with his armorial bearings and emblematical devices. Hope with her anchor stood at the prow; Faith with her crucifix sat beneath the mainmast; and on the lofty poop Charity displayed her flaming heart. Upon the sides and on the stern of the vessel were twelve richly-bordered compartments, within which the Emperor's principal victories were painted. Over these pictures, twelve Latin verses, in letters of gold, gleamed along the architectural bulwarks of the galley. They may be thus translated:

'"Not craving lust of fame, nor thirst for gold,
Nor love of sway, to labours manifold
Thee, Cæsar! spurr'd; 'twas pious care alone
For all mankind that sent to lands unknown
Thy ships with messengers of Christ to pour
Baptismal streams o'er many a heathen shore.

Nor didst thou bate of hope till launch'd from Spain,
Guided by thee Religion cross'd the main,—
Whilst Neptune, and his dripping Triton train,
Made smooth her path across the billowy plain,—
To gild the golden lands with brighter ray
And Indian souls benighted fill with day."

'Rising out of the sea behind the galley were two rocks crowned by the Pillars of Hercules, which bore this distich in Latin:—

'"The columns of great Hercules thou tookest for thy sign;
These, monster-queller of our age, of right indeed were thine."'

The inscription on the splendid monument of the Escorial, raised to him by his son, is in the following words:—

'"HUNC LOCUM SI QUIS POSTER. CAROLO V. HABITAM
GLORIAM RERUM GESTARUM SPLENDORE SUPERAVERIS,
IPSE SOLUS OCCUPATO, CETERI REVERENTER ABSTINETE."'

'"Thou alone of the children of Charles V. who shalt surpass the glory of his actions take his place: ye others reverently forbear."'

But it was not, says Sir William, only in pulpit panegyric or in pompous epitaph that tributes to the Emperor were found. The homage which he received from those who followed his fortunes was equally accorded by those who feared his power and strove to foil his policy. 'Christendom,' said the Venetian Cavalli in 1551, 'has seen no prince since Charlemagne so valiant or so great as this Emperor Charles.' The traditionary worship of his memory remained fresh in the evil and degenerate days of his house. 'It is our maxim in the Council of State,' said the second Don John of Austria, his [illegible]'s great-grandson, and in 1679 Prime Minister of the last Austrian King of Spain, 'always to consult the spirit of our great Charles V., and in every difficult crisis to consider what he would have done, and endeavour to do the like.' The greatest artists, the most illustrious historians, have vied with one another in preserving the likeness of his person and the record of his achievements. Nor is it a small addition to his fame that in this our age, the taste, the learning, and the munificence of a Scottish gentleman, aided by the arts of the nineteenth century, should have raised this literary monument to his greatness.

ART. IV.—*Hereditary Genius: an Inquiry into its Laws and Consequences.* By FRANCIS GALTON, F. R. S., &c. 8vo. London: 1869.

'WE often hear of hereditary talents, hereditary vices, and hereditary virtues; but whoever will critically examine the evidence will find that we have no proof of their existence. The way in which they are commonly proved is in the highest degree illogical; the usual course being for writers to collect instances of some mental peculiarity found in a parent and in his child, and then to infer that the peculiarity was bequeathed. By this mode of reasoning we might demonstrate any proposition; since in all large fields of inquiry there are a sufficient number of empirical coincidences to make a plausible case in favour of whatever view a man chooses to advocate. But this is not the way in which truth is discovered; and we ought to inquire not only how many instances there are of hereditary talents, &c., but how many instances there are of such qualities not being hereditary. Until something of this sort is attempted, we can know nothing about the matter inductively; while, until physiology and chemistry are much more advanced, we can know nothing about it deductively. These considerations ought to prevent us from receiving the statements which positively affirm the existence of hereditary madness and hereditary suicide; and the same remark applies to hereditary disease; and with still greater force does it apply to hereditary vices and hereditary virtues, inasmuch as ethical phenomena have not been registered as carefully as physiological ones, and therefore our conclusions respecting them are precarious.' *

This passage, from the work of [illegible] of [illegible] knowledge and acknowle[illegible]tellectual power, is chiefly [illegible] affording an instance of the [illegible] manner in which love of paradox, and an aversion of commonplace, and a desire to say something new on all subjects, will sometimes divert a mind of so high a class from the straightforward but trodden road of truth. Mr. Buckle's determination not to adopt the ordinary belief in hereditary influences in human physiology was akin to the determined scepticism with which Sir Cornewall Lewis set himself to reject all ancient record outside the pages of classical and Bible history, and all evidence that human beings had attained the age of a century. We quote it now, not in any disposition to triumph over the obstinate incredulity which was Mr. Buckle's weakness, as over-credulity is that of others, but in order to introduce the decisive answer with which Mr. Darwin disposes of all such negative theories, and establishes on scientific grounds the doctrine already so firmly rooted in popular belief of 'heredity of talent,' or rather mental conformation.*

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* [illegible] 'History of [illegible]

'Some writers, who have not attended to natural history, have attempted to show that the force of inheritance has been much exaggerated. The breeders of animals would smile at such simplicity; and, if they condescended to make any answer, might ask what would be the chance of winning a prize if two inferior animals were paired together? They might ask whether the half-wild Arabs were led by theoretical notions to keep pedigrees of their horses? Why have pedigrees been scrupulously kept and published of the short-horn cattle, and more recently of the Hereford breed? Is it an illusion that these recently improved animals safely transmit their excellent qualities even when crossed with other breeds? Have the short-horns, without good reason, been purchased at immense prices and exported to almost every quarter of the globe? . . . In fact, the whole art of breeding, from which such great results have been attained during the present century, depends on the inheritance of each small detail of structure. But inheritance is not certain; for if it were, the breeder's art would be reduced to a certainty, and there would be little scope left for skill and perseverance.'

After giving some remarkable instances of hereditary personal marks and deformities, Mr. Darwin proceeds:—

'When we reflect that certain extraordinary peculiarities have thus appeared in a single individual out of many millions, all exposed in the same country to the same general conditions of life, and, again, that the same extraordinary peculiarity has sometimes appeared in individuals living under widely different conditions of life, we are driven to conclude that such peculiarities are not directly due to the action of the surrounding conditions, but to unknown laws acting on the organization or constitution of the individual; that their production stands in scarcely closer relation to the condition, than does life itself. If this be so, and the occurrence of the same unusual character in the parent and child cannot be attributed to both having been exposed to the same unusual conditions, then the following problem is worth consideration, as showing that the result cannot be due, as some authors have supposed, to mere coincidence, but must be consequent on the members of the same family inheriting something in common in their constitution. Let it be assumed that in a large population a particular affection occurs on an average in one out of a million, so that the *à priori* chance that an individual taken at random will be so affected is only one in a million. Let the population consist of sixty millions, composed, we will assume, of ten million families, each containing six members. On these data, Professor Stokes has calculated for me that the odds will be no less than 8,333 millions to one that in the ten million families there will not be even a single family in which one parent and two children will be affected by the peculiarity in question. But numerous cases could be given, in which several children have been affected by the same rare peculiarity with one of their parents; and in this case, more especially if the grandchildren be included in the calculation, the odds against mere coincidence become something prodigious, almost beyond calculation.' *

