

the directions of Utility and of Beauty, but the earnest and high-toned character of Wedgwood himself, and the means which he took to enlarge and refine his own mind. We never saw a clearer proof of that which (in our judgment), lies at the root of all art:—namely, that success in it is strictly, absolutely, and eternally proportioned to the ability of the intellect and the largeness of the nature which produce it. The hand of an artist is only his head transformed. There is something so unpleasant to

human vanity in this truth—it is in itself so immediately fatal to all in art that rests on trick and unusual dexterity and ingenious adaptation, that we do not wonder it ranks among those truths which are under a cloud. But to those who accept it as a natural law, against which no struggle is of use, the details given in this book of Wedgwood's early career will afford a splendid example how much a man, working in the 'spirit of this creed,' may advance himself and do honour to his country.

HEREDITARY TALENT AND CHARACTER.

BY FRANCIS GALTON.

PART I.

THE power of man over animal life, in producing whatever varieties of form he pleases, is enormously great. It would seem as though the physical structure of future generations was almost as plastic as clay, under the control of the breeder's will. It is my desire to show, more pointedly than—so far as I am aware—has been attempted before, that mental qualities are equally under control.

A remarkable misapprehension appears to be current as to the fact of the transmission of talent by inheritance. It is commonly asserted that the children of eminent men are stupid; that, where great power of intellect seems to have been inherited, it has descended through the mother's side; and that one son commonly runs away with the talent of a whole family. My own inquiries have led me to a diametrically opposite conclusion. I find that talent is transmitted by inheritance in a very remarkable degree; that the mother has by no means the monopoly of its transmission; and that whole families of persons of talent are more common than those in which one member only is possessed of it. I justify my conclusions by the statistics

I now proceed to adduce, which I believe are amply sufficient to command conviction. They are only a part of much material I have collected, for a future volume on this subject; all of which points in the same direction. I should be very grateful to any of my readers for information that may help me in my further inquiries.

In investigating the hereditary transmission of talent, we must ever bear in mind our ignorance of the laws which govern the inheritance even of physical features. We know to a certainty that the latter exist, though we do not thoroughly understand their action. The breeders of our domestic animals have discovered many rules by experience, and act upon them to a nicety. But we have not advanced, even to this limited extent, in respect to the human race. It has been nobody's business to study them; and the study is difficult, for many reasons. Thus, only two generations are likely to be born during the life of any observer; clothing conceals shape; and each individual rarely marries more than once. Nevertheless, all analogy assures us that the physical features of man are equally transmissible with those of brutes. The resemblances between parent and offspring, as they

appear to a casual observer, are just as close in one case as in the other; and, therefore, as a nearer scrutiny has established strict laws of hereditary transmission in brutes, we have every reason for believing that the same could also be discovered in the case of man.

So far as I am aware, no animals have ever been bred for general intelligence. Special aptitudes are thoroughly controlled by the breeder. He breeds dogs that point, that retrieve, that fondle, or that bite; but no one has ever yet attempted to breed for high general intellect, irrespective of all other qualities. It would be a most interesting subject for an attempt. We hear constantly of prodigies of dogs, whose very intelligence makes them of little value as slaves. When they are wanted, they are apt to be absent on their own errands. They are too critical of their master's conduct. For instance, an intelligent dog shows marked contempt for an unsuccessful sportsman. He will follow nobody along a road that leads on a well-known tedious errand. He does not readily forgive a man who wounds his self-esteem. He is often a dexterous thief and a sad hypocrite. For these reasons an over-intelligent dog is not an object of particular desire, and therefore, I suppose, no one has ever thought of encouraging a breed of wise dogs. But it would be a most interesting occupation for a country philosopher to pick up the cleverest dogs he could hear of, and mate them together, generation after generation—breeding purely for intellectual power, and disregarding shape, size, and every other quality.

