I should reiterate that the Lysenko Controversy was not a "nonproductive or ideological dispute." In particular, I have shown that the articles of lay intellectuals that were initially disregarded, in fact, provided new perspectives on the Lysenko Controversy. In conclusion, I would like to strongly maintain that the Lysenko Controversy should be placed in the context of issues related to postwar science.

The application of methods used in archival science or similar to those used in archival science enabled the classification of the complicated subjects of the articles. As a result, I was able to build models making use of four distinct approaches. These models will improve research conditions by reducing confusion. Moreover, when I focused on the media sections of scientific journals, I came to realize that these sections can be rather useful sources for researchers in the field of the history of science. The information they provide, reveals the social values of scientists and their theories at the time, and such information can be vitally important in enabling researchers to understand the relationship between science and society.

In the future, I would like to address two challenges. The first is with regard to the comparison of the Controversy in the West with that in Japan. At present, I am interested in the factors that rendered the Japanese Lysenko Controversy nonproductive as compared with that of the West. For this purpose, I believe that it will be best to investigate the Japanese academic circle’s channels for the receipt of information with regard to Soviet genetics. I assume that the type of information available in the few years immediately following Japan’s defeat in World War II was a critical factor. It is necessary to clarify the kind of Western articles that were available to Japanese scientists and the extent to which those articles influenced Japanese scientists’ thoughts with regard to the Controversy.

In order to conduct such a comparative study and to facilitate research, models that are capable of including all of the articles concerning the Lysenko Controversy and exhibiting further the detailed relationships among them are indispensable. Such models can be displayed more effectively on a computer or online than on paper, given the large volume of articles written with regard to
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this Controversy. Therefore, the second objective of this study will be to develop a Web model for the display of such information. As mentioned with regard to Approach IV above, articles written by the same author would be linked with each other on such a Web model.

Notes

1. See Joravsky (1970), Graham (1993), and Soyfer (1994). While these are all comprehensive studies on Lysenkoism, not many pages have been dedicated to its international influence. Roll-Hansen (2005) is the most recent study on Lysenkoism.

2. A detailed examination of Lysenko’s theory is not the purpose of this paper. In brief, Lysenko emphasized the effect of environment on heredity. He insisted on the inheritance of acquired characteristics, based on his own agricultural experiments. In the sentences below, I briefly explain his theory as “Lysenko’s theory.”

3. The main sources of these articles are Zirkle (1949) and Morris (1949).

4. Articles printed in the Soviet journals should definitely be taken into account. These articles are rather useful in understanding the extent to which Lysenkoism was actually embedded in the Soviet Union. However, I am confident that only the Western articles can help us to understand the Soviet situation more fully. As Kremntsov (1996) points out, Western biologists were able to maintain a direct exchange with Soviet geneticists and obtained a considerable amount of information related to Soviet genetics prior to the beginning of the Cold War.

5. Morris (1949) was the only other author to arrange these articles systematically. However, his was only an alphabetical rearrangement according to the names of authors, and offered only simple explanations.

6. Kremntsov (1996). He also wrote a comprehensive survey on Soviet science under Stalin. See Kremntsov (1997). There are also reviews on the Lysenko Controversy written by biologists at the time. See Huxley (1949a) and Zirkle (1949).

7. Kremntsov (1996) p. 229.

8. Harman (2003).

9. Schandevyl (2003).

10. Nakamura (1997). Among those involved in the Japanese Controversy, only Nakamura has written an historical summary of the Controversy.

11. http://www.loc.gov/catdir/cps090/lcco/lcco.html. Most likely there will be an objection on the grounds that the results of classification by different researchers will not always be the same. However, the most important fact, namely that articles range beyond the scope of the field, will remain unchanged.

12. The names of these sections differ by journal. For example, “Correspondence,” is entitled “Comments and Communications” in Science.

13. For a detailed account on the basic methods of archival science, see International Council
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on Archives, Ad Hoc Commission on Descriptive Standards, Statement of Principles regarding Archive Description. First version revised, Madrid, 1992, and International Council on Archives, General International Standard Archival Description: ISAD (G). Second Edition: 2000, Ottawa.

