

CHAPTER IX

THE ARTISTIC FACULTY.

Data.—Sexual Distribution.—Marriage Selection.—Regression.—Effect of Bias in Marriage.

Data.—It is many years since I described the family history of the great Painters and Musicians in *Hereditary Genius*. The inheritance of much less exceptional gifts of Artistic Faculty will be discussed in this chapter, and from an entirely different class of data. They are the answers in my R.F.F. collection, to the question of “Favourite pursuits and interests? Artistic aptitudes?”

The list of persons who were signalised as being especially fond of music and drawing, no doubt includes many who are artistic in a very moderate degree. Still they form a fairly well defined class, and one that is easy to discuss because their family history is complete. In this respect, they are much more suitable subjects for statistical inquiry than the great Painters and Musicians, whose biographers usually say little or nothing of their non-artistic relatives.

The object of the present chapter is not to give a reply to the simple question, whether or no the Artistic faculty tends to be inherited. A man must be very crotchety or very ignorant, who nowadays seriously doubts the inheritance either of this or of any other faculty. The question is whether or no its inheritance follows a similar law to that which has been shown to govern Stature and Eye-colour, and which has been worked out with some completeness in the foregoing chapters. Before answering this question, it will be convenient to compare the distribution of the Artistic faculty in the two sexes, and to learn the influence it may exercise on marriage selection.

I began by dividing my data into four classes of aptitudes; the first was for music alone; the second for drawing alone; the third for both music and drawing; and the fourth includes all those about whose artistic capacities a discreet silence was observed. After prefatory trials, I found it so difficult to separate aptitude for music from aptitude for drawing, that I determined to throw the three first classes into the single group of Artistic. This and the group of the Non-Artistic are the only two divisions now to be considered.

A difficulty presented itself at the outset in respect to the families that included boys, girls, and young children, whose artistic tastes and capacities can seldom be fairly judged, while they are liable to be appraised too favourably by the compiler of the Family records, especially if he or she was one of their parents. As the practice of picking and choosing is very hazardous in

statistical inquiries, however fair our intentions may be, and as it in justice always excites suspicion, I decided, though with much regret at their loss, to omit the whole of those who were not adult.

Sexual Distribution.—Men and women, as classes, may differ little in their natural artistic capacity, but such difference as there is in adult life is somewhat in favour of the women. Table 9B contains 894 cases, 447 of men and 447 of women, divided into three groups according to the rank they hold in the pedigrees. These groups agree fairly well among themselves, and therefore their aggregate results may be freely accepted as trustworthy. They show that 28 per cent. of the males are Artistic and 72 are Not Artistic, and that there are 33 per cent. Artistic females to 67 who are Not Artistic. Part of this female superiority is doubtless to be ascribed to the large share that music and drawing occupy in the education of women, and to the greater leisure that most girls have, or take, for amusing themselves. If the artistic gifts of men and women are naturally the same, as the experience of schools where music and drawing are taught, apparently shows it to be, the small difference observed in favour of women in adult life would be a measure of the smallness of the effect of education compared to that of natural talent. Disregarding the distinction of sex, the figures in Table 9B show that the number of Artistic to Non-Artistic persons in the general population is in the proportion

of $30\frac{1}{2}$ to $69\frac{1}{2}$. The data used in Table 22 refer to a considerably larger number of persons, and do not include more than two-thirds of those employed in Table 9B, and they make the proportion to be 31 to 69. So we shall be quite correct enough if we reckon that out of ten persons in the families of my R.F.F. correspondents, three on the average are artistic and seven are not.