As no experiment of this description has ever been made, I cannot appeal to its success. I can only say that the general resemblances in mental qualities between parents and offspring, in man and brute, are every whit as near as the resemblance of their physical features; and I must leave the existence of actual laws in the former case to be a matter of inference from the analogy of the latter. Resemblance frequently fails where we might have expected it to hold; but we may fairly ascribe the

failure to the influence of conditions that we do not yet comprehend. So long as we have a plenitude of evidence in favour of the hypothesis of the hereditary descent of talent, we need not be disconcerted when negative evidence is brought against us. We must reply that just the same argument might have been urged against the transmission of the physical features of our domestic animals; yet our breeders have discovered certain rules, and make their living by acting upon them. They know, with accurate prevision, when particular types of animals are mated together, what will be the character of the offspring. They can say that such and such qualities will be reproduced to a certainty. That others are doubtful; for they may appear in some of the descendants and not in the rest. Lastly, that there are yet other qualities, excessive in one parent and defective in the other, that will be counterbalanced and be transmitted to the offspring in a moderate proportion.

I maintain by analogy that this prevision could be equally attained in respect to the mental qualities, though I cannot prove it. All I can show is that talent and peculiarities of character are found in the children, when they have existed in either of the parents, to an extent beyond all question greater than in the children of ordinary persons. It is a fact, neither to be denied nor to be considered of importance, that the children of men of genius are frequently of mediocre intellect. The qualities of each individual are due to the combined influence of his two parents; and the remarkable qualities of the one may have been neutralized in the offspring, by the opposite or defective qualities of the other. It is natural that contrast of qualities, in the parents' dispositions, should occur as frequently as harmony; for one of the many foundations of friendship and of the marriage union is a difference of character; each individual seeking thereby to supplement the qualities in which he feels his own nature to be deficient. We have also good reason to believe that every special talent or character depends

on a variety of obscure conditions, the analysis of which has never yet been seriously attempted. It is easy to conceive that the entire character might be considerably altered, owing to the modification of any one of these conditions.

As a first step in my investigation, I sought a biographical work, of manageable size, that should contain the lives of the chief men of genius whom the world is known to have produced. I ultimately selected that of Sir Thomas Phillips, in his well-known work of reference, "The Million of Facts;" because it is compiled with evident discrimination, and without the slightest regard to the question on which I was engaged. It is, moreover, prefaced,— "It has been attempted to record, in brief, only the ORIGINAL MINDS, who founded or originated. Biography in general is filled with mere imitators, or with men noted only for chance of birth, or necessary position in society." I do not mean to say that Sir Thomas Phillips's selection is the best that could have been made, for he was a somewhat crochety writer. It did not, however, much matter whose biography I adopted, so long as it had been written in the above-mentioned spirit, and so long as I determined to abide stedfastly within its limits, without yielding to the temptation of supplying obvious omissions, in a way favourable to any provisional theory.

According to this select biography, I find that 605 notabilities lived between the years 1453 and 1853. And among these are no less than 102 relationships, or 1 in 6, according to the following list:—

