

Hermann J. Muller's 1936 Letter to Stalin

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This is the full text of a 1936 letter sent by the American geneticist H.J. Muller to Joseph Stalin advocating the creation of a eugenic program in the USSR. It was rejected by Stalin in favor of Lysenkoism.

Key words: eugenics, communism, Lysenkoist theory, liberal roots of eugenics movement, Jewish scholars, Hermann J. Muller, Joseph Stalin, Stalinist, purges.

Hermann Joseph Muller (1890-1967) received the Nobel Prize in 1946 for his work on the genetics of *Drosophila*, whose brief generational life made it an ideal laboratory in miniature. Within a decade, however, following the discovery in 1953 of the double helical structure of DNA, *Drosophila* studies began to be regarded as classical genetics and gave way to microbial and molecular genetics devoted to gene structure and function.

Muller looked upon his *Drosophila* research as science to be applied to the genetic betterment of the human species. A popular misconception with regard to eugenics is that it was exclusively a product of political conservatism. In point of fact the movement had its roots in the left as much as in the right. Muller himself was a devoted communist and an idealistic believer in human rights. Bearing in mind that Jewish scholars played a significant role in the eugenics movement, it should not come as a surprise to find that Muller was Jewish on his mother's side. Indeed, he wrote a letter to Stalin on the subject of eugenics at the suggestion of the Russian-Jewish physician Solomon Levit, whose main interests lay in the field of genetics, especially in twin studies.

In 1932, Muller left the United States to pursue his scientific interests in five different countries. The period December 1934 until September 1937 was spent in Moscow, where he held the position of Senior geneticist at the Institute of Genetics of the U.S.S.R. Academy of Sciences on the eve of the great purges. The invitation had come from the Russian geneticist Nikolai Vavilov, who himself perished in those terrible events.

In his 1936 letter to Stalin, Muller proposed a eugenic

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program. Evidently after receiving the letter, Stalin had Muller's book *Out of the Night* translated into Russian. A great believer in environmental egalitarianism, he began reading the work in 1937 and ordered that an attack be prepared on it and indeed on all of genetics, in favor of Trofim Lysenko's totally environmentalist neo-Lamarckian school of thought.

A frightened and depressed Muller asked Vavilov for a leave of absence to go abroad, but the very request was fraught with physical danger not only for him, but for his Russian colleagues and students as well. Vavilov proposed that Muller motivate his request by a desire to volunteer his services to the International Brigade in Spain and so join the struggle against Franco's fascism. He spent eight weeks in that country and then returned to Moscow to collect his belongings. The service in Spain cleared his name of the suspicion of having spoken against Lysenkoist theory, and he was able to leave the country with minimal damage to the reputation of his Russian colleagues.

With hindsight we cannot help but lean back in our armchairs to muse over Muller's conviction that direct intervention in the human genome was "idle fantasy, probably not realizable for thousands of years at least." Even so, animal breeders still depend almost exclusively on the "like breeds like" methodology practiced since pre-historic times.

Muller's letter is an enormously important historical text, and had it been received positively by one man it would undoubtedly have become one of the single most important documents of world history.

Readers who wish to inform themselves as to the details of his life and work are referred to Elof Alex Carlson's 457-page *Genes, Radiation, and Society: The Life and Work of H.J. Muller* (Cornell University Press, 1981).

To Comrade Joseph Stalin,
Secretary of the Communist Party,
of the U.S.S.R.,
The Kremlin, Moscow

Dear Comrade Stalin,

As a scientist with confidence in the ultimate Bolshevik triumph throughout all possible spheres of human endeavor, I come to you with a matter of vital importance arising out of my own science – biology, and, in particular, genetics. The matter is clearly such that it should be referred to you yourself, primarily. For, on the one hand, it involves such limitless potentialities of progress. And on the other hand the passing of judgment concerning it requires your farsighted view and your strength in the realistic use of dialectic thought.

The matter is none less than that of the conscious control of human biological evolution – that is, the control by man of the hereditary material lying at the basis of life in man himself. This is a development which bourgeois society has been quite unable to look squarely in the face. Its evasions and perversions of this matter are to be seen in the futile mouthings about “Eugenics” current in bourgeois “democracies,” and the vicious doctrine of “Race Purity” employed by the Nazis as a weapon in class war. These spurious proposals are offered as a substitute for socialism, i.e., as a decoy to mislead and divide workers as well as petit bourgeois.

