other with which to kill himself. All these facts show that it may be dangerous to accept too lightly the usual opinion about these cases, and in general that vigilance is one of the first necessities to be observed by the physician in presence of his patients.

A. V. PARANT.

THE COMPLEXION OF THE JEWS.¹

Dr. Maurice Fishberg, who has been studying the physical characters of the Jews for many years, has published the data as a memoir of the American Anthropological and Ethnological Societies (June, 1905). He agrees with the majority of anthropologists, if not all of them, that the present-day Jews do not represent a race of mankind at all, but are physically akin to the races among which they live. Eighty per cent of them live among the Alpine types of Central and Eastern Europe—a non-Aryan race originally from Asia. As all the Asiatic races are characterized by a broad head, dark complexion, straight hair and medium height, with the usual variations, it follows that the majority of the Jews are neither Aryan nor Semitic. By Aryan is meant the tall blond type with long head and wavy hair, and by Semite, the short brunettes with long head and wavy hair. The Aryan type, being confined to Northern Europe, has also been called the Baltic, Teutonic or Scandinavian, and its branches which have migrated have been called Celts, Slavs, Saxons, Romans, and Homeric Greeks.

The word Slav is used by Fishberg for the Asiatic or Alpine type which wandered into Europe in the millenniums just prior to the Christian era, and has learned to speak Slavic tongues. A few of these invaders, such as the Huns, still use Asiatic speech. The Semitic type is also called Mediterranean for it is mostly found around that sea. It is the link between the Negro and Aryan and indeed its southern branches are called negroid. The part of the world which can best be described as east of the Mediterranean sea, has been the theater of the conflicts of innum-

¹ Memoirs of the American Anthropological and Ethnological Societies. Materials for the Physical Anthropology of the Eastern European Jews. By Maurice Fishberg, Lancaster, Pa., 1905.

erable hordes of migrating Asiatics, Semites, and Aryans. The Asiatic types which have left modern descendants have here and there dropped their own speech and have learned Semitic tongues, so that they have long been called Semites though ethnically as far from that race as the Alpine is from the Aryan.

The Jewish religion has proselyted just as the Christian has, consequently a man's religion is no index at all as to his ethnic origin. In addition Jews, as well as Christians, have always married into the races among or near which they live. Hence anthropologists are almost unanimous in denying that there is any Jewish race at all, just as there is no Christian race. For these reasons they find that in North Africa, where nearly all the people are long-headed, the Jews are also long-headed, but in Eastern Europe where the heads are mostly broad or round, the Jews are of that type. Similarly the Jews are tall in places where the Gentiles are tall, and are short among the races of low stature, though they are almost invariably a little less in stature than the surrounding population, a phenomenon which is believed to be due to their poverty and the persecutions which have kept them confined to certain employments. The Jews are also city dwellers and that may be the main factor in causing a diminished stature, for city Gentile populations as a rule are shorter than the surrounding rural dwellers and it is no doubt due to the unnatural environment.

These two facts, that is, similarity of the Jews in head form and stature to the surrounding races, are sufficient to prove the theory that the Jews are derived in great part from the races where we find them. Head form persists throughout all changes in environment and it is certain that if the Jews were an ethnically pure race, we would not find such diversity among them in this one character. Yet when Fishberg took up the matter of pigmentation, he found that the Jews everywhere differed so markedly from the Gentile populations that he could find no relation between them whatever. Indeed it seemed that, at least as far as Eastern Europe is concerned, no matter what the indigenous population might present in the way of complexion, it did not appear to influence that of the Jews. He could therefore find no explanation for the origin of the blond types among them.

It is fairly certain that the ancient Jews were almost solidly

brunette although the Egyptians did picture types blonder than themselves. To be sure there were blond types nearby, such as the Amorites, who, like all mountaineers, were blonder and taller than the plains people, but there is no reason to believe that intermarriage with these has produced types which have persisted. Indeed the blond types are less numerous in the South than in the North. Again, the Amorites are believed to have been a long-headed race resembling the Aryan type, and this type is not represented among the Jews, for their blonds are apparently of shorter stature and broader headed than the Baltic man. Though it is quite evident that the Jews have not received a very marked increment from the Aryans, it is none the less true that they must have received some if the same rule applies to the Northern Jews as applies to all the others, and there are several anthropologists who have found tall Aryan types in increasing numbers the nearer to the Baltic the Jews were studied. Fishberg is inclined to believe that the tall Jews are apt to be brunette.

The blonds which are so easily accounted by racial intermixture, are really but a small percentage of the total number of Jews—not more than ten per cent anywhere, and as low as two per cent in Caucasia. They do not complicate the problem. The curious fact which Fishberg finds so puzzling, is that no matter what the Gentile complexion may be, the Jews show a remarkable sameness in being more brunette than their neighbors, and moreover the relative numbers of blonds, brunettes, and mixed types are so constant among the Jews that in a few places of Central Europe they seem to have a higher percentage of blonds than the Gentiles have. About 80 per cent of European Jews wherever found have dark hair and about 50 per cent dark eyes. Between these dark types and the few real blonds with blue eyes and blond hair, are the mixed types with gray eyes and brown hair.

The explanation of all these contradictory and puzzling facts as to pigmentation is probably to be found in Von Schmoedel's theory that pigments are evolved through natural selection to protect man from the dangerous short sun's rays—the blue, violet, and ultra violet. The writer's investigations have satisfied him that this theory is correct. The matter is too large to be entered into fully here but the details of the proof can be found in his

book on "The Effects of Tropical Light on White Men" (Rebman Co., 1123 Broadway, N. Y.). It is sufficient here to mention that the destructive effect of these rays to protoplasm, both animal and vegetable, is so great that life is not possible unless the cells are protected. Hence it is an invariable rule, that man has a pigmentary layer in his skin, whose opacity is in direct proportion to the intensity of the light to which he is exposed. It may make him black in the tropics or merely brown in the glare of the Arctic snow or that of the treeless plains, but he is blond only in the dark, rainy, cloudy northwest corner of Europe.