Marriage Selection.—Table 9B enables us to ascertain whether there is any tendency, or any disinclination among the Artistic and the Non-Artistic, to marry within their respective castes. It shows the observed frequency of their marriages in each of the three possible combinations; namely, both husband and wife artistic; one artistic and one not; and both not artistic. The Table also gives the calculated frequency of the three classes, supposing the pairings to be regulated by the laws of chance. There is I think trustworthy evidence of the existence of some slight disinclination to marry within the same caste, for signs of it appear in each of the three sets of families with which the Table deals. The total result is that there are only 36 per cent. of such marriages observed, whereas if there had been no disinclination but perfect indifference, the number would have been raised to 42. The difference is small and the figures are few, but for the above reasons it is not likely to be fallacious. I believe the facts to be, that highly artistic people keep pretty much to themselves, but that the very much larger body of

moderately artistic people do not. A man of highly artistic temperament must look on those who are deficient in it, as barbarians; he would continually crave for a sympathy and response that such persons are incapable of giving. On the other hand, every quiet unmusical man must shrink a little from the idea of wedding himself to a grand piano in constant action, with its vocal and peculiar social accompaniments; but he might anticipate great pleasure in having a wife of a moderately artistic temperament, who would give colour and variety to his prosaic life. On the other hand, a sensitive and imaginative wife would be conscious of needing the aid of a husband who had enough plain common-sense to restrain her too enthusiastic and frequently foolish projects. If wife is read for husband, and husband for wife, the same argument still holds true.

Regression.—Having disposed of these preliminaries, we will now examine into the conditions of the inheritance of the Artistic Faculty. The data that bear upon it are summarised in Table 22, where I have not cared to separate the sexes, as my data are not numerous enough to allow of more subdivision than can be helped. Also, because from such calculations as I have made, the hereditary influences of the two sexes in respect to art appear to be pretty equal: as they are in respect to nearly every other characteristic, exclusive of diseases, that I have examined.

It is perfectly conceivable that the Artistic Faculty

in any person might be somehow measured, and its amount determined, just as we may measure Strength, the power of Discrimination of Tints, or the tenacity of Memory. Let us then suppose the measurement of the Artistic Faculty to be feasible and to have been often performed, and that the measures of a large number of persons were thrown into a Scheme.

It is reasonable to expect that the Scheme of the Artistic Faculty would be approximately Normal in its proportions, like those of the various Qualities and Faculties whose measures were given in Tables 2 and 3.

It is also reasonable to expect that the same law of inheritance might hold good in the Artistic Faculty that was found to hold good both in Stature and in Eye colour; in other words, that the value of Filial Regression would in this case also be $\frac{2}{3}$.

We have now to discover whether these assumptions are true without any help from direct measurement. The problem to be solved is a pretty one, and will illustrate the method by which many problems of a similar class have to be worked.

Let the graduations of the scale by which the Artistic Faculty is supposed to be measured, be such that the unit of the scale shall be equal to the Q of the Art-Scheme of the general population. Call the unknown M of the Art-Scheme of the population, P . Then, as explained in page 52, the measure of any individual will be of the form $P + (\pm D)$, where D is the deviation from P . The first fact we have to deal with is, that only 30 per cent. of the population

are Artistic. Therefore no person whose Grade in the Art-Scheme does not exceed 70° can be reckoned as Artistic. Referring to Table 8 we see that the value of D for the Grade of 70° is $+0.78$; consequently the art-measure of an Artistic person, when reckoned in units of the accepted scale, must exceed $P + 0.78$.

The average art-measure of all persons whose Grade is higher than 70° , may be obtained with sufficient approximation by taking the average of all the values given in Table 8, for every Grade, or more simply for every odd Grade from 71° to 99° inclusive. It will be found to be 1.71. Therefore an artistic person has, on the average, an art-measure of $P + 1.71$. We will consider persons of this measure to be representatives of the whole of the artistic portion of the Population. It is not strictly correct to do so, but for approximative purposes this rough and ready method will suffice, instead of the tedious process of making a separate calculation for each Grade.

The M of the Co-Fraternity born of a group of Mid-Parents whose measure is $P + 1.71$ will be $P + (\frac{2}{3} \times 1.71)$ or $(P + 1.4)$. We will call this value C. The Q of this or any other Co-Fraternity may be expected to bear approximately the same ratio to the Q of the general population, that it did in the case of Stature, namely, that of 1.5 to 1.7. Therefore the Q of the Co-Fraternity who are born of Mid-Parents whose Art-measure is C, will be 0.88.