Mr. Darwin here vindicates the popular belief in the heritable character of physical peculiarities in a manner which clenches, as it were, the demonstration, by showing that an ingenious and complicated art which has been created and carried to a high pitch of perfection, is based on no scientific principle—for no philosopher has as yet shown, or even indicated, the latent causes or laws of such transmission from parent to offspring—but simply on experience as familiar to the ancients as to ourselves; as familiar to one race of mankind as to another; as familiar to the cottage dame who registers the sayings and doings of the families of her gossips, as to the antiquary who traces family features and coincidences in the history of the Bourbons, or the Stuarts, or in the pages of the British peerage. The whole subject, in the impressive words of Sir Henry Holland, forms only one chapter, and as yet a dark one, in the philosophy of 'the great mystery of generation. The transmission, not merely of life, but of likeness, from parents to offspring, involves and includes every question on the subject. It would be futile to raise a difficulty as to a part, when the whole is inaccessible to our inquiry. While we find cause for wonder at the transmission of resemblances from parent to offspring, we must admit the wonder to be equal that there should be ever deviation from this likeness, and that such deviation should be so little governed by any apparent rule or law. The one case is in reality as great a miracle to our understanding as the other.' * And hence, to recur once more to the language of Mr. Darwin, 'we are led to look at inheritance as the rule, and non-inheritance as the exception.'

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* We are bound to add, that Mr. Buckle's incredulity in this matter has been shared by minds of a more philosophical order than his. The 'school of Montpellier,' in French physical science, was opposed to the doctrine of 'heredity' as well as to other notions implying the existence of congenital mental peculiarities. See the writings of two of its distinguished pupils, Lourdat and Virey, commented on, and answered, in the remarkable work of Prosper Lucas, 'Traité physiologique et philosophique de l'hérédité,' 1847.

* Variation of Animals and Plants, vol. ii. ch. 12.

Before we proceed to the more direct purpose of our inquiry, let us, by way of giving an instance which shall illustrate both the transmission of remarkable physical peculiarities and the importance which attaches to its investigation, cite a remarkable episodical passage in Mr. Galton's inquiries. Nothing is more familiar to our ordinary experience and comment, quite irrespective of philosophical research, than the notion that fertility is hereditary in particular families, especially among the females. That to marry into such or such a family is a probable way to insure a numerous issue, is what we may call elementary knowledge of the gossip order. Now if the virtue of fecundity be hereditary, the contrary defect, sterility, is certainly likely to be so likewise. And Mr. Galton, remarking, as others have done, the notorious fact of the rapid extinction of British peerages, was led to suggest a cause for it which had not, so far as we are aware, been noticed before, and which seems to go some way towards accounting for it. The subjects chosen for his analysis in this instance are the descendants of thirty-one judges who obtained peerages, 'and who last sate on the Bench previous to the reign of George IV.'

> 'In order to obtain an answer to these inquiries, I examined into the number of children and grandchildren of all the thirty-one peers, and into the particulars of their alliances, and tabulated them; when, to my astonishment, I found a very simple, adequate, and novel explanation of the common cause of extinction of peerages stare me in the face. It appeared in the first instance, that a considerable proportion of the new peers and of their sons married heiresses. Their motives for doing so are intelligible enough, and not to be condemned. They have a title, and perhaps a sufficient fortune, to transmit to their eldest sons; but they want an increase of possessions for the endowment of their younger sons and their daughters. On the other hand, an heiress has a fortune, but wants a title. Thus the peer and heiress are urged to the same issue of marriage by different impulses. But my statistical list showed, with unmistakable emphasis, that these marriages are peculiarly unprolific. We might, indeed, have expected that an heiress, who is the sole issue of a marriage, would not be so fertile as a woman who has many brothers and sisters. Comparative infertility must be hereditary in the same way as other physical attributes; and I am assured it is so in the case of the domestic animals. Consequently, the issue of a peer's marriage with an heiress frequently fails; and his title is brought to an end.'

After proceeding to illustrate these propositions by a list of every case in the first or second generation of the law lords, taken from the English judges (who last sate on the Bench previous to the close of the reign of George IV.), where there has been a marriage with an heiress or a co-heiress, he sums up the result as follows:—

> '1. Out of thirty-one peerages, there were no less than seventeen in which the hereditary influence of an heiress or co-heiress affected the first or second generation. This influence was sensibly an agent in producing sterility in sixteen out of these seventeen peerages, and the influences were sometimes shown in two, three, or more cases in one peerage. 2. The direct male lines of no less than eight peerages, viz., Colepepper, Harcourt, Worthington, Clarendon, Jeffreys, Raymond, Trevor, and Rosslyn, were actually extinguished through the influence of the heiresses; and six others, viz., Shaftesbury, Cowper, Guilford, Parker, Camden, and Talbot, had very narrow escapes from extinction owing to the same cause.'

Mr. Galton traces the same cause of decay through the family history of statesmen-peers, and proceeds:—

> 'The important result disclosed by these facts, that intermarriage with heiresses is a notable agent in the extinction of families, is confirmed by more extended inquiries. I devoted some days to ransacking Burke's volumes on the extant and on the extinct peerages. I first tried the marriages made by the second peers of each extant title. It seemed reasonable to expect that the eldest son of the first peer, the founder of the title, would marry heiresses pretty frequently; and so they do, and with terrible destruction to their race . . .
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> 'I find that among the wives of peers, 100 who are heiresses have 208 sons and 206 daughters: 100 who are not heiresses have 336 sons and 284 daughters . . . One-fifth of the heiresses have no male children at all; a full third have not more than one child (male child, we suppose, though it is not specified); three-fifths have not more than two. It has been the sal-

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* Medical Notes and Reflections.

vation of many families that the husband outlived the heiress whom he first married, and was able to leave issue by a second wife.' (Pp. 131–138.)

We will contrast the results thus obtained with those produced by a little investigation of our own. Sovereign princes are, as a rule, unlikely to marry heiresses. This particular impediment to fertility is not likely to exist among them. They usually intermarry with females of their own hereditary rank, belonging, therefore, to families free, like their own, from this special cause of sterility. Now a slight examination of the Almanac de Gotha gives us, for twenty-nine European sovereigns (nearly all those of the old reigning houses) ninety-six brothers and sisters (of whole blood), or nearly three apiece. In other words, four children is the average issue (as far as these figures show) of the marriage of a hereditary sovereign. But the number is a good deal larger if, as we suspect, the Almanac is not particular in recording the names of royal brothers and sisters who died infants. Putting the general result at five births to a marriage, we arrive at the fact that the number of births in sovereign houses is greater than the average in the most prolific country of Europe (4·8 in Belgium, according to Maurice Block). And as there are many circumstances connected with Court life which would naturally militate against the multiplication of children, we may pretty fairly infer that the cause of this phenomenon is the hereditary prolificness of the families which thus intermarry.

