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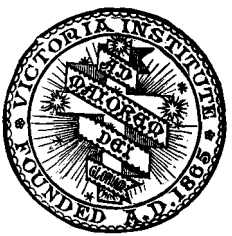

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1910.

508TH ORDINARY GENERAL MEETING.

MONDAY, MAY 23RD, 4.30 P.M.

THE VEN. ARCHDEACON BERESFORD POTTER, M.A., IN THE CHAIR.

The Minutes of the previous Meeting were read and confirmed.

Announcement was made of the Election of the following Associates :

Mrs. Lucy Isabella Bartholomew.
Miss Florence Mary Edensor.
James Peddie Harper, Esq., M.D., L.R.C.S.E.
William Sylvester Walker, Esq.

The following paper was then read by the author :—

HEREDITY AND EUGENICS.

By Rev. Professor A. CALDECOTT, D.Litt., D.D., University of London, King's College.

HAVE Christian believers, and men of religion generally, any special interest in the question of Heredity ? Are we by our religious convictions inclined towards hoping to find that there is no heredity in the life of man, that each individual comes perfectly fresh into the world ? or towards hoping to find that heredity is deep-reaching and comprehensive, and that by far the major part of our nature is not at all new, but is passed on to us from the generations which precede ? A very high doctrine of individuality attracts us by the thought that evil results would perish with the doer, giving every child a fresh start, an open course ; while a very high doctrine of heredity would commend itself on the ground that it would mean that all good results are gathered up and passed on in unending service to humanity, so that each child would start from a higher level than its parents enjoyed.

Old Thomas Fuller saw this : considering the genealogy of the Kings of Judah, he notes that in four generations a bad

father begot a bad son, a bad father a good son, a good father a good son, and a good father a bad son: and his reflection is put in his own witty way: "I see, Lord, from hence, that my father's piety cannot be entailed: that is bad news for me. But I see also, that actual impiety is not always hereditary: that is good news for my son." Delightful filial regard and personal modesty guide the choice of the old divine. But taking a general view it would seem that we shall be inclined towards one or other of the alternatives, firstly, according to our estimate of the balance of good and evil in the world: pessimists will welcome the fresh start, the clean slate; optimists will welcome the passing on of trained faculties, of good habits, of high emotions. And, secondly, according to our estimate of the significance and scope of individuality. If we endorse Newman's view that religion is "a relation between God and my soul, my soul and God," then we shall expect each individual to be a new appearance, with its own nature and responsibility; but if we are more impressed with the thought of our common humanity, the social organism, the brotherhood, the kingdom of souls, we shall not have any objection to a widening of the scope of heredity if such should be suggested by enquiry.

Of course few people are likely to occupy either of the above extremes, either to deny heredity or to make it so comprehensive as to crush out individuality. But I think that we must all of us look round with keen interest when we hear on every hand that the evidence is increasing, whether the effect is to be what we shall welcome or shall regret. With this preface let me endeavour to set before you some reflections on the present position of thought upon the subject.

Heredity is defined by a leading biologist as "Genetic continuity between succeeding generations" (Thomson *Heredity*, p. 68). Every one knows that there is some such continuity in nature: the determination of the more or the less of it is one of the most interesting of problems.

I. *In the sphere of physical life: the plant world, the animal world and human nature in their bodily organisms.*

In this respect the most important conception of recent modern science is that of the Germ-plasm and Germinal continuity, raised into the definiteness of a working theory by Weismann. Organisms are understood to be constituted

fundamentally by a central core, the germ-plasm, which keeps on reproducing itself; by simple reproduction in some low stages of life, by intermixture of two germ-elements in all the higher ranges. And around this germ-structure is a soma or envelope, with some variety of which each germ will surround itself. The importance of this lies in that it points to the mechanism for transmission of qualities. In cases of simple reproduction, the new germ nearly repeats the former one, and continuity is, so far, complete: in the case of dual reproduction, the elements of both constituents come into operation, the new germ reproduces them both, in so far as they can combine. And the outer soma or envelope is determined according to the inner, deep-seated, germ.

The course of the life-history of any plant, for example, is all settled from the beginning; there is some little room for variation in response to environment and the way in which different environments would call into play reactions on the part of the plant. But these variations are small; the life of a spaniel in all its principal features will run on according to a formula; he may be somewhat larger than usual, a shade different from his tribe in colour, and by training or circumstance may become a trifle more clever than his parents; but these points are comparatively superficial, and it is quite likely that they will not reappear in his offspring. For the mass of qualities which is transmitted the theory of germinal continuity professes to point to the vehicle of transmission.

Obviously this conception of modern biology lends support to heredity by indicating the nature of the physical process which connects two generations. By penetrating into the recesses of organisms it indicates the mechanism of heredity; transmission of all important qualities seems assured; it is only superficial modifications which rise and fall within the compass of the individual. I do not understand that it is claimed that the Germinal theory is proved at all points; but for us it is important to note that it holds the field, and subject to emendations and qualifications it must be regarded by non-biologists as what we are called upon to take into account as the order of nature in this respect.

So far for continuity, the transmission of like natures from one generation to another. But the world is very complex, and presents a spectacle of an almost unlimited variety of forms of living beings, both plant and animal, all arising in course of thousands, possibly millions, of years, from a few simple forms. To the study of the rise of variations and the continuance of

them when they have arisen, the zeal and intelligence of biologists are being devoted all over the world to-day. It is highly imprudent for outsiders to commit themselves to taking sides in the controversies which have arisen. But I think we are bound to allow that the weight of authority seems to lie with those who seek for the mechanism of variation and of the transmission of its results in the germinal region. If this is so, then the transmission of the superficial qualities acquired by the individual is rendered improbable. This question is by no means settled: long debates are conducted with multitudinous pro's and con's; but at any rate I think that we must not set ourselves in opposition to the view that such characters are not transmitted, but must face the possibility of all transmission being effected by what takes place in the germinal region. In that region the situation has been brought to a clear issue by Weismann's application of Natural Selection. According to this use of it, the gains or losses of the individual's outer life perish with the individual: the arena of the struggle is the germ-plasm. There the variations which occur are preserved by elimination of those inferior in power to struggle, and the perpetuation of those which gain the victory. This is a selection in which the fortunes of an individual life count for almost zero: the change is due to processes prolonged over centuries, over millions of successions of individuals.

