

THE ASSIMILATION OF THE DESCENDANTS OF IMMIGRANTS

by

Corrado Gini

President of the Italian Society of Genetics and Eugenics and
of the Italian Committee for the Study of Population Problems

In South Italy, in the province of Teramo and further down, there are the remains of many foreign groups who settled down there several centuries ago: Albanian groups in Sicily, Basilicata, Apulia, Campania, in the Abruzzi and in Molise; Slav groups in Campania and Molise; Greeks in Apulia and Calabria; Gipsies in Molise; Provençals in Apulia; Valdensians in Calabria. At the close of the last century a large-scale anthropometric enquiry was made in Italy by the Ministry of War on the soldiers of the age groups born in 1859-63 doing military service; among other things, returns were made for the cephalic index, the stature and pigmentation of each soldier. Now the data obtained show that no trace of the characteristic features that the ancient immigrants may be supposed to have had, remains in the present population.

Does this assimilation, seemingly complete, of said physical characteristics depend only on the mingling, that must certainly have occurred in the course of time between the foreign groups and the autochthonous inhabitants, or is it also due to the influence exercised by the environment? This is the first question. When it can be solved, it will be necessary to examine — should an influence of the environment be proved — if the influence is a direct one which acts on the soma during the individual development, or an indirect one which acts through selection or by provoking mutations, and to make clear if its effects are purely phenotypic or also genotypic. The problem is a complex one, and we cannot hope to solve it except by attacking one after the other the questions that it involves, through long and patient investigations.

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The study of the first question can best be made on the settlements of the Albanians, both because they are more numerous, and because in many places they still preserve their language, their traditional costumes, and other cultural characteristics that bear witness to a greater degree of isolation, and because the Albanians, who are tall and markedly brachicephalous, differ more strikingly as regards the cephalic index and stature from South Italians. These settlements have therefore been the subject of the enquiries of the Italian Committee for the Study of Population Problems (C. I. S. P.) made — under the direction of the Undersigned — for the purpose of replying to the questions above stated, and among the Albanian settlements those selected were the three especially isolated villages of Carfizzi, S. Nicola dell'Alto, and Caraffa in Calabria, whose population differs most markedly from the Albanian type because of its low cephalic index and

low stature. A special scientific party set up to solve this problem carried out in 1938 not only the measurement of the anthropological features of the individual persons, but established also, by means of patient questioning and control, whether their ascendants belonged to the foreign or the autochthonous population, so as to be able to classify the inhabitants in groups of purely Albanian blood or completely Calabrian, or of mixed blood in which the Albanian element prevailed or of mixed blood in which the Calabrian element prevailed.

The results referring to 11 anthropometric characteristics of the adult population of the villages above mentioned were presented by the Undersigned to the II Congress of the Latin Eugenic Societies which was to have been held in September 1939 at Bucarest. This Congress was not actually held and the Proceedings were not published, but off-prints were made in 1943 of the communication in Italian that had been sent by the Undersigned. The data elaborated in that communication show that there was no appreciable difference concerning the 11 characteristic features considered as between the several groups of inhabitants classified according to the percentage of foreign or autochthonous blood. This justified the conclusion that the essential cause of physical assimilation was to be found not so much in the mingling of the groups as in a direct or indirect influence exercised by the environment. This conclusion was subsequently confirmed by the elaboration of the data for the other features for which returns were made, which raised to 84 the number of the characteristic features considered in the case of males and to 82 in the case of females.

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Besides the ancient foreign country settlements, we have in South Italy settlements of North Italians and more especially of Ligurians in Sardinia in the Island of Carloforte and, mixed with Piedmontese, in the Commune of Calasetta which lies opposite Carloforte, while yet older settlements of Piedmontese had been formed in Sicily. Now, while no appreciable traces of the remoter Piedmontese immigrants were found in the data on the soldiers of the age groups born in the years 1859-63, on the other hand the data point to a well-defined differentiation from the surrounding Sardinian population in the case of the Ligurian settlement of Carloforte and of the Ligurian-Piedmontese settlement of Calasetta. It should be noted that these two settlements are more recent, the earliest arrivals dating from the middle of the XVIII Century, and they conserve intact the language, the habits, and the original cultural inheritance of Liguria (the Piedmontese elements in Calasetta having been absorbed by the Ligurian) so that they represent Ligurian cities real and proper, in Sardinian territory.