In opposition to these bourgeois misconstructions, geneticists of the political left recognize that only a socialized economic system can provide the material basis and the social and ideological framework necessary for a really sound policy with regard to human genetics, for a policy which will guide human biological evolutions along socially desirable lines. They recognize further that sufficient biological knowledge and a sufficiently refined physical technique already exist for the production of very noteworthy results in this field even within the span of our own lifetimes. And they are aware that both the immediate and the ultimate possibilities of a biological kind thus opened up under socialism so far outdistance the

biological aims hitherto envisaged by bourgeois theorists as to make the latter appear quite ridiculous. True eugenics can only be a product of socialism, and will, like advances in physical technique, be one of the means used by the latter in the betterment of life.

Applicable in this connection is Marx's revolutionary dictum: "The philosophers have only interpreted the world in various ways; the point however is to change it." And likewise applicable here is your own recent call for scientists in general, which urges them to listen to the voice of practice, of experience, to be ready in the light of those to discard the traditional standards set by antiquated theorists, and to put each branch of science, to the utmost degree possible, to the service of the community.

Biology has found no evidence in support the ancient naïve belief that the physical frame of man, or his congenital mental and temperamental equipment and capacities, have reached any final stage, any divinely ordained suitability. They not yet come near to "perfection," whatever that may be supposed to mean, or to any physical limit of possibility.

Human nature is not immutable, or incapable of improvement, in a genetic any more than in a social sense. It is no idle fantasy that, by a combination of the favorable education and social material advantages which socialism can provide, on the one hand, with the scientific application of genetic knowledge, unhampered by bourgeois social and ideological fetters, on the other hand, it will be possible within only a few generations to bestow the gift even of so-called "genius" upon practically every individual in the population – in fact, to raise all the masses to the level at which now stand our most gifted individuals, those who are helping most to blaze new trails to life. And even this need be only the beginning.

Looking at the matter with a longer time view, it can be the beginning of a biological progression of hitherto unparalleled speed and sureness of objective, that passes from height to height. Such a progression will come as a result of the substitutions of conscious socialized control, founded on intelligent theory, in place of the accidental, wavering and

painful processes of natural selection prevalent in the distant past, and in place of the shortsighted, blundering, and often deleterious interference with nature practiced by men in their pre-socialized stages.

In dealing with the problem before us, we must first consider certain known facts concerning the genes. The genes are ultra-microscopic particles, which constitute the material basis of life and are contained in the reproductive cells, and in fact in all the cells. All characteristics of living things, including man, depend upon two components: upon these genes which they contain, and which endow them with certain capabilities of developing and reacting, and upon environmental factors, including training, social setting, etc. , which determine how these potentialities of their genes shall be developed and realized.

Thus while the differences between civilized man and savage, and many lesser, commoner non-hereditary differences depend upon the environment, the differences between the "aumatic" idiot and the normal man, and many lesser, commoner, hereditary differences depend upon the genes. In the causation of any given difference between two persons, both sets of factors usually enter in to a significant degree, and cannot in practice be completely disentangled. And in the case of outstanding persons, so-called "geniuses," we can usually conclude safely that both the environment and the genes had been unusually conducive to a high development. The task of providing a favorable environment, taken in the most general sense, is that of social science, of socialism, in general. In the more special task of finding specifically favorable environments, adapted to the gene constitution of individual persons, genetic, in its role of detector of differences in the genes, has an important function to perform. Still more important, however, is its task of furnishing guidance in the actual provision of ever more suitable genes for the generations to come.

The science of genetics has made it clear that there is one means and only one whereby a worthwhile beginning may be made in the direction of providing more and favorable genes. This is not by directly changing the genes, but by bringing

about a relatively high rate of multiplication of the most valuable genes that can be found anywhere. For it is not possible artificially to change the genes themselves in any particular, specified directions. The idea that this can be done is an idle fantasy, probably not realizable for thousands of years at least.

Certainly, the usual environmental influences that affect the body or mind of the individual, such as education, better nourishment, etc. , although they are extremely important in their effects on the individual himself, do not result in improvements or in any definite kinds of changes, of the genes within and so the generations following such "treatment" start in with the same capacities as their forefathers. Genes can, to be sure, be changed by certain drastic means such as x-rays, but these changes are brought about in a random fashion, the product more usually being harmful. And as random changes also occur to some extent without any interferences on our part, there is little use in our attempting to produce them so long as enough products of natural change are already in existence. As a result of the accumulation of these random natural changes through thousands of years, every species of organism, including man, has become a great repository of hundreds, even thousands, of different genes, that lie scattered about in any population. These result in the existence of inheritable inequalities, which were of course recognized by Marx.