Art.	Lit. & science.	More distant.	Brothers, &c.	Father & son.	Number.	NOTABLE PERSONS.
—	—	1	—	—	3	J. Adams, Pres. U.S.A.; son Samuel also patriot; nephew, J. Quincey, president.
—	2	—	2	—	2	W. Belsham, historian; brother of T. Belsham, Unitarian minister.
—	3	—	—	—	3	J. Bernouilli, father of James and uncle of John, all mathematicians.
3	—	—	—	—	3	Breughel, father and two sons, painters.
—	2	—	—	—	2	Buxtorff, father and son, Hebraists.
3	—	1	2	—	3	Caracci, An. and Ag. brothers, Lud. cousin, painter.
—	1	—	2	—	2	Cartwright, reformer; brother, mechanist.
—	3	—	—	—	3	Casini, grandfather, father, and son, all mathematicians.
—	1	2	—	—	2	Cooper, Privy Councillor to Cromwell; grandson, literary.
—	—	—	2	—	2	De Witt, two brothers, patriots.
—	—	—	—	—	3	Elizabeth, queen, daughter of Henry VIII. and granddaughter of Sir T. Bullen.
—	2	—	2	—	2	Fontana, two brothers, natural philosophers.
—	2	—	—	—	2	Forster, father and son, naturalists (Cook's voyages).
—	6	—	—	—	6	Gronovius, sons and grandsons, six in all, learned critics.
—	—	1	—	—	3	Gustavus Adolphus, father of Christina and grandson of Gustavus Vasa.
—	2	—	—	—	2	Herschel, father and son, astronomers.
—	2	—	2	—	2	Hunter, two brothers, anatomists.
—	2	2	—	—	2	Jussieu, uncle and nephew, botanists.
—	—	—	—	—	4	Medici, grandfather, father, and son, and Catherine.
—	—	—	—	—	2	Orleans, Egalité, and son Louis Philippe.
—	—	—	2	—	2	Ostade, two brothers, painters.
—	4	—	4	—	4	Perrault, four brothers, all writers.
—	1	—	—	—	2	Penn, admiral; son, Quaker writer.
—	—	2	—	—	4	Phillibert, Prince of Orange; cousin William, whose son was Maurice. His grandson was our William III.
—	—	—	—	—	2	Pitt, father and son, statesmen.
—	2	—	—	—	2	Scaliger, classical critic; son also.
—	—	—	—	—	2	Sforzas, father and son.
—	1	2	—	—	2	Shaftesbury, statesman; grandson, author.
—	1	—	—	—	2	Sheridan, father and son.
—	1	—	—	—	2	Stael, Madam, daughter of Necker, financier.
—	6	—	—	—	6	Stephens, family of six, critics and editors.
2	—	—	—	—	2	Teniers, father and son, painters.
—	—	—	—	—	2	Tytler, historian and poet; son, Lord Woodhouselee.
2	—	—	—	—	2	Vanderwelde, father and son, painters.
—	2	—	2	—	2	Vaanderwulf, two brothers, famous for small history.
—	—	1	2	—	3	Valnoo, two brothers, and nephew, painters.
—	1	—	—	—	2	Walpole, Sir Robert, statesman; Sir Horace, author.
—	—	—	—	—	2	Van Tromp, father and son, admirals.
—	1	2	—	—	2	Villiers, statesman; grandson, the reprobate poet.
—	2	—	—	—	2	Vossius, father, son, and other relatives, all writers.
—	2	—	—	—	2	Warton, editor of Pope; son, poet.
9	52	14	22	66	102	

It will be observed that the number is swelled by four large families, such as those of Gronovius and Stephens, of six

members each, and of the Medici and the House of Orange, of four members each. The two first might be objected to, as hardly worthy of the distinguished place they occupy. But we must adhere to our biography; there are many more relationships that could very fairly have been added, as a set-off against these names. Such are two more Vanderweldes, and the family of Richelieu; besides others, like Hallam the historian, and Watt the mechanic, whose sons died early, full of the highest promise. Even if sixteen names were struck out of our list, the proportion of the relationship would remain as $\frac{86}{505}$, or 1 in 7. And these are almost wholly referable to transmission of talent through the male line; for eminent mothers do not find a place in mere biographical lists. The overwhelming force of a statistical fact like this renders counter-arguments of no substantial effect.

Next, let us examine a biographical list of much greater extension. I have selected for this purpose an excellent brief dictionary by Mr. C. Hone. It is not yet published, but part of its proof sheets have been obligingly lent to me. The entire work appears to contain some 19,000 names; it is, therefore, more than thirty times as extensive as the list we have hitherto been considering. I have selected one part only of this long series of names for examination, namely, those that begin with the letter M. There are 1141 names that remain under this letter, after eliminating those of sovereigns, and also of all persons who died before A.D. 1453. Out of these, 103, or 1 in 11, are either fathers and sons, or brothers; and I am by no means sure that I have succeeded in hunting out all the relationships that might be found to exist among them.

It will be remarked that the proportion of distinguished relationships becomes smaller, as we relax the restrictions of our selection; and it is reasonable that it should be so, for we then include in our lists the names of men who have been inducted into history through other conditions than the possession of eminent talent.

Again, if we examine into the relationships of the notabilities of the present day, we obtain even larger proportions. Walford's "Men of the Time" contains an account of the distinguished men of England, the Continent, and America, who are now alive. Under the letter A there are 85 names of men, and no less than 25 of these, or 1 in $3\frac{1}{2}$, have relatives also in the list; 12 of them are brothers, and 11 fathers and sons.

Abbott, Rev. Jacob (U.S.A.), author on religious and moral subjects.

Abbott, Rev. John, younger brother of above, author on religious and moral subjects.

A'Beckett, Sir William, author, Solicitor-Gen. of New South Wales, and brother of late Gilbert Abbott A'Beckett.

