

of a kind of social environment in which superior individuals feel that life has values and possibilities which it is a privilege to pass on to one's children. This means developing a sense of responsibility and a faith in the future on the part of all our reasonable, capable people. Such an ideal is infinitely more difficult than the false hope of eugenics through dictatorship, but there may be no other solution.

When we consider these few facts bearing on the complicated question of human heredity and environment, it seems clear that the hope of our race lies not in following self-appointed prophets who play on our fears and prejudices but in working toward a culture in which normal people will have the greatest opportunity for developing and leading happy and useful lives. Such a program cannot ignore the knowledge we have gained by genetic research in corn and other organisms. Neither can it go far unless those who undertake to carry it out retain the reality of outlook and the humility of approach which the plant breeder, if he is to succeed, must have. We cannot legislate new varieties of corn or a better race of men. We must appeal to nature and we must apply the best fruits of the human mind and heart if we are to build that better world which is the dream not only of the eugenicist but of all pioneers of the human spirit.

[April 21, 1938.]

VIII: 1939

THE GENETIC BASIS OF DEMOCRACY

I WANT to pay tribute to Dr. Franz Boas. As chairman of the Lincoln's Birthday Committee for Democracy and Intellectual Freedom his leadership has done much to marshal the moral forces of science and to bring us together for this Lincoln's Birthday meeting of scientists in New York City today.

The cause of liberty and the cause of true science must always be one and the same. For science cannot flourish except in an atmosphere of freedom, and freedom cannot survive unless there is an honest facing of

facts. The immediate reason for this meeting is the profound shock you have had, and the deep feeling of protest that stirs in you, as you think of the treatment some of your fellow scientists are receiving in other countries. Men who have made great contributions to human knowledge and culture have been deprived of their positions and their homes, put into concentration camps, driven out of their native lands. Their lifework has been reviled.

In those same countries, other men, who call themselves scientists, have been willing to play the game of the dictators by twisting science into a mumbo-jumbo of dangerous nonsense. These men are furnishing pseudo-scientific support for the exaltation of one race and one nation as conquerors.

These things run counter to your whole tradition as scientists. You are not only amazed and shocked and moved to protest against the fate of your fellow scientists abroad. You shudder with the realization that these things have happened in scientifically advanced countries in the modern world—and that they might happen here.

Claims to racial superiority are not new in the world. Even in such a democratic country as ours, there are some who would claim that the American people are superior to all others. But never before in the world's history has such a conscious and systematic effort been made to inculcate the youth of a nation with ideas of racial superiority as are being made in Germany today.

Just what are these ideas? Let me quote from a translation of the *Official Handbook for the Schooling of the Hitler Youth*, the organization which includes some seventy percent of all the boys and girls in Germany of eligible age.

The handbook discusses the various races found in Germany and other parts of Europe. Concerning what it calls the Nordic race, it says: "Now what distinguishes the Nordic race from all others? It is uncommonly gifted mentally. It is outstanding for truth and energy. Nordic men for the most part possess, even in regard to themselves, a great power of judgment. They incline to be taciturn and cautious. They feel instantly that too loud talking is undignified. They are persistent and stick to a purpose when once they have set themselves to it. Their energy is displayed not only in warfare but also in technology and in scientific research. They are predisposed to leadership by nature."

But here is what the handbook says concerning what it calls the "Western race," found principally in England and France: "Compared to the Nordic race there are great differences in soul-qualities. The men of the Western race are . . . loquacious. In comparison with the Nordic . . .

men they have much less patience. They act more by feeling than by reason. . . . They are excitable, even passionate. The Western race with all its mental excitability lacks creative power. This race has produced only a few outstanding men."

Thus the dictatorial regime in Germany, masquerading its propaganda in pseudo-scientific terms, is teaching the German boys and girls to believe that their race and their nation are superior to all others, and by implication that that nation and that race have a right to dominate all others.

That is the claim. What ground does it have in scientific fact?

We must remember that down through the ages one of the most popular political devices has been to blame economic and other troubles on some minority group. But no one can claim with scientific certainty superiority for any race or nation so far as its inborn genetic characteristics are concerned. Indeed, no nation in Europe is a greater mixture of tribes and breeds than the Germans. This is of course nothing against them, but it makes absurd the claims of superior stock. The word Aryan as used by scientists and not by dictators means the people of the Caucasian race who speak one or another of the Indo-European languages. (Anyone can look it up in his dictionary.) Jews are of course Aryans, so are Hindus, so are Germans and French and English and most Americans. The dictators' misuse of the word Aryan is pure scientific faking.

