



# Stalinism perverts science: THE CASE OF LYSENKO

The second of two articles  
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LYSENKO emerged from the 1939 conference on genetics with his position considerably strengthened. However, in spite of this, research into neo-Mendelian genetics was still proceeding in various institutes.

As late as 1945-1946, the Academy of Sciences was considering whether the best way of dealing with the controversy would be to create a new Institute of the Academy, under the neo-Mendelian Dubinin, in addition to the Institute of Genetics, which had come under the control of Lysenko.

The bureaucracy had other plans.

The devastation wrought by the invasion of Hitler's armies, reinforcing the catastrophic effects of Stalin's turn to forced collectivization, now made it imperative to find some short-cut solution to the problems facing Soviet agriculture.

Lysenko's work seemed to offer a solution which fitted the Soviet bureaucracy's every requirement.

His theory could be summed up in the following statements by Michurin:

'We cannot wait for favours from Nature; we must wrest them from her. . . . It is possible, with man's intervention, to force any form of animal or plant to change more quickly and in a direction desirable to man'.

This was integrated with the theory of 'socialism in one

country' in its most ultra-nationalist phase and became synonymous with the statement:

'For Russian biological science, nothing is impossible.'

To suggest otherwise—in particular, to believe that neo-Mendelian genetics was anything other than a foreign conspiracy—was unpatriotic and tantamount to treason.

The stage was therefore set to destroy neo-Mendelism once and for all.

In 1948, the neo-Mendelians were invited to express their views in the columns of the Moscow Literary Gazette. Several took the opportunity of restating the case for genetics and were attacked by Lysenko and the philosopher Prezent.

Having brought the neo-Mendelians 'into the open', a special session of the Academy of Agricultural Sciences was called to deliver the *coup de grace*.

Academician B. M. Zavadovsky's contribution to the discussion on Lysenko's opening report indicates the nature of the 'debate':

'I think that the conditions under which the session has been organized have not been quite normal, for all those deservedly placed—and particularly those undeservedly placed—in the category of Weismannist-Mendelists have not been given adequate facilities to prepare themselves and to give free and full expression to their views . . . only on July 30 [the day before the opening sitting] did I receive official intimation that this session

\* 'The Situation in Biological Science'. Proceedings of the Lenin Academy of Agricultural Sciences of the USSR. Session: July 31-August 7, 1948, p. 34.

was to take place' (Proceedings, p. 335).

Thus, from the beginning of the session, the neo-Mendelians were put on the defensive and for eight days were the subject of a blistering attack, which spared nothing in distortion and abuse. The main attack on neo-Mendelism was outlined in Lysenko's opening address:

'Socialist agriculture, the collective and state farming, has given rise to a Soviet biological science, founded by Michurin—a science new in principle [i.e. not reflecting objective reality!—developing in close union with agronomical practice . . . Morgan's feeble metaphysical "science" . . . can stand no comparison with our effective Michurinist agrobiological science' (Proceedings, p. 18. Our emphasis).

The insistence on scientific theory having an immediate, direct link with scientific practice (completely at variance with the historical development of science) leads to a completely pragmatic approach to problems and a rejection of theory. The following interchange reveals this clearly.

'G. A. Babajanyan: . . . Who wants what by their very nature are useless Drosophilas [fruit flies used in breeding experiments]?

'J. A. Rapoport: But there are useful mutations, and many of them. Why do you shut your eyes to them?

'G. A. B.: Firstly, because they are useful mutations for a useless object. (Applause)' (Proceedings, p. 163).

Throughout, 'the unity of theory and practice' is used to reject science in favour of 'what is useful'.

In the long run, Stalinist

materialism and on the revolutionary principle of changing nature for the benefit of the people(!)'.  
As explained in our last article (December 18, 1969), the environment of a living organism does not enter directly into hereditary change, but indirectly, through natural selection of random genetic mutations.

Let us emphasize that this describes the main features of the process, to be made more precise and filled out in the light of research. This does exclude the possibility of discovering the laws of development of a single gene or the mechanism behind the 'random' mutations.

