

these matters the surgeon has done more than the doctor. Education has greatly benefited the poor; but as to those classes which have for long had the advantage of a good education, are they any better or wiser? I doubt it. Do we keep turning out great men as often as in the past? Let each one answer this question for himself.

The greatest cause for alarm arises, not from what we can actually see, but from what we judge must be taking place. The following facts illustrate what is known as the differential birth-rate. In an examination of the census of 1911 the population was divided into eight "social classes"; but of these only three will here be mentioned. The first class, "the upper and middle classes," is sufficiently well described by its name. It includes at the lower limit such occupations as clerks and insurance agents. In this class it was found at the date of the census that every 100 families had 190 children already born, of whom 168 were then alive. In the third of the eight classes, consisting of "skilled workmen," the similar figures were 279 born and 232 surviving. In the fifth class, consisting of "unskilled men," the numbers were 337 born and 268 surviving. Thus the surviving children per 100 families numbered 168, 232, and 268 respectively in these three classes. Since 1911 it is probable that the birth-rate of the skilled workmen has fallen more than that of the unskilled men. Thus the rule is, the higher the salaries or wages, the lower the birth-rate. There are exceptions, but they are not enough to prevent us from placing reliance on this generalization.

This matter may be put another way. Where there is overcrowding, where many children are employed, where circumstances make refinement of mind and manners difficult, where many children die, there wives have most children. The high death-rate in the poor districts does not now counterbalance this high birth-rate; though probably it did so in the past. And the death-rate amongst the children of the poor is still falling, as the results of the splendid efforts which have been made to bring about this result. The labourer class has been multiplying more and

CHAPTER XIII

The Deterioration of our Breed

IT may be asked, If great damage is really now being done to the nation by the unfit and the inferior, why do not we see the results quite clearly? Families are better housed, better fed, better educated, have more amusements, and are more comfortable than they were a century ago. Why not trust to a continuation of this improvement? This is a question needing an answer.

In the first place, what has been said about the unfit and the inferior cannot be passed over lightly. Insanity, mental defect, and crime may be increasing, and our slums are certainly still with us. Again, if progress is being made, it is only in certain directions. We may boast of our increased wealth and greater comfort. All this is, however, mostly due to scientific discoveries made by the few. We shall not continue to make material progress unless as large a proportion of great men appear in the future as in the past. A falling off in our creature comforts, let alone in all higher things, will take place if the breed of our race is not maintained. The greater luxury visible on all sides may hide the fact that man himself is slowly getting worse. It is a slow and unnoticeable change which is most to be feared.

What we ought to look to in this enquiry is the very nature of man himself. The doctor has done much towards defeating those germs which, by invading our bodies, give rise to small-pox, typhus, diphtheria, and other diseases even more loathsome. But what has been accomplished when the trouble lies in the man himself? There are little or no signs of improvement as regards mental defect, cancer, rheumatism, defective eyesight, teeth, or hearing. In

more quickly as compared with those classes containing artisans, clerks, and all drawing higher salaries.

To illustrate what is now taking place, reference may again be made to a game at cards. First let it be noted that the hands dealt out are never the same in two successive deals; and yet the pack as a whole remains unaltered. In somewhat the same way, although no individual in any generation is ever exactly like any individual in any succeeding generation, yet the group to which they belong may remain quite unaltered. That is to say, there may be no change in the probability of superior or inferior persons being born. This is, however, but a rough analogy, and it may be as well to get nearer to the actual facts of life. Man develops from a germ, and each such germ contains a number of things called genes. The qualities of a man depend largely on these genes. Some genes tend to promote good qualities, and these may be called good genes. Other genes have an opposite effect, and these may be called bad genes. These genes always go in pairs, one of each pair coming from the father, and one from the mother. When a new generation is being formed by the union of a male and female germ, half the genes in each of the parent germs, one from each pair, are thrown away, as it were, these discarded genes being selected by chance. Thus in every generation the genes in the germs remain in pairs.