Allowing that this is the extreme theory, and that some scope for influences upon the individual and for the individual's own originality must be incorporated with the theory, still the broad impression upon the mind is that the individual withers in importance, and that man is a spectator of processes operating in recesses beyond his control. This was, I think, the attitude towards which we were being driven by Weismannism. Man's intervention in the selecting processes of nature was possible only in a small way; something he might do by assisting to eliminate forms of life which he did not value, and fostering a few that he cared for, as when the waving corn-field replaces the Canadian forest; some slight varying he might direct, as in the garden, the greenhouse, and the stockyard. But his efforts were watched jealously by Nature; ever she was ready to take advantage of the slightest pause in his industry; to resume possession of the wheatfield by rank grasses and weeds, to draw his garden back again to wilderness, and his herds to the rougher animals of the prairie, the moor, and the forest.

It is just when we have come to this point that a new door has been opened into Nature, an unexpected instrument for the

guidance of her processes has been placed at man's disposal. The keen sagacity of a Cambridge biologist in a happy moment discerned the far-reaching significance of the forgotten labours of an Austrian abbot, and has lifted Mendelism to the front rank of biological interest to-day.

This is not the place for attempting a sketch of the Mendelian theory as I understand it. I can only say that what seem to me to be its salient features are (i) the ascertaining that there are in organisms, in plants especially, certain qualities so defined and so regular as to be called "fixed" or "unit-characters," occurring either singly or in combinations; and (ii) the persistence of these by hereditary transmission, in spite of apparent disappearances or obscurations.

The importance of this knowledge is that when man has ascertained the presence of such fixed characters he can step in and can eliminate or foster them according to his own desires and purposes. His function as selector is enlarged by this knowledge, for he can learn what characters natural process has brought to fixity and can be depended upon to transmit from generation to generation. And more, he can manipulate the organic processes, so as to bring together combinations of such unit-characters, over and above those which Nature herself had, so far, produced. And these can be varieties not of a fleeting and precarious kind, but of a relatively high degree of stability. Man's range of control is enlarged from such violent changes as the suppression of darnel in favour of wheat, of substituting wolves by sheep. The empirical methods of guiding Nature hitherto used by breeders of stock and cultivators of plants are now placed on a scientific basis because we have penetrated more deeply into the way in which characters are formed and in which heredity transmits them from one generation to another. It is no wonder that Mr. Bateson and his followers speak in terms of animated expectation:

"The breeder may proceed to build up synthetically, character by character, the plant or animal which he requires." (Punnett, *Mendelism*, p. 58.)

"Mendel's clue has shown the way into a realm of nature which for surprising novelty and adventure is hardly to be excelled. It is no hyperbolical figure that I use when I speak of Mendelian discovery leading us into a new world, the very existence of which was unsuspected before." (Bateson, *Inaugural Lecture*, p. 4.)

So far, then, from biology we have laid before us an increased range of influence for heredity. The human interest lies in the

deeper scientific knowledge being such as to show man more clearly than he ever knew before where he can himself come in to control its operation in favour of his own desires.

Passing from plant and animal to the sphere of human life, for man's bodily organism the claim is, of course, made that it falls within nature, and that the teaching of biology applies to it in every respect. We, too, owe the form of our bodily frames to operations which work by heredity according to the germ-plasm process, and according to Mendelian law. This is so, *a priori*, for all the reasons which lead us to consider that the human body is of the same order as other living organisms. Of course this should be verified by inductive process, and there are many workers in the field of human anatomy and human physiology endeavouring to find evidence for these great laws. As to the Mendelic theory, I understand that not much verification has yet been secured; it seems illustrated in the iris, in certain diseases of the eye, and in some physical deformities; and not much farther, at present. But we must remember that there are special difficulties in the way of studying the biology of man; the successive individuals are so far removed that a century gives, normally, only three generations, which compared with the rapid production of successive generations of plants, where Mendelism has been most abundantly exemplified, is almost prohibitive of success: experiments are out of the question; and material adapted for observation is difficult to secure; but the study is only just commenced, and we shall learn more.

At the same time I think we must here put in a caveat against the complete identification of the biology of man with that of animals and plants. Man's body is the seat of a mind, and some of the changes which it undergoes are due in the first instance to changes which take place in the mental sphere. For example, while cancer is often caused by purely physical irritations, a specialist assures us that "by far the most common cause" is mental; "depression, emotion, trouble, worry, anxiety," are the chief factors in cases which amount to the great majority. (Dr. Snow of the Brompton Cancer Hospital, Lecture at Birmingham, October 18th, 1908.) The general influence of mind upon body is too far-reaching to be ignored.

But in the main we may acquiesce in the assignment of the human body to the sphere of biological law, and for our present study, to the influence of heredity as above indicated. From the religious point of view I see no ground for our shrinking from this. As soon as we have recognized that man's physical frame is not a special creation but a marvellous instance of the laws

of organic life, we have no interest in desiring its withdrawal from any particular biological processes; the laws of inheritance which are good for organic nature generally may be held to be beneficent at its summit.

II. *Mind.*

A quite different field of enquiry opens out when we ask, Does Heredity apply in the realm of Mind?