Without producing further changes of the genes, then, remarkable results can be accomplished merely by multiplying and gathering together the best of these scattered genes wherever they can be found, and recombining them into as highly superior groupings and possible, This is the method of selection, the only efficacious method of biological progression, but one which, under the conditions of nature, involves that ruthless struggle for existence, even between members or groups of the same species, from which we are now successfully escaping. Abolishing this natural selection, however, we are now enabled to substitute for it a far more effective conscious method, that at the same time avoids the objectionable features of natural selection and proceeds with much greater speed and certainty.

The process by which such biological progression may be accomplished artificially, with the minimum disturbance of personal lives, is by allowing all people who wish to take part in the production of children that have the best genetic equipment obtainable, to obtain appropriate reproductive material, for use by artificial insemination. No doubt this method would first of all be sought after by women who for some reason been force by circumstances to remain unmarried. Statistics show that there are regions having a considerable excess of female population, women who never have had a chance to marry and probably will never have this chance.

In part this was caused by war and by migration, and in part is due to a higher "natural" rate of death of males in most communities. And in communities with equal number of the two sexes a good many women remain, for one reason or another, single. Most of these numerous women are quite normal in respect to their biological capability for motherhood, and their desire for it. Under modern social conditions is the USSR, where so much is done to aid in the work of bearing and rearing children, many of these women would no doubt be glad to become mothers, especially if they could do so without incurring any personal gossip or suspicion, in a way that was recognized as thoroughly acceptable socially, and if the opportunity was at the same time afforded to them of having children with an unusually high chance of being gifted and desirable. The same would also apply to many widows and to many wives of sterile husbands. Certain extra concessions or aid might be extended in such cases. The production of children on the part of such women by this means of artificial insemination has in fact been carried out successfully for some years by a number of doctors being especially popular in Uzbekistan, where it is practiced by Doctor Shorokhova.

It should be realized that the process of artificial insemination in itself involves no sexual action by the individual, not does it hinder his exercise of his own normal relations of love and sexual fulfillment, which continue as usual along with such birth control as may be desirable. This artificial insemination could also be resorted to by married couples desiring children of unusually high genetic equipment, without the love relations

of the partners to one another being intruded upon. It is hence to be expected that eventually there would be many couples who, absorbing a new and higher standard of social ethics, and even envious of the success of their spinster neighbors, would wish in this way to add to their family a "half adopted" child that had the promise of being especially desirable, of whom they might come to feel especially proud.

In this connection it should be observed that there is no natural law which rules that a person instinctively wants and loves exactly the product of his own sperm and egg. He naturally loves, and feels as his, that child with whom he has been associated and who is dependent upon and loves him, and whom in its helplessness, he has taken care of and brought up. Primitive man, who did not possess the idea of the child coming from his sperm or egg and did not even comprehend that it was fertilization that resulted in children, loved his children just the same, as studies on some primitive tribes of today have shown. Often, in fact, the established custom was for the real, physical father not to play the social part of parent to the child, the role being delegated instead to some other male who acted as the child's devoted parent.

True we have today, rooted in traditions from the bourgeois society in our past, the idea that our child must be derived from our own reproductive cells. And it would not be wise violently to offend the feelings which have through long established custom become connected with this idea. These feelings should be utilized to further the end of reproduction and no one should be told he must set contrary to them. But with the gradual growth of understanding of the great social possibilities and duties of reproduction, and of the separability of reproduction from the sexual act, these feelings will more and more tend to become replaced by others equally strong and effective in furthering a high type of family life.

These feelings would rest upon a higher and increasingly strong basis of morality: that morality in which the individual finds his greatest satisfaction in the consciousness of being instrumental in making an especially valuable contribution to society. Conducive also to his satisfaction in this case would be the direct joy of raising as his own a child who is felt to be

especially admirable. Thus family life, in continuing, would tend to rise to an even higher level than before, and the love of the partners would tend to become even further cemented by their common devotion to their especially inspiring and gladsome social task. And it may be anticipated that there would be a strong tendency to increase in the birth rate as a result of the additional incentive to reproduction arising from this opportunity of having children who are especially gifted, lovable, vigorous, or otherwise desirable, and the having of whom is regarded as a special honor to their parents. This increase, moreover, would take place predominantly in those sections of the community having a more highly developed social consciousness, and hence likely to exert an especially salutary influence on the developing child.

As genetics shows, the passing on to a child of any particular genes present in the parents is in any individual case is a certain degree a matter of accident, but this accident is limited and governed by definite laws which enable us to say that the child of a highly endowed individual has a far higher chance than the average to receive a considerable part at least of his endowment.

