

SCIENCE

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RACE PROBLEMS IN AMERICA¹

THE development of the American nation through amalgamation of diverse European nationalities and the ever-increasing heterogeneity of the component elements of four people have called attention to the anthropological and biological problems involved in this process.

I propose to discuss here these problems with a view of making clear the hypothetical character of many of the generally accepted assumptions. It will be our object to attempt a formulation of the problems, and to outline certain directions of inquiry, that promise a solution of the questions involved, that, at the present time, can not be answered with scientific accuracy. It is disappointing that we have to accept this critical attitude, because the events of our daily life bring before our eyes constantly the grave issues that are based on the presence of distinct types of man in our country, and on the continued influx of heterogeneous nationalities from Europe. Under the pressure of these events, we seem to be called upon to formulate definite answers to questions that require the most painstaking and unbiased investigation. The more urgent the demand for final conclusions, the more needed is a critical examination of the phenomena and of the available methods of solution.

Let us first represent to our minds the facts relating to the origins of our nation. When British immigrants first flocked to the Atlantic coast of North America, they found a continent inhabited by Indians. The population of the country was thin,

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¹ Address of the vice-president and chairman of Section H, American Association for the Advancement of Science, Baltimore, 1908.

and vanished comparatively rapidly before the influx of the more numerous Europeans. The settlement of the Dutch on the Hudson, of the Germans in Pennsylvania, not to speak of other nationalities, is familiar to all of us. We know that the foundations of our modern state were laid by Spaniards in the Southwest, by French in the Mississippi Basin and in the region of the Great Lakes, but that the British immigration far outnumbered that of other nationalities. In the composition of our people, the indigenous element has never played an important rôle, except for very short periods. In regions where the settlement progressed for a long time entirely by the immigration of unmarried males of the white race, families of mixed blood have been of some importance during the period of gradual development, but they have never become sufficiently numerous in any populous part of the United States to be considered as an important element in our population. Without any doubt, Indian blood flows in the veins of quite a number of our people, but the proportion is so insignificant that it may well be disregarded.

Much more important has been the introduction of the negro, whose numbers have increased many fold so that they form now about one eighth of our whole nation. For a certain length of time the immigration of Asiatic nations seemed likely to become of importance in the development of our country, but the political events of recent years have tended to decrease their immediate importance considerably; although we do not venture to predict that the relation of Asiatics and white Americans may not become a most important problem in the future. These facts, however, are familiar to all of us and stand out clearly to our minds.

More recent is the problem of the immigration of people representing all the na-

tionalities of Europe, western Asia and northern Africa. While until late in the second half of the nineteenth century the immigrants consisted almost entirely of people of northwestern Europe, natives of Great Britain, Scandinavia, Germany, Switzerland, Holland, Belgium and France, the composition of the immigrant masses has changed completely since that time. With the economic development of Germany, German immigration has dwindled down; while at the same time Italians, the various Slavic peoples of Austria, Russia and the Balkan Peninsula, Hungarians, Roumanians, east European Hebrews, not to mention the numerous other nationalities, have arrived in ever-increasing numbers. There is no doubt that these people of eastern and southern Europe represent a physical type distinct from the physical type of northwestern Europe; and it is clear, even to the most casual observer, that their present social standards differ fundamentally from our own. Since the number of new arrivals may be counted in normal years by hundreds of thousands, the question may well be asked, What will be the result of this influx of types distinct from our own, if it is to continue for a considerable length of time?

It is often claimed that the phenomenon of mixture presented in the United States is unique; that a similar intermixture has never occurred before in the world's history; and that our nation is destined to become what some writers choose to term a "mongrel" nation in a sense that has never been equaled anywhere.