Adam Jean Victor, painter, son of an eminent engraver.

Adams, American minister, son of John Quincy Adams.

Ainsworth, William Francis, editor of "Journal of Natural and Geographical Science," "Explorations in Asia Minor and Kurdistan."

Ainsworth, William Harrison, novelist, cousin of above.

Aivazooski, Gabriel, Armenian, born in the Crimea, Professor of European and Oriental languages, and member of Historical Institute of France.

Aivazooski, Ivan, a marine painter, brother of above.

Albermarle, Earl of (brother Keppel).

Albert, Prince (brother).

Aldis, Sir Charles, medical.

Aldis, Charles J. B. medical, son of above.

Alexander, James Waddell, American divine (son of a Professor).

Alexander, Joseph Addison, Professor of Ancient languages, and of Biblical and Ecclesiastical history, brother of the above.

Alison, Sir Archibald, historian, son of author of "Essays on Taste;" his mother belonged to "a family which has for two centuries been eminent in mathematics and the exact sciences."

Ampère, member of French Academy, and Professor in College of France (literary), son of the celebrated physicist of the same name.

Arago, Etienne, journalist and theatrical writer, brother of the celebrated philosopher.

Argyropopulo, statesman, son of grand interpreter to the Porte.

Aristarchi, ecclesiastic and statesman, son of grand interpreter to the Porte.

Arnold, Matthew, son of late Dr. Arnold.

Arwidson, Librarian R. Library, Stockholm, author, son of a person who held a high position in the Church.

Ashburton, Lord, son of Rt. Hon. Alexander Baring.

Azeglio, Massimo, statesman and painter.
Azeglio, Marquis, *nephew* of above, diplomatist
and painter.

So if we examine the biographies of artists. In Bryan's large "Dictionary of Painters," the letter A contains 391 names of men, of whom 65 are near relatives, or 1 in 6: 33 of them are fathers and sons, 30 are brothers. In Fétis "Biographie Universelle des Musiciens" the letter A contains 515 names, of which 50 are near relations, or 1 in 10. Two-third are fathers and sons, one-third are brothers.

It is justly to be urged, in limitation of the enormous effect of hereditary influence, implied by the above figures, that when a parent has achieved great eminence, his son will be placed in a more favourable position for advancement, than if he had been the son of an ordinary person. Social position is an especially important aid to success in statesmanship and generalship; for it is notorious that neither the Legislature nor the army afford, in their highest ranks, an open arena to the ablest intellects. The sons of the favoured classes are introduced early in life to both these fields of trial, with every encouragement to support them. Those of the lower classes are delayed and discouraged in their start; and when they are near the coveted goal, they find themselves aged. They are too late: they are not beaten by the superior merit of their contemporaries, but by time; as was once touchingly remarked by Sir De Lacy Evans.

In order to test the value of hereditary influence with greater precision, we should therefore extract from our biographical list the names (they are 330) of those that have achieved distinction in the more open fields of science and literature. There is no favour here beyond the advantage of a good education. Whatever spur may be given by the desire to maintain the family fame, and whatever opportunities are afforded by abundant leisure, are more than neutralised by those influences which commonly lead the heirs of fortune to idleness and dilettantism.

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Recurring to our list, we find fifty-one literary men who have distinguished relations. Therefore, no less than $\frac{51}{330}$, or one distinguished man in every twelve, has a father, son, or brother, distinguished in literature. To take a round number at a venture, we may be sure that there have been far more than a million students educated in Europe during the last four centuries, being an average of only 2,500 in each a year. According to our list, about 330 of these, or only 1 in 3,000, achieved eminent distinction: yet of those who did so, 1 in 12 was related to a distinguished man. Keeping to literature alone, it is 51 to 330 = 1 to $6\frac{1}{2}$, that a very distinguished literary man has a very distinguished literary relative, and it is (leaving out the Gronovius and Stephenses) 20 to 330 = 1 to 16, and 12 to 330 = 1 to 28, that the relationship is father and son, or brother and brother, respectively.