In 1939 and 1940 other scientific expeditions were arranged by the C. I. S. P. to study these settlements. An account of the results of these second enquiries (along with those that had been made in the meantime on the data for the Albanians in Calabria) were communicated to the VIIIth Int. Congress of Genetics held at Stockholm in 1948. Here again the individuals examined were classified according to the percentages of foreign and autochthonous blood. The physical characteristics of the adults of Carloforte and

Calasetta were found to differ from those of the Sardinian population and, except for fluctuations depending on disturbing circumstances, the difference was generally more marked the greater the percentage of foreign blood. The differences were however found to be much less marked than those noted for the soldiers of the age groups born in the years 1859-63 — nearly half a century earlier — and in the case of pigmentation, for which the comparison could be made, it was less marked in the case of babies and children than in that of adults. It was therefore evident that progressive assimilation was taking place and as an explanation the hypothesis was made — suggested by some of the results noted — that the southern environment favoured the dominance of dark genes over fair ones.

Two more expeditions were organised by the C. I. S. P. in 1952 to Carloforte and in 1953 to Calasetta to check both the results obtained and said hypothesis on more extensive anthropological material and with new investigations. The Undersigned referred on them to the IXth Int. Congress of Genetics held at Bellagio in 1953. On this occasion it has been possible compare the color of the eyes and hair of the children of Carloforte with those of the Sardinian children of the neighbouring villages. The comparison was made for the seaside holiday camps with the result that the little girls of Carloforte, (it was not possible to collect data for the boys) showed in 1952, not lighter pigmentation, for the eyes and hair, than that of the Sardinian children. In this connection it should be noted that the seaside holiday camps only exceptionally receive little girls of the well-to-do classes. It would thus seem that, in the case of the poorer classes, the physical assimilation of the foreign settlers at Carloforte has been practically completed as regards pigmentation. It was not possible to make a similar comparison for the well-to-do classes between the inhabitants of Carloforte and the Sardinians; but the comparison between the Carloforte little girls of the seaside holiday camps and the children and girls examined as they left the church services shows a much lighter pigmentation for the latter. It seems likely that the well-to-do classes were not less numerous among them than among the population as a whole. It would therefore seem justifiable to infer that among the well-to-do classes — among whom undoubtedly the purer blooded Carloforte families are more widely represented — assimilation in the matter of pigmentation is still proceeding. This result suggested an inquiry, which gave positive results, into the part played in the progressive assimilation of the foreign settlement, by the different rate of increase of the several social classes. Both for the little girls of the seaside holiday camps, and for the children of both sexes examined on leaving the church services, the data returned in 1952 at Carloforte, when compared to the similar data returned in the previous 1939 enquiry, suggest that in the thirteen years interval there has been a darkening of the pigmentation, which confirms the progressive assimilation of the foreign settlers to the Sardinian type.

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With a view to enquiring into the way in which the assimilation takes place, — with special reference to the hypothesis referred to above — 451 families were examined one by one, noting the pigmentation of their present members and that of the members of

the previous generation, still remembered by those now living. These data will form the subject of a further study together with those relating to 390 families of Calasetta, collected in the expedition made in 1953. While collecting these data, our attention was in the meantime attracted by two facts. One is the frequency with which parents with blue or green eyes without any appreciable trace of brown pigmentation (the shades 1, 2a, 2b, 3, 4a and 4b of Martin-Schulz scale) have children with mixed or brown eyes. The fact had been observed in other investigations, but with a very low frequency. On the contrary, at Carloforte as well as at Calasetta it seems to occur with a remarkable frequency. The second fact concerns the darkening of hair with advancing age, a fact indeed which is of common observation in many populations, but which seems to assume at Carloforte and Calasetta an exceptional frequency. The local population, which has noted it, thinks it is influenced by the sea air, an explanation in favor of which I see no confirming facts or arguments. At Calasetta as well as at Carloforte the opposite change is sometimes observed, but with a much lower frequency, that of children who are born with dark hair which after a certain time, suddenly or gradually, becomes lighter. Some more complicated changes also occur, although exceptionally. The children of the same family, in the majority of cases, differ from this point of view, some of them presenting a progressive darkening of hair as they grow older and others on the contrary preserving the color shade they had at birth. This fact is important in as much as it shows that the darkening does not depend — or at least does not depend exclusively — upon the influence of external factors during individual development, but partly at least upon in-born factors.