When we try to analyze the phenomena in greater detail, and in the light of our knowledge of conditions in Europe as well as in other continents, this view does not seem to me tenable. In speaking of European types, we are accustomed to consider them as, comparatively speaking, pure stocks. It is easy to show that this view

is erroneous. It is only necessary to look at a map illustrating the racial types of any European country—like Italy, for instance—to see that local divergence is the characteristic feature, uniformity of type the exception. Thus Dr. Ridolfo Livi, in his fundamental investigations on the anthropology of Italy, has shown that the types of the extreme north and of the extreme south are quite distinct—the former tall, short-headed, with a considerable sprinkling of blond and blue-eyed individuals; the latter short, long-headed and remarkably dark. The transition from one type to the other is, on the whole, quite gradual, but, like isolated islands, distinct types occur here and there. The region of Lucca in Tuscany and the district of Naples are examples of this kind, which may be explained as due to the survival of an older stock, to the intrusion of new types, or to a peculiar influence of environment.

Historical evidence is quite in accord with the results derived from the investigation of the distribution of modern types. In the earliest times we find on the peninsula of Italy groups of heterogeneous people, the linguistic relationships of many of which have remained obscure up to the present time. From the earliest prehistoric times on, we see wave after wave of people invading Italy from the north. Very early Greeks settled in the greater part of southern Italy and Phœnician influence was well established on the west coast of the peninsula. A lively intercourse existed between Italy and northern Africa. Slaves of Berber blood were imported and have left their traces. Slave trade continued to bring new blood into the country until quite recent times, and Livi believes that he can trace the type of Crimean slaves who were introduced late in the Middle Ages in the region of Venice. In the course of the centuries, the migra-

tions of Celtic and Teutonic tribes, the conquests of the Normans, the contact with Africa, have added their share to the mixture of people on the Italian peninsula.

The fates of other parts of Europe were no less diversified. The Pyrenæan Peninsula, which at present seems to be one of the most isolated parts of Europe, had a most checkered history. The earliest inhabitants of whom we know were presumably related to the Basques of the Pyrenees. These were subjected to Oriental influences in the Pre-Mycenæan period, to Punic influences, to Celtic invasions, Roman colonization, Teutonic invasions, the Moorish conquest, and later on to the peculiar selective process that accompanied the driving-out of the Moors and the Jews.

England was not exempt from vicissitudes of this kind. It seems plausible that at a very early period the type which is now found principally in Wales and in some parts of Ireland occupied the greater portion of the islands. It was swamped by successive waves of Celtic, Roman and Anglo-Saxon migration. Thus we find change everywhere.

The history of the migrations of the Goths, the invasions of the Huns, who in the short interval of one century moved their habitations from the borders of China into the very center of Europe, are proofs of the enormous changes in population that have taken place in early times.

Slow colonization has also brought about fundamental changes in blood as well as in diffusion of languages and cultures. Perhaps the most striking recent example of this change is presented by the gradual Germanization of the region east of the Elbe River, where, after the Teutonic migrations, people speaking Slavic languages had settled. The gradual absorption of Celtic communities, of the Basque, in ancient times the great Roman colonization,

and later the Arab conquest of north Africa, are examples of similar processes.

Intermixture in early times was not by any means confined to peoples which, although diverse in language and culture, were of fairly uniform type. On the contrary, the most diverse types of southern Europe, northern Europe, eastern Europe and western Europe, not to mention the elements which poured into Europe from Asia and Africa, have been participants in this long-continued intermixture.

There is, however, one fundamental difference in regard to the early European migrations and the modern trans-Atlantic migration. On the whole, the former took place at a period when the density of population was, comparatively speaking, small. There is no doubt that the number of individuals concerned in the formation of the modern types of Great Britain were comparatively few as compared with the millions who come together to form a new nation in the United States; and it is obvious that the process of amalgamation which takes place in communities that must be counted by millions differs in character from the process of amalgamation that takes place in communities that may be counted by thousands. Setting aside social barriers, which in early times as well as now undoubtedly tended to keep intermingling peoples separate, it would seem that in the more populous communities of modern times a greater permanence of the single combining elements might occur, owing to their larger numbers, which make the opportunities for segregation more favorable.

Among the smaller communities the process of amalgamation must have been an exceedingly rapid one. After the social distinctions have once been obliterated, pure descendants of one of the component types decrease greatly in number, and the fourth generation of a people consisting

originally of distinct elements will be almost homogeneous. I shall revert to this phenomenon later on.