But if incredulity like that of Mr. Buckle on the subject of hereditary qualities is very unphilosophical, it is necessary, nevertheless, to be on our guard against the opposite extreme. The predisposition of most writers is to the credulous side. They find instances of 'inheritance' everywhere. In the pursuit of their favourite theory they neglect the thousand causes of deviation which modify and interfere with the results of nearness of blood. There is no limit to the capacity of philosophers of this description for admitting extraordinary stories. No old nurse, who descants on the wonderful congenital signs and tokens, physical and mental, which she has noticed in the course of her business, is half so romantic on the subject as an anthropologist fairly mounted on his hobby. No wonder, therefore, if works of history and philosophy are full of the most absurd instances, based on no evidence at all or the most insignificant, of marvellous likenesses and transmitted specialties of temper and character; or that the most extravagant political theories are every day founded on certain supposed congenital qualities of people whose ancestors are asserted, on very shadowy evidence, to have been once upon a time Saxons or Celts, Latins or Sclaves, in countries where intermixture by marriage has prevailed for many centuries. We take up, almost at hazard, a specimen of this kind of popular triviality from a recent publication, in which we have found, nevertheless, some matter of interest and value on this as well as other cognate subjects. Dr. Elam, in 'A Physician's Problems,' cites as a proof of hereditary tallness 'the numerous gigantic figures, both of men and of women, met with in Potsdam, where for fifty years the guards of the *late* Frederick William of Prussia were quartered.' Not having ourselves remarked this tendency to lofty stature in the civil population of Potsdam so far as our observation has extended, and remembering that 'the late King Frederick William,' if by that name is meant the sovereign who delighted in gigantic guardsmen, has been dead a hundred and thirty years, we must be content to wait for farther elucidation. In the meantime we quote a still more astounding statement from the pages of that repertory of marvels, the 'Anthropological Review.' 'Two gentlemen were introduced to each other who had such an extraordinary resemblance that a stranger could hardly distinguish the one from the other. Upon tracing their genealogy back, it was found that they were descended from the same ancestor of five hundred years before. No intermarriage had occurred in the interval, one line having lived in England and the other in Canada?' From whence we learn, among other matters, that Canada has been peopled by Europeans for five hundred years. We cannot refrain from drawing on the stores of Dr. Elam for another specimen of the kind of evidence which the partisans of heredity think it worth their while to adduce. It relates to a young man, born and bred in France, who had never heard English spoken until he came to England, where he had lived only two years. This gentleman, to the surprise of his interlocutor, was heard to pronounce the name 'Thistlethwayte' accurately and readily, a name which, Dr. Elam truly observes, no thoroughbred Gaul who ever lived could possibly articulate. It turned out that the speaker had enjoyed the advantage of an Irish grandmother on the mother's side, whom he had never seen! Such idle frivolities as these—and most works on the subject are full of them—go some way to account for the scepticism of judgment, like that of Mr. Buckle and tend to lower the prevalent philosophical spirit of this nineteenth century to that which characterised the early days of the Royal Society, when the book of nature was like a newly opened volume studied by children.

But we have detained our readers too long from Mr. Galton's own exposition of the problem which he proposes to solve. The proof of the inheritableness of corporeal qualities is no doubt easier than that of mental; but the fact is not more certain. The phenomena of inherited insanity alone would, unhappily, leave no doubt on this point in the mind of any unprejudiced observer. 'Some writers,' to quote once more Mr. Darwin, 'have doubted whether those complex mental attributes on which genius and talent depend, are inherited, even when both parents are thus endowed. But he who will read Mr. Galton's able paper* on hereditary talent will have his doubts allayed.'

'I propose (says Mr. Galton) to show in this book that a man's natural abilities are derived by inheritance, under exactly the same limitations as are the form and physical features of the whole organic world. Consequently, as it is easy, notwithstanding those limitations, to obtain by careful selection a permanent breed of dogs or horses gifted with peculiar powers of running or of doing anything else, so it would be quite practicable to produce a highly-gifted race of men by judicious marriages during several consecutive generations. I shall show that social agencies of an ordinary character, whose influences are little suspected, are at this moment working towards the degradation of human nature, and that others are working towards its improvement. I conclude that each generation has enormous power over the natural gifts of those that follow, and maintain that it is a duty we owe to humanity to investigate the range of that power, and to exercise it in a way that, without being unwise towards ourselves, shall be most advantageous to future inhabitants of the earth. . . . The general plan of my argument is to show that high reputation is a pretty accurate test of high ability; next to discuss the relationships of a large body of fairly eminent men—namely, the judges of England from 1660 to 1868, the statesmen of the time of George III., and the Premiers during the last hundred years—and to obtain from these a general survey of the laws of heredity in respect to genius. Then I shall examine, in order, the kindred of the most illustrious commanders, men of literature and of science, poets, painters, and musicians, of whom history speaks. I shall also discuss the kindred of a certain selection of divines and of modern scholars. Then will follow a short chapter, by way of comparison, on the hereditary transmission of physical gifts, as deduced from the relationships of certain classes of oarsmen and wrestlers. Lastly, I shall collate my results, and draw conclusions. . . . There is one advantage left to a candid critic in my having left so large a field untouched; it enables me to propose a test that any well-informed reader may easily adopt who doubts the fairness of my examples. He may most reasonably suspect that I have been unconsciously influenced by my theories to select men whose kindred were most favourable to their support. If so, I beg he will test my impartiality as follows: Let him take a dozen names of his own selection, as the most eminent in whatever profession and in whatever country he knows most about, and let him trace out for himself their relations. It is necessary, as I find by experience, to take some pains to be sure that none even of the immediate relatives, on either the male or female side, have been overlooked. If he does what I propose, I am confident he will be astonished at the completeness with which the result will confirm my theory. I venture to speak with assurance, because it has often occurred to me to propose this very test to incredulous friends, and invariably, so far as my memory serves me, as large a proportion of the men who were named were discovered to have eminent relations as the nature of my views on heredity would have led me to expect.' (Pp. 2–5.)

The system of proof thus suggested is wrought out by Mr. Galton, first, by a double 'classification' of men of note—'according to their reputation,' and 'according to their natural gifts.' As to these last, he maintains that 'analogy clearly shows there must be a fairly constant average mental capacity of the inhabitants of the British Isles, and that the deviations from that average—upwards towards genius and downwards towards stupidity—must follow the law that governs deviations from all true averages.' He tabulates ability 'in a very curious manner, dividing mankind into a certain number of grades,'—for which we must refer the reader to the work itself (pp. 14–35) as the demonstration could not be made intelligible by extracts. One of his casual observations as to the abundance of unrecognised ability in the world, is worth noting from its conformity with general experience, though not bearing directly on his demonstration:—

'I may mention a class of cases that strikes me forcibly as a proof that a sufficient power of command to lead to eminence in troublous times, is much less unusual than is commonly supposed, and that it lies neglected in the course of ordinary life. In beleaguered towns, as for example during the great Indian mutiny, a certain type of character very frequently made its appearance. People rose into notice who had never previously distinguished themselves, and subsided into their former way of life, after the occasion for exertion was over; while during the continuance of danger and misery, they were the heroes of their situation. They were cool in danger, sensible in council, cheerful under prolonged suffering, humane to the wounded and sick, encouragers of the faint-hearted. Such people were formed to shine only under exceptional circumstances. They had the advantage of possessing too tough a fibre to be crushed by anxiety and physical misery, and, perhaps in consequence of that very toughness, they required a stimulus of the sharpest kind to goad them to all the exertions of which they were capable.' (P. 48.)

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* The paper thus referred to appeared in 'Macmillan's Magazine' for 1855, and has been expanded into the work now before us.