The Law is, by far, the most open to fair competition of all the professions; and of all offices in the law there is none that is more surely the reward of the most distinguished intellectual capacity than that of the Lord Chancellor. It therefore becomes an exceedingly interesting question to learn what have been the relationships of our Lord Chancellors. Are they to any notable degree the children, or the parents, or the brothers of very eminent men? Lord Campbell's "Lives of the Chancellors" forms a valuable biographical dictionary for the purpose of this investigation. I have taken it just as it stands; including, as Lord Campbell does, certain Lord Keepers and Commissioners of the Great Seal, as of equal rank with the Chancellors. I may further mention, that many expressions in Lord Campbell's works show that he was a disbeliever in hereditary influence.

Now what are the facts? Since Henry VIII.'s time, when Chancellors ceased to be ecclesiastics, and were capable of marrying, we have had thirty-nine Chancellors, &c. whose lives have been written by Lord Campbell, of whom the following had eminent relationships:—

M

- Sir Nicholas Bacon, Lord Keeper : son, Lord Chancellor Bacon.
- Coventry : son of a very learned judge of the Common Pleas.
- Bacon : father as above.
- Littleton : son of a judge.
- Whitelock : son of a judge, father of two sons, one of great eminence as a lawyer, the other as a soldier.
- Herbert : three sons. One had high command in army ; the second, the great naval officer, created Lord Torrington ; the third, Chief Justice of Queen's Bench.
- Finch, son of Speaker of House of Commons, and first cousin to the Lord Chancellor Finch of previous years, had a son who "almost rivalled his father," and who was made Solicitor-General and Earl of Aylesford.
- Macclesfield : son, President of Royal Society.
- Talbot : father was bishop, consecutively, of Oxford, Salisbury, and Durham ; had sons, of one of whom there were great hopes, but he died young ; the other "succeeded to his father's virtues."
- Hardwick had five sons, all very distinguished. One, a man of letters ; second, Lord Chancellor Yorke ; third, an ambassador ; fourth, "talented as the others ;" fifth, Bishop of Ely.
- Northington : father was "one of the most accomplished men of his day."
- Pratt : father was Chief Justice of King's Bench ; his son was distinguished for public service.
- Yorke : father was Lord Chancellor Hardwicke. (*See above.*)
- Bathurst : father was the Lord Bathurst of Queen Anne's time ; his son was the Lord Bathurst who filled high office under George III. and IV.
- Erskine : his brothers were nearly as eminent. The whole family was most talented.
- Eldon : brother was the famous Lord Stowell, Judge of Admiralty.

Thus out of the 39 Chancellors 16 had kinsmen of eminence. 13 of them—viz. Sir Nicholas Bacon, Lord Bacon, Coventry, Littleton, Whitelock, Herbert, Finch, Hardwick, Pratt, Yorke, Bathurst, Erskine, and Eldon—had kinsmen of great eminence. In other words, 13 out of 39—that is, 1 in every 3—are remarkable instances of hereditary influence.

It is astonishing to remark the number of the Chancellors, who rose from mediocre social positions, showing how talent makes its way at the Bar, and how utterly insufficient are favouritism and special opportunities to win the great legal prize of the Chancellorship. It is not possible accurately, and it is hardly worth while

roughly, to calculate the numerical value of hereditary influence in obtaining the Chancellorship. It is sufficient to say that it is enormous. We must not only reckon the number of students actually at the Chancery bar, and say that the Lord Chancellor was the foremost man among them, but we must reckon the immense number of schools in England, in any one of which, if a boy shows real marks of eminence, he is pretty sure to be patronised and passed on to a better place of education ; whence by exhibitions, and subsequently by University scholarships and fellowships, he may become educated as a lawyer. I believe, from these reasons, that the chances of the son of a Lord Chancellor to be himself also a Chancellor, supposing he enters the law, to be more than a thousandfold greater than if he were the son of equally rich but otherwise undistinguished parents. It does not appear an accident that, out of 54 Lord Chancellors or Lord Keepers, two—viz. Sir Nicholas Bacon and Lord Hardwick—should have had sons who were also Chancellors, when we bear in mind the very eminent legal relationships of Herbert, Finch, Eldon, and the rest.

The intellectual force of English boys has, up to almost the present date, been steadily directed to classical education. Classics form the basis of instruction at our grammar schools, so that every boy who possesses signal classical aptitudes has a chance of showing them. Those who are successful obtain exhibitions and other help, and ultimately find their way to the great arena of competition of University life.