It might be objected to this point of view, that the very diversity of local types in Europe proves the homogeneity of race types—as, for instance, of the north-western European type, the Mediterranean type, the east European type, or the Alpine type; but it must be remembered that we have historical proof of the process of mixture, and that the relative number of component elements is sufficient to account for the present conditions.

I think we may dismiss the assumption of the existence of a pure type in any part of Europe, and of a process of mongrelization in America different from anything that has taken place for thousands of years in Europe. Neither are we right in assuming that the phenomenon is one of a more rapid intermixture than the one prevailing in olden times. The difference is based essentially in the masses of individuals concerned in the process.

If we confine our consideration for the present to the intermixture of European types in America, I think it will be clear, from what has been said before, that the concern that is felt by many in regard to the continuance of racial purity of our nation is to a great extent imaginary. The history of Europe proves that there has been no racial purity anywhere for exceedingly long periods, neither has the continued intermixture of European types shown any degrading effect upon any of the European nationalities. It would be just as easy to prove that those nations that have been least disturbed have lacked the stimulus to further advance and have passed through periods of quiescence. The history of Spain might be interpreted as an instance of an occurrence of this kind.

The question as to the actual effects of intermixture will not, however, be an-

swered by a generalized historical treatment such as we have attempted here. The advocates of the theory of a degradation of type by the influx of so-called "lower" types will not be silenced by reference to earlier mixtures in Europe, the course of which can no longer be traced in actual detail for we do not know to what extent actual intermarriages have taken place, and what the development of families of mixed descent as compared with those of pure descent has been. It seems necessary that the problem should be approached from a biological standpoint. It seemed well, however, to gain first a clearer view of the historical relations of our problem. A knowledge of the events of the past tends to lay our apprehensions, that make the problem exciting, and which for this reason fill the observer with a strong bias for the results which he fears or desires.

Two questions stand out prominently in the study of the physical characteristics of the immigrant population. The first is the question of the influence of selection and environment in the migration from Europe to America. The second is the question of the influence of intermixture. A beginning of a thorough study of the former question was made as early as the time of the civil war, when Gould and Baxter, in their statistics of the enlisted soldiers, proved that the immigrant representatives of European nations were always better developed than the corresponding people in Europe. It has not been possible, up to the present time, to learn whether this difference is due to better development here or to a process of selection, by which the weaker elements are eliminated before leaving their home country. It would be easy to ascertain the facts by an investigation of the arriving immigrants. That there is good reason to suppose that more favorable social surroundings in the United States have much

to do with the better development of the immigrants is proved by the anthropometrical statistics collected by Bowditch in Boston and by Peckham in Milwaukee, who found that the children growing up in America are better developed than European children. Although much additional material has been collected on the old lines, the fundamental questions which are involved in this investigation have never received adequate attention. Statistics which I had occasion to collect recently seem to show that the development of children of immigrants is the better the longer their parents have been in the United States. I presume this merely suggests that the economic well-being of the immigrants increases, on the whole, with the length of their stay here, and that the corresponding better nutrition of the children results in better physical development. Whether, however, the whole change can be explained adequately in this manner is open to doubt. It is quite possible that the type may undergo certain changes due to environment.

In how far types must be considered as stable is a question in regard to which there is still considerable diversity of opinion. Investigators like Kollmann maintain the absolute stability of the types now existing; while, on the other hand, indications are not absent which suggest a changeability of types, at least in certain respects. It would seem that stature may be considerably influenced by long-continued more or less favorable environment. There are investigators who maintain that the more or less energetic use of the jaws may influence the form of the head, owing to the pressure brought about by the muscles, which tend to compress the skull laterally. On the other hand, we have very clear evidence that features, like the form of the head, the form of the face and stature, are inherited from generation to

generation with great persistence. As long as these questions are still so far from being settled, it seems necessary to take into consideration the possibility of a change of type in the immigrants, due to the new surroundings in which they have been placed. Some anthropologists in America have even gone so far as to claim that the geographical environment affects the European in such a way that he begins to resemble the Indian type. I have failed to find, so far, even a trace of evidence on which this opinion can be based.