14. These articles mainly address topics from the 1940s, but some articles also mention the status of Soviet genetics in the 1930s, in particular, the “Genetic Controversy” between Vavilov and Lysenko in 1939 that was described in Science & Society, Vol. 4, No. 3, pp. 183–233, 1940.

15. See Haldane (1940).
16. Dunn (1944).
17. Sax (1944).
18. Zhebrak (1945).
19. Sax (1945).
20. Vavilov was already dead by this time. His obituary was published in Nature in 1945. See Harland and Darlington (1945).
21. Krementssov (1996) p.241.
22. Huxley (1945).
23. Hudson and Richen (1946).
24. Lysenko (1946).
25. See Dunn (1946), Dobzhansky (1946), Goldschmidt (1946), and Zirkle (1947).
26. Krementssov (1996) p.242.
27. Dubinin (1947) and Zhebrak (1945) also referred to works by Soviet geneticists. Since they did not include Lysenko’s work in their articles, the authors were condemned and purged for “impolite behavior” toward Lysenko.
28. British cytologist C. D. Darlington did not approve of the moderate attitude of his Western colleagues. Realizing that Lysenko’s power and character were dangerous for the Soviet geneticists, he published radical articles. See Darlington (1947b). Straying from a scientific standpoint, he attacked Lysenko severely. For a detailed account of Darlington’s reaction, see Harman (2003).
29. Not all authors adhered to a purely biological discussion. Some authors veered toward social aspects of science in connection with the Controversy, such as the practical use of a theory, the social role of scientists, and the state’s scientific policy. For instance, Baker & Tansey (1946) argued with regard to freedom for research and the social restrictions on it. The series of articles in Scientific Monthly also addressed this subject. See Kartman (1946), Langmuir (1946), and Polyani (1945). A few articles in human or social science journals contained political criticism. See Simpson (1946).
30. See Davies (1947) and Lewis (1947).
31. For a detailed account of LAAAS, see Medvedev (2000), Rossianov (1993).
32. Ashby (1948) and Huxley (1949b).
33. Goldschmidt (1949).
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34. Cook (1949b).
35. Science, Vol. 108, p. 436, 1948.
36. Science, Vol. 110, pp. 124–25, 1949.
37. Eugene Ravinowitz, the editor of Bulletin of Atomic Scientists, explained the purpose in editing these special issues. See Ravinowitz (1949b).
38. Darlington (1948), Fisher (1948), Haldane (1948), and Harland (1948).
39. Aragon (1949).
40. Pravda devoted considerable space to the LAAAS report during the period from August 4 to August 12. The manner in which scientific issues were reported to ordinary people was a great concern among intellectuals. Similar topics were found in other articles as well. See Fyfe (1949), Lévy (1949), and Prenant (1949). They praised the great public interest in science in the Soviet Union as evidence of the unity of specialists and laymen.
41. Aront (1949).
42. Bernal (1949) and Fyfe (1949).
43. Oparin (1949).
44. In fact, Oparin was not a supporter of Lysenko at heart. But by appearing to be a follower of Lysenko, he was able to continue his research and won the prestigious position of Academic Secretary of the Biology Division.
45. Shaw (1949).
46. Huxley (1949a), p. 210. Muller also put forth a counter argument. See Muller (1949).
47. Friedman (1949b). He also published an article written for the same purpose in Soviet Russia Today. See Friedman (1949a).
48. The French situation on the Controversy is partly described in Lecourt (1988).
49. Lévy (1949) and Prenant (1949).
50. Stern (1949).
51. See Douglas (1948), Langdon-Davies (1949), and Lash (1949).
52. One solution to compensate for defects will be a Web model. In this model, articles written by the same author can be linked with one another.
53. Instead of building models that are divided by period, it is possible to develop a single structural form by preparing categories corresponding to each period and subordinating them to the categories defined by journals and magazines. This would be too extensive to be contained on paper. However, it is certainly possible with the use of a computer or a Web model.

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