The senior classic at Cambridge is not only the foremost of the 300 youths who take their degrees in the same year, but he is the foremost of perhaps a tenth part of the classical intellect of his generation, throughout all England. No industry, without eminent natural talent to back it, could possibly raise a youth into that position.

The institution of the class list at Cambridge dates from 1824 ; so there

have been 41 senior classics up to the present year. Wherever two names had been bracketed together, I selected the one that stood best in other examinations, and then extracted the following names from the list of them, as instances of hereditary influence :—

- 1827. Kennedy : father was a classic of eminence ; two brothers, *see* below ; another brother, almost equally distinguished in classics.
- 1828. Selwyn : brother M.P. for Cambridge, an eminent lawyer.
- 1830. Wordsworth : nephew to the poet, brother of an almost equally distinguished classic, son of the Master of Trinity.
- 1831. Kennedy (*see* above.)
- 1832. Lushington : brother (*see* below) ; nephew to the Right Hon. Sir Stephen Lushington. The family has numerous other members of eminent talent.
- 1834. Kennedy (*see* above).
- 1835. Goulbourn : father, Chancellor of the

- Exchequer, nephew of Serjeant Goulbourn, cousin to Dr. Goulbourn, Head Master of Rugby, the well-known preacher.
- 1835. Vaughan : many relationships like those of Goulbourn, including the Judge, the Professor at Oxford, and Mr. Hawkins. (*See* below.)
- 1842. Denman : father was the eminent Chief Justice Lord Denman.
- 1846. Lushington : brother (*see* above).
- 1854. Hawkins : *see* Vaughan.
- 1855. Butler : son of Senior Wrangler of 1794 ; three brothers, of whom two held University Scholarships in Oxford, and the other was a double first-class man at Cambridge.

12 of the 41, or about 1 in 3½, show these influences in a more or less marked degree ; 7 of them, or 1 in 6, viz. 3 Kennedy, 1 Wordsworth, 2 Lushington, and 1 Butler, very much so.

The data we have been considering are summed up in the following table :—

Number of cases.		Occurrence of near male relationship.	Percentages.	
			Distinguished father has a distinguished son.	Distinguished man has a distinguished brother.
605	All the men of "original minds" (Sir T. Phillips) and of every profession between 1453 and 1855	1 in 6 cases.	6 times in 100 cases.	2 times in 100 cases.
85	Living notabilities (Walford's "Men of the Times," letter A)	1 in 3½ cases.	7 " "	7 " "
391	Painters of all dates (Bryan's Dicty. A)	1 in 6 cases.	5 " "	4 " "
515	Musicians (Fétis Dicty. A)	1 in 10 cases.	6 " "	3 " "
54	Lord Chancellors (Lord Campbell) .	1 in 3 cases.	16 " "	4 " "
41	Senior Classics of Cambridge	1 in 4 cases.	Too recent	10 " "
	Averages	1 in 6 cases.	8 in 100 cases.	5 in 100 cases.

Everywhere is the enormous power of hereditary influence forced on our attention. If we take a list of the most brilliant standard writers of the last few years, we shall find a large share of the number have distinguished relationships. It would be difficult to set off, against the following instances, the same number of names of men of equal eminence, whose immediate relatives were undistinguished. Brontë (Jane Eyre and her two sisters) ; Bulwer (and his brother the ambassador) ; Disraeli (father, author of "Curiosities of Literature") ; Hallam (son, the subject of "In Memoriam") ; Kingsley (two brothers eminent novelists,

two others no less talented) ; Lord Macaulay (son of Zachary Macaulay) ; Miss Martineau (and her brother) ; Merivale, Herman and Charles (brothers) ; Dean Stanley (father the bishop, and popular writer on birds) ; Thackeray (daughter, authoress of "Elizabeth") ; Tennyson (brother also a poet) ; Mrs. Trollope (son, Anthony).

As we cannot doubt that the transmission of talent is as much through the side of the mother as through that of the father, how vastly would the offspring be improved, supposing distinguished women to be commonly married to distinguished men, generation after

generation, their qualities being in harmony and not in contrast, according to rules, of which we are now ignorant, but which a study of the subject would be sure to evolve!