The leaders in scientific enquiry are apt too readily to "jump this claim,"—as the prospectors in mining districts say—and at once to extend to mental nature what they have established in the sphere of physical organisms.

But the standpoints as to the relation of mind and body are at least these four:

i. We may be Materialists: holding that the body is the reality, the mind a dependent and derived accompaniment.

ii. We may be Parallelists: holding that mind and body are equal as to reality, but run precisely parallel courses, never by any possibility interacting.

iii. We may be Interactionists: holding that although equal and different they are capable of mutual influence or of so interworking as to form a single series of processes.

iv. We may be Spiritualists: holding that there is a range of mental life only indirectly connected with bodily changes, running its own course according to its own constitution and laws, but doing so within limits arising from the physical organism.

These are fundamentally different philosophical views: they have stood in opposition whenever men have endeavoured to think upon the problem of mind and body, and they stand in opposition to-day.

In reference to Heredity the Materialist makes no question that the same laws prevail for mind as for body. He holds this *a priori*, from his view of the dependence of mind upon matter, and he proceeds to look for verification by observations as to inheritance with the same interest here as in the biological sphere. The Parallelist and the Interactionist can also undertake with zest investigations as to the facts of inheritance in mind equally with matter, and will expect to find that they prevail in both.

The Spiritualists will divide into two camps: (*a*) those who hold that the lower ranges of mental life are strictly and closely connected with bodily life will expect to find Heredity obtain for them, reserving only a region of higher mental life into which transference from the lower is inadmissible, and in which the problem of Heredity must be examined quite *de novo*; and (*b*) those who hold that all mind is essentially spiritual, the lower ranges being dependent upon the higher, and who therefore can find no ground for transferring to mental life any laws discovered to be true for the processes of physical life; for these the whole enquiry is a new one, quite independent of any other.

It is open to all therefore to enter upon an inductive enquiry as to the appearance of likenesses between successive generations, and to all but the thorough-going Spiritualist to regard the likenesses as due to transmission, *i.e.*, to heredity.

That children resemble their parents in mental character is, of course, matter of common observation, that they also differ from them is also beyond controversy: but which is the dominant thing, the resemblance or the difference?

The evidence for the dominance of resemblance and the probability of its being due to heredity is what strikes attention most forcibly. Men are born in races in their mental as in their physical nature: every member of a race has a fairly definite aggregate of qualities which are repeated from father to son: the wide contrast between Mongol and Aryan; the further grouping of characters as European or Hindu; further still as Frenchman or Swede, and so on. Whether or not we may suppose anything in mind on a par with the germ-plasm of physical organisms, to which we could attribute the processes of transmission in a similar way, psychologists have not yet investigated: at present they are dominated by the belief that the transmission is effected on the side of the physical organism and that mental life follows upon that. Further, that qualities of character become fixed, and fixed in combinations, after the Mendelian manner is plain, but whether or not they follow Mendelian principles in transmission no one has yet had time to work out.

But whether the laws of mental heredity are either identical with those of physical heredity, or similar to them, or not, the strong mental resemblance between parent and offspring, and the formation of race characters, national characters, even occupation-characters, is so wide ranging that ethnology seems to give Heredity the principal function in the formation of mental character.

On the other hand when we consider human nature we see that there is a larger scope for individuality than in the rest of nature. There is the important fact of long life and slow progress to maturity, during which each individual is the subject of experiences so complex as to be, strictly speaking, unique. True, the oak has a still longer period of youth, but its "experiences," so to speak, are not varied, and its range of variation is very limited indeed. And the elephant has as long a youth as man, with more range of variety in its experiences than a tree has, and in so far as this is the case we see the result in the differences of individual character.

But the principal difference lies in the extent and scope of consciousness; and the higher we look the smaller appear the resemblances between successive generations and the more prominently do the differences stand out. The variation of mental character between individual dogs is greater than that between individual sheep, and that between wild sheep which live by their wits greater than the difference between sheep living in a flock with all food and shelter provided and the minimum of demand made upon individual intelligence. And in the human race the differences between individual Negroes of the lower grades on the damp coast is much less than between those living in the exercise of more varied intelligence in the hinterland of the Sudan. In India the low-caste occupations and dead level of life exhibit almost identical individuals, as compared with the differences possible to the people of high education and more varied externals of life. But it needs no elaboration to support the statement that the higher the call upon mental faculty the greater the scope for individuality and the appearance of differences and variations as compared with the resemblances and identities of Heredity.

Hence it is that so little has been discovered for Heredity by investigations such as Sir Francis Galton's as to Hereditary Genius. Sir Francis might have known that he was searching in precisely the most unlikely part of the field, unless we take it that his courage is so high that he prefers to lead a forlorn hope and attack the problem just where it offers the smallest prospect of successful result.

Need we who are concerned especially with the highest experiences in the life of man, his religion, be averse to supposing that the biological processes of inheritance are in operation over the lower ranges of mind-life? or if not identical processes, some others yet to be discovered but quite similar to them? As I said above, I do not find that Biologists or Psychologists

have yet given attention to this problem, but seem ready to carry the laws discovered for physical life right over into the sphere of mind. Mr. Bateson, the biologist, unquestioningly places not only lower consciousness but intelligence and morals side by side with physical characteristics in relation to transmission (*Genetics*, p. 34); Dr. McDougall, the psychologist, assumes heredity for mental qualities "in much the same sense and degree as for physical" (*Sociological Papers*, III); and Sir Francis Galton formulates as a leading article in the programme of Eugenics "the fact that the laws of heredity apply to man equally with the lower animals and plants, and that the mental functions are subject to the same laws of heredity as the physical ones" (*Programme of the Eugenics Education Society*).