This preliminary work completed, Mr. Galton proceeds to furnish us with the 'tables' which constitute the chief result of his very laborious, if not to us quite conclusive, researches. For his plan of 'notation of kindred,' which is the key of this part of the book, we can only refer the reader to the book itself (p. 50). It must be mastered before the reader can pursue the subject. He then 'tabulates' the judges of England since the restoration of 1660, statesmen, commanders, literary men, men of science, poets, musicians, painters, divines, not to mention certain more eccentric specimens of greatness, namely senior classics of Cambridge, 'oarsmen,' and 'wrestlers'; assigns to each name in his lists all the distinguished relatives whom he can find who come within the limits of his system of notation, and thence draws the general conclusion of his labours. 'The theory of hereditary genius, though usually scouted,' he says in his preface, 'has been advocated by a few writers in past as well as in modern times. But I may claim to be the first to treat the subject in a statistical manner, to arrive at numerical results, and to introduce the "law of deviation from an average" into discussion on heredity.' Now, for reasons already given, we must differ from Mr. Galton at the outset on one point which has not been without importance in his manner of dealing with the subject. So far from the doctrine of the influence of heredity on genius (using this last word in the loose sense in which Mr. Galton is here using it, as to which more presently) being 'usually scouted,' we imagine that there is no doctrine more usually admitted. Among philosophers there may be a few paradoxical Buckles; among mankind in general there is, as we have said, no appearance of doubt on the subject. That such and such a person belongs to a 'clever family' is as perfectly received a mode of expression as that he belongs to a tall family or a fair family; and no one doubts the influence of the congenital tendencies common to the race in the one case more than the other. Now it is this singular misconception on Mr. Galton's part—this idea that he has the popular prejudice to fight against, instead of having it fighting on his side—which has induced him very much to overstate his case, and to press as evidence on his side many a circumstance which will not bear the stress laid on it. For nothing is clearer than that the children of clever persons have advantages over others in the way of education, emulation, conscious and unconscious imitation, which are quite distinct from any supposed tendency in the blood itself. Dr. Elam, indeed, carries this notion so far as to believe that powers acquired by industry in one generation become hereditary in the next. 'The development of the intellectual faculties of the parents' (as he expresses it), 'renders the children more capable of receiving instruction.' Without going this length, let us merely put the case of two children of equal abilities, born respectively from an inferior and a superior couple in point of intellect. The strongest advocate of 'heredity' must surely admit that this is not an impossible case, allowing for the doctrine of variation. In such a case we may be quite sure that the latter—the child of clever parents—has a much better chance of being well instructed, and through such instruction of becoming 'eminent' and filling a place in statistical lists after Mr. Galton's fashion, than the child of the other pair. Here, then, is one great cause which evidently militates against the compilation of any such lists of more than a very general and superficial value.

The next qualification of the doctrine of hereditary talents as proved by statistics, is this: that in a great number of cases a father who has made his way in the world has advantages for bringing forward his sons and other relatives in the career of life beyond what are possessed by others who have not thriven in the same way. A successful family, therefore, means a family of which the members have taken good care of themselves and of each other, rather than one of which the members one by one achieved success according to their deserts. 'I have shown,' says Mr. Galton, 'that social hindrances cannot impede men of high ability from becoming eminent. I shall now maintain that social advantages are incompetent to give that status to a man of moderate ability.' Now this, begging our author's pardon, is a position which it is possible no doubt to maintain, but utterly impossible to prove. In fact the ordinary experience of every day abundantly confutes it. We may work out tables (as Mr. Galton has done) of men who have attained certain positions in life—judges, bishops, and so forth—and then we may point to them as instances of 'ability.' But in point of fact we know that both judges and bishops, especially the latter, do constantly attain these positions without any display of *exceptional* ability at all. They reach them by a thousand turns of fortune and vicissitudes of favour. Any classification which includes all these as 'eminent' men is objectionable from extreme generality. Any reasoning which deduces from such classification a theory of hereditary ability is subject to the double fallacy, first of assuming eminence as a test of ability, which is at best a most imperfect one; secondly of selecting one presumed cause of success—peculiarity of blood—where many more obvious and probable causes of success are discoverable.

The truth is that the success in life which leads to distinction is due to two causes, the one consisting in natural aptitude or ability, the other in surrounding circumstances. Even if it be possible to refer the former condition to the laws of descent, who shall attempt to calculate the variations of the latter? Who shall say how often talents of a high order are repressed by penury, by the want of education, by the drudgery of life? We cannot agree with Mr. Galton that men endowed with a certain amount of genius always force their way to the front ranks of society. For one who succeeds, a hundred, perhaps not inferior in natural gifts, fail and perish by the way. Like the seed of the sower, much of it falls on rocky ground.

'The world has never known its greatest men.'

And if this be true in one sense, it is not less certain that many of those whose names are rescued from oblivion owe their celebrity to favourable opportunity, to patronage or family influence, or to what is termed good fortune, quite as much as to their natural gifts. Mr. Galton asserts, taking the names contained in the 'Men of the Day' for his text, that in this country about one man in 4,000 rises to eminence. But to prove his point he should show that the nameless majority start from the same level as the small minority who leave a name behind them. That is notoriously not the case.

Let us make our meaning clearer by a very simple instance. There is no part of his labours on which Mr. Galton relies with so much evident complacency as the analysis of the relationship of the 'judges of England between 1660 and 1865.' They form, he says, 'a group peculiarly well fitted to afford a general outline of the extent and limitation of heredity in respect of genius. A judgeship is a guarantee of its possessor being fitted with exceptional ability. . . . . In other countries it may be different to what it is with us; but we all know that in England the Bench is never spoken of without reverence for the intellectual power of its occupiers.' Sweeping assertions: but let these pass, and let us assume, as perhaps may safely be assumed, that to be the parent, child, or relative of a judge is to be the parent, child, or relative of a clever man, in a majority of cases sufficient to constitute a rule. That the relatives of clever men are clever is therefore proved in this way: about 112 judges (it is difficult to give the number exactly, as from Mr. Galton's method of compiling his lists there is a good deal of repetition) have had somewhat more than 250 relatives, ascending, descending, and collateral, sufficiently famous to appear in Mr. Galton's catalogue; though, it must be confessed, he seems to be a little hard driven for instances when he resorts to such specimens of intellectual power as 'General Sir William Draper, the well-known antagonist of Junius,' and 'Queen Anne,' whom her Hyde descent places in the category. But, on looking a little closer, a specialty soon makes itself observed, which throws a considerable shadow of doubt over the whole exemplification. Out of these 250 clever relations of judges more than 100 have been lawyers themselves. Now, unless we are to assume, not only that talent is hereditary, but that the special talent of the lawyer is hereditary also, this is certainly rather a startling result of the general doctrine. And it does in truth point out distinctly how small a share hereditary talent—of which we do not in the least deny the reality—bears in the total mass of the causes which lead to worldly success. For every one knows that the law is among the most hereditary professions. And judges have a somewhat better chance of pushing on their sons in their own profession than other lawyers have. The favour of a father cannot secure a continuance of briefs to a man who is positively a fool, but short of this it can do a great deal. One of the earliest names in Mr. Galton's lists of judges is that of Atkyns. There have been four judges of the name and (let us just note in passing) nobody, except a law student or a painstaking county antiquary, ever heard more than the name of any of them. These Atkynses are credited with seven or eight remarkable relatives, but of these there is only one who was not a lawyer, and he was reader of Lincoln's Inn. The whole list has the unmistakeable character of a snug little family party of jobbers, rather than that of a galaxy of genius. The combined houses of

Finch and Legge—somewhat better known to fame—furnish us with eight distinguished lawyers against two distinguished in other ways, although one of these—'Dr. William Harvey, discoverer of the circulation of the blood' is forced into the list, only under the somewhat far-fetched denomination of 'grandmother's nephew to Sir Heneage Finch' and that 'doubtful.' The Lytteltons count six lawyers against one solitary personage qualified as 'Speaker of the House of Commons,' but who was probably in his youth a lawyer also. Now it is surely unnecessary for us to repeat, that to suppose that all these successful wearers of the forensic gown owed their fame and achievements to certain congenital peculiarities of their race would be about as wild as to suppose that they derived them from the 'contagion of the gown' itself.

