

Sept. 17. 31

CRIPPS'S CORNER,
FOREST ROW,
SUSSEX.

Dear M^{rs}. Fisher

I am very much obliged to you for writing to me giving me the news of the success of the operation. Now it is only a question of time. Sometimes patients become a bit feverish and fatigued, in which cases they had better not receive letters. I wrote the enclosed some little time ago, and I send it to you so that you can hand it on or keep it back, as seems suitable. It is of little consequence

when he gets it - or if he ever
gets it!

Please give J. Fiske my
thanks for letting me see
Ford's little book. I shall
probably buy a copy.

I hope you and the children
keep well. This coming home
must have been a strain on
you.

Yours sincerely,

Leiman Darwin

Cripps's Corner,
Forest Row,
Sussex.

Sept. 1931.

My dear Fisher,

Here is a long letter, to be read at your leisure. If it is a matter which you are not now inclined to tackle, I should like you to put this letter aside and reconsider it at a later date. In any case do not reply till you feel moved to do so.

The Society is, I understand, likely to be considering the question of the advice which should be given by doctors concerning marriage from the eugenic point of view, a problem which has thus far been quite inadequately dealt with. Many more facts ought no doubt to be sought for, and until more is known, the field of action may be much restricted. In the meantime, should not all the questions involved be thoroughly studied theoretically, so that when more facts are known, an advance can be made with as much confidence as possible? Without such a theoretical survey, we cannot even say what advice can now safely be given.

In the first place, might not certain broad principles be laid down? It should be a rule, I suggest, that advice as to marriage should always be given without reference to any particular spouse. According to the Mendelian theory of heredity, the genes supplied by one parent separate from the genes coming from the other parent

quite unaltered by their union. If this be so, the ultimate effects on the race of the marriage of a number of individuals would be affected in no predictable way by any different assortment of the partners. Of course, to select a good spouse is racially beneficial; but it is so only because that good spouse might otherwise go unmated. The doctor should consider his patient and his patient only.

If this decision be accepted, it to a large extent covers the question of cousin marriages; for it implies that the avoidance of such a union would not condone an objectionable marriage. If cousins marry it may be all the worse for them, because the chances of bad ancestral qualities again coming to the surface in their children would thus be increased; whilst, as far as the race is concerned, such unions are advantageous by increasing the probability of this bad blood being eliminated.

In order to understand the second broad rule, we must imagine all the individuals forming the nation to be arranged in order of merit in accordance with the value of the inborn qualities which they are likely to transmit to posterity. The birth of an additional child in the upper half of this array would raise the average racial value of the nation, and such births should be encouraged. An opposite rule applies to births in the lower half. The doctor's first aim should be, therefore, to determine in which half of the nation his

patient should be placed, and his advice about parenthood should be given accordingly. Here is the main guiding principle to be held in view.

No doubt there are some who hold that on a priori grounds any additional birth should be regarded with favour as adding one to the nation. Those who argue thus may perhaps agree that this is not the case with regard to mental defectives, lunatics, or the obviously unfit; but, if so, where do they draw the line as to where parenthood is not commendable? If any line should be drawn, can there be any logical basis for it except that above suggested? A philosophical problem may, no doubt, be raised as to whether a larger number of persons, all above a certain undefinable minimum in regard to welfare generally, ought to be preferred to a smaller number all in the same respect higher above this same minimum. I see no logical answer to this question, and I can only say that I myself plump for the smaller and better population, and on this arbitrary decision the foregoing conclusion really rests. As regards military power, for which numbers may be demanded, war is coming to be more and more decided by wealth and capacity and less and less by mere numerical strength. When the drag on our nation, which was caused by our O3 population, is remembered, we shall not ask for additional numbers without regard to quality.

As to the problem on hand, let us begin by considering insanity, this being the disease about which questions concerning marriage are most often asked, and let us first assume that nothing is known about the relatives of the patient. The first thing to do is to ascertain by reference to known facts what is the probability of a child of the patient being insane. According to Rüdín, when one parent is Schizophrenic, from 9 to 10 out of every 100 children born will be insane also. Now there are probably not much more than one per cent of the population who are or have been insane, and consequently we may assume that in this one respect the patient is certainly in the lower half of the nation, and, consequently, that on this account parenthood should be discouraged. If we ought to look to the percentage of the population who are suffering from this particular form of insanity, then this conclusion would be even more indisputable. On the other hand, all valuable qualities, both of the patient himself and of his relatives, ought to be weighed in the balance on the other side. As far as I can judge, such considerations could not possibly turn the scale in favour of the insane patient, and consequently we may come to the conclusion that no Schizophrenic patient should become a parent.