An exceptional number of good genes—like an exceptional number of good cards—may come together by chance in a germ. Then the person developing from that germ will be exceptionally intelligent or efficient. If his parents are labourers, he may rise out of that class. He will be lost to the labourer group, and his good genes will go with him. In subsequent generations these good genes cannot reappear in that group, and in it ever afterwards remarkable men will in consequence be less likely to appear. As long as the labourer group continues thus to lose large numbers of its best men, so long will it continue to deteriorate. Its numbers may not diminish, because the gaps in its ranks may be filled up by its high birth-rate.

If these labourers join a group of artisans, they may, however, do no more than fill up the gaps made in the ranks of that group in consequence of its low birth-rate. The relative numbers of the labourers and artisans groups may remain unchanged. But how about their relative qualities? The good genes brought with him by the incoming labourer might, it is true, at first tend to raise the standard of the artisan group in the coming generations. We have seen, however, that these incoming labourers would continually deteriorate in quality; with the result that the artisan class which received them must in time also begin to deteriorate. The artisans would acquire some superiority over the labourers in natural qualities; though in the end all would begin to go slowly down the hill together, the labourers merely leading the way, and all other classes following after them.

Every position should, no doubt, be filled by the man best fitted to fill it, whatever might have been his origin. That men of good parts should continually keep mounting the social ladder is certainly all to the good. The alarming fact is that big gaps occur in every generation in the ranks of the skilled artisans and in other valuable classes. This is because married couples are failing badly in their duty of keeping up the numbers of the nation. These gaps in their ranks are being filled up by means of transfers from classes with a higher birth-rate; and these new-comers, when they have risen, also begin to have small families. It is the big and little families at the two ends of the scale that are the cause of the mischief.

All that has just been said assumes that the men picked out for the better-paid jobs have, as a rule, better qualities than those who are less successful. All must agree that many men fail to win high wages because they are weak, sickly, foolish, ill-tempered, drunken, careless, or dishonest. In reply it may be said that some evil qualities make for success, including greed, ambition, carelessness for the welfare of others, etc. This is true in a measure; but these bad qualities are far outweighed by the good qualities

making for success. These include honesty, industry, perseverance, sobriety, intelligence, good-fellowship, strength, and good health. Looking to the mass of mankind, the man who wins his way into a better position generally possesses a considerable balance of good qualities.

Good jobs are, it is true, often obtained by favouritism. Much good work is ill paid. And men often fail from want of training or opportunity. These are all evils against which we must fight, and they are evils which will diminish with any real advance in civilization. A continuous deterioration in the inborn qualities of the people would, however, be certain in time to show itself in a decline in our civilization, and thus put an end to all such hopes.

Here again it may be asked, If the differential birth-rate is really producing such harmful effects, why are they not clearly visible? The reason is that the causes of the harm now being done have been at work for only a comparatively short time, and that the changes for the worse are being produced only very slowly. A century ago there was much less movement up and down between the social classes; the barriers between them being then much harder to surmount. In recent years great efforts have been made, by the award of scholarships and in other ways, to pick out the best even in the poorest districts, so as to help them to win high wages. The families of the artisan and middle classes were larger half a century ago than they are at present; whilst in the poorest quarters children were then dying with terrible frequency. The smaller families now being produced by those doing well-paid work leave more vacancies which can be filled from outside; and to fill them more persons are available because of the diminished death-rate amongst the poor. We are faced with a new and formidable condition of things; so new that it is not surprising that no signs of the damage being done are yet clearly visible.

If we look far enough into the past, the warnings we may thus obtain are clear enough; for wherever civilization has become very luxurious, it has begun to go downhill. One early sign of this deterioration has been the

absence of great men. The ancient Greeks at their prime turned out a larger proportion of men of genius than any other nation has done in the last two thousand years. Both Egypt and Rome had high civilizations which disappeared. In these and other countries, luxury was followed by internal disorders and attacks by external enemies; and then followed periods well described as dark ages. One cause of deterioration which is at work now was certainly at work in those ancient days, and that is a low birth-rate amongst the superior breeds and a high birth-rate amongst the inferior. Other causes no doubt helped to ruin ancient Rome; but if we sit still her fate will be ours also.

If we wish to maintain the honour and reputation of our country in the distant future, the birth-rate must be increased where it is now often low, and lowered where it is now often high. To do this wisely should be the main aim of eugenics.