The same important modifications of our author's general conclusion are deducible, more or less, from the lists which he gives of persons distinguished in other lines. Though there are few such close hereditary corporations as that of the law, yet the same trades' union spirit exists in many more. Taking up the chapter of literary men, we find that all the eminent members—forty-seven in all—of the races of Boileau, Roscoe, Grotius, Von Schlegel, Seneca, Swift, Taylor of Norwich, Taylor of Ongar—have been literary men: that is, they have one and all written books, good, bad, or indifferent. Now, did the principle of hereditary talent by itself account for the phenomena, these forty-seven would have dispersed themselves over a great variety of careers, and achieved their victories in many different ways. That they all took to writing is a proof, not that they were influenced by physiological causes predisposing them to write, but that they possessed certain tendencies that way from education, emulation, habit, or the simple necessity of living in the easiest mode to which the family connexion with booksellers invited them; and in this way many, who have really no claim to eminence at all, obtain from external circumstances a place in the list. When we are told by ancient chroniclers that there were eight tragic poets in the family of Æschylus, our rational conclusion is, not that there is a hereditary instinct for writing tragedies, but that writing tragedies had become in that family a hereditary occupation, which is a very different thing.

The same inherited professional aptitude, so to speak, is observable in a considerable, though less, degree in the families of divines. What small interest a clergyman may possess lies mostly in the Church itself, and his son takes to the university and the pulpit more naturally than another, and more easily attains in it something which in a catalogue may pass for distinction. Generally, it is observable that the hereditary character of professions, or a tendency to the caste system, has been in England a characteristic of quiet times, when generation succeeded generation with little disturbance of ordinary routine. It was very marked in the tranquil century from the English to the French Revolution; somewhat less so in the troubled days which preceded, when unaided talent and audacity had better chance of making their way to the front; much less so in our own time, when the spread of commercial wealth and that of general education have brought forward in the professions a more considerable proportion than formerly of new men.

But perhaps the most singular instance in Mr. Galton's book of the propensity to push a favourite fancy to the wildest extremes—unless we are really to read it as a piece of grave irony on his own preceding lucubrations—is to be found in his chapters on 'oarsmen and wrestlers.'

> 'I propose (he commences) to supplement what I have written about brain by two short chapters on muscle. No one doubts but muscle is hereditary in horses and dogs, but humankind are so blind to facts and so governed by preconceptions, that I have heard it frequently asserted that muscle is not hereditary in man. Oarsmen and wrestlers have maintained that their heroes spring up capriciously, so I have thought it advisable to make inquiries into the matter. The results I have obtained will beat down another place of refuge for those who insist that each man is an independent creation, and not a mere function, physically, morally, and intellectually, of ancestral qualities and external influences.'

He accordingly 'tabulates' certain eminent oarsmen of Newcastle, where he assures us that 'a perfect passion for rowing pervades large classes,' and of North-country wrestlers; and shows, what no doubt is very easy to show, that there are a good many families in which rowing powers and wrestling powers are very common. But how far does this contribute towards proving his case of physical inheritance? Surely the propensity of son to imitate his father, and younger brother to rival his elder, in that line of muscular exertion of which each has the exhibition every day under his eyes, is quite sufficient to account for the phenomenon without more recondite natural causes. That a 'Clasper' should take to the oar on the Tyne, and a 'Tinian' go in on every occasion for the belt at Penrith, is not a matter involving deep physiological secrets. We should be easily convinced that a muscular parent often produces a muscular son by the law of nature. But that the law of nature implants in successive generations aptitude for exerting muscle in rowing or wrestling respectively, is a much rasher proposition. How far is this kind of classification to descend? Does stroke oar inherit his special quality from a paternal stroke oar? And are 'bows' for the most part in possession of pedigrees showing that their ancestors have regularly become glorious in the occupation of the same seat of the boat? The incredulous are not likely to be converted by exaggerations such as these.

Thus far we have been only endeavouring to show that Mr. Galton does rather harm than good to the opinion which he advocates, by the extreme minuteness of tabulation through which he seeks to establish it. When we are seriously told that the fact of a Lord Chancellor's son becoming a judge, or the son of a successful author writing a book, is to be taken as proof that 'est in juvencis, est in equis patrum virtus,' we naturally draw back from a conclusion so absurdly opposed to what we know from common study of life of the connexion of cause and effect in such matters. We remain, however, not the less convinced of the fundamental truth of the theory: nor do we deny, after witnessing the extraordinary success with which the statistical method has been applied to inquiries into human conduct and propensities, that the key of this enigma may not be found one day in statistics likewise; but we cannot say that Mr. Galton has discovered it, or approached to the establishment of a system, although he has succeeded in propounding much matter of interest in a desultory way.

But we are only on the threshold of a more important, and far more difficult problem. 'The arguments,' says Mr. Galton, 'by which I endeavour to prove that genius is hereditary, consist in showing how large is the number of instances in which men who are more or less illustrious have eminent kinsfolk.' Here the key-words of the inquiry are used in a permissible and popular, but certainly not a scientific, sense. What is the meaning of the word 'genius' and of the word 'eminent'? As to the second, Mr. Galton, as we have seen, considers that for his purpose any one who has attained a post of distinction, or become known to the public as a man of action or of letters, may be termed 'eminent.' Perhaps for the very general object of this inquiry such a rough definition may be admissible. As to the first, he deals with it in his ingenious chapters on the 'classification of men according to their natural gifts,' in which, as we have already said, he draws up a table of eight grades of natural ability, whether in respect of general powers or of special aptitudes; and endeavours to apply the conclusions at which he has arrived respecting hereditary influences to each. We prefer, for our own part, a looser and less pretentious mode of classification, being satisfied that this is one of the many subjects connected with 'anthropology' on which the commonest source of error is the attempt to particularise overmuch. And we must premise that we are about to use common words in their popular sense only, for the purpose of being commonly understood, and without too close attempt at philosophical accuracy.