Two thousand years ago there was nothing about the ancestors of the modern English or Germans to indicate either scientific, artistic, inventive or philosophic ability. Neither their traditions nor their economic opportunities permitted development along these lines. No scientist can say to-day with any certainty that many of the so-called backward races and nations do not have inborn genetic capacity which might flower unusually in the sciences, the arts or philosophy, provided only economic conditions and social institutions permitted.

When I was a small boy, George Carver, a Negro who is now a chemist at Tuskegee Institute, was a good friend of my father's at the Iowa State College. Carver at that time was specializing in botany, and he would take me along on some of his botanizing trips. It was he who first introduced me to the mysteries of botany and plant fertilization. Later on I was to have an intimate acquaintance with plants myself, because I spent a good many years breeding corn. Perhaps that was partly because this scientist, who belonged to another race, had deepened my appreciation of plants in a way I could never forget.

Carver was born in slavery, and to this day he does not definitely know his own age. In his work as a chemist in the South, he correctly sensed

the coming interest in the industrial use of the products of the farm—a field of research which our government is now pushing. I mention Carver simply because he is one example of a truth of which we who meet here today are deeply convinced. Superior ability is not the exclusive possession of any one race or any one class. It may arise anywhere, provided men are given the right opportunities.

It is the fashion in certain quarters to sneer at those so-called "poor whites," who suffer from poor education and bad diet, and who live in tumble-down cabins without mattresses. And yet I wonder if any scientist would care to claim that 100,000 children taken at birth from these families would rank any lower in inborn ability than 100,000 children taken at birth from the wealthiest one percent of the parents of the United States. If both groups were given the same food, housing, education and cultural traditions, would they not turn out to have about equal mental and moral traits on the average? If 100,000 German babies were raised under the same conditions as 100,000 Hindu babies or 100,000 Jewish babies, would there be any particular difference? No such experiments have been made or are likely to be made and so no absolutely scientific answer can be given. But when I raise such a question, I mean to imply that every race, every nation, and people from every economic group of society are a great genetic mixture. There is far greater variability among the heredity of individuals within the groups than among the groups. There may be a certain amount of stability of type with regard to skin and eyes and hair, but with regard to mental and emotional characteristics there is very little evidence of genetic uniformity for any race or nation. There may be a great deal of uniformity with respect to traditions but not with respect to complex hereditary characters.

In all of this I do not mean to say that heredity does not work with human beings just as truly as it does with plants and animals. Nor do I mean to deny that a master breeder living for a thousand years might do extraordinary things in the way of fixing human types of unusual longevity, resistance to disease, musical ability or any one of a number of characteristics. A master breeder who had a dictator's control for several generations might be able to fix a standard blue-eyed, longheaded, fair-haired type of the most approved Nordic specifications. But from our studies in livestock breeding we know that the more complex characteristics are usually altogether separate from such superficial characteristics as skin, hair, or eye color. The color of a cow's hair, for instance, has nothing to do with her ability to produce milk, and there is no reason to think that the color of a man's hair has anything to do with his ability to produce ideas. And so it is quite possible that the master breeder, being

concerned primarily with physical appearance, would find he had produced a group of blond morons—useful to him mainly as a superior type of cannon fodder.

On the whole, it seems probable that nowhere in the world in the next couple of centuries will a genuinely scientific attempt, in the sense understood by the plant or animal breeder, be made to breed for superior types of human beings. The different races and nations will continue to be conglomerates with a vast variability of mental and emotional qualities and the other abilities which make for leadership and genius.

Under what conditions will the scientist deny the truth and pervert his science to serve the slogans of tyranny? Under what conditions are great numbers of men willing to surrender all hope of individual freedom and become ciphers of the State? How can these conditions be prevented from occurring in our country?