The only indication that I can offer which might suggest an influence of environment is an observation which I made a number of years ago in Massachusetts, where I found that the variability of type was remarkably low, considering the mixed composition of the population—a variability which is less than the corresponding values obtained in Europe. But a sporadic observation of such a character is, of course, entirely insufficient to solve a problem of this magnitude. It would seem to my mind that one of the most important and fundamental investigations that have to be made in regard to the question of the biological assimilation of immigrants is a thorough discussion of the sameness or change of type of the second and third generations.

It has often been observed that the local types which have developed in America show a considerable amount of individualization. Some of this may very well be due to the influence of environment. It might be, for instance, that the tallness of the people of Kentucky is due to the lime-water of that area. This would be in accord with the observations made by Røese in Gotha, who found that the stature in that city had changed with the introduction of hard water. It will certainly be possible to carry through this inquiry among a people like the Italians or Swedes,

where the anthropometrical conditions of the home country are fairly well known, while for many other nationalities parallel inquiries in Europe and in America would be necessary. Even if, by extended inquiries into the physical characteristics of the descendants of immigrants, the modifications of their type should become well known, the problem would still remain. In how far do these types increase in a pure state after their migration, in how far do they tend to become extinct, and what tendency they have to mix with the rest of the population. It seems best to defer a discussion of this question until after consideration of the influence of race intermixture.

Here we may consider again the physical effect of intermixture and the propagation of mixed types independently. I regret to say that the available information in regard to this point is, if anything, more meager than that relating to the modification of types after their migration into this country. The fundamental question that must be asked is, whether the mixture of two distinct types of man tends to produce an intermediate homogeneous type in which certain of the characteristics of the parents appear blended, or whether the resultant tends to exhibit reversion to the parental types. This reversion may again be two-fold. We may either find a complete reversion to one of the component parental types, or we may find a mixture of traits, some resembling the one parent, some the other parent. Obviously this question is most intimately related to the whole study of Mendelian inheritance, which occupies such a prominent place in the work of modern biologists. So far, the results obtained from a study of human types are few in number. I believe the earliest observation in regard to this subject was made by Felix von Luschan, who found as early as 1884 that the inhabitants of the south coast of

Asia Minor, who are the descendants of intermarriages between a short-headed type of the central parts of Asia Minor and of the long-headed south coast type—a mixture which has continued for thousands of years—show clear evidence of alternating inheritance. In 1895 I was able to show (utilizing fairly extended observations) that the mixed blood resulting from unions of American Indians and whites shows, in regard to certain traits, a clear tendency to reversion to either parental type; while in other respects (for instance, in stature) new characteristics seem to develop. A recent inquiry into heredity among east European Jews shows that here also the children show a tendency to revert either to the father's or to the mother's type. This result is interesting, because it bears upon unions inside of a fairly uniform type of man. Other observations relate to the inheritance of abnormal traits, all of which seem to suggest, if not true Mendelism, at least the occurrence of alternating inheritance. However, the observations on mixtures of Indian and white have shown that while alternating inheritance may be found in regard to such traits as the form of the head and face, the development of the bulk of the body follows different laws. Notwithstanding these observations, the whole problem of the effects of race intermixture upon the various characteristic traits of human types is entirely unsolved.

It is not too much to say that the whole work in this field remains to be done. We do not know what weight to give to the small differences of types such as are found in Europe, and whether these differences are sufficiently great to be considered important as compared with the differences between individuals of the same geographical type but belonging to opposite ends of the local series. We must not forget that the people of Europe in each locality are

very variable, and that we may find (for instance, in Scotland) considerable numbers of individuals who will differ from one another more than do the average individuals of, let me say, Scotland and southern Italy. The question of the effects of intermixture of types can, therefore, not be treated entirely separately from the question of intermarriages among people belonging to the same locality. And it is worth considering whether the remoteness of blood relationship in different parts of Europe, as compared to the closer blood relationship inside of a narrow territory, may not outweigh all the influences of the differences of geographical types. The whole question seems to be most complex, and worthy of the most detailed and thorough study; but I do not venture to predict the anatomical and physiological effects of intermixture without a most painstaking investigation, which has not been made up to this time.