My own opinion is that in the lower ranges of mind the contention for Heredity is plausible, and that it is gaining in credibility apart from the suggestions of biology. There do appear to be root-instincts, elementary tendencies to action, primary feelings, which are fundamental as the germ-plasm is fundamental, and their reappearance in successive generations suggests the operation of transmission, and further, that there are some relatively superficial masses of mental "stuff," so to speak, carried onward by these deeper elements. And it is also certain that these tend to form fixed assemblages of qualities after the manner of Mendelic fixed characters; so that the process by which generation is linked to generation may be that of inheritance of root-characters, and variations may be perpetuated by selection for utility as natural selection indicates, and by fixity as the Mendelic law describes. But the field requires long and extended work if inductive verification is to be added to these general conjectures, and the peculiar feature involved in the intervention of higher ranges of consciousness must be kept constantly in view, and be expected to result in limits to heredity being drawn, which will cause the mental sphere as a whole to present a very considerably different view to that given by the sphere dealt with by biology.

For those who see nothing in mind but a stream of feelings, activities, and operations of intelligence the problem ends here. For these all is nature, and Heredity prevails wherever either life or mind is found, as we have seen. But the very crux of the problem stands yet unsolved for the Spiritualist, whether as philosopher or as religious believer. These are concerned to keep in view the conception of mind as in its essence spiritual, and therefore not within the nature-process. For the principal tenet of both philosophy and religion is that the

primary character of mind is its selfhood: that it is unitary, and that it is centrally originative in thought, in action, and in feeling, controlling the lower ranges in so far as these are in any way to be regarded as arising apart from the centre. In short, Philosophy and Religion both stand upon a belief in Personality.

Here I need not do more than say that whilst here and there a trained philosopher may be found to regard mental life entirely as a process, or processes, of the naturalistic kind, the main line of philosophical tradition adopts the conception of Personality in something like the above sense. And it is plain that for religion a doctrine of Personality is indispensable if religion is to take high ground, to look out into a world beyond the world, to see eternal things in things of time, to cherish ideals of goodness, and to lift man into life with God.

As to Heredity in personality, Philosophy can simply point to what she finds: explanation from deeper depths is impossible, for deeper depths there are not. At this centre of mental life every individual personality presents the appearance of being a new and fresh self: this is so for the individual, and it is so for the contemplator. We can find no way of conceiving how one personality can be related to another which may succeed it in time beyond the bare fact of succession. If there is Heredity we have no means of seeing how it could be effected: nothing corresponding to the germ-plasm and its reproductive processes is shown to us in the region of personality at its centre. Indeed, we may say that there is here no question of resemblances carried forward, for the fundamental character of every personality is the same. Each individual appears to emerge into being fresh from the Eternal Consciousness, says Philosophy; fresh from the Divine Spirit, says Religion.

What we have to note is the embodiment of personalities in physical frames, as the universal rule for man: and these frames, as we have seen, succeed one another by the connection we call heredity: an analogy would be the equipment of a number of musicians with instruments partly of different partly of identical nature, so that their musical careers would be affected by the nature and quality of the instruments severally allotted to them: on this influence of heredity upon our complex nature all are agreed. But some of us would carry on the conception of the instrument of personality to include lower ranges of mental life making these dependent to some extent upon the bodily equipment into which the soul is born; others regard these lower mental processes as themselves affected by the way in which the higher consciousness operates

as it comes within the limitations imposed by the physical framework. The former will hold that every personality enters into connection with a preformed mass of mental dispositions, instincts, and tendencies besides the settled peculiarities of his bodily frame: a tendency to strong or to weak emotionality, for example, a disposition for intellectual activity or an aversion from it, an inclination to egotism or towards benevolence, and so forth; and that these may be brought under heredity and its laws. The other view claims that every soul of man starts fresh, and can enter upon a self-chosen and self-directed course of life. One view would say that given the parentage and ancestry, the stock in short, there is but small room for individual personality to work out freely in, and expects to find resemblance entirely dominating the characters of children of the same stock. The other view consider that the similarities we find are rather the result of similar environment, education and opportunity, and is not surprised when novelty appears, when individuals of high power stand forth and defy the expectations which heredity raises. From this view it would be said that grapes might be gathered from thistles in the field of human character, only that the saying is inept, for the reference to the realm of physical nature is quite out of place as the ground of a comparison. And in support of it the insurgence of individuals from the lines of development foreshadowed by looking at their stock or their environment demonstrates the possibility of self-originality, self-directing guidance of life; and when the possibility is shown the situation is revolutionized; the course of heredity fails in these cases, and suspicion is thrown upon it all over the field.

If I am to state my own view, I should put it briefly in this way. It is impossible to account for consciousness as we know it by reference only to the consciousness we know. Consciousness is not self-explanatory as it appears in finite experience; we must perforce look beyond experience, and the inference I stand by is to a super-finite consciousness from which we come, which may be said to express itself in us. And this finite consciousness is of the same nature in us all, but it enters into our physical frame, settled largely by inheritance, and is at once limited according to the peculiarities of that frame in various ways. And I think that observation establishes a large concomitance of mental dispositions. But there is also so much inherent power of self-direction that the course of the individual life may be either one of subjection to that frame or of domination over it, in many degrees. And I regard education

as making an appeal to that inner self to come forth and take command. Further, that the inner self is endowed with a capacity of being conscious of the super-conscious spirit from which it has its being; the finite becomes aware of the Eternal, the imperfect of the Perfect; we can place the actual self in the attitude of obedience, the emotional self in the attitude of love and adoration. That this is the experience of religion is claimed by all the higher forms of it; clearly, richly, and pervadingly, in the experience of the saints; dimly and fitfully in the experience of ordinary religious men and women; potentially in every personality.