The artistic members of this Co-Fraternity will be those whose measures exceed $\{P + 0.78\}$. We may write this

value in the form of $\{(P + 1.4) - 0.36\}$, or $\{C - 0.36\}$. Table 8 shows that the Deviation of -0.36 is found at the Grade of 40° . Consequently 40 per cent. of this Co-Fraternity will be Non-Artistic and 60 per cent. will be Artistic. Observation Table 23 shows the numbers to be 36 and 64, which is a very happy agreement.

Next as regards the Non-Artistic Parents. The Non-Artistic portion of the Population occupy the 70 first Grades in the Art-Scheme, and may be divided into two groups; one consisting of 40 Grades, and standing between the Grades of 70° and 30° , or between the Grade of 50° and 20 Grades on either side of it, the average Art-measure of whom is P ; the other group standing below 30° , whose average measure may be taken to be $P - 1.71$, for the same reason that the group above 70° was taken as $P + 1.71$. Consequently the average measure of the entire Non-Artistic class is

$$\begin{aligned} & \frac{1}{70} \{(40 \times P) + 30 (P - 1.71)\} \\ & = P - \frac{3}{8} \times 1.71 = P - 0.73. \end{aligned}$$

Supposing Mid-Parents of this measure, to represent the entire Non-Artistic group, their offspring will be a Co-Fraternity having for their M the value of $P - (\frac{2}{3} \times 0.73)$ or $P - 0.49$, which we will call C' , and for their Q the value of 0.88 as before.

Such among them as exceed $\{P - 0.78\}$, which we may write in the form of $\{(P - 0.49) + (1.27)\}$, or $\{C' + 1.27\}$, are Artistic, and they are those who, according to Table 8, rank higher than the Grade 83° . In other words, 83 per cent. of the children of Non-

Artistic parents will be Non-Artistic, and the remainder of 17 per cent. will be Artistic. Observation gives the values of 79 and 21, which is a very fair coincidence.

When one parent is Artistic and the other Not, their joint hereditary influence would be the average of the above two cases; that is to say, $\frac{1}{2}$ (40 + 83), or $61\frac{1}{2}$ per cent. of their children would be Non-Artistic, and $\frac{1}{2}$ (60 + 17), or $38\frac{1}{2}$, would be Artistic. The observed numbers are 61 and 39, which agree excellently well.

We may therefore conclude that the same law of Regression, and all that depends upon it, which governs the inheritance both of Stature and Eye-colour, applies equally to the Artistic Faculty.

Effect of Bias in Marriage.—The slight apparent disinclination of the Artistic and the Non-Artistic to marry in their own caste, is hardly worth regarding, but it is right to clearly understand the extreme effect that might be occasioned by Bias in Marriage. Suppose the attraction of like to like to become paramount, so that each individual in a Scheme married his or her nearest available neighbour, then the Scheme of Mid-Parents would be practically identical with the Scheme drawn from the individual members of the population. In the case of Stature their Q would be 1.7 inch, instead of 1.7 divided by $\sqrt{2}$. The regression and subsequent dispersion remaining unchanged, the Q of the offspring would consequently be increased.

On the other hand, suppose the attraction of contrast

to become suddenly paramount, so that Grade 99° paired in an instant with Grade 1° ; next 98° with 2° ; and so on in order, until the languid desires of 49° and 51° were satisfied last of all. Then every one of the Mid-Parents would be of precisely the same stature P. Consequently their Q would be zero; and that of the system of the Mid-Co-Fraternities would be zero also; hence the Q of the next generation would contract to the Q of a Co-Fraternity, that is to 1.5 inch.

Whatever might be the character or strength of the bias in marriage selection, so long as it remains constant the Q of the population would tend to become constant also, and the statistical resemblance between successive generations of the future Population would be ensured. The stability of the balance between the opposed tendencies of Regression and of Co-Fraternality expansion is due to the Regression increasing with the Deviation. Its effect is like that of a spring acting against a weight; the spring stretches until its gradually increasing resilient force balances the steady pull of the weight, then the two forces of spring and weight are in stable equilibrium. For, if the weight be lifted by the hand, it will obviously fall down again as soon as the hand is withdrawn; or again, if it be depressed by the hand, the resilience of the spring will become increased, and the weight will rise up again when it is left free to do so.