This by no means implies that nearly all the children will be superior. But, grouping all such cases together, if one of the parents has an exceptionally high endowment in respect to some desired traits of intellect, temperament, or physique, his children will on the average stand half-way in their hereditary equipment between his high level and the general average. And it is quite possible, by means of the technique of artificial insemination which has been developed in this country, to use for such purposes the reproductive material of the most transcendently superior individuals, of the one in 50,000 or the one in 100,000, since this technique makes possible a multiplication of more than 50,000 times.

In this way, even considering that the children stand, on the average, only half-way, and vary greatly because of the role of accident, a very considerable step can be made even within a single generation. And the character of this step would in fact begin to be evident after only a few years, for by that time many children have already developed enough to be distinctly

recognizable as backward or advanced. After 20 years, there should already be very noteworthy results accruing to the benefit of the nation. And if at time capitalism still exists beyond our borders, this vital wealth in our youthful cadres, already strong through social and environmental means, but then supplemented even by the means of genetics, could not fail to be of very considerable advantage for our side. Now by making step after step in this way, through several generation, a level is soon reached by great numbers which correspond with that of the genetically best equipped individuals of today or which, by combining the varied gifts of the latter, in sum total even surpasses them. And this in turn supplies a kind of genetic tonic, as it were, a vitalizing element that diffuses out to mix with the whole population.

In the above way the most valuable genes become greatly multiplied, and have a chance to enter into still better combinations. At the same time the population as a whole reproduces itself and eventually reaps the advantage of absorbing and coming into combination with these valuable genes. The heredity of the ordinary person in succeeding generations does not die out, but it is given even more valuable additions and is thus enabled to find expression in a fuller, greater life. For the hereditary composition of a given individual is never inherited as an indivisible whole, but its elementary parts, its genes, always become dispersed, singled and recombined with others as the generations succeed one another.

All the above represents quite the antithesis of the "Race Purification" and so-called "Eugenics" of the Nazis and their kin, who set up artificial hierarchies of races and of classes, branding as inferior those whom capitalism wishes to oppress, and brandishing against them the knife of sterilization, or restriction. The social way, on the other hand, is positive, and works for a surplus reproduction that combines the highest endowments of every race, as found in a classless society. It does not force invidious comparisons between one man and his neighbor, because the genetic material which it disseminates for purely voluntary use is derived from sources so exceptional that virtually all would gladly recognize its outstanding worth. Many a mother of tomorrow, freed of the fetters of religious

superstitions, will be proud to mingle her germ plasm with that of a Lenin or a Darwin, and to contribute to society a child partaking of his biological attributes.

When individual differences become as great as these, every one recognizes them, and to act upon this recognition is but to be realists and to unite our theory with our practice. It is especially important that our practice to right in this field, for what material is as important to us as our human material? And it will be acknowledged that in deciding the production of children, the chief interests are the interests of the children themselves, and of the children's children. Theirs is the need, to which we should give in proportion to our own ability. Thus it is the duty of the present generation to see that the next is provided with the best obtainable genetic equipment, as well as with the highest physical technique and social structure which we can bequeath to them.

Looking at the matter in its historical and pre-historical perspective, we see that the grand march of biological evolution, which, through a thousand million years, carried life from microbe to man, was propelled by the forces of accidental variation and natural selection, as Darwin first showed, and as modern genetics have demonstrated much more clearly. This process produced great results, but it is in its essence cruel and painful, and most species, as well as most individuals, are eventually sacrificed on the altar of "trial and error."

After man had thus managed to develop to his present biological stage, his intelligence, coupled with his social traits, allowed an accumulation of tradition, accompanied by a social evolution following its own laws. These were economic and social laws, as shown by Marx and Engels. Now the circumstances thus endangered by man's social evolution introduced conditions which acted to hinder the further operation of natural selection, i. e. , man succeeded in escaping in part from this cruel harness. Accordingly, too, his biological evolution tended to come to a halt and in some respects he probably even became weaker biologically.

All the great pageant of barbarism and subsequent civilization, of man's advance in historical times in knowledge, technique,

organization, etc. has, as is well known, been a progress purely economic and social in its basis, i.e., the purely biological equipment of primitive man, though far from "perfect," was already equal to that of the civilized man of today.