Seeking to answer all such questions honestly, we shall inevitably come upon certain truths that are not flattering to us. We shall find in our own country some of the conditions that have made possible what we see abroad. It is not enough simply to hope that these conditions will not reach such extremes here as they have in some other countries. We must see to it that they do not. When a political system fails to give large numbers of men the freedom it has promised, then they are willing to hand over their destiny to another political system. When the existing machinery of peace fails to give them any hope of national prosperity or national dignity, they are ready to try the hazard of war. When education fails to teach them the true nature of things, they will believe fantastic tales of devils and magic. When their normal life fails to give them anything but monotony and drabness, they are easily led to express themselves in unhealthy or cruel ways, as by mob violence. And when science fails to furnish effective leadership, men will exalt demagogues, and science will have to bow down to them or keep silent.

The ironic fact is that the economic maladjustments of the present day which threaten our democracy and the freedom of science are in large part due to the changes wrought by science. In a democracy, every individual according to his station in life and according to his capacity should have opportunity for joyous service of the general welfare. Scientists, by their discoveries and inventions—which in countless ways have enriched our lives—have at the same time, without intending to do so, helped to break down this kind of democracy. Quite without intention, they have helped to replace it with an industrial system in which a small number of individuals make the decisions and the great majority have no feeling that they are taking part according to their capacity on equal terms in a

common enterprise. Quite without intention they have helped to build an industrial system in which the security of an earlier day has been replaced with the hazard of unemployment. During 1931 and 1932, many scientists, accustomed to working quietly in their laboratories and with little thought for their own economic security, suddenly found their salaries cut in half or their jobs completely gone. Yes, scientists now know that in their own self-defense their methods, in the deepest and most spiritual sense, must eventually serve the general welfare in the economic and social world.

Today, on the 130th anniversary of the birth of Abraham Lincoln, it is especially encouraging that science is facing the facts concerning the long-run effects of its own past achievements. It is encouraging that science at last is working actively for economic security and is coming actively to the defense of "government of the people, by the people, for the people."

Democracy—and that term includes free science—must apply itself to meeting the *material* need of men for work, for income, for goods, for health, for security, and to meeting their *spiritual* need for dignity, for knowledge, for self-expression, for adventure and for reverence. *And it must succeed.* The danger that it will be overthrown in favor of some other system is in direct proportion to its failure to meet these needs. We may talk all we like about the beauties of democracy, the ideals of democracy, the rightness of democracy. In the long run, democracy or any other political system will be measured by its deeds, not its words.

The survival and the strength of American democracy are proof that it has succeeded by its deeds thus far. But we all know it contains the seeds of failure. I for one will not be confident of the continued survival of American democracy if millions of unskilled workers and their families are condemned to be relieved all their lives, with no place in our industrial system. I will not be confident of the survival of democracy if economic crises every few years continue to put fear into the hearts of millions of skilled and professional workers. I will not be confident of the survival of democracy if half our people must continue to be below the line of decent nutrition, while only one-tenth succeed in reaching really good nutritional standards. I will not be confident of the survival of democracy if most of our children, which means most of our future citizens, continue to be reared in surroundings where poverty is highest and education is lowest.

These are the conditions that made possible what we are now witnessing in certain large areas of the world. They are the seeds of danger to democracy. Given a healthy, vigorous, educated people, dignified by work, sharing the resources of a rich country, and sure that their political

and economic system is amply meeting their needs—given this, I think we can laugh at any threat to American democracy. But democracy must continue to deliver the goods.

Let us dedicate ourselves anew to the belief that there are extraordinary possibilities in both man and nature which have not yet been realized, and which can be made manifest only if the individualistic yet co-operative genius of democratic institutions is preserved. Let us dedicate ourselves anew to making it possible for those who are gifted in art, science and religion to approach the unknown with true reverence, and not under the compulsion of producing immediate results for the glorification of one man, one group, one race or one nation. [*February 12, 1939.*]