Hence it is my contention that Heredity does not hold for Spirit. I see no reason for thinking that soul succeeds soul in the way of generation. Certainly I find no glimpse of a way in which I can conceive it operating on the lines of physical heredity, nor do I think that it can be conceived as resembling the process of psychological heredity dependent as this is, as appears at present at least, entirely on the continuity of the physical basis of life; and I agree with Professor Henry Jones that "the way of virtue, so far as internal conditions are concerned, is as open to the child of the wicked as it is to the child of the virtuous." This is a hard saying to the man of science, whether physiologist or psychologist, but I hold that the philosophy of experience, fully worked out, endorses it; and the religious man is compelled to say, Amen.

I decline therefore to endorse Euripides when he says:

> "The offspring of good men themselves are good;
> Those of the base are like their fathers, base."

III. *Eugenics.*

I have left myself small space for the highly important practical issue which has arisen largely as a consequence of recent study of Heredity. The victories of Science in penetrating to the recesses—or towards the recesses at least—of the physical organism have inspired not a few acute and eager minds with a sense of exultation in the increase of man's power to direct the course of the successive generations of plants, animals, and men. By use of conscious selection, based on the knowledge recently gained, successive generations are to be improved: the human race is to be directed towards being better as a whole, and to be composed of better individuals. And so we have the newly named science or art of *Eugenics*, and Society is invited to embark upon a definite course of producing better men. If it

be true, as Professor Dendy, for example, claims, that "we can produce at will new combinations of selected characters, new forms of life which might never have appeared in a state of nature at all" (*Journal of Society of Arts*, May 14, 1909), it is plainly time that we set ourselves in earnest on so noble an enterprise. Professor Dendy was dealing only with physical organisms, but, as we have seen, other workers have stepped over into the mental sphere and are for pushing forward there also, although at present their endeavours are mainly confined to influencing the future by the improvement of the physical stock.

I am not able here to enter upon an examination of the very serious claim that Society should undertake the conscious and purposive guidance of its own future course. I can only indicate the very grave character of the conflict of ideas and of sentiments to which it gives rise: a conflict so momentous that the future is bound to be very largely affected by the clashing oppositions which must arise between its advocates and its opponents. For example, we may all have fairly the same ideas as to what constitutes a "better" physical frame, but can we say the same of the mental and moral character? There are some who advocate the fostering of modesty, humility, and benevolence in character: but from the followers of Nietzsche we have protests that self-assertion, and the full employment of the energy of the strong in furthering their own development are higher ideals: which side is Society to take? Again, there are some who are convinced that anything approaching other-worldliness is superstitious and pernicious, while others find in it the very salt of the life of the soul. Is Society to suppress either one of these in favour of the other? And are all the varieties of type of character to be reduced to uniformity? or is Society in possession of scales of values in morals, in art, in emotional life, which are infallibly accurate in some absolute way, and therefore to be applied without ruth in the selective processes which are to be enforced? At present Society in its most advanced modern forms leaves wide scope for divergent ideals. If Eugenists confine themselves to positive measures for advancing such ideals of character as they adopt, there is room for their action. It is the negative methods which give rise to most serious concern.

For the methods of Negative Eugenics cannot be stated without raising the problem of personality: and when Eugenics is put forth solely on the basis of the heredity which is established from nature, it cannot expect to be welcomed on the part

of those who have such quite different views of individuality and personality as those I have endeavoured to indict.

In the naturalist view, the imperfection or defect in a man may be so radical that his right to live fades away; certainly the right to enter into domestic life and share the high privilege of a family and a home of his own must be denied him: the individual of to-day must be made to bow before the claims of posterity and of society. Now the believer in a high doctrine of personality is obliged to recognize that there is a wide range of defect and of corruption in human nature, and he has to allow that Society is right in taking away liberty from the imbecile, the insane, and the criminal, possibly for the whole course of their earthly life. But respect for personality underlies the caution with which such restrictions are now imposed, and it is one of the most prominent marks of the advance of civilization that their application should be more and more cautiously and reluctantly made, and that always there should be anxious endeavour to remove the defect and to reform the criminal so as to allow the restrictions to be removed as soon as possible. But the lower regard for individuality obviously tends to work in the opposite direction. To the forms of insanity and crime disease is to be added as a reason for segregation and enforcement of the celibate life: and the range of insanity and of crime which are to be the grounds for interference is to be indefinitely widened. It would be different if the course taken were the making appeal to good sense and public spirit and the virtue of self-sacrifice, as personal motives in the individual for voluntarily renouncing family affections; but this appeal cannot be directed with much prospect of success in the very cases before us, the imbecile, the diseased, the insane, and the criminal. For the convinced believer in the dominance of Heredity in human nature both physical, mental, and moral, there is therefore no remedy but a wide extension of forcible restriction imposed upon individuals by society.

It is therefore an extremely practical issue which is raised by the differences of conviction as to the extent to which Heredity affects human character. The improvement of society which all hope to see and all would endeavour to promote is undertaken on quite different methods according to the Naturalistic or the Personalistic view of human nature.

The Personalist, as I have said, holds that every child of man comes into being with a central freshness and potentiality over and above the inheritance which attaches to the physical frame

and, possibly, to the mental dispositions: the Naturalists urge that by far the principal part of the whole nature is inherited. The Personalist holds that the offspring of parents themselves deficient or diseased or even immoral have an original and central core in their mental nature which may enable them to shake themselves loose from such defects as are transmitted to them and to develop eminent ability, healthy feeling, and high moral character. The Naturalist says that the stock is all-important, the limits of influence of training and environment very narrow: the Personalist says that the inherited stock is of much less account than is claimed because from the point of view of mental and moral character it is superficial, that it is the power of education, training, and opportunity for the inner soul that is the important source of assistance to the formation of high and happy character. The Naturalist, finding that variations due to the individual perish with him, ceases to regard him as the principal end and object of social action; the Personalist declines to relinquish the hard-won conception of the infinite value of the soul, and holds that Society itself depends upon the inherent sacredness of its individual members being never subordinated to the supposed welfare of the whole.