A map of mean annual cloudiness shows that the brunetteness of the people is also in direct proportion to the mean annual sunshine. In Southern Italy, with its cloudless skies of intense sunshine, blonds die out from the nervous and other diseases due to excessive light, so that the population is almost solidly brunette. This law applies also to Spain where the blonds are native only in the northern mountains, which furnish better conditions for blondness on account of their greater cloudiness. In the dark, cloudy, rainy country including Scandinavia and adjacent territories blonds do not suffer any inconvenience so that they flourish, but if they migrate far, extinction is the rule.

Now it is well known that in treeless, shadeless cities, the people are exposed to far more light than in the surrounding country, hence the blonds are the greatest sufferers and such families perish sooner or later. Their destruction is a well recognized phenomenon in American cities and has been going on in Europe for many centuries. It fully accounts for the fact that city dwellers are markedly more brunette than those in the surrounding rural districts. Since the Jews have been subjected to this selection for many centuries it is quite evident why the survivors should show such a high percentage of brunetteness.

This law does not imply that every blond who goes to a city must perish at once, or even in one or two generations. We are quite sure that the blond Homeric Greeks lasted many centuries before extinction finally resulted, but the brunette peasants survived eventually. Hence it is true that blond types introduced among the Jews of the city may last many generations, but that they tend to die out is shown by the present statistics. There is very little difference between the various cities of central and

eastern Europe as far as light is concerned, and as a consequence we should expect to find, as Fishberg reports, that the proportion of brunettes is practically the same in every city. Moreover, since the destruction of the blond types has no relation to the head shape, the survivors are found to be of every conceivable head form. Complexion in any part of the world has no relation to head shape whatever.

Fishberg's method of determining pigmentation can be severely criticized. The color of the hair is not a vital matter, though it is evident that black hair will protect the delicate cerebral cells far better than light hair. Yet light hair, if thick, is opaque enough for this purpose and suffices in all the tawny animals. Consequently types with brown or chestnut or even blond hair are able to survive if they have sufficient skin pigment. It is a fact that these northern blond types have but little skin pigment, but as we travel south we find that the light haired people have darker skins. I have made very careful examinations of light haired Italians, Spaniards, and others from southern Europe and have found that their skins are much more heavily pigmented than northern people with hair of the same color. It is not a result of tanning, because it affects the skin of the body which is never exposed to the sun. It is a congenital condition and is a matter to which practically no attention has been given by investigators.

We have piled up statistics as to hair color but they give us no idea of the opacity of the skin. The mistake is a very natural one because few people realize how opaque to actinic rays a swarthy skin really is. It is quite astonishing how such a skin protects one from sunburn and from X-ray burns. Dark brunettes apparently never suffer from X-ray unless it is applied inordinately. Hence Fishberg too has fallen into the old error and classes the Jews having yellowish or muddy skins as fair, whereas they are far from it. They are quite pigmented and perfectly suited to withstand the light of city streets, even though the hair be more or less blond. The statistics he gives are then evidently erroneous, for it is impossible to have 77 per cent of fair skins if there are 80 per cent or more with dark hair.

It is practically impossible to grade skin pigmentation except in a general way. A brunette may appear to be a very light per-

son when among swarthy Sardinians, but he would be considered very dark among Scandinavians. It is the contrast which counts. The brunettes in Scotland and England, who are called the "old black breed," are always "white men" when they go to India. Nevertheless it is possible to grade skins better than has been done. If the albino skin is zero as to pigmentation, and the black negro is ten, the blond Aryan would be one, and the swarthy Spaniard or Portuguese about four or five. The Jews whom Fishberg classes as fair would be about three or four in the scale or perfectly adjusted to the amount of light to which they are subjected, and they have evolved this by natural selection in all the cities irrespective of the complexions in the country people around them.

In the same way, the eye colors are very much misunderstood, for there is a vast difference between the blue Aryan eye and the grey eye. There is always some pigment in a blue eye and its amount gives the proper opacity to this curtain. Hence eyes commonly called blue are often very opaque. If this is taken into account there are very few light eyed Jews—far less than the thirty per cent reported. The blue eyes among the Spaniards and Italians are very dark and not at all like the Aryan blue. Similarly it will be found that the ancient Greek and Roman pictures rarely depict a brilliant blue eye, except as a northern type. By taking these corrections into account, we are quite justified in doubting that the Jews anywhere present a higher proportion of light types than the Gentile population, but that the reverse is the real fact in considering the total protection from light.

The red haired types among the Jews are just as inexplicable as among the Gentiles. There is not even a clew. Rufousness may be a variation of black or a variation of yellow, but as it is efficacious as a protection it will persist except in the tropics. It has existed among all races, blond and brunette, and we need not be surprised that it exists now as it did in the time of Esau.

This analysis of the complexion of the Jews therefore leaves but little doubt that they have evolved, through ordinary selection, a degree of pigmentation which is perfectly adjusted to the light of our cities where they now flourish and where they are bound to flourish for all time. They are so much more suited for city life than the Aryan immigrants that we are perfectly safe in predicting

that such types of brunettes will be the future city dwellers of America. Even now we can see that, except where they are too crowded and too poor, they are more vigorous and healthy than the Aryans, who become progressively feebler in every generation of city life, until they die out.

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