In this, the last full year that Wallace served as Secretary of Agriculture, the situation as to agricultural supplies and the administrative problems of Triple-A had come through further trials and changes. The drought of 1936, contributing to price rises in 1937, brought on further consumer buying "strikes" and agitation; and the generally good growing weather of 1937 led to lower prices to farmers and threat of renewed surplus stocks, unmarketable at a price that would keep farmers buying industrial goods and the amenities of American civilization in 1939. Now, in 1939, with prospect of a more active participation in the war impending, the Secretary of Agriculture and his aides found it necessary to issue statement after statement decrying panic buying and food hoarding. From the first Wallace had insisted that agricultural adjustment measures must be so adjustable as to spur production, not retard it. As far back as 1934 he had felt and almost had said (see pp. 82ff.) that American participation in another World War was probable, if not inevitable. He had no fear of accumulating "surplus" food and fabric now. He was virtually certain that the utmost product of our land would be needed; also, he foresaw, as to products such as rubber, not native to our land or clime, crucial shortages; and the Department of Agriculture at his urging had been pushing exploration of rubber sources for four years. He had been studying Spanish since 1936, and could now speak the language well enough to be understood in speeches and in conversation. During the closing phases of his work as Secretary of Agriculture, he placed all possible emphasis on good-neighborly relations with Pan America, on the extension of the ever-normal-granary principle internationally, and on the continuing need of honest conservation (wise use, not heedless wreckage of the country's basic resources) in time of war.

Appearing on April 13, 1939, before the Agricultural Appropriations of the Senate, Wallace said:

As Secretary of Agriculture, I have been interested for some months in working out a practical plan whereby the United States might exchange certain agricultural raw materials with other countries for reserves outside of current commerce and as part of our national defense program. Products such as cotton and wheat, the surpluses of which are a weakness to

our domestic economy, might profitably be traded for other products, such as rubber and tin, which would be a strength to our domestic economy if held as reserves against the contingency of foreign supplies being cut off. Conversations have been held with the State Department and other agencies that would be involved. Senator Byrnes has given a most statesman-like presentation of our objectives along these lines, and the President has stressed the urgency of actually effecting such transfers as soon as possible.

This led to a trade, conducted by the Commodity Credit Corporation, U.S.D.A., whereby the United States exchanged 600,000 bales of cotton for 90,000 tons of rubber—enough to make 18,000,000 tires; and this rubber was added to the nation's stockpile.

PAN AMERICA

The events of Europe and Asia have waked us up. We are challenged to build here on this hemisphere a new culture which is neither Latin American nor North American but genuinely inter-American. Undoubtedly it is possible to build up an inter-American consciousness and an inter-American culture which will transcend both its Anglo-Saxon and its Iberian origins. As long as we were looking across the Atlantic Ocean, this was not possible, but now that we are looking north and south, everything is possible. How can this be done?

We can teach Spanish, Portuguese, Latin American history and Latin American culture much more extensively in our high schools and colleges. We can give some insight into Latin American law. There can be an exchange of radio programs in the appropriate language on the long wave lengths in each country. American books translated into Portuguese and Spanish should be more readily available in Latin America, and vice versa. There should be frequent interchanges of art exhibits among the leading cities of the Americas.

Some day there will be a genuine inter-American university. To this university will come postgraduate students from both North and South America. This university, if it is inspired by the right president and professors, can serve as the cradle of the soul of the Pan America that is to be. Here the Pan-American leadership for the next generation will be able to find its inspiration. Here future statesmen can form friendships while they are in their twenties.

One of the greatest of all culture-spreading institutions is the highway. The Pan-American Highway, to connect North America with its southern neighbors, has now reached a point about sixty-five miles south of Mexico

City. About one-quarter of the distance between Mexico City and Panama has been made passable for automobiles in all weather. We should complete the Pan-American Highway as rapidly as possible.

In the long run, however, there can be no genuinely abiding sense of cultural unity unless there is a firm basis of economic reciprocity. Ships carrying cargoes of goods must move back and forth between the two continents. Businessmen must increase their travels by ship or plane.

There are a number of products, for which we are now dependent on the Old World, that Latin America could grow. The best example is rubber. Although the rubber plant is a native of the New World, we import nearly a billion pounds of rubber each year from the East Indies. In case of a world war our lack of this product is likely to be our Achilles' heel. It is the greatest obstacle to our having a self-sustaining hemisphere.

It would seem wise for the Americas to begin to plan at once for the gradual assertion of independence as to rubber. It will be a slow job because in Latin America they have what is known as the South American leaf-spot disease, which is absent in the rubber-growing sections of the East Indies (there are, of course, rubber diseases in the East Indies equally bad). But by using scientific methods it will undoubtedly be possible to develop in Latin America strains of rubber plants which are both high yielding and disease-resisting. This will require the utmost co-operation between Latin-American people and resources and North American science and capital; but the job can and will be done within a few years after the will to do it definitely appears.