It has been said by Bacon that "great men have no continuance." I, however, find that very great men are certainly not averse to the other sex, for some such have been noted for their illicit intercourses, and, I believe, for a corresponding amount of illegitimate issue. Great lawyers are especially to be blamed in this, even more than poets, artists, or great commanders. It seems natural to believe that a person who is not married, or who, if married, does not happen to have children, should feel himself more vacant to the attractions of a public or a literary career than if he had the domestic cares and interests of a family to attend to. Thus, if we take a list of the leaders in science of the present day, the small number of them who have families is very remarkable. Perhaps the best selection of names we can make, is from those who have filled the annual scientific office of President of the British Association. We will take the list of the commoners simply, lest it should be objected, though unjustly, that some of the noblemen who have occupied the chair were not wholly indebted to their scientific attainments for that high position. Out of twenty-two individuals, about one-third have children; one-third are or have been married and have no children; and one-third have never been married. Among the children of those who have had families, the names of Frank Buckland and Alexander Herschel are already well-known to the public.

There has been a popular belief that men of great intellectual eminence, are usually of feeble constitution, and of a dry and cold disposition. There may be such instances, but I believe the general rule to be exactly the opposite. Such men, so far as my observation and reading extend, are usually more manly and genial than the average, and by the aid of these very qualities, they obtain a recognised as-

pendancy. It is a great and common mistake to suppose that high intellectual powers are commonly associated with puny frames and small physical strength. Men of remarkable eminence are almost always men of vast powers of work. Those among them that have fallen into sedentary ways will frequently astonish their friends by their physical feats, when they happen to be in the mood of a vacation ramble. The Alpine Club contains a remarkable number of men of fair literary and scientific distinction; and these are among the strongest and most daring of the climbers. I believe, from my own recollections of the thews and energies of my contemporaries and friends of many years at Cambridge, that the first half-dozen class-men in classics or mathematics would have beaten, out of all proportion, the last half-dozen class-men in any trial of physical strength or endurance. Most notabilities have been great eaters and excellent digesters, on literally the same principle that the furnace which can raise more steam than is usual for one of its size must burn more freely and well than is common. Most great men are vigorous animals, with exuberant powers, and an extreme devotion to a cause. There is no reason to suppose that, in breeding for the highest order of intellect, we should produce a sterile or a feeble race.

Many forms of civilization have been peculiarly unfavourable to the hereditary transmission of rare talent. None of them were more prejudicial to it than that of the Middle Ages, where almost every youth of genius was attracted into the Church, and enrolled in the ranks of a celibate clergy.

Another great hindrance to it is a costly tone of society, like that of our own, where it becomes a folly for a rising man to encumber himself with domestic expenses, which custom exacts, and which are larger than his resources are able to meet. Here also genius is celibate, at least during the best period of manhood.

A spirit of caste is also bad, which

compels a man of genius to select his wife from a narrow neighbourhood, or from the members of a few families.

But a spirit of clique is not bad. I understand that in Germany it is very much the custom for professors to marry the daughters of other professors, and I have some reason to believe, but am anxious for further information before I can feel sure of it, that the enormous intellectual digestion of German literary men, which far exceeds that of the corresponding class of our own countrymen, may, in some considerable degree, be traceable to this practice.

So far as beauty is concerned, the custom of many countries, of the nobility purchasing the handsomest girls they could find for their wives, has laid the foundation of a higher type of features among the ruling classes. It is not so very long ago in England that it was thought quite natural that the strongest lance at the tournament should win the fairest or the noblest lady. The lady was the prize to be tilted for. She rarely objected to the arrangement, because her vanity was gratified by the *éclat* of the proceeding. Now history is justly charged with a tendency to repeat itself. We may, therefore, reasonably look forward to the possibility, I do not venture to say the probability, of a recurrence of some such practice of competition. What an extraordinary effect might be produced on our race, if its object was to unite in marriage those who possessed the finest and most suitable natures, mental, moral, and physical!