When we speak of intellectual gifts, and especially such as we are disposed to think congenital and not acquired by industry, we commonly use three special words to designate them: Ability, Talents, Genius. By ability we think is commonly meant—and in that sense we intend ourselves to use the word—an adaptation of the mental faculties to achieve success in any task in which they may be engaged. By talents, a special adaptation of the faculties to succeed in this or that pursuit. Let us observe an eminent lawyer conducting a case, or, still more appropriately, conducting a succession of cases one after another. To do this in a masterly manner requires Ability of the very highest order. It does not necessarily require Talent of any kind. Oratorical talent is of value to a great lawyer, but it is not essential. The gift of memory (which we rank as a 'talent') is of still more value; but it is not absolutely essential either. The grasp of mind which seizes the bearings of a complicated question, the comprehensive intellect which follows out the motives and meanings and conduct of men into their remotest processes, the eye of generalship which perceives the exact moment at which certain resources are to be made available and certain dangers avoided; these constitute the higher qualities of the lawyer, and these, taken together, illustrate our notion of Ability. And Ability, in this lofty sense, is not less sure of supremacy in other great intellectual pursuits of a complicated kind—statesmanship, military command, the conduct of a bank, the management of a railway, the *quicquid agunt homines* of that order which taxes the faculties the most—than it is in courts of justice. Nor is sheer ability, in truth, less predominant in literary pursuits. It maintains its place, as against those special faculties which we call talents, in perhaps a preponderating amount of instances. The historian, the philosopher, the essayist, nay, the man of science, where that science is not merely the fruit of special observation, but is of the higher and architectonic order, all these—supposing that their powers have not been so great as to receive by common consent the designation of Genius—triumph in their several departments through their ability. Nay, in the imaginative domain of poetry itself, the man of ability, if he is in earnest, can find and maintain a place of his own, if not in the highest rank at least among the foremost: as many a great work in English and still more in French and Latin verse remains to testify.

By Talent we mean a special aptitude, which may be consistent with very imperfect adaptation of the mental faculties to general use. Thus we speak of the talent of the artist, musician, arithmetician, poet, and so forth; often, to the surprise of the multitude, found in combination with general inferiority of intellect, sometimes almost with imbecility. Ability, on the whole, plays a far greater part in the world than Talent; but it is to talent, nevertheless, that we are indebted for most of what ministers to our higher intellectual and spiritual enjoyment, and redeems life from its commonplace character.

Now assuming the theory of heredity to be well founded, it becomes a question of some nicety which of these two great qualities, ability or talent, comes most frequently within its law? A question not very easily answered, for both are frequently, so to speak, sporadic; manifesting themselves when sudden occasion calls for their development, and retreating, as it were, into obscurity as soon as the occasion for that development has passed by.

We believe it will be found, on the whole, that ability is more frequently hereditary than talent. Numerous cases of what commonly passes for hereditary talent are not really so. They arise from other causes than the influence of blood. They are especially subject to those influences which M. Lordat calls 'didactic.' If we find a father and a son possessed of the same special gift—that of playing the fiddle, for instance, or portrait-painting—the first and most obvious conclusion, as we have seen, would be, not that the son has 'followed his profession because he is instinctively drawn to it,' as Mr. Galton would have it, but that the son, possessing fair aptitude, has been carefully instructed in his particular line by the father, or has followed him by natural imitation. But no teaching by the father, no industrious imitation by the son, can convey Ability, in the sense in which we have used the word. And, therefore, when we find not only father and son, but whole families, as is often the case, distinguished for general ability, we have probably the most striking corroboration of the theory of heredity which can be found; far more cogent than those instances of mere special gifts, supposed hereditary, which most writers on the subject, including Mr. Galton as well as M. Lucas, are apt to employ as affording the readiest means of demonstration.

Our English society, so eminently aristocratic, furnishes a great repertory of facts of this description. No one who has read our histories—no one who has even studied the peerage—no one, indeed, who has mixed much in society—will be likely to question the fact that whole families are often so gifted in this way that it is an uncommon circumstance to find an absolutely commonplace personage among them. And another remarkable proposition we would venture to advance on the evidence of public notoriety only, without anticipating contradiction—no man of ability was ever the son of a couple of fools. But it is noteworthy also, in how very many cases this general high average of ability in a family seems to be accompanied with a powerlessness to rise still higher than that average. Every one of us—we appeal again to general observation—must be conversant with cases of families in which almost every member is clever, but not one very clever. None rises much above the average, though few or none seem to fall below it. And one remarkable instance of the kind we will cite from history as an explanation of our meaning rather than a proof, as single instances prove nothing. The Grenville family were for two or three generations a great power in our state. They had every opportunity of success in the line of politics which could be given to mortals. Several of them were 'distinguished,' almost all of them were 'able,' men. And a curious similarity of turn and temperament seemed to unite them all. But not one was *very* able. No Grenville ever said or did a thing particularly worth remembering, if we except the unlucky author of the 'American Stamp Act.' But when Grenville ability became crossed with the loftier qualifications inherited through the blood of Pitt, the result was of a very different order.

Perhaps it is no mere indulgence of the imagination to point out, as a singular instance of pertinacity of family type, the fortunes of the famous house of Fairfax. The Parliamentary general left no male issue; and, through marriage with the heiress of Colepepper, his collateral successor acquired a vast estate in Virginia, extending from the shores of the Potomac to the Alleghany. His descendants have multiplied in that region of the United States.* The present Lord Fairfax is a physician at Baltimore.

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* See Mr. Clements Markham's recent Biography of the General, p. 409.

Now, for these last two hundred years, they seem to have retained among them the leading qualities which characterised the chief of the name—a chivalrous turn of mind, military aptitude, and religious zeal. Irving attributes a good deal of the character of General Washington, as formed in early life, to his familiarity with his relations, the Fairfaxes, especially William, 'a man of liberal education and intrinsic worth,' who lived at Belvoir, the wooded promontory which projects into the Potomac immediately south of Mount Vernon. He is described as an eccentric personage, who had retired into the wilderness from some disappointment in love, but retained much of courtly manners. In the late civil war, all the numerous Fairfaxes adopted eagerly the side of the South, except one—and he was the officer detached by Captain Wilkes to arrest Mason and Slidell. The younger members took up arms, mostly as privates, and deeply imbued with that spirit of warlike puritanism of which Stonewall Jackson was as exalted a type as the original Thomas Fairfax himself. One, Eugene, fell at Williamsburg—'a devoted Christian.' Another, Randolph Fairfax, is the subject of a beautiful and touching piece of biography by the Reverend Philip Slaughter, of Richmond. He entered Jackson's army as a private in the Rockbridge Artillery at the age of eighteen. The letters of this gallant youth, chiefly to his mother, are models of simple, unconscious enthusiasm. He was of the Episcopal Church, and well known among his comrades—among whom a similar zealous temperament largely prevailed—by the well-worn New Testament which was his constant companion in the bivouac, after his prayer-book—only second in his estimation—had fallen into the hands of the Yankees with his luggage. He had no doubt of his cause, or of the means to ensure victory. 'I think,' he writes, 'the fate of the country is now in the hands of the praying people, and though I cannot see how or when, I believe God will certainly answer the prayers of His faithful people in the land.' He was killed on the spot by a fragment of shell, in the battle of Fredericksburg.