Abaca or Manila hemp is another plant, noncompetitive with our agriculture, which can be cultivated to good advantage in Central and South America.

Another product from across the Pacific which can easily be produced in tropical America is quinine from cinchona.

Science, capital and management, if fostered by sympathetic governments, can make tropical Latin America into a significant new frontier and at the same time enable the New World gradually to break its dependence on the Old World for many materials.

If in the future we think in terms of science, of management, of cultural understanding and of the nature of the entire hemisphere, our relations with Latin America may well prove to be of the utmost significance for our children and our grandchildren. If we in the United States do as much toward learning Spanish and understanding Latin American culture as the Latin Americans are doing today toward learning English and

understanding North American culture, I have no fear as to the triumph of peace and democracy in this hemisphere for many centuries to come.

[*Article in The New York Times Magazine, July 9, 1939.*]

In advocating Pan-Americanism as a dominant feature in our national policy for the future, I do not wish to obscure the fact that an Old World upset by Communism, Fascism, and Nazism is bound to have the most serious repercussions on all of the Americas, the United States included. The most ardent Pan-Americans cannot realistically advocate complete isolation from Europe. The Europeans are our own flesh and blood. While we completely abhor their totalitarian and imperialistic systems, we know that the day will inevitably come when these systems will bring the utter misery which is inherent in them. Then it will be up to us in the New World, in a sensible, practical fashion and not in a premature idealistic way, to help them out of their trouble.

In all safe ways we shall at all times stand ready, in conformity with our American principles, to furnish leadership looking toward international peace and international trade among the peoples of the Old World.

As an ultimate ideal, the bulk of the American people will always respond to Woodrow Wilson's dream of a League of Nations, and to the vision of the prophets of Isaiah and Micah of a universal, charitable peace. Our strength is today not equal to the task of composing the differences which exist in Europe and Asia. Our task, in co-operation with the twenty Latin American republics, is to do a first-class job of laying a foundation for democracy on this hemisphere—for the kind of democracy that will conserve our soil and people for thousands of years to come.

We shall hope for the day when the Old World is no longer preparing for its wars and fighting its wars. We shall hope for the day when the New World can help put an end to war. For the New World is determined to live and act for peace.

[*Before the Commonwealth Club of San Francisco, October 27, 1939.*]

SOIL DEFENSE

Today the nations of Asia and Europe and their possessions, comprising almost one billion people, are in a campaign of wholesale destruction. If this destruction continues, these nations are doomed to leave their lands prostrate in material and human resources. It is now vital that *our* great nation begin a vast and healing program of conservation for our-

selves which may later also give war-exhausted peoples an incentive to start anew on civilization's upward path.

On its lands and natural resources a nation will rise or fall. Our nation has come to a stage where conservation of our basic wealth is vital. Upon the conservation of what we have today our civilization *may* project itself into the future with continued progress in democracy and high standards of living.

We must watch out lest conservation of our physical resources be pushed with full regard for the loss of dollars flowing off and down our streams, but with no primary regard for wasted humanity. It is selfishness that has destroyed our natural resources, and to plead for conservation merely to stop the loss of dollars is to appeal to the same selfishness that wrought the destruction.

It is only when human beings become the primary objective that conservation becomes the highest national virtue. Conservation can never become our master plan except as a nation's restitution for a great wrong done—not to land, but to people.

Society must move to mend and restore what society has maimed or wounded. Man *can* develop a harmonious relationship between himself and the world of hard physical fact. He *can* recognize the realities he is up against, and nevertheless rise superior to them. If we Americans cared even half as much for the mechanics by which soils are laid down and life is supported as for the mechanics of automotive transportation, we could soon utilize our continent safely and transform it into the garden spot of the world. [*To the Association of Land-Grant Colleges and Universities, Washington, D. C., November 17, 1939.*]

IX: 1940

WITH A CAMPAIGN for the unprecedented third term impending, Wallace was the first of Mr. Roosevelt's official family to speak for the President's reelection. At a Jackson Day dinner in Des Moines on January 8, "I hope the nominee in 1940 will be President Roosevelt," he said. The White House issued a mild reprimand. Wallace grinned and did not apologize. The opinion, so generally held, that Wallace lacks political acumen derives, it may well be argued, more from the abruptness of his pronouncements than from their