auriculo-ventricular groove. These symptoms consisted in great disturbance of the cardiac rhythm, with frequent periods of apparent cessation of the heart's action, lasting for five to fifteen seconds or longer. During these periods faint sounds could be heard, presumably due to continued rhythmical contraction of the auricles. There was no pulse at the wrist, and no cardiac impulse. The face became pale; there was a slight general convulsion from cerebral anaemia; then a few deep respirations were followed by a resumption of the regular heart's action.

For days each period of cessation seemed likely to be final, and eventually the heart's cessation was permanent, and she died in an attack.

The most probable mechanism was a failure in the conduction of the contraction-stimulus from the auricles to the ventricles at the auriculo-ventricular groove—the so-called heart block.

REFERENCES.

¹ A remarkable case of hemisystole, in which the left ventricle alone carried on the circulation, the right ventricle remaining passive, is related in detail by Sir W. Broadbent in his book on *Heart Disease*, 3rd edition, p. 305. ² William Green and Sons. 1904.

THE ANTHROPOMETRIC INVESTIGATION OF HOSPITAL PATIENTS.

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(Concluded from page 1694.)

INFLUENCE OF CITY LIFE.

The first part of this study being completed, it is now necessary to return to a further consideration of the population of London, to ascertain, if possible, the influence of city life.

For this purpose, I have classified 1,378 patients whose history I was able to obtain in detail and with considerable probability from the agreement of at least one relative besides the patient himself as to its correctness, under the headings employed by Ammon in Baden.

Urban.—When two or more generations have resided in London or other large town.

Semi-urban.—When the parents were immigrants from the country, but the individual observed was born in London.

Semi-rural.—When the individual was born in the country but lived most of his life in London.

Rural.—When the individual patient was both born and lived in the country.

The numbers observed are small both on account of the difficulty in obtaining the family history with probable accuracy and also because large numbers of individuals have an urban family history on one side and a rural on the other. These, owing to the difficulty of classification, were altogether omitted. I have ascertained the hair and eye colours and stature of these individuals, and for comparison have also ascertained the coloration of 846 visitors to the hospitals whose history I was able to obtain in the same way. The numbers here are still smaller, not so much on account of the paucity of visitors, but because they were, as a class, uncommunicative and disposed to resent inquiries as to their origin even after full explanations of its scientific value. I regret to say they practically all refused to be measured.

From the diagram (Fig. 5) it will be seen that while the visitors showed a steady increase of brunette traits passing from rural to urban environment, the distribution among the actual patients was somewhat irregular. This irregularity is not due to any one class of disease being more prevalent among the available patients of any one known environment, for the different diseases were well distributed. The increased number of fair semi-rural and rural patients might well be explained by a proportionately greater immigration of individuals presenting these traits into London; but this explanation meets with the difficulty that among visitors to the hospitals the decrease of blonde traits is regular and progressive. While fully recognizing that the numbers observed are very small for deductions the figures suggest that the blondes, perhaps, feel most acutely the change in their environment, and that they are relatively not so healthy as those of the next generation born and bred amidst urban surroundings. The increase in hospital attendance of blonde patients of two generations, as contrasted with one generation in town, suggests a certain degree of lack of vitality under the prevailing conditions. An

alternative possibility is that the family has gradually sunk in social status, and that, while the first generations were able to pay for their medical attendance, the latter were not; but

Fig. 5.—Percentage frequency of each hair colour among visitors and patients classed in groups according to length of city residence. R., rural. SR., semi-rural. SU., semi-urban. U., urban.

this is quite without proof, and against it is the observation that in London brunette traits are more prevalent the lower the social scale. Applying to these statistics the method employed above, the results given in the table showing relation of environment to pigmentation (p. 1748) are obtained.

As regards these averages, among the groups of hospital patients the only significant difference is that between semi-rural and urban, the latter being the fairer. The other groups have averages falling within the range explicable by random sampling. For the group of visitors the various grades all show significant differences from the urban class, but none as between themselves. Contrasting patients with visitors in

the respective groups, it appears that the urban series present significant differences, while the others do not.

Relation of Environment to Pigmentation.

Environment of Individuals.	Average Hair Colour.	Standard Deviation.	No. of Observations.	σ^2 / N.
Patients:				
Urban ...	2.1600	0.8459	788	0.00091
Semi-urban ...	2.2710	0.7709	328	0.00181
Semi-rural ...	2.3229	0.7905	192	0.00325
Rural ...	2.3333	0.7454	60	0.00926
Visitors:				
Urban ...	2.5166	0.6581	300	0.00144
Semi-urban ...	2.2948	0.8133	251	0.00237
Semi-rural ...	2.2237	0.8109	219	0.00300
Rural ...	2.1486	0.8001	74	0.00865

The gradual increase of pigmentation demonstrated by Ammon for the cities in Baden is therefore only suggested, and not proved, for London, save in so far as it is clear that those of the longest city residence are darker than the others.

The divergence between patients and their visitors, strictly comparable classes, suggest that the blondes feel most acutely the change in their environment.