If we review the course of civilization we find that its advance has been along the lines of an ever-growing respect for Personality, an ever-increasing confidence in its inherent powers, and a constant enlarging of its privileges and rights. Social evolution, or civilization, is not produced after the manner of biological processes, but by the conscious interposition of ideas and ideals, of which personality is the seat. In so far therefore as Eugenics is advocated on grounds which ignore personality, or at least reduce the range of its powers and its rights, we have evidently before us an endeavour to stem the tide of civilization as we know it, and to reverse the course which it has taken by a resort to social action which places a slight estimate on individuality, a resort which is in many respects a recurrence to the methods of society in times we thought we had passed through, in Europe at least. The sentiment of individuality so slowly formed is being challenged once more; the claims of the race are being reasserted as supreme, and the guidance of human life in its tenderest and most intimate relationships is being removed from the range of Personal to that of Collective wisdom and responsibility. So great a revolution in moral and social policy must divide men into opposing camps, and I can see signs of an approaching

conflict which will dwarf into triviality many of the contentions which at present cause our differences and oppositions.

The believer in the higher religion is plainly committed to a high doctrine of personality. For him religious education and training constitutes a potent force, more powerful than inheritance. Religion greets each soul as it appears and invests it at once with an environment which shall be a matrix for its personal development, knowing that even from unpromising "stock" souls of pure lustre and high spirituality are possible because they are found; and believing that the reason is that they come not through lower ranges of being but direct from the Eternal Spirit.

In reviewing from the point of view of the Christian believer what I have attempted to sketch I would offer two reflections. Let us on no account set ourselves in opposition to the evidence that is offered us that an insight into the procedure of Heredity has been gained such as was never before in man's possession. There is still much difficulty and much darkness, but it is for us to acclaim whatever is brought into light. The scope of Heredity in the physical sphere, over the range of plant-life, and the animal world, and of human nature on its bodily side is widened or rather deepened, and conceptions of its operation sketched out for us. These conceptions have been won by arduous toil and acute intelligence on the part of our fellow-workers in the field of knowledge, and we congratulate them on their successes. In the area of the lower ranges of consciousness, however, there is not any similar gain: most of the claims made are of an *a priori* nature, and therefore there is no call upon us, at present at least, to definitely take a side as to the possibility in the scope of heredity in mind in its lower stages. For myself I am prepared to accept it to a considerable extent. But I hold that we are called upon to decline to follow any attempt to claim heredity for the personal spirit of man in its own central selfhood, and in its large power of taking up and controlling the lower processes of consciousness. In the Old Testament we see the gradual advance towards a recognition of the value of the individual, and the Gospel is based upon it, upon the infinite value of the soul, as Harnack puts it, *i.e.*, upon the incommensurability of the soul with all else that is in the world we know; and this amounts to a protest against transferring to the spiritual world laws which have been discovered and established only in a totally different sphere. This does not assert individualism in a way which opposes the corporate view of

humanity for religion; it holds that the true corporate view is attainable only by basing it upon the existence of souls of infinite worth, who find their life in mutual society and their supreme end, on the finite level, in common well-being. But still more, only by standing firm upon personality can we keep secure a direct way of access for the soul to the presence of the Divine Spirit in a way that can be truly communion of personal man and personal God.

And for Eugenics, I am sure that the amelioration of society must rest ultimately on appeal to the voluntary choice of the individual: that it is reactionary to think of sacrificing the freedom of human action. Earnest effort may well be made to induce persons of weak or diseased physical frames to adopt celibacy as their vocation, and it may be that the Christian churches have been too keen in their approval of universal marriage to see that this exceptional vocation needed to be highly commended. But even so, we do not share the depth of the alarms and the anxieties as to the transmission of defective stock which distress those who regard man as a purely natural being of the biological order fast bound by heredity even in the very centre of his character. The idea of personality and the sentiment which belongs to it give to the Christian the hope and conviction that in weak physical frames, in defective mental equipments, and even in unpromising moral dispositions, the soul may find itself able, by the co-operating assistance of Divine grace, to develop itself along paths of integrity, virtue, and piety. It is not in physical robustness or in intellectual vigour, but in the power of the spirit to express the Spirit of God, that we are to look for the secret of noble individual life and the presage of the perfection of Society.

Discussion.

The paper was followed by a discussion opened by Rev. Chancellor Lias, M.A., who said:—

It is, I believe, an acknowledged fact that the less a man knows about a subject, the more easy he finds it to talk about it. This may be one reason for my commencing the discussion this afternoon. I know very little indeed of Heredity or Eugenics. But I may

indicate another reason for breaking the silence. There seems some reluctance to commence our usual debate, and I should be sorry if the formal thanks of the Chairman were the only notice taken of the valuable paper of my friend Professor Caldecott. Little as I know about the subject, I may at least be able to express adhesion here and there, and to ask a few questions.

I do most emphatically associate myself with Professor Caldecott's objections to what he calls "jumping the claim." It must be confessed that in recent scientific investigation there has been a great deal too much assumption. One feels that even the great Darwin himself, in putting forward his conclusions, did not sufficiently recollect how difficult it was for any one brain to co-ordinate into a theory the countless millions of facts with which he had to deal. And so it has come to pass that new schools have arisen since his time, which have given them other explanations. The wiser men of science are now complaining of as great a tendency to dogmatism among scientific teachers as is even found among theologians. Professor Caldecott has given us a startling instance in the decidedly sweeping assumption by Sir F. Galton that "the mental functions are subject to the same law of heredity as the physical ones." The fact is that science admits no such thing as assumption. Guesses there may be, indeed must be, but the induction is not complete until the conclusions of the assumed laws have been compared with the facts. Not until their agreement is demonstrated can the correctness of the supposed law be regarded as proved. Astronomy is perhaps the most exact of the inductive sciences on account of the extent to which its conclusions have been verified. Circumstances are not so favourable for verification in sciences which deal with such problems as heredity and the origin of species.

