

one day back, when she came and told me all her woes. But that is impossible.

When they came to wake her in the morning — the very morning after that — she was dead in her bed; the color gone forever from those velvet cheeks,

the fire quenched out of those passionate eyes, past power of love or hate to rekindle. Requiescat in pace, and may God give her eternal rest and forgiveness for all her sins. Poor, beautiful, erring woman!

*F. Marion Crawford.*

## HEREDITY.

MR. FRANCIS GALTON'S new book of inquiries into the constitution of the human faculties reminds us afresh of the remarkable contribution which this powerful thinker has made to positive philosophy.

In the quietest way, without any flourish of trumpets or pretensions to cosmic knowledge, he has laid down laws which profoundly affect not only science, but practical morality. And it has all been done with so little assumption that we have not resented it, or even been quite conscious of the injury. Like the rival smith upon whom Siegfried tried his thrice-forged sword, we do not realize the wounds in our old beliefs, until they fall suddenly to pieces before our eyes. And in the present article we shall try to develop more fully than he has done the consequences which must follow from this new law.

Many persons have tried to overthrow portions of the theory of evolution, and in the several forms which Spencer, Darwin, and Haeckel gave it it has certainly had some severe blows; but the contribution of Mr. Galton to this theory was so cautiously and solidly prepared that no one has pointed out any serious flaw in it, and few have been able to add much to it. Mr. George Darwin, the late Mr. R. L. Dugdale, and Mr. F. M. Holland (not Hollond, as Mr. Gaiton misspells the name) have carried the investigation a little further, but most of the works on the subject

are little more than collections of anecdotes and fancies; and in its main aspects it stands as Galton shaped it, a simple and modest theory, but bearing consequences to humanity much more important than those suggested by Darwin or Spencer. Of the rhythmic integration of the latter we hear nothing from Galton. To him, as to most other investigators, cosmism has proved a barren fount. The fierce struggle for existence described by Darwin takes a modified and gentler form in Galton's hands, for his conclusions go only to changes in mankind, and do not affect the lines separating the several species. Within these narrower bounds his work is very impressive; for it seems to prove that the qualities of men are usually hereditary, not accidental, and that life is a prolonged viriculture, in which progress depends more upon marriage customs and birth-rates than upon the institutions on which we are wont to plume ourselves. This new view brings ethics almost within the circle of the physical sciences. Our culture has, indeed, he thinks, already gotten ahead of our brain capacity, so that only a small minority has the mental ability to profit by the advances which the leaders of thought have made. Thus, the question of further progress is not as to collecting more intellectual material so much as to profiting by what we already have. We have the arms of Ulysses, but how few of us can string his bow!

In this volume Galton examines the several human faculties in some detail, in reference to the possible improvement of mankind, with his former ingenuity and care, and brings out many curious facts not at all in accord with common opinion. For instance, comparing the sensitivity of different classes of persons in numerous experiments, he finds that "men have more delicate powers of discrimination than women;" that blind persons do not have any increased acuteness of the other senses; and that there is no foundation for the reputed keensightedness of sailors and savages; the apparent advantage being due in each case not to perceiving more, but to more skillful interpretation of what is perceived. A curious power which he thinks might be improved by education is that of calling up at will before the eye pictures of past scenes, — a power that few pay any attention to, but which must be very delightful to all, and very valuable to great painters and to imaginative artists. Spenser, Hawthorne, and Victor Hugo would not have been what they were without it. Galton's examination into the singular forms in which many people visualize numbers, whenever they think of them, and see them arranged in shapes and even color with such axiomatic regularity that they cannot conceive of the possibility of doing otherwise, throws new light upon innate mental peculiarities, and also upon the danger of using inconceivability as a test of truth. His experiments show plainly the enormous mental differences with which we enter the world; and if his investigations into the characteristics of twins are to be trusted, education can do little to alter them. On this point the answers to his inquiries seem too few and too exaggerated for quite so sweeping a conclusion; but it is all in accord with his main argument of the necessity of breeding better men, if we would make a further advance.