Let us, then, give reins to our fancy, and imagine a Utopia—or a Laputa, if you will—in which a system of competitive examination for girls, as well as for youths, had been so developed as to embrace every important quality of mind and body, and where a considerable sum was yearly allotted to the endowment of such marriages as promised to yield children who would grow into eminent servants of the State. We may picture to ourselves an annual ceremony in that Utopia or Laputa, in which the Senior Trustee of the Endowment Fund

would address ten deeply-blushing young men, all of twenty-five years old, in the following terms :—“Gentlemen, I have
“to announce the results of a public examination, conducted on established
“principles; which show that you
“occupy the foremost places in your
“year, in respect to those qualities of
“talent, character, and bodily vigour
“which are proved, on the whole, to
“do most honour and best service to our
“race. An examination has also been conducted on established principles among
“all the young ladies of this country who
“are now of the age of twenty-one, and
“I need hardly remind you, that this examination takes note of grace, beauty,
“health, good temper, accomplished
“housewifery, and disengaged affections,
“in addition to noble qualities of heart
“and brain. By a careful investigation of
“the marks you have severally obtained,
“and a comparison of them, always
“on established principles, with those
“obtained by the most distinguished
“among the young ladies, we have been
“enabled to select ten of their names
“with especial reference to your individual qualities. It appears that
“marriages between you and these ten
“ladies, according to the list I hold in
“my hand, would offer the probability
“of unusual happiness to yourselves,
“and, what is of paramount interest
“to the State, would probably result
“in an extraordinarily talented issue.
“Under these circumstances, if any or
“all of these marriages should be agreed
“upon, the Sovereign herself will give
“away the brides, at a high and solemn
“festival, six months hence, in Westminster Abbey. We, on our part, are
“prepared, in each case, to assign
“5,000*l.* as a wedding-present, and to
“defray the cost of maintaining and
“educating your children, out of the
“ample funds entrusted to our disposal
“by the State.”

If a twentieth part of the cost and pains were spent in measures for the improvement of the human race that is spent on the improvement of the breed of horses and cattle, what a galaxy of genius might we not create! We

might introduce prophets and high priests of civilization into the world, as surely as we can propagate idiots by mating *crétins*. Men and women of the present day are, to those we might hope to bring into existence, what the pariah dogs of the streets of an Eastern town are to our own highly-bred varieties.

The feeble nations of the world are necessarily giving way before the nobler varieties of mankind; and even the best of these, so far as we know them, seem unequal to their work. The average culture of mankind is become so much higher than it was, and the branches of knowledge and history so various and extended, that few are capable even of

comprehending the exigencies of our modern civilization; much less of fulfilling them. We are living in a sort of intellectual anarchy, for the want of master minds. The general intellectual capacity of our leaders requires to be raised, and also to be differentiated. We want abler commanders, statesmen, thinkers, inventors, and artists. The natural qualifications of our race are no greater than they used to be in semi-barbarous times, though the conditions amid which we are born are vastly more complex than of old. The foremost minds of the present day seem to stagger and halt under an intellectual load too heavy for their powers.

To be continued.

TRANSLATIONS FROM HORACE.

OD. III. 21.

“O NATA MECUM.”

My good contemporary cask, whatever thou dost keep
 Stored up in thee,—smiles, tears, wild loves, mad brawls, or easy sleep;
 Whate'er thy grape was charged withal, thy day is come, descend:
 Corvinus bids; my mellowest wine must greet my best-loved friend.
 Sage and Socratic though he be, the juice he will not spurn,
 That many a time made glow, they say, old Cato's virtue stern.
 There's not a heart so hard but thou beneath its guard canst steal;
 There's not a soul so close but thou its secret canst reveal.
 There's no despair but thou canst cheer,—no wretch's lot so low,
 But thou canst raise, and bid him brave the tyrant and the foe.
 Please Bacchus, and the Queen of Love, and the linkt Graces three,
 Till lamps shall fail and stars grow pale, we'll make a night with thee.

OD. I. 11.

“TU NE QUÆSIERIS.”

My sweet Leuconoe, seek no more
 To learn thy own, thy lover's date:
 Put by thy dark Chaldæan lore,
 For Heaven has closed the book of fate.
 Are merry winters yet to come
 For thee and me? Is this, whose blast
 Shivers the blustering waves to foam
 On yon bluff rocks, to be our last?
 We know not, and we can but bow
 In blindness to the Power Divine
 That shapes the lot of all below:
 Then broach yon flask of mellow wine.