Considering our lack of knowledge of the most elementary facts that determine the outcome of these processes, I feel that it behooves us to be most cautious in our reasoning, and particularly to refrain from all sensational formulations of the problem, that are liable to add to the prevalent lack of calmness in its consideration; the more so since the answer to these questions concerns the welfare of millions of people.

The problem is one in regard to which speculation is as easy as accurate studies are difficult. Basing our arguments on ill-fitting analogies with the animal and plant world, we may speculate on the effects of intermixture upon the development of new types—as though the mixture that is taking place in America were in any sense, except a sociological one, different from the mixtures that have taken place in Europe for thousands of years; looking for a general degradation, for re-

version to remote ancestral types, or towards the evolution of a new ideal type—as fancy or personal inclination may impel us. We may enlarge on the danger of the impending submergence of the northwest European type, or glory in the prospect of its dominance over all others. Would it not be a safer course to investigate the truth or fallacy of each theory rather than excite the public mind by indulgence in the fancies of our speculation. That these are an important adjunct in the attainment of truth, I do not deny; but they must not be promulgated before they have been subjected to a searching analysis, lest the credulous public mistake fancy for truth.

If I am not in a position to predict what the effect of mixture of distinct types may be, I feel confident that this important problem may be solved, if it is taken up with sufficient energy and on a sufficiently large scale. An investigation of the anthropological data of people of distinct types—taking into consideration the similarities and dissimilarities of parents and children, the rapidity and final result of the physical and mental development of children, their vitality, the fertility of marriages of different types and in different social strata—such an investigation is bound to give us information which will allow us to answer these important questions definitely and conclusively.

The final result of race mixture will necessarily depend upon the fertility of the present native population and of the newer immigrants. It has been pointed out repeatedly that the birth-rate of Americans has declined with great rapidity, and that in the second and third generations of immigrants the same decline makes itself felt. It will therefore be important to know what the relation of fertility of different types may be.

If the fertility of foreigners continues high without a corresponding higher death-

rate of children, we may anticipate a gradual increase of the physical influence of the more fertile type. The immigration of the divergent types of southern and eastern Europe is, however, so recent, that this question can not be answered until at least twenty years more have elapsed.

No less important than the fertility of each immigrant type by itself is the question, in how far they tend to intermarry. The data presented in our census reports do not give a clear insight into this tendency among various nationalities. The difficulties of collecting significant statistics on the problem are very great. They appear particularly clear in the case of Italians. Married men from Italy come to the United States, earn some money, and go back to rejoin their families. They may come again, and, when conditions are propitious, they may finally send for their families to follow them. Thus we find among the Italian immigrants very large numbers who were married before they came here. It seems almost impossible to separate the contingent of couples married before their arrival here from those married after their arrival, and the chief point of interest to us lies in the intermarriages of children born in this country. It is natural that in large cities, where nationalities separate in various quarters, a great amount of cohesion should continue for some time; but it seems likely that intermarriages between descendants of foreign nationalities are much more common than the census figures would make it appear. Our experience with Americans whose grandparents immigrated into this country is, on the whole, that most social traces of their descent have disappeared, and that many do not even know to what nationalities their grandparents belonged. It might be expected—particularly in Western communities, where a rapid change of location

is common—that this would result in a rapid mixture of the descendants of various nationalities. This inquiry, which it is quite feasible to carry out in detail, seems indispensable for a clear understanding of the situation.

It is somewhat difficult to realize how rapidly intermixture of distinct types takes place, if the choice of mates is left entirely to accident. I have made this calculation; and I find that in a population in which two types intermingle, and in which both types occur with equal frequency, there will be in the fourth generation less than one person in ten thousand of pure descent. When the proportion of the two original types is as nine to one, there will be among the more numerous part of the population only eighteen in one thousand in the fourth generation that will be of pure blood. Taking these data as a basis, it is obvious that intermixture, as soon as the social barriers have been removed, must be exceedingly rapid; and I think it safe to assume that one hundred years from now, in the bulk of our population, very few pure descendants of the present immigrants will be found.