The stature could unfortunately only be taken of hospital patients, and yields results in accordance with expectations, the phenomenon that the semi-rural group should be taller than the rural receiving a simple explanation from the immigration into London of those of the country-folk the best-endowed physically and mentally. The great majority of the rural patients came from the home counties. For purposes of comparison, the average results for the different classes of the community obtained by the British Association Committee are appended. It must, however, be remembered that the latter results are from observations made in all parts of the country, and not in London only:

Relation of Environment to Stature.

Environment.	Average Stature in inches	Standard Deviation.	No.	σ^2 / N	Significance of Difference from Urban as Standard.
Patients:					
Urban ...	65.901	2.0307	203	0.02041	
Semi-urban ...	66.241	2.1006	83	0.05316	+
Semi-rural ...	67.117	1.9270	77	0.04836	+
Rural ...	66.962	2.1121	60	0.07420	+
B. A. results:					
Professional classes ...	68.645	2.2281	107	0.04642	+
Commercial classes ...	67.480	2.2209	180	0.02760	+
Country labourers ...	67.050	2.4903	945	0.00655	+
Town artisans ...	66.108	2.0598	342	0.01240	+
Sedentary town workers ...	65.477	2.3631	193	0.02894	0

From this it may be concluded that there is some evidence of a progressive diminution of stature and increase of brunette traits in successive generations of city life.

Relative Percentages of the Three Classes of Londoners in London as a whole and among Hospital Patients.

	Out-patients St. Bartholomew's Hospital.	In-patients, Brompton Hospital.	Census of London, 1901.
Semi-rural ...	15.3	18.0	35.0
Semi-urban ...	24.9	82.0	65.0
Urban ...	59.8		

That the unhealthy conditions of city life—long hours, hurried meals, and insufficient ventilation—should stunt the growth of those exposed to their influence is only reasonably to be expected, but that the same influences should tend to the predominance of brunette traits is less obvious. If, however, by some features associated with their physical characters the blonde element be handicapped in the struggle for existence, as has been suggested by the statistics, the phenomenon might be explained by the gradual but progressive extinction of this class; also, if the constitution associated with this type of coloration be in reality inferior to that associated with other types, the resulting want of resistance

might be expected to show itself by the individuals succumbing earlier in life. A study of pigmentation in children might therefore be expected to yield profitable results.

Fig. 6 represents graphically the percentage frequency of the different hair colours in children from the medical casualty departments of several London hospitals, and con-

trasts with these the same characters as noted in children in the schools and playgrounds of various quarters of the metropolis, care being taken to comprise the area of attraction of each of the hospitals under consideration. The hospital patients were under 12 years of age, and excluded actual infants, while the others were, as far as could be judged, of corresponding age. Two distinct features are brought out by the curves—the differences between hospital patients and healthy children and the influence of environment and social status.

As regards the former, they show the marked preponderance in hospitals of the fair element and the relative absence of dark brown, while red and black hair appear in about the normal proportions. That dark-brown haired children should be relatively more frequent at the Brompton Hospital than elsewhere was to be expected, since, as before indicated, pulmonary tuberculosis seems to exercise a special preference for such traits. The greater brunetness of the children recorded at St. Bartholomew's Hospital

is due to the fact that the statistics therefrom, which were the first taken, comprise a certain number of accident cases, and the distribution of pigmentation among these is the same as in the general populace. The curves, then, strongly suggest that disease during childhood falls unduly heavily on the fair element. This feature is also brought out by the application of the method of standard deviations, but the resulting table is too large for publication in the *BRITISH MEDICAL JOURNAL*. That not only disease but mortality shows this special selection is indicated by such statistics as I have up to the present collected, but so far these are too few in number to be statistically significant.

As regards environment, it will be seen that the most marked preponderance of brunette traits occurs in West Clerkenwell, where a great part of the population is Italian by race if not by birth; and in Whitechapel and St. George's-in-the-East, which are largely if not exclusively inhabited by Polish and other Jews. These, therefore, must be left out of consideration. Further, it will be noted that the blonde element decreases from the periphery towards the centre of the city, and that the degree of brunetteness forms a fair indication of the social status of the several districts. The Borough of Marylebone is perhaps unduly low, owing to the presence of a large alien population in its south-eastern quarter.

CONCLUSIONS.

So far, then, it would appear:

1. That certain diseases show special affinities for certain types of the population.
2. That adult hospital patients, as a whole, are slightly fairer than the population within the sphere of attraction of each hospital.
3. That with each successive generation of city life the fair element sends an undue proportion of its members to the hospitals.
4. That child patients are markedly fairer than the children in the districts around the hospitals.
5. That diminution of stature and increase of brunette traits are almost certainly progressive with increased heredity of an urban environment.