Also at Calasetta children of both sexes in the seaside holiday camps were examined for eye and hair color and the comparison was made, among them, between the children of Calasetta and those coming from other parts of Sardinia, showing that, unlike from what had been observed in 1952 at Carloforte, a remarkable difference subsists. One must then conclude that at Calasetta, even in the poorer classes, which furnish the children of seaside holiday camps, the assimilation is not yet complete. The process of assimilation is then less advanced at Calasetta than at Carloforte, which can be explained by the fact that at Calasetta, where practically all the residents are agriculturists, the differential reproductivity of the social classes has less importance than at Calasetta.

Very detailed data have been collected at Calasetta as well as at Carloforte, concerning the members of each family recorded at the successive censuses, as well as for the births and deaths that have occurred from one census to another; they will permit an analysis of the said differential reproductivity for the stocks of different origin and therefore its bearing on the assimilation of the colony.

I hope that the elaboration of the data collected in these recent expeditions will throw some light on the mechanism of the physical assimilation of immigrant groups, a fact which assumes, not only great practical importance from the social point of view, but also scientific importance for the problems that it implies, strictly connected with genetics as well as with population studies.

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In the meantime some conclusions seem authorised:

A) After about 5 centuries, foreign settlements of immigrants, differing so widely from the local population as the Albanians from the Calabrians, have been assimilated in a practically complete manner.

B) The assimilation seems, at least for a substantial part, due not to the mingling of stocks, but to an influence, direct or indirect, of the environment.

C) The experience of the Ligurian and Piedmontese colonies in Carloforte and Calasetta suggests that the physical characteristics of the immigrant stock may resist victoriously the environmental influence for a long while, as has been the case for a century or a century and a half for Carloforte and Calasetta but subsequently the resistance weakens and the assimilation gradually takes place.

The conclusions A), B), and C) are in keeping with the well known resistance of the local physical type to foreign infiltrations and settlements. They particularly agree with the researches of Boas on the changes of physical characteristics of the descendants of various European stocks immigrated in America confirmed by analogous results on the Japanese immigrated in the State of Washington (USA) and in the Hawaii and on the Jews immigrated in Berlin, as well as with the disappearance in Portugal of any trace — particularly as concerns nasal index — of the Negro blood infused on a remarkable scale five or six centuries ago, and with the substantial similarity of the physical characteristics of the Jews of ancient immigration to the local type, ascertained in many countries. The objections founded on the persisting differences between Whites and Negroes in the U. S. A. as well as between Whites and natives in Australia, do not seem very solid, keeping in mind that, on the average, Whites in Australia immigrated not more than a century ago and Negroes in the U. S. A. not more than from two centuries, while social environment in both countries is different for the two stocks. On the other side, a substantial change of physical characteristics has been ascertained for Negroes in U. S. A.

D) The influence of heredity and accidental mutations on the physical characteristics of the populations are obviously not to be denied or undervalued, but it is certain that the aforesaid results seem, at first sight, to contrast with the overwhelming influence of heredity rather than of environment, pointed out by the researches on human twins. The contrast however is only apparent, as the researches on twins show the relative influence of heredity and environment from one generation to another. Now the direct and indirect influence of environment is cumulative through the generations, while nothing similar seems to exist for heredity. Thus only in a long time the full influence of environment manifests itself and becomes overwhelming over that of heredity.

E) In contrast with the current opinions of students of anthropological sciences and perhaps also of students of social sciences, the cultural tradition may be more tenacious and persistent than the physical heredity. Populations completely or almost completely assimilated from the physical point of view, such as the Albanians of Calabria, still preserve a far from negligible part of the original cultural characteristics; while popu-

lations which preserve in full, or almost so, the cultural heritage of the country of origin, such as the Ligurians of Carloforte and Calasetta, offer, after a certain number of generations, a notable and probably progressive attenuation of their original physical characteristics.

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RIASSUNTO

Stranieri appartenenti a diversi gruppi etnici si sono stabiliti nell'Italia meridionale da qualche secolo: Albanesi, Slavi, Greci, Zingari, Provenzali, Valdesi. I risultati di una ricerca antropometrica sui soldati italiani delle classi 1859-63 dimostrano che i loro discendenti non presentano differenza alcuna dalla popolazione circostante nelle caratteristiche fisiche esaminate (indice cefalico, statura, pigmentazione).