Unfortunately, however, we do not know the influence of racial cohesion. Obviously this is one of the fundamental points that ought to be known in order to gain a clear insight into the effect of recent immigration. The data collected by our census and by other agencies do not contain this information, which is one of the most urgent desiderata for an understanding of the composition of the American population. I may therefore express the hope that this question may be included in the census to be organized next year, or may be otherwise provided for by an inquiry to be undertaken under the auspices of the government. Without this information, the whole discussion of the effect of intermixture will remain speculative.

No material whatever is available to answer the question whether mixture of types is favorable for the physical development of the individual, or unfavorable. Statistics collected in the Argentine Republic tend to show that with a mixture of similar types, but from remote countries, considerable changes in the proportions of the sexes develop. Observations on half-breed Indians show that a type taller than either parental race develops in the mixed blood; that the fertility of the mixed blood is increased; and I can not find any evidence that would corroborate the view, so often expressed, that the hybrid of distinct types tends to degenerate.

I have refrained entirely from a discussion of the social problem, which is no less important than the one referring to the physical types of the descendants of immigrants; and I do not intend to include this question in our consideration, which is devoted to the anthropological problem only.

I have also devoted attention essentially to the biological problems presented by the immigration of European nations, but I must not conclude my remarks without referring at least to the serious problem presented by the negro population of our country. When compared with the contrast between the negro and the white, the differences of the European types seem insignificant; and the unity of the European race, as contrasted with the negro race, becomes at once apparent.

I do not intend to take up the whole question of racial inferiority, which can not be treated adequately in the brief time that I can devote to this subject. I must confine myself to a statement of my opinion, which I have repeatedly tried to substantiate. I do not believe that the negro is, in his physical and mental make-up, the same as the European. The anatomical differences are so great that corresponding mental differences are plausible. There may exist

differences in character and in the direction of specific aptitudes. There is, however, no proof whatever that these differences signify any appreciable degree of inferiority of the negro, notwithstanding the slightly inferior size, and perhaps lesser complexity of structure, of his brain; for these racial differences are much less than the range of variation found in either race considered by itself. This view is supported by the remarkable development of industry, political organization, and philosophic opinion, as well as by the frequent occurrence of men of great will-power and wisdom among the negroes in Africa.

I think we have reason to be ashamed to confess that the scientific study of these questions has never received the support either of our government or of any of our great scientific institutions; and it is hard to understand why we are so indifferent towards a question which is of paramount importance to the welfare of our nation. The anatomy of the American negro is not well known; and, notwithstanding the oft-repeated assertions regarding the hereditary inferiority of the mulatto, we know hardly anything on this subject. If his vitality is lower than that of the full-blooded negro, this may be as much due to social causes as to hereditary causes. Owing to the very large number of mulattoes in our country, it would not be a difficult matter to investigate the biological aspects of this question thoroughly; and the importance of the problem demands that this should be done. Looking into a distant future, it seems reasonably certain that with the increasing mobility of the negro, the number of full-bloods will rapidly decrease; and since there is no introduction of new negro blood, there can not be the slightest doubt that the ultimate effect of the contact between the two races must necessarily be a continued increase of the amount of white blood in the

negro community. This process will go on most rapidly inside of the colored community, owing to intermarriages between mulattoes and full-blooded negroes. Whether or not the addition of white blood to the colored population is sufficiently large to counterbalance this leveling effect, which will make the mixed bloods with a slight strain of negro blood darker, is difficult to tell; but it is quite obvious, that, although our laws may retard the influx of white blood considerably, they can not hinder the gradual progress of intermixture. If the powerful caste system of India has not been able to prevent intermixture, our laws, which recognize a greater amount of individual liberty, will certainly not be able to do so; and that there is no racial sexual antipathy is made sufficiently clear by the size of our mulatto population. A candid consideration of the manner in which intermixture takes place shows very clearly that the probability of the infusion of white blood into the colored population is considerable. While the large body of the white population will always, at least for a very long time to come, be entirely remote from any possibility of intermixture with negroes, I think that we may predict with a fair degree of certainty a condition in which the contrast between colored people and whites will be less marked than it is at the present time. Notwithstanding all the obstacles that may be laid in the way of intermixture, the conditions are such that the persistence of the pure negro type is practically impossible. Not even an excessively high mortality and lack of fertility among the mixed type, as compared with the pure types, could prevent this result. Since it is impossible to change these conditions, they should be faced squarely, and we ought to demand a careful and critical investigation of the whole problem.