At the present day, under socialism, a turning point of social evolution has been reached, where we can for the first time really look ahead, and where we suddenly see new and endless vistas of social evolution opening up, even without any further advance in the basis of man's biological nature, i.e., in his hereditary equipment, being necessary for this continued progression. But at the same time, there no longer remains any need why human advance should be limited to any one set of methods. For it now becomes possible, for the first time, for it to proceed in all directions at once, even in the biological direction. That is, the development of the social organization, through those laws that are peculiar to economic and social change, has led us by dialectic transgression to a stage of development allowing a new type of interaction of the social upon the biological,

In this stage it becomes possible to begin a conscious social control not only over social evolution as such, but, through it, over biological evolution also. Considering the enormous results achieved by natural biological evolution in the past, the potential value of a biological method of progression cannot be doubted. But the biological progression must occur not as the reactionaries would have it, by turning back the wheels of social evolution and by reintroducing processes like those of natural selection, from which man has managed with so much pain to escape, it must occur by introduction of a new and higher artificial technique, one which will help to guide reproduction positively, humanely, and consciously, in the interests of society, of man himself.

Thus will biological evolution again be resumed, this time in the service of social evolution, and it will take its place alongside the improvement of physical technique, of inanimate machines as one of the means employed in the furtherance of social evolution.

The above, in brief, is what appears to me to be the dialectic

view of the relations between biological and social evolution, and a real Bolshevik attack upon the matter will be based on the full recognition of these relations. In view of the immediately impending rise of discussion on matters relating to genetics it is important that the position of Soviet genetics on this subject should soon be clear. It should have its own standpoint, the positive, Bolshevik standpoint, to set against the so-called "Race Purification" and perverted "Eugenics" doctrines of the Nazis and their allies on the one hand and against the "laissez faire" and "go slow" doctrines of the despairing liberals on the other hand. Most liberals take an attitude of practical hopelessness and impotence with regard to human biological evolution, declaring that little or nothing can be done. This is in line with their political individualism and hopelessness. And even some communists, lacking a sufficient biological background, or influenced by liberal thought, have drifted to the pessimistic liberal position.

The positive, or, as I should like to term it, the "Bolshevik" view above outlined has recently been presented by me in a book, "Out of the Night" in which more details are developed than could be given above. Supporting this view is a group of some of the ablest geneticists of the world today. All of them are, in contrast to the geneticists of the two other camps, men of the political left, strong sympathizers with the Soviet Union. Friends of the cause of communism are in general rallying to their side, as shown by the favorable review of the above book in such communist controlled publications as the "Daily Worker" (New York), the "New Masses," and the "Book Union," and even in such mildly leftist publications as the "New Republic." We hope that you will wish to take this view under favorable consideration and will eventually find it feasible to have it put, in some measure at least, to a preliminary test of practice. For our science of genetics, with its great potentialities for man, should not remain on the side, but, like other sciences, should take its place dynamically and effectively within the great central stream of socialist development. Thus will the October Revolution have proved to be a turning point not only in social organization, in the development of physical technique and in the conquest of man over inanimate nature, but it will ever be remembered also as the turning point in that long story of biological evolution which, in the past million

millennia, has carried life forward so far, and yet so slowly, with so much waste, suffering and false trials. Banishing false gods, man, organized under socialism, must boldly assume the role of creator, conquering with Bolshevik enthusiasm even that most impregnable fortress which holds the key to his own inner being.

Hopelessly outdistanced even in this field, which they had falsely claimed to be peculiarly their own, the bourgeois and fascist nations would stand truly confounded, voicing impotent phrases of dismay. On the other hand, as the above quoted reviews indicate, the advance guard of the workers in these countries will be stirred by their realization of these profound possibilities of even biological progress being brought into actuality by socialism. Thus will they receive a still greater stimulus and encouragement in their contemplation of the all-inclusive character of the progress occurring here.

There are of course many important points of principle and practice involved in these proposals for which the present letter did not have space. Some of these are taken up in the book above mentioned, of which I am sending you a copy separately. I should be glad to go into any further details on these subjects, if that would be desired.

With deep respect,
In a brotherly spirit,

H. J. Muller

Senior geneticist of the Institute of Genetics
of the U. S. S. R. Academy of Sciences, Moscow,
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The text of the letter was made available courtesy of the Lilly Library, Indiana University, Bloomington, Indiana, and is published with the permission of Helen J. Muller, H.J.M.'s daughter. The heading and closing are given in reverse translation from the Russian, the text of which was found in the Archive of the President of the Russian Federation (Folio 3, Opus 30, No. 67, pp. 1-17). The Russian version was published by the Russian physicist Yuri Vavilov, Nikolai Vavilov's son. The Russian version appeared in the journal *Voprosy istorii estestvoznaniya i tekhniki* (History of Science and Technology), 1971, No. 1, with an introduction by the Russian geneticist Il'ya Zakharov. Margherita Candeloro assisted in transferring the text to electronic form.