Per decidere se l'assimilazione sia stata la conseguenza di incroci oppure dell'influenza, diretta od indiretta, dell'ambiente, il Comitato Italiano per lo studio dei problemi della popolazione (C.I.S.P.) ha organizzato nel 1938 una ricerca accuratamente eseguita in tre villaggi albanesi della Calabria, esami-

nandovi i caratteri degli abitanti, suddivisi — in base alle loro genealogie — secondo la percentuale del sangue albanese o calabrese. Ne è risultato che non vi sono differenze considerevoli nei caratteri dei diversi gruppi, ciò che porta a pensare che la assimilazione si è effettuata indipendentemente dagli incroci e per conseguenza sotto l'influenza, diretta o indiretta, dell'ambiente.

Anche in Sardegna, a Carloforte e a Calasetta, ci sono due colonie di Italiani del Nord (Liguri e Piemontesi) che vi si sono stabilite più di recente, quasi due secoli fa. All'epoca della suddetta ricerca antropometrica esse presentavano differenze ben chiare dalla popolazione contigua. Quattro missioni scientifiche, organizzate dal C.I.S.P. nel 1939 e 1940 e nel 1952 e 1953 hanno posto in luce che, da al-

lora, si è prodotta una considerevole assimilazione, la quale risulta pure essersi accentuata dal 1939-40 al 1952-53.

Durante le due ultime missioni, sono state effettuate ricerche supplementari per rendersi conto del meccanismo con cui avviene l'assimilazione. Per Carloforte, si è potuto notare una selezione riproduttiva, che ha l'effetto di ridurre sempre più i discendenti degli antichi coloni liguri; ma non si è potuto confermare un fenomeno analogo per Calasetta. Si esamina la possibilità che nelle due colonie la assimilazione si produca attraverso una intensificazione della dominanza della pigmentazione bruna sulla pigmentazione chiara degli occhi e dei capelli e che delle mutazioni a carattere adattivo si producano sotto l'influsso ambientale.

RÉSUMÉ

Des étrangers appartenant à des divers groupes ethniques se sont fixés en Italie méridionale depuis quelques siècles: Albans, Slaves, Grecs, Tziganes, Provençals, Vaudois. Les résultats d'une enquête anthropométrique sur les soldats italiens nés en 1859-63 montrent que leurs descendants ne présentent aucune différence de la population environnante dans les caractères physiques examinés (indice céphalique, taille, pigmentation).

Pour décider si l'assimilation a été la conséquence des croisements ou bien d'une influence, directe ou indirecte, du milieu, le Comité Italien pour l'étude des problèmes de la population (C. I. S. P.) a organisé en 1938 une enquête approfondie sur 3 villages albanais de la Calabre, en examinant les caractères des habitants, classés — sur la base de leurs gé-

néalogies — d'après le pourcentage du sang albanais ou calabrais. Le résultat a été qu'il n'y a pas de différence appréciable dans les caractères des différentes classes, ce qui fait penser que l'assimilation s'est réalisée indépendamment des croisements et par conséquence sous l'influence du milieu.

En Sardaigne, il y a aussi, à Carloforte et à Calasetta, deux colonies d'Italiens du Nord (liguriens et piémontais) qui y ont été établies plus récemment, il y a, à peu près, deux siècles. Lors de l'enquête anthropométrique susdite, ils montraient des différences marquées en comparaison avec la population environnante. Quatre missions scientifiques, organisées par le C.I.S.P., en 1939 et 1940 et en 1952 et 1953, ont mis en lumière que, depuis lors, une assimilation considérable s'est produite. Elle résulte aussi accentuée de 1939-40 à 1952-53.

Dans les deux dernières missions, des recherches supplé-

mentaires ont été faites pour se rendre compte du mécanisme avec lequel l'assimilation se produit. Pour Carloforte, une sélection reproductive a pu être démontrée, qui a l'effet de réduire de plus en plus les descendants des anciens colons liguriens, mais un phénomène analogue ne peut pas être affirmé pour Calasetta. On examine la possibilité que dans les deux colonies l'assimilation se produise à travers une intensification de la dominance de la pigmentation brune sur la pigmentation claire des yeux et des cheveux et que des mutations à caractère adaptatif de la dite pigmentation se produisent sous l'influence du milieu.

Les résultats des enquêtes susdites sont mis en rapport avec ceux des observations précédentes sur l'assimilation des descendants des immigrés et des considérations sont faites sur la rapidité de l'assimilation au point de vue physique et culturel.