It remains only to discuss the possible influence of these factors towards changing the distribution of physical characters in successive generations of Londoners. During the earlier years of each generation the fair element certainly presents its maximum representation. During this period the chief causes of death are disorders of the alimentary and respiratory systems, coming on either directly or as sequelae of some of the infectious diseases common in childhood. These even in adult life show, as far as case incidence is concerned, a certain degree of greater frequency among the blonde class of the community, and furnish the children's hospital, in which the fairer element particularly predominates, with the greater proportion of their medical casualty cases. The diseases associated with brunette traits are at this period at their minimum. The quinquennial period 10 to 15 is characterized by a very low mortality evenly spread over the different disorders, but still falling least on the "brunette group." The special incidence of illness on the lighter classes of the community continues until the period 20 to 25, when owing to the sudden rise both of case-incidence and mortality from pulmonary tuberculosis, the darker element begins to suffer severely. At this period, 20 to 25, it seems certain that dark traits are at their maximum frequency. This time, however, is that at which most marriages occur, so that assuming the marriage-rate to be uniform among the different types, which is, however, susceptible of proof, the parents of the next generation should present a maximum of pigmentation. It is true that the children show a regression towards the mean type of the population, but it is towards the mean type of existing parents and not the mean of the previous generation in early infancy. Supposing the difference to be but slight, yet in time it might produce and even accentuate the features of predominant brunetteness visible even now in all urban areas. The vast majority of marriages take place with the ages of the contracting parties between 21 and 30, and the majority of children are born in the earlier years of married life. Between the ages of 20 and 40 about half the deaths that occur are due to pulmonary tuberculosis, which, both in case-incidence and death-rate, draws most heavily from the brunette class, so that, as time passes on, the relative frequency of dark individuals is diminished. Consequently the parents of children born later in life are more likely to present a normal frequency of blonde traits; but, on the other hand, fewer children are born of late

than early marriage, so that this scarcely serves to equalize the proportions. The remaining brunette-selecting disorders, cancer and nervous diseases, present their maximum incidence and mortality later in life, and only slightly affect the population during the all-important period of early adult life.

The most overcrowded areas are, on the whole, both the darkest and those characterized by a high infant mortality. That they do not become still more brunette is to be explained by immigration, and perhaps, to a lesser extent, by the earlier rise of mortality from pulmonary tuberculosis, the greatest scourge of the child-bearing period.

The object of this paper has been to show that, as regards the influence of urban residence, London follows the same rules as the Continental cities, and to inquire if any relation exists between health and physical characters. The facts contained remain unvitiated by any wrong interpretation which may have been placed on them, and should their publication serve as a stimulus to the collection of further records, the desired object will have been fully attained.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

A CHEMICAL TEST FOR TINEA VERSICOLOR.

TINEA VERSICOLOR is a disease much more prevalent than is commonly supposed. This is due, in part, to its causing very little inconvenience, and in part to its being passed over as a mere discoloration of the skin. When the skin is washed frequently and the superficial part of the growth thus removed, the disease is very hard to detect. The following, however, affords an excellent chemical test. Dissolve a little acetate of lead in water, and suspend in the solution a little sublimed sulphur. Apply a little of this lotion over the suspected parts. In a few hours, and still more by the next day, the tinea will appear clearly marked out in distinctly blackened patches. Not only is this an excellent test for the disease, but it is also probably the best remedy for it.

The sulphur and acetate of lead may be kept in the above lotion indefinitely without change; but the tinea, by its action, brings about combination of the sulphur and lead, the blackening of the tinea being due to the deposition of black lead sulphide in the tinea itself. The adjoining healthy skin is not affected.

If the same lotion is applied to the roots of the hair the same result evidently takes place in the hair follicles and inside the hairs themselves. Hence the use of this mixture (with the addition of scent, glycerine, etc.) as a lotion for the hair in certain proprietary hair lotions which need not be named. The lead sulphide darkens the hair, and so prevents its growing grey. What it is that brings about the combination of the lead and sulphur in the hair follicles and hairs I am not quite prepared to say. There is obviously danger of lead poisoning if such lotions are used without medical advice.

London.

HUGH WOODS.

A CASE OF ACUTE ALCOHOLIC POISONING IN A CHILD AGED 4 YEARS.

ON Sunday, August 15th, I was called at 1 p.m. to see a boy aged 4 years who, having escaped the vigilance of his parents, rose at 5 a.m. and extracted from a cupboard in an adjoining room about 6 oz. of rum and 10 oz. of beer, drank them, and returned to bed. About midday both spirit and beer were missed, but no particular importance was attached to the matter, as it was thought that the liquids had possibly been consumed by one or other of the adult members of the family then absent.

Shortly after, however, the unusually prolonged slumber of the child aroused suspicion, and it was then discovered that his breath smelt strongly of rum, and that he could not be roused. Medical aid was then summoned.

On examination the breath had a strong alcoholic odour. The head was hot, the cheeks pale, and the hands and feet very cold. The temperature in the axilla was 99.4°, the pulse 100, and respirations 36, the latter being somewhat shallow. The eyelids were half closed, and there was marked internal strabismus, the pupils, which were only moderately dilated and reacted to light, being directed downwards and inwards.