Neither does it exclude the possibility of some weak, direct interaction between the environment and the genetic material.

The investigation of such processes has to await a further refinement of the techniques of genetic engineering.

## ACCEPTANCE

Certainly, an acceptance of the main features of the hereditary process, described above, as a final theory has to be rejected as idealist and leads to the concept of the gene as an 'unmoved mover'. Any possibility of explaining the mutation mechanism would then have to be dismissed.

However, in attacking such a mechanistic interpretation of genetics, Lysenko and his followers throw out the baby with the bath water and denounce the gene as metaphysical!



Stalin's policy of 'forced collectivization' was at the root of the crisis in Soviet agriculture—Stalin thought Lysenko's theory would solve this chronic crisis.

**Prezent:** 'Nobody will be led astray by the Morganists' false analogies between the invisible atom and the invisible gene. Far closer would be an analogy between the invisible gene and the invisible spirit' (p. 602).

**Lysenko:** 'In general, living nature appears to the Morganists as a medley of fortuitous, isolated phenomena, without any necessary connections and subject to no laws.

'Chance reigns supreme . . . they reduce biological science to mere statistics. . . . This "science" therefore . . . condemns practical workers to fruitless waiting. There is no effectiveness in such science. With such a science it is impossible to plan, to work toward a definite goal; it rules out scientific prediction' (p. 615).

This is nonsense from beginning to end.

The existence of random processes at the genetic level by no means rules out 'scientific prediction'.

Mendel's laws are not 'mere statistics' but the working out at a particular level of real processes taking place at the genetic level.

Lysenko's position is equivalent to rejecting the laws of chemical reaction because the laws governing the motion of the fundamental particles (quantum theory) are probabilistic.

Similarly, it is possible for insurance companies to calculate life expectancy, despite the fact that it is impossible to predict the time or manner of death of a particular human being.

In rejecting neo-Mendelism as a starting-point for further development, Lysenko retreats completely into idealism by trying to fit 'the facts' into a formalized pseudo-Marxist scheme.

The hereditary process has to be a function of the organism 'as a whole'; the organism and its environment have to be taken as a unity.

The interaction process remains mysterious. Why bother about such problems when 'Michurin teaching . . . elucidates profound (!) theoretical problems by solving important problems of socialist agriculture' (p. 616)?

The 1948 conference went on its nightmarish way and reached the inevitable conclusion.

In summing up the 'discussion', Lysenko begins:

'Comrades, before I pass to my concluding remarks, I consider it my duty to make the following statement. The question is asked in one of the notes handed to me [how opportune!]: What is the attitude of the Central Committee of the Party to my report? I answer: The Central Committee of the Party examined my report and approved it. (Stormy applause. Ovation. All rise.)' (p. 605).

The bureaucracy had spoken. The stamp of approval had been given to the main lines of Lysenko's report even before the session had begun and any illusion that the participants had been involved in a discussion on genetics was finally shattered.

Nothing was left but the expected recantations and a torrent of praise for 'the great friend and protagonist of science, our leader and teacher, Comrade Stalin'.

Following Lysenko's closing speech, three of the participants, Academician P. M. Zhukovsky, S. I. Alikhanian and I. M. Polyakov, confessed their sins and pledged themselves to fight for Michurinism.

A letter to 'the great Stalin, the leader of the people and coryphaeus of progressive science', followed by a resolution calling for all biological work to be reorganized in line with Michurinism finally



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brought this obscene charade to an end.

## PROPOSALS

The proposals for the reorganization of all work in the biological sciences were immediately implemented. On August 26, 1948, the Praesidium of the Academy of Sciences met and passed 12 resolutions to the effect that:

- The cell-research laboratory, headed by N. P. Dubinin, shall be abolished as unscientific and useless.

- The Bureau of the Division of Biological Sciences shall be charged with the preparation of plans for scientific research for the years 1948-1950. In this the Bureau shall be guided by Michurin's teaching and shall adjust the scientific research work of biological institutes to the needs of the national economy.