I might venture to ask whether the condition of the low-caste inhabitants of India of whose "dead-level of life" Professor Caldecott speaks, may not be attributable to their education, which tends to cause their faculties to stagnate, rather than to any transmission of acquired characteristics.

The writer of the paper introduces us to an old controversy, commenced as early as the second century A.D., by Tertullian, and warmly debated in mediæval times. I refer to the controversy between Creationism and Traducianism, that is to say, whether the

soul of each person brought into the world comes direct from the Creator, or whether it is derived from the parent. Professor Caldecott declares for the former theory, and who shall gainsay him? At least, if there be any natural law involved in the transmission of souls, it has not yet been discovered. Science, in that matter, is rather in the position of Harold, whose alarm at the appearance of Halley's comet in 1066 is unmistakably depicted in the Bayeux tapestry, than in ours since its orbit has been accurately ascertained. It seems to me quite clear that genius is not the result of an ordinary process of mental evolution, but that it has no demonstrated connection whatever with the mental condition of its possessor's progenitors.

On only one more point in the paper will I venture to remark. I desire to associate myself with Professor Caldecott in his opposition to the extent with which collectivism is now being carried, and to express my hope that we shall continue to leave the individual as free as is consistent with the welfare of society. *Some* restrictions on individual freedom there must be. But it will be a fatal blow to the future of humanity if those restrictions are carried too far.

Professor LANGHORNE ORCHARD said he had much pleasure in seconding the vote of thanks so felicitously proposed by Chancellor Lias. Indeed, they all seconded it. They thanked the learned author of the paper for the marked ability and suggestive thought with which he had assisted their consideration of a subject of special interest and importance, and in these days very much to the fore.

They would all agree that whatever Heredity may, or may not, do in the human body, it does not hold for spirit. What, in fact, is Heredity? It is the inheritance of a peculiar nervous organization, including in that term the nerve-centres of the brain and the cerebro-spinal system. It has been shown by Dr. Hill of Downing College, Cambridge, that nerve tracks vary in character, and that will-mandates travel more easily and pleasantly along certain tracks than they do along others where the way is less smooth or broad. Therefore, since we are not usually fond of the difficult, we feel tendencies to act in particular directions, and the will is solicited to proceed along some line of least resistance. But such solicitation, however strong, can never pass into command. The will always retains its freedom, otherwise it were not will.

If we elide the phrase "a preformed mass of mental dispositions . . . ," from the first sentence on page 283 of the paper, the foregoing considerations will to a large extent harmonize the differing views there represented.

Every school of eugenics which ignores human free will is doomed to failure. Realization in practice of the materialistic aim would first degrade the unhappy subject of the social experiment into a slave, and ultimately into a mere link in a long mechanical chain. For true social amelioration the good of the individual and the good of the race must be pursued concurrently, and work together *pari passu*. To quote the concluding words of the paper, "It is not in physical robustness or in intellectual vigour, but in the power of the spirit to express the Spirit of God, that we are to look for the secret of noble individual life and the presage of the perfection of Society."

Rev. A. IRVING, D.Sc., B.A., thought the paper perhaps the most valuable from the point of view of philosophy of all the papers read during the present session of the Victoria Institute. The subject was dealt with by the hand of a master. While recognizing *inter alia* the necessary place of evolution on the scientific side, it seems to assign to it its proper limitations. The speaker was glad to be able to claim from this paper the strong support of such a high authority as Dr. Caldecott for his own contention on scientific grounds for years past, and more especially in the concluding paragraph of his paper read before the Institute on March 21st, 1910, and during the last two or three weeks in the *Guardian* newspaper. The speaker went on to quote Dr. Caldecott's words from his introduction to a recent work, *The Inner Light*, by Arnold Whately*:—"Each man is a soul, not has one; and he expresses his being in his activity, his thinking, and his feeling. Such is the depth of his nature that in the greatest possible expansion of his expression he is still but partially manifested. Behind the rich variety of even a Shakspeare or a Goethe there was an unmeasured personality still unexpressed. All that psychology can do is to take into account so much of personality as finds manifestation in different men." Such a position is far removed

* *The Inner Light*, by Arnold R. Whately, M.A. (Camb.), D.D. (Lond.); Swan Sonnenschein and Co.

from those lower regions of form and physical life which are the proper province of evolution, and in which that truly manifests itself to the student of science. Within that region it is (as Whately points out) "the true work of reason so to clarify and systematize the various items of our belief that the God-consciousness automatically draws them within its own circle" (p. 207). Again, "we need a philosophy that instead of subsuming religion under evolution, shall subsume evolution under religion—a higher, deeper, and broader doctrine of experience" (p. 222). So "the scientific man who knows little of religion is not competent to criticize it from the standpoint of science, any more than the schoolmen were justified in deciding physical questions on grounds of theology. . . . . The mere evolutionist is the victim of an arrested apperception" (p. 224). Once more, "The discovery of our deepest *selfhood* affords the only true reconciliation between the flux of human thought and the need of the individual for a foothold beneath his feet and an abiding object for his grasp. . . . Christianity is no product of evolution; for evolution itself has its significance within the synthesis of Christian Theism" (pp. 232–3).