If the patient is sane, but has insane relatives, the question becomes far more difficult, so much so that some appear to hold that in such cases not enough is now known about the heredity of insanity to

make it possible for a doctor to give sound advice about marriage. If this be so, which I doubt, and if the foregoing conclusion about the marriage of insane patients be accepted, then the doctor may put up his shutters as regards advice concerning insanity and parenthood. If he has diagnosed his patient to have any hereditary form of insanity, the ruling about marriage should follow automatically. If the patient is diagnosed to be sane, then on the above assumptions the doctor also has nothing to say. But even if all this be accepted, yet we certainly ought to study all the questions involved from a theoretical point of view, so as to be able to take full advantage of every increase of knowledge as it is obtained.

If the pedigrees of patients are drawn up going back for only three generations and merely indicating which of the relatives are sane and which insane, including all sibs in each generation, it will be seen that there are several thousand possible combinations. And here I want you to consider whether a table could be drawn up, including a suitable selection of these possible combinations, and giving in each case a figure by means of which the probability of a child being insane could be ascertained. This figure would have to be combined in some way with the figure indicating the hereditary correlation coefficient for the particular form of defect. Could this be done? The results in regard to combinations not included in the table might be estimated by interpolation.

I am strongly of the opinion that tables are necessary; for if the Panel Doctor is given any formula at all complicated, he will not, as a rule, work it out. The system must be very widely used if it is to have any appreciable eugenic effect. When the patient's own health is not concerned, in many cases even if well-to-do, he will not go to a specialist.

Unfortunately the more these problems are considered, the more complicated they seem to be. Presumably a correlation coefficient should be known for each kind of defect shown in the pedigree under examination. How are they to be combined in estimating whether the child is likely to be above or below the median? Rüdin gives the percentage of insane offspring when one parent is insane and also when both are so. Would it be possible from such figures to say that here we have a case when the selection of a certain proportion of a total number of recessive factors in existence is necessary to produce insanity? Many other problems will doubtless present themselves for solution.

Many different kinds of rare hereditary defects will occasionally have to be considered by the doctor. In such cases, if the parent is defective, and if nothing is known about the relatives, parenthood would certainly be condemned on the above principles; because the chances of the defect reappearing in the child of the defective would certainly be greater than the chances of its

appearing amongst the general public. But where the defect in the parent is not very serious, and also in many cases where the defect, including insanity, appears amongst relations only, the question whether its harmful racial effects are not outweighed by the existence of qualities above the average in the parent or his relatives ought to be considered. Here it should be remembered that the mere willingness to consider whether parenthood should be barred is a strong indication of the possession of good qualities by the prospective parent. And from this fact it follows that if no account is ever taken of good qualities, medical advice is on the whole quite as likely to do harm as to do good to the race.

Then as to this question of good qualities, how are they and their hereditary effects to be estimated? Galton held that one in 4,000 of the population might be described as eminent. But such a high standard would be useless for ordinary pedigree work; for perhaps not more than one in a hundred pedigrees laid before doctors in regard to marriage would contain a single eminent individual. It would be much more useful to take into account an arbitrarily selected class of useful citizens, to include all whose absence would be in any way clearly disadvantageous, and to estimate their proportion to the whole nation.

If the pedigrees showed all who were held to fall within this category, the above-mentioned tables might be useful in estimating the probable value to the nation of the child.

Granted that we are able to estimate the probability of offspring being defective on the one hand, and useful to the nation on the other, how are we to balance these opposing results? We must get some scale by which to compare the defects noted with the advantage of being a useful citizen. For this purpose we must ask ourselves how many useful citizens we should be willing to dispense with if by so doing we could rid the world of one man with a deformed hand, for example. It is conceivable that in some such way defects could be balanced against merits.

In engineering construction there is what is called a factor of safety, each part of a bridge being, for example, say, five times as strong as theory demands. In somewhat the same way unless the child is twice or three times as likely as the average child to be insane, for example, the doctor might decide to recommend marriage but only if intended to result in a small family of one or two children.

When all these complications are held in view, some may be inclined to say that all this theory had better be neglected, and that the doctor should trust

to his unaided common sense. Little faith should, however, ever be placed in decisions thus arrived at. Doctors were at one time just as sure that absence of all fresh air and frequent bleeding should be the treatment of consumptive patients as they now are that such procedure would be idiotic. Millions of persons in the past, and a good many now-a-days, consider that astrological estimates of a child's future career are in no way condemned by common sense. I am inclined to believe that common sense is likely to make us underestimate the chances of an insane patient having an insane child, to overestimate this risk in the case of the grandchild, and to greatly overestimate the additional risk of an insane inheritance because of insane relatives when the parent is insane. But here I am relying on what you have told me at times. Unless the doctors' estimates are built on a foundation of both fact and theory, they will be often worse than useless from the racial point of view. And if common sense only is to be the guide, why consult a doctor at all?

I think Pearson has given some figures in the Annals of Eugenics. Are they of any use? How about the herediscopes, if that is what it is called? Is it conceivably possible to design a machine so as to weigh probabilities by putting different weights on opposite sides.

All this letter has had really only one aim - to incite you to write a book on this subject. It would take some years' work. If you wont do it, I do not know any one else who can. Do think over it.

Yours sincerely,

Demard Darwin