- The composition of Scientists' Councils at biological institutes and editorial boards of biological publications shall be checked with the object of removing from them the partisans of neo-Mendelism and of replacing them by supporters of progressive Michurinite biology.

- The Division of History and Philosophy shall be charged with inclusion in its programme of popularization of the achievements of Michurinism and of the critical exposure of pseudo-scientific neo-Mendelism.

- The Bureau of the Division of Biological Sciences shall revise the syllabuses of biological institutes, bearing in mind the interests of Michurinism.

In other words, the complete liquidation of genetics and its adherents was proposed and rapidly carried through with traditional Stalinist barbarity and thoroughness.

Many western scientists, by no means unsympathetic towards the Soviet Union, were repelled by the events surrounding the genetics controversy.

The eminent geneticist, Julian Huxley, in his book 'Soviet Genetics and World Science' (1949) says:

I have been very appreciative of the efforts and achievements of the USSR,

especially since my first visit to the country in 1932.

'But appreciation does not exclude criticism; and as a scientist and a believer in internationalism, I cannot help being critical of many aspects of the genetics controversy' (p. x) ' . . . such suppression is in the long run disastrous' (p. 224).

However, no criticism could be tolerated and the Stalinist parties of the west were in the forefront of the defence of Lysenko and the first to condemn his critics as agents of US imperialism.

Two books, in particular, published by Lawrence and Wishart, gave full and unconditional support to Lysenko and attacked the 'scholasticism' of genetics.

James Fyfe in his book 'Lysenko is Right' (1950) repeats the Michurinist arguments against neo-Mendelism and adds:

'Hereditry for the farmer is "the property of a living body to require definite conditions for its life, its development and to react definitely to various conditions" and this is T. D. Lysenko's definition of hereditry (1946). If an agriculturist is asked to venture an opinion on what the potential value of a new variety or strain or even species is likely to be, he will not ask "What genes has it?" but "What is its history?"' (p. 6).

And again: 'Here we see that the Michurinist view fits hand-in-glove with the approach of the practical worker' (p. 7. Our emphasis).

Note how joyfully the English empiricist embraces the Stalinist 'grass roots' approach!

Fyfe emphasises that Michurin was not alone in his conclusions:

'The American fruit breeder, Luther Burbank, although his breeding methods were very different from Michurin's, summed it up in the following words: "My own studies have led me to be assured that hereditry is . . . the sum of all past environments . . ." (Howard, 1945-1946)' (pp. 13-14).

Expressed so precisely, Lysenko's conclusions give everything to the theoreticians

of the fascist counter-revolution. This does not escape Huxley:

'If the effects of the environment are imprinted on or assimilated by heredity, then centuries of poverty, ignorance, disease and oppression should have engrained a most undesirable heredity upon the vast majority of the human species, and engrained it so firmly that a few generations of improved conditions could not be expected to effect much amelioration' ('Soviet Genetics and World Science', p. 187).

The reactionary nature of the philosophy behind 'progressive Michurinism' went 'unnoticed' by Lysenko's apologists, in line with their 'suspension of critical faculties' over the liquidation and deportation of Soviet national minorities and the anti-Semitic abuse surrounding the post-war purges. There could be no examination of the consequences of 'socialism in one country'.

In fact Fyfe justifies this theory as best he can, using the crudest arguments:

'There is a very close parallel between the idea of genes in biology and the political idea of an elite, a "chosen" ruling class . . . The two errors have a common origin—contempt of labour . . . Any sixth-form schoolboy can correctly explain that Greek science came to an end because it developed in a slave society in which manual labour was held in contempt (!) . . . The converse is true. A science which recognizes labour as the ultimate source of all progress can never end in sterility and must come closer to the truth' (pp.38-39).

The building of socialism as an international task of the proletariat, based on the highest development of the productive forces achieved under capitalism, is here degraded and turned inside out to fit in with the national requirements of the Soviet bureaucracy. Perhaps Greek science would have continued to flourish, given the efforts of a battalion of Stakhanovites!