It appears from this consideration, that

the most important practical questions relating to the negro problem have reference to the mulattoes and other mixed bloods—to their physical types, their mental and moral qualities, and their vitality. When the bulky literature of this subject is carefully sifted, little remains that will endure serious criticism; and I do not believe that I claim too much when I say that the whole work on this subject remains to be done. The development of modern methods of research makes it certain that by careful inquiry, definite answers to our problems may be found. Is it not, then, our plain duty to inform ourselves that, so far as that can be done, deliberate consideration of observations may take the place of heated discussion of beliefs in matters that concern not only ourselves, but also the welfare of millions of negroes?

Facts that could help us to shape our policies in regard to our race problems are almost entirely wanting. It has been my endeavor to show that by proper investigations much can be done to clear up these problems, which are of vital importance for the future of our nation.

FRANZ BOAS

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THE INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY

WE take from the London *Times* some facts in regard to the seventh International Congress of Applied Chemistry, which will be opened at the Albert Hall, London, on May 27.

Previous congresses have been held in Brussels in 1894, in Paris in 1896 and 1900, in Vienna in 1898, in Berlin in 1903 and in Rome in 1906; this is therefore the first occasion on which Great Britain has been visited. The work of the congress has grown steadily, and its importance is realized all over the world. There is ample evidence of the interest taken in Great Britain, where in addition to Royal patronage the congress has received the support of several of the heads of

the government departments who have become honorary vice-presidents. Sir Henry Roscoe, F.R.S. and Sir William Ramsay, F.R.S., are honorary president and acting president, respectively.

For some considerable time an organizing committee has been making the arrangements for the congress and has had the support, as vice-presidents, of the presidents of the Royal Society, the Society of Chemical Industry, the Institute of Chemistry, the Institute of Brewing, the Society of Dyers and Colorists, the Pharmaceutical Society, and the Society of Public Analysts, Sir William Abney, F.R.S., Sir Hugh Bell, Professor P. F. Frankland, Dr. J. Lewkowitsch, Dr. L. Mond, F.R.S., Dr. E. K. Muspratt, Sir Boverton Redwood, Mr. W. F. Reid, Mr. A. Gordon Salamon and Professor W. A. Tilden, F.R.S. The committee is a large one and includes in addition to representatives of the organizations already named members of the Royal Societies of Edinburgh and Dublin, the Royal Society of Arts, the Iron and Steel Institute, the Institution of Mining Engineers, the Institution of Mining and Metallurgy, the International Association of Leather Chemists, the Royal Agricultural Society of England, the Lawes Agricultural Trust, the Royal Photographic Society, the Faraday Society and the London Chamber of Commerce (Chemical Trade Section), with Mr. William MacNab as honorary secretary. In connection with this committee local committees are formed in the principal centers of the British Isles and foreign countries and the colonies with a view to furthering the interests of the congress.

The work of the congress covers a wide field, as is shown by the large number of sections into which it is divided, as follows: (1) Analytical Chemistry (president, Dr. T. E. Thorpe, C.B., F.R.S.); (2) Inorganic Chemistry and Allied Industries (Dr. Ludwig Mond, F.R.S.); (3) Metallurgy and Mining. Explosives—(a) Metallurgy and Mining (Sir Hugh Bell), (b) Explosives (Sir Andrew Noble, F.R.S.); (4) Organic Chemistry and Allied Industries—(a) Organic Products (Professor W. H. Perkin, F.R.S.), (b) Coloring Substances and their Uses (Professor Meldola, F.R.S.); (5)