We cannot study "heredity" apart from evolution; and the above quotations from a deep thinker go a long way to strengthen Dr. Caldecott's rejection of Professor Bateson's empiricism, when he "jumps at" the opening which Mendelism seems to offer for making evolution and heredity commensurate with the whole of that range of Being which is comprehended in human life and consciousness. They clinch Professor Caldecott's contention (p. 288) that "We are called upon to decline to follow any attempt to claim heredity for the personal spirit of man in its own central selfhood, and in its large power of taking up and controlling the lower processes of consciousness." We are of course here in the region which belongs to Volition, the essential factor of Personality. As a serious student of science, who in the years that are past has become more and more impressed with the limitations of natural science, and its insufficiency of itself to serve as a basis for either philosophy or religion, though it can and does throw much light on both, one can go thoroughly with Professor Caldecott, when he says:—"Consciousness is not self-explanatory, as it appears in finite experience; we must perforce look beyond experience," and conclude that "a super-finite consciousness, from which we come, may be said to

express itself within us." That (it may here be added) was seen long ago by even the scientist Tyndall, when in his Belfast Address to the British Association he compared attempts to explain "consciousness" to a man "trying to lift himself by his own waistband"; and the fallacy has been more recently put by the late Professor Alexander Bain (to whose writings some of us owe much) when he compares it to an attempt "to get sunlight out of the cucumber," which is itself a product of sunlight. One can join hands with Professor Caldecott in his "contention that Heredity does not hold for Spirit," though it may operate as a more or less powerful factor in the lower grades of Being which belong to the environment (physical, mental, and social) of the individual.

Rev. JOHN TUCKWELL, M.R.A.S.:—Mr. Chairman, I welcome as an antidote to a paper which was read here a few weeks ago on Darwinism and Malthus, the very valuable paper to which we have just listened. That paper subordinated the rights of the individual to the claims of society to a dangerous degree. This one restores them to their place. But there are one or two expressions in it to which I should like to refer for a moment rather in the spirit of enquiry than of criticism. The professor says, "The inference I stand by is to a super-finite consciousness from which we come which may be said to express itself in us." I confess this looks very like pantheism. If it means that that super-finite consciousness continues all the way through our life and expresses itself in all our thoughts and words and deeds, and in our whole conduct, I do not see how that can be consistent with our separate individuality, and if we have no individuality separate from the definite or super-finite consciousness from which we are supposed to proceed then that *is* pantheism, and I should emphatically differ from the learned professor.

I notice also a sentence on the following page at which I am made to pause. The professor says, "I see no reason for thinking that soul succeeds soul in the way of generation."

This may involve very serious conclusions. If soul does not succeed soul in the way of generation then each soul must be derived immediately from the infinite. But life in the organism is continuous from the moment when the two germ cells become one. Is there at this moment a second life added from the infinite? So far as I know no biology or physiology or psychology has any evidence to give

concerning this second principle of life. But to my mind the professor's suggestion becomes still more difficult in view of the Scripture doctrine of sin. If the soul be a super-added entity direct from the Infinite then there can be no hereditary taint of sin or tendency to it in the soul unless the Infinite Creator Himself be sinful. To that conclusion I am sure the professor would not desire to lead us. The only other alternative so far as I can see is that the hereditary taint of sin is simply in the body and not in the soul at all. Consequently the only real gospel for our sinful race is the new science of eugenics. To eliminate sin from the world of humanity all that is necessary is to quicken the action of the supposed process of evolution and we shall have "the new earth" if not the "new heavens wherein dwelleth righteousness." I am bound to say also that I do not see what reason there was for the awful tragedy of Calvary, and why it should have been postponed to so late a period in the world's history when by a correction of the faulty physical organization of the first generations of mankind, the whole sad story of our race might have been avoided.

There is one other sentence to which I would refer. Four pages further on I read, "Religion greets each soul as it appears and invests it at once with an environment which shall be a matrix for its personal development, knowing that even from unpromising 'stock' souls of pure lustre and high spirituality are possible because they are found," and in a little aside the professor spoke of the value of baptism. As I heard it I could not help thinking of a visit I paid to the Penitentiary at Melbourne when I was in Australia. I asked the warder who took me round if they ever had any Roman Catholics there. "Oh yes," he replied, "a good many." "And do you ever get any members of the Church of England here?" "Oh yes, we get some of them." "And do you ever have any Methodists?" "Well, yes, a few." "And do you ever get any Baptists here?" "Oh no, we never get any Baptists here." I am afraid therefore that the "matrix" afforded by baptism as an entrance to the Church is too often a failure, and that the only true matrix is that unto which we pass when we enter into Christ by a living conscious personal faith. "If any man be in Christ he is a new creature, old things have passed away, and all things have become new."

Dr. HEYWOOD-SMITH said that Dr. Archdale Reid and others had maintained acquired characteristics were not transmissible, but

the difficulty was to determine what characteristics were to be deemed acquired. A man got a certain trick or peculiar gait in his walk, and one could recognize his son a long way off by his similar gait. So too there was often a more pronounced likeness in the voices of a family than in their features. A man becomes a drunkard or a criminal—his children have a tendency to follow his steps; the question arose whether that was from heredity or from their environment. The introduction of eugenics with Biblical philosophy was a tacit acknowledgment that certain characteristics were hereditary, and that by a proper selection we might obviate the degradation of the race. But while such selection might be made with regard to the lower animals, yet as long as free will and love existed as attributes of humanity an election in breeding was an impossibility. The science, therefore, of eugenics seemed to beg the whole question and was, at all events at present, outside the range of practical application.

The CHAIRMAN pointed out that while the lecturer stated in clear terms his belief in the power of heredity in the physical organism, and not in the mental, yet he admitted "that in the lower ranges of mind the contention for heredity is plausible." But how can we distinguish between the lower and higher minds? Can we, if we accept evolution, draw a sharp line between the two? Are not also the physical and mental so bound together that they interact so that we cannot separate the two. An irritable man is so because of physical weakness. So heredity may act at any rate indirectly on mind through the body which ultimately affects the mind.

The lecturer having replied briefly, the meeting adjourned at 6.15 p.m.