What the future man will be Galton seeks to determine by his ingenious composite photographs, in which a series of portraits are merged in one in such a manner as to give a portrait showing the common characteristics of all of the group, freed from the diversities of its component members. He takes as representative of the best English type of our day some two dozen young men from the Royal Engineers, and gets a composite picture of them, very different from the beefy, heavy British type which we usually figure to ourselves. The earnest, straightforward eyes, the strong, energetic mouth and jaw, seem as much American as English. This question of type is especially interesting to him, because he afterwards argues that future development must take place in the direction of the best present type of each race, and that there would be a frightful waste of vital power in trying to approach a dissimilar one. This national type is not fixed. Galton thinks that the English one has changed much within a few generations. "The features of men painted by and about the time of Holbein have usually high cheek-bones, long upper lips, thin eyebrows, and lank, dark hair;" while statistics show that the English are now a fair and reddish race, with blue or gray eyes and brown hair. The tendency to obesity which appeared early in this century has lessened, but the improvement in physique, he thinks, extends only to the better-cared-for classes. And similar evidence could be produced of an analogous change in New England.

Galton's experiments in calling ideas into consciousness support the theory of unconscious cerebration of Hamilton and others. Consciousness lights up only a small part of our mental habitation, he thinks; and beyond it lies an ante-chamber filled with ideas, ready to enter the audience chamber when occasion offers. Sometimes they crowd in so quickly that consciousness cannot keep

track of them all, and loses sight of part in following the others; and sometimes the guiding will which marshals their order grows weak, and they flit back and forth in dreamy disconnection with any external world; while at other times no effort can make them enter. As Lowell says,

“Hopeless my mental pump I try:  
The boxes hiss, the tube is dry.”

But when we are at our best the antechamber of the ready talker is full of stories and witticisms; that of the scientist is crowded with facts and theories in his specialty, and the artist's with images of beauty. Here again we touch these inborn mental powers. We may pack the antechamber with memorized facts and open wide the doors, but only innate ability can keep them alive and fruitful. It is their growth and multiplication out of sight upon which originality depends.

When the court of conscience is held, the precedents which guide it come from these remote chambers, — ancestral heirlooms whose force it is painful to dispute. This view of conscience as a sort of common law court, determined by the customs of our forefathers, seems more natural to an Englishman than to a foreigner, who demands an authorized code. This hereditary conscience, which both the positivists and evolutionists accept, seems, however, entirely insufficient to many thinkers. Frances Power Cobbe, in a recent magazine essay, complains that it makes conscience “a crowned and sceptred impostor; . . . the echo of the rude cheers and hisses . . . of barbarous forefathers, who howled for joy round the wicker images wherein the Druids burned their captives, and yelled under every scaffold of the martyrs of truth and liberty; . . . the shifting sand heaps of our ancestral impressions, — nay, rather let us say the mental kitchen-middens of generations of savages.” Miss Cobbe is very eloquent, but Galton would not admit her logic.

It would be as just to call the common law the refuse heap of savages as to apply that description to inherited conscience; for each represents (and the latter far more justly) the best that former generations were able to appropriate from the teachings of life. And there are even some advantages in the positive view, for it sanctions growth, and looks to science for correction.

Mr. Galton is not blind to “the religious significance of the doctrine of evolution.” He sees clearly that it involves a new moral law and a new attitude toward heaven. His invariable laws do not agree with miraculous answers to prayer, and he pauses to apply statistics to show that such answers are not given. The future man which his teaching aims at producing is not at all the timid, toothless, hairless, slow-moving creature which a lively essayist has recently described as our destiny. Such a violation of the law of natural selection would speedily fall back before a more vigorous rival. The type that Galton's viriculture aims at combines the beauty of an athlete with the mental brilliancy of a Greek and the indomitable energy of a Norseman, but it is more pagan than Christian.

“The sunburnt world a man will breed,” says Emerson; but he will be readier, if Galton is right, to face nature and human nature sword in hand than throw himself for help

“Upon the great world's altar stairs,  
Which slope through darkness up to God.”

This new attitude of science will have to be faced. It is no trifling over details, like the length of the days of the Mosaic creation, nor does it soar into abstruse metaphysics. It goes directly to the root of that brotherhood of man and self-surrender to God which have ever been the glory of Christianity. The morality with which it replaces it, in spite of some evident practical advantages, is often shocking to our highest instincts. It is a matter of immense

and indeed vital importance; for, if Galton is right, the progress of civilization turns upon our decision. If the Teutonic race, from which modern civilization radiates, should decay, as other noble races have done in the past, it may be centuries before another is produced that can fill its place.