Fyfe's book was quickly followed by Dr A. G. Morton's 'Soviet Genetics' (1951).

Morton takes up the scientific and philosophical questions in some detail and in developing Lysenkoism sticks his neck out:

'Indeed, to speak of the self-reproduction of the gene betrays an extraordinary confusion of thought. For a molecule of nucleoprotein can no more reproduce itself than can a molecule of water. The reproduction of specific substances is a property of living systems and not of nucleoprotein . . .' (p. 52).

Here it is Morton who betrays an extraordinary confusion of thought, for if reproduction is a property of 'living systems' alone, the questions concerning the detailed processes within such systems and how life arose from inorganic matter cannot be answered, except in a circular way or by an appeal to 'spontaneous generation'.

## VITAL FORCE

In any case, Morton comes close to the 'vital force' which, he says, 'finds its last refuge in the gene' (p. 52).

Moreover, in order to avoid the problems of cell structure, Morton tries to make out a case for no persistent structure at all.

Briefly, he argues (pp. 128-130) that structure appears when cells are interfered with or damaged. It suffices to say that the fifties and sixties have yielded a wealth of knowledge concerning both cell-structure and the finest details of the reproductive process (see Workers Press, December 4), without the aid of Michur-

inism.

Stalin's Fabian friends could, of course, be relied upon to back Lysenko. In 1949, Bernard Shaw wrote an article supporting the action of the USSR Academy of Sciences.

In it he states that 'no criminal militant reactionary can be excused on the ground that his actions are not his own . . . The real issue is between the claim of the scientific profession to be exempted from all legal restraint in the pursuit of knowledge, and the duty of the state to control it in the general interest as it controls all other pursuits'.

As usual, the generalizations thinly conceal the most abject grovelling before the vilest excesses of the bureaucracy, which remains the hallmark of the official 'left' today.

Not every Party scientist could bring himself to toe the official line.

The geneticist, J. B. S. Haldane, in the 'Modern Quarterly' (Vol. 4, No. 3), came down unequivocally on the side of neo-Mendelism:

'I am a Mendelist-Morganist . . . Morgan and his colleagues made the very great advance of showing that heredity has a material and not a metaphysical basis . . . a Marxist can no more deny a material basis for heredity than for sensation or thought'.

Professor J. D. Bernal, on the other hand, in an accompanying article, evades the issue and says that 'genetics seem due for a change' being in a state of 'most unsatisfactory confusion'.

Bernal, undoubtedly a brilliant physicist, has trimmed his apologetics to the prevailing wind with the passing years.

In the 1954 edition of his 'Science in History', Bernal gives Lysenko an eight-page boost and tells us that the controversy involved '15 years of debate (!)' (p. 669).

Just in case we might have misunderstood the first time, the 1969 Penguin edition emphasises the point.

The genetics controversy is condensed into two paragraphs and Bernal states:

'It would be absurd, however, to wait for the unravelling of these [reproductive] mechanisms and to give up attempts to alter heredity by more empirical approaches to its control by varying environmental factors. This apparent contradiction, which is essentially one of emphasis, was the basis for the opposition in the Soviet Union, for instance, of [Michurinism] to Mendelian genetics' (p. 957. Our emphasis).

And again:

'At its height the contestants were mostly talking at cross-purposes' (p. 957).

Yes, it was all a big misunderstanding! Perhaps Prof. Bernal would include the Moscow Trials, the purges and the betrayals of the 'Popular Front' period in the same category?

After all, they fall within the '15 years of debate'—a 'debate' carried out with the labour camp and the firing squad, as Prof. Bernal well knows.

The application of Lysenko's theories to Soviet agriculture ended in failure, culminating in the disaster of Khrushchev's 'virgin land' programme.

With the fall of Khrushchev, Lysenko receded into the background, the crisis of Soviet agriculture remaining unresolved.

After 40 years of collectivization, there can be no solution within the context of 'socialism in one country', whatever pseudo-science may be brought to its defence.