We cannot long pursue inquiries into the subject of hereditary mental powers and propensities in families, without entering on that obscure province of it which has lately received the name of Atavism—the tendency in individuals to reproduce the peculiarities, not of the parent, but of the grandparent, or some remoter ancestor. Observation on this head seems as yet to have failed, not only in laying down rules, but in accumulating sufficient examples for the elements of a theory. But that some such exceptional law of nature does exist seems to be the general opinion of physiologists. There is one rather remarkable instance of Atavism—if we shall not be deemed too fanciful in so terming it—in the annals of great European houses. No modern royal house has exhibited such a general preponderance of natural ability as that of Hohenzollern. But it seems to produce alternately—generation after generation—men of imaginative temperaments, not to say visionaries and eccentrics, and men of clear practical intellect. And thus the throne has been ascended, for nearly two centuries, alternately by an able ruler and by what the Germans call a Phantast. Frederick William the First, indeed, combined to a certain extent both characters. He was a man of strong mental energy, yet withal of an eccentricity approaching to madness, and full of strange crotchets. 'His wild imagination drove him hither and thither at a sad rate,' says his panegyrist Mr. Carlyle, who considers that his mania for collecting and propagating tall guardsmen was a whim of genius. His son, Frederick the Great, was gifted with as keen and unencumbered an intellect as ever was owned by mortal. Frederick William the Second, who succeeded his uncle, was an *illuminé*, a dreamer of dreams, what would now be called a Spiritualist. His son, the warrior King of the Coalition against Napoleon, inherited the sound practical character of his grandfather, though of course much inferior in mental power. And the son of this last, the late Frederick William, reproduced the type of the Visionary—an amiable enthusiast, whose well-meant efforts at constructing a romantic mediæval Church and State in the clouds we all remember. At his death ensued another break in the direct succession; and we may dispense with pursuing the analysis farther.

Now, as we have already observed, we conceive talent—special aptitude of the mind for special purposes—to be undoubtedly heritable, though less frequently inherited than general ability. We will not dwell on the classes of families of painters, musicians, mathematicians, and the like, to which we have already referred as somewhat questionable, because they may really be due to a combination of other causes; still, these are too numerous and well authenticated to be disregarded as writers like Mr. Buckle would disregard them. Every one's knowledge of his neighbour's family history will more or less corroborate them. And so will popular tradition respecting great houses everywhere. The 'esprit des Mortemars' was proverbial in France. 'There is an old saying in our county of Cornwall,' observed the poet Lord Lansdowne, 'that a Trelawney never wanted courage, nor a Godolphin wit, nor a Granville loyalty.' There is among us at this day a ducal family of which the members in one generation, while in other respects persons of ability, are specially distinguished by one not very common faculty—aptitude for numerical calculation; developing itself, according to their several temperaments, in lavish statistical argument on public affairs, in the mastery of complicated accounts, and at the whist-table. Another very distinguished house might be named, in which a predominant spirit of contrivance has displayed itself, through successive generations, in large speculations, in the 'management' of the Cabinets of the last century, and in the government of a railroad in this. In cases like these, hereditary idiosyncrasy furnishes the only explanation, unless we are determined to regard them as accidental. A musician's son may take to music from education or imitation. But when a family talent for calculation or for construction takes wholly different directions in different members, this persistence of special qualities can only be accounted for, if at all, by physical causes: 'non hæc sine numine divûm eveniunt.'

This would perhaps be the natural stage of our inquiry for entering into the question of the relative physical influence of the father and mother in the formation of the character of children. But no part of the subject is as yet so obscure, or so little illustrated by anything like copious induction. The popular notion that distinguished men owe most to their mothers does not seem to meet with much favour from physiological inquirers. The only doctrine which has been boldly propounded on the subject seems to be that of the mystic Jacob Böhme, who reveals to us that in the formation of children men contribute the soul and women the intellect. Mr. Galton has arrived from his tables at the somewhat overdrawn conclusion that the ratio of distinguished kinships, through male and female respectively, is almost identical in his five first columns—namely, in the cases of judges, statesmen, commanders, men of literature, and men of science; and is as seventy to thirty, or more than two to one, in favour of the male side. 'The only reasonable solution which I can suggest,' he adds, 'besides that of inherent incapacity in the female line for transmitting the peculiar forms of ability we are now discussing is, that the aunts, sisters, and daughters of eminent men do not marry, on the average, so frequently as other women (p. 328). The reasons for which he thinks may be, first, that such women do not so readily meet with mates up to their own mark; the second, less complimentary, that they are apt to be 'shy and odd,' and also 'dogmatic and self-asserting, and therefore less attractive to men.' He however infers from his records 'that it appears to be very important to success in science that a man should have a clever mother.' But inasmuch as he adds that he 'believes the reason to be that a child so circumstanced has the good fortune to be delivered from the ordinary narrowing partisan influences of home education' (p. 196), it is clear that he is here ascribing to the mother a didactic influence, and not that of blood,—a confusion from which his speculations are, as we have seen, not always exempt. He also collects from his statistical inquiries that 'the influence of the female line has an unusually large effect in qualifying a man to become eminent in the religious world;' and believes that 'the reasons laid down when speaking of scientific men will apply, *mutatis mutandis*, to divines' (p. 276). As he somewhat quaintly adds, 'it requires unusual qualifications, and some of them of a feminine cast, to become a leading theologian.'[*] If we were to venture on a very hesitating opinion, derived both from studying collections of facts like Mr. Galton's and from general observation, it would be this: that ability—general aptitude—comes frequently from the mother; talent—special aptitude—more generally from the father. But for this, again, there are reasons quite independent of any 'hereditary' theory. Mothers, in education, contribute much to form the general character; it is chiefly the father who directs the mind to its peculiar pursuit.

This question of sexual 'prepotence' we must however pass by, together with another still more curious ramification of it, rather indicated than pursued by Mr. Darwin in his sub-chapter on 'Inheritance as limited by sex'—the supposed descent of special peculiarities from female to female and male to male respectively. Let us return to the more general inquiry from which we have thus far digressed. If we admit as probable the conclusions which have thus far been suggested, namely, that Ability and Talent are both liable to be inherited, but the former more frequently so than the latter, what shall we say of that higher and finer quality to which we give the vague, but generally intelligible, denomination of Genius? Let us begin by coming to an accord as to the meaning of the name. In the first place, genius may be a kind of exceptional attribute of minds not altogether of the first order of endowment. The original, creative faculty is in itself superior to all other qualities; but any particular development of it may be of an inferior class. Any one possessed of a fine taste for music can readily distinguish between genius in a composer and mere talent of execution. But, unless we are misinformed on the subject, there are composers of real genius who have, nevertheless, made less mark in the musical world than others not so inspired. So in literature, which affords perhaps the readiest examples. We often, and truly, speak of works of genius, still more often perhaps of writers as possessing genius, without intending thereby to express any very high amount of estimation. They have the ethereal fire which renders them a different order of beings from other men; but they have misused it, or neglected it, or possessed it only in limited quantity. Mr. Beckford, the wonder of half a century ago, was a man of real genius. In his 'Vathek,' and still more in his Travels in Italy and in Portugal, there are passages of the very highest imaginative order, a sense of the picturesque approaching to sublimity. Yet no one would assign to him a very high rank in literature. His genius, though real, was fitful, and its manifestations not of an attractive kind. Richard Ford's Handbook for Spain is commonly ranged on our shelves and in our minds with the rest of its useful, brick-coloured brethren. But that unpretending volume is instinct with original genius to which no other Handbook that ever was compiled makes the slightest pretence. We have taken commonplace instances, because they suit our meaning the best. Any one can apply the doctrine further by analysing the effect produced on his mind by such literature as he is familiar with. That is, any one who has the power of finding out and appreciating genius, a faculty very far from universal. There are many spirits, not otherwise ill-provided with acuteness, to which the distinctive presence of genius, whether in literature, or art, or life, is imperceptible. Our old friend Pepys the diarist was a man of ability, and not without pretensions to taste; but he thought 'Othello' a very inferior play to 'The Adventures of Five Hours.' Nevertheless, special quality as it doubtless is, we may perhaps agree in Voltaire's definition of genius, in the inferior sense in which we are now treating of it, as being after all only a higher order of talent.