We must bear clearly in mind that if Galton's arguments are to be trusted two things are necessary, in order that civilization may move steadily forward: there must be a selection of the best, and a transmission of their qualities to their descendants. Neither of these is of much use without the other, and they seldom go on properly together. Where selection works, as it often does at this day, to attract the most vigorous to the great cities, and reward them with success, accompanied with desires, cares, and vices, which delay their marriage and prevent their having children, it is positively injurious to the community. There is some immediate gain, more money made or books written; but the next generation is drawn from poorer sources, and, if the process goes far enough, decay must set in. We must remember how often great nations have begun to rot in the height of their prosperity. We see Athens full of men of marvelous genius; but they do not marry, and at last their places are filled by slaves, retaining the Pyrrhic dance without the Pyrrhic phalanx. We see Rome, with a greater vitality, rising to be the mistress of the world, but after a time her close family ties are sapped by luxury, and the same decay sets in. Her farms are depopulated and her fields untilled. She calls in barbarians to fill her ranks, and falls before them from sheer exhaustion. The Ottoman empire has gone through the same changes; and the danger is a threatening one to us to-day. In Australia and our own great West the English race multiplies apace; but in New England the old families are dying out, and it is plainly fall-

ing back before the more prolific Celt; and in the South the blacks are multiplying nearly twice as fast as the whites, so that in another century, instead of being only half as numerous, they will have become two to one. Galton insists that the sole way to move forward without an enormous waste of life is to quietly replace the feebler race by the better one, and it will not do for us to do the opposite. To raise the weak to the height of the stronger could only be accomplished by a frightful sacrifice of life in the necessary dark ages of selection; and the process would be terribly wasteful if successful, since the same forces, if applied to the better material, would produce a better result without this misery. It is not a question of education, but of stock. Churches, colleges, and art galleries are the signs of intellectual power. They ornament and train it, but they do not produce the raw material. Physical decay is little affected by religion or art; and the institutions of a nation are often at their best after it has passed its prime.

The necessary natural selection no longer, however, requires the merciless starvation and slaughter involved in its operation upon the lower animals. We must have that free competition in which the stronger win the commanding position which is their due; but if we can insure the fertility of the better portion, and the comparative sterility of the meaner part, of a community, it is no longer essential to destroy the deformed or diseased, or embitter their existence by hardships, for in the course of time their strains will die out. Galton does not dispute the much-discussed pressure of population upon the means of subsistence which Malthus urged, but the question takes a new shape to him; for the misery, rightly understood, is the path of progress. He does not at all accept that philosopher's remedy of delaying marriage until late in life, because the argument would appeal only

to the more intelligent class, and the restriction would therefore be applied where multiplication is desired, while the unfortunate increase of the lower class would be unchecked.

Even in this mild and modified form, however, it is still a relentless struggle for existence. It is utterly opposed to coöperation or communism, for the sifting process of individual competition is the only efficient mode of recruiting the leading class. The object of the better part of the community must be the elevation of their own family and race; and this at the best is a broadened egotism, never reaching Christian altruism.

If we are convinced that the only way of upraising a race is by securing the success of its best elements in the remorseless contest in which the stronger shall prosper and hand down their traits to the next generation, while the weaker perish without leaving a trace, then the birth-rate becomes the most important test of progress, the pulse-beat of national health; while in broader issues the war-cry of the races will echo with fiercer fury. The primitive passions for kindred and race are exalted again to the highest dignity; and thus we call to our aid two powerful emotions, which the last century frowned upon, but which are yet among the most potent that sway mankind,—family pride and patriotism. With Spartan firmness we are told to revive somewhat of Spartan principle, and consider in our laws the inheritance of dispositions as well as estates. This is no scheme of liberty, equality, and fraternity. Personal freedom is fettered with new duties to the community, universal brotherhood is replaced by the narrow tie of blood, and equality must yield to claims of birth. It has indeed a strong savor of aristocracy, though it is the aristocracy of inherited worth, not tradition or wealth.