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[*] If, however, eminent divines have as a rule been fortunate in their mothers, it does not appear that they are equally so (in all respects) in their wives:—'The frequency with which the divines become widowers is a remarkable fact, especially as they did not usually marry when young. I account for the early deaths of their wives on the supposition that their constitutions were weak; and my reasons for thinking so are twofold—first, a very large proportion of them died in childbed . . . ; secondly, it appears that the wives of the divines were usually women of great piety: now it will be shown a little further on, that there is a frequent correlation between an unusually devout disposition and a weak constitution.' (P. 263.)

Is genius, thus understood, physically inheritable? It were bold to affirm the contrary, but the instances seem so rare that they might fairly pass, in the eyes of a sceptic, for fortuitous. Notwithstanding all the pains taken by Mr. Galton as well as by others to construct pedigrees of gifted men, we can only at present remember one clear instance of an English author of real genius belonging to a family of kinsmen remarkable for talent: it is that of Coleridge.

But if this kind of sterility or isolation be truly predicable of genius, even of that lower and more every day kind with which we have been hitherto dealing, what are we to say of the doctrine of heredity as applied to genius of the really exalted order—to those minds which subjugate our very powers of judgment, insomuch that we are compelled to own,

> 'That we can judge as fitly of their worth
> As men can of those mysteries which Heaven
> Will not have earth to know.'

If we follow the almost unanimous voice of our instructors, we shall say that genius of this order, at all events, is absolutely kinless. True genius, say Spurzheim, Virey, Lordat, and their disciples, is always isolated. 'The extremes,' says Dr. Elam, 'are solitary; that is, do not transmit their characteristics. The lowest grade of intellect, the perfect idiot, is unfruitful: the highest genius is unfruitful as regards its psychical character: true genius does not descend to posterity. There may be talent and ability in the ancestry and in the descendants, directed to the same pursuits even; but from the time that the development culminates in true genius it begins to wane.'

To this leading truth surely all the records which we possess bear witness, although Mr. Galton, who seems by no means fully alive to this essential distinction of rank in the hierarchy of great men, tries as far as he can to include men of genius in his tables. Let us take the case of literary greatness alone, not as more remarkable than others, but as that of which examples are most at hand and least questionable. Shakspeare and Milton for England; Molière, Voltaire, Rousseau for France; Goethe and Schiller for

Germany; Dante and Machiavel for Italy; these may stand, not as the loftiest names by universal assent (we decline all controversy), but as those most frequently in men's mouths when personifying the literary genius of their respective nations, and as possessing that recognised stamp of supremacy which moves us to involuntary respect whenever they are mentioned. In the case of not one of these is there the slightest evidence of genius being inherited by them or derived from them. They were mostly of quite undistinguished ancestors; none remarkable in a father, except that Milton may have derived a musical organisation from his; several died childless; of none has child or grandchild, notwithstanding the social advantages of such a relationship, attained any distinction worth noting. And if the same course of investigation were applied to the highest genius in its other manifestations, we suspect that the result would be the same. Even in the art of the painter, where kinship is so remarkable a phenomenon, Raphael and Leonardo da Vinci stand alone. In music, Beethoven, Mozart, and Mendelssohn left no rivals of their own race. No recorded son of men—such at least is our own judgment—ever was gifted with such genius, in his own sphere, as Napoleon I. Of all his numerous and well-cared for kindred, not one evinced anything more than a respectable amount of ability; and Flattery itself renounced in despair the endeavour to make him out any but the most commonplace pedigree.

Omitting, however, the case of sheer genius as exceptional, some may think the evidence in favour of the hereditary transmission of intellectual peculiarities so overwhelming as to dispose them to agree with Sir Henry Holland that the real subject of surprise is, 'not that a character should be inherited, but that any should ever fail to be inherited.' They might almost be inclined to adopt Voltaire's lively suggestion, that if as much care were taken in managing the breeds of men as those of animals, 'les généalogies seraient écrites sur les visages et se manifesteraient dans les mœurs.' But there is assuredly no danger, or no hope, of the creation anywhere of such a race of intellectual patricians. In the first place, 'mirus Amor' would very certainly render any efforts towards it fruitless by introducing his own capricious exceptions. And, in the next place, if our very elementary knowledge of this branch of physiology has established anything, it is this: that from some unknown causes, hereditary peculiarities are certain to die out in time, and most likely to die out early. Such was the judgment of the ancients according to the experience of old times. The most brilliant families, says Aristotle, pass off into insanity; those of steadier ability, into idiocy. Or, as the same notion was polished into a proverb, 'heroum filii noxæ: amentes, Hippocratis filii.' 'The upward movement (le mouvement ascendant) of the high faculties which distinguished so many founders of families almost always stops short at the third generation, rarely continues to the fourth, and scarcely ever beyond the fifth,' is the judgment of Prosper Lucas. How far this apparent brevity of duration, in families, of the hereditary transmission of ability, may be reconciled with Mr. Darwin's general views of the durability of inheritance, inquiries starting from more advanced knowledge may possibly determine. But it is consistent, at all events, with one fundamental law of human nature, which limits the progress of the individual, if not of the species. Each generation inherits the accumulated knowledge of its predecessors. But the individuals of each generation inherit no increase of intellectual power. It is no more possible to add a cubit to the mental than to the bodily stature. Physical training gives health and vigour to the physical faculties; but only up to a certain point, and that a point which has assuredly been reached before. Mr. Galton's 'oarsmen' and 'wrestlers' may maintain inherited supremacy as a body; but the individual best oarsman of this generation is not, except accidentally, a better man than he of the last. Well-trained men may be stronger, swifter, more enduring, than those who are not so; but you cannot train a man to be strong, or swift, or enduring beyond a certain limit, and that a limit which we may be sure some other man has already reached. And, in the like manner, mental cultivation reaches inevitably its appointed maximum. No combination which we are entitled to conceive as possible of hereditary influences will produce an individual fitted with mental powers beyond a standard, not so definable indeed as that of bodily powers, but quite as certain. 'Es ist dafür gesorgt,' says the German proverb, 'das die Bäume nicht in den Himmel wachsen.'

ART. V.—1. *Tableau de la Poésie française au XVIme Siècle.* 2 vols. 8vo. Paris: 1828.

2. *Poésies complètes.* 2 vols. 8vo. Paris: 1869.

3. *Critiques et Portraits littéraires.* 5 vols. 8vo. Paris: 1836–39.