It is not difficult to find striking instances of dangerous violations of this

law. Galton dwells upon the evils of a celibate priesthood, which long sterilized the most intellectual element in the community; and he attributes to this much of the midnight blackness of the dark ages. He points out that the restrictions upon marriage which until lately encumbered the English college fellowships were equally bad. Indeed, his argument points at bestowing them only upon heads of families; and perhaps the same principle might apply to all government offices. He urges the importance of charities giving dowries to deserving unportioned girls, and would look with severe reprobation upon our custom of helping sons to establish themselves in business, while daughters receive very little, in proportion, when they marry. He would no doubt think it a plain duty for parents to make sure of homes for their children, and would frown at the current morality which makes marriage a mere matter of individual fancy or passion, and shrinks from the clutch of baby fingers. The man of health and ability who does not become a father is little better than a wrong-doer, from Galton's point of view, though ignorant, perhaps, of the barrenness of his buried talent: and the whole burden of his scheme is strongly against the American ideal of home life, with its independent members so slightly bound to each other.

Equally important inferences may be drawn as to the treatment of criminals. The class is generally infertile, but such instances as the Jukes family, with its five prolific generations of criminals and paupers, show the danger. Imprisonment for life, or exile to a penal colony, where there is no intermixture of the sexes, would often be necessary; for crime becomes a disease, to be stamped out like the cattle plague. Pauperism would have much of the same character, and indiscriminate charity would acquire a new degree of wrongfulness. Indeed, the whole field of private charity and out-

door relief would be much restricted, with a corresponding extension of the poorhouse system. The reception of paupers and criminals from abroad becomes a wrong to the next generation, whose patrimony is squandered. The Chinese may increase our wealth, but wealth is not the object of living. It sounds fine in a Fourth of July oration to talk of America as the asylum for the oppressed of all nations, but it is wicked folly from this scientific point of view. These conclusions must appear harsh to those who would foster the negro and Indian; for Galton's law is squarely across their path, and the sooner they die quietly out the better: and to assist them to multiply becomes as wrong as the keeping the filthy and effete Turk in Europe for the sake of enfeebling Russia. In order to insure the triumph of the superior race, war will sometimes be a moral duty, and a standing army can hardly be avoided, either by the victor, or by those inferior races who object to being too hastily hustled out of the way. Such an army, if it took away from home life the flower of the people, might be a frightful curse, even if its career were a series of victories like those of the great Napoleon. On the other hand, a uniform conscription, from which, after service of a year or two, all persons who had the average amount of health and ability were transferred to a reserve corps called out only in emergencies, might be a spur to national progress, though the morale of the permanent part of the army would of course be very low.

Imperfect as this brief sketch is of the new psychology and the consequences which seem justly to flow from it, it is pretty plain that it involves a new ethical code, and a very militant and positive one. We are not prepared to go quite as far as the speaker in a late English magazine dialogue, who says, I am

emancipated and elevated by positivism, "but I have not yet attained to being a hypocrite; of daring to pretend to my own soul that this belief of ours, this truth, is not bitter and abominable, arid and icy, to our hearts." This aridity and iciness which seem so abominable to Vernon Lee come mainly from the religious belief or unbelief associated with heredity in the minds of most positivists. It is, not necessary, however, that the followers of Galton should accept the pantheism which their teacher avows; and an investigation which shows us how to elevate mankind can never be really opposed to religion. Separating it from religious views, upon which it is not dependent, we can see that this new eugenic code is a definite, practical, and fertile one, which avoids the extremes which threaten life most, the fiery communism below and the frigid indifference above. It is intensely alive in a proud English way. It is not a religion, but it might be a banner to fight under and conquer by.

But with all this we must confess that it is bitterly opposed to our most cherished instincts, our purest aspirations. For eighteen hundred years our warmest sympathies have been given to the weak and down-trodden, and we look ever upward for relief from the bloody conflict in which they have been overthrown. Instinctively we turn to coöperation and charity for aid, and cry out against the remorseless strength that refuses mercy to the vanquished in the bitter struggle of life. The beatitudes are still our creed, and still we look for relief from all this turmoil and sorrow in the tender care of a father who never forgets the weakest of his children. But there is no sanction for this alleviating providence in Galton's remorseless law. It claims to be only common sense, but its terrible *væ victis* is a knell of utter destruction to all but the victor race.

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