

capable of containing twenty-six beds. This asylum is still badly off for dayroom accommodation, there being only dayroom space for 310. The committee contemplate the gutting out of a portion of two of the older corridors, and converting the space thus obtained into a dayroom on the ground floor and a dormitory above. It is always or nearly always unsatisfactory to tinker at an old building, for when additional accommodation is provided the other administrative departments—dining-room, kitchen, laundry, scullery, baths, and lavatories—are frequently found inadequate to the increased demand on them, and entail difficulties in efficient administration.

At the time the asylum was opened it was placed in charge of a lay manager who, with his wife as matron, continued in office until 1859, when Dr. McKinstry was appointed; he was succeeded by Dr. W. Graham in 1886, who held office until August, 1897, at which time I was appointed superintendent.

Dr. MOLONEY asked whether the asylum land had been extended, and whether the patients came mostly from the agricultural class.

Dr. LAWLESS replied in the affirmative to both questions.

Dr. CONOLLY NORMAN said that the model at first followed in asylum construction was, as a general rule, that of the monastery, owing to the fact that Bethlem had originally been an establishment of that kind. Later a worse one was adopted, that of a barrack, which came to be regarded as the typical plan for asylums. Happily we had specimens of a more advanced style in the hospital attached to Armagh Asylum, and in the Belfast Asylum at Purdysburn. He thought, however, that the difficulty of providing for the insane would have to be met by the adoption of the system of family care, in order to relieve the asylums, as the numbers of the insane were increasing in Ireland, whereas population and wealth were diminishing.

Dr. MILLS said that he had been struck by the enormous increase in the numbers of senile demented, idiots, and epileptics in the period covered by Dr. Lawless' figures. He thought that this was due to the absolute intolerance in the domestic circle of the slightest mental affliction. The village idiot was no longer seen, nor the senile demented; they were now sent to asylums; and the real increase consisted, not of acute cases, which were fewer than ten years ago, but of cases of the class which could be treated on the system mentioned by Dr. Norman, *i. e.* the relatives should be paid a small subsidy for keeping them at home.

Dr. LAWLESS, in replying, said that their first admissions had definitely increased year by year, and that their largest class consisted of adolescent cases.

2. Dr. W. GRAHAM brought forward a communication entitled "Science and a Future Life." This paper will appear in the next number of the JOURNAL.

A unanimous vote of thanks was passed to Dr. Lawless for his kind hospitality, and he having responded, the proceedings terminated.

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#### BRITISH MEDICAL ASSOCIATION.

SECTION OF PSYCHOLOGICAL MEDICINE.—ANNUAL MEETING, OXFORD, 1904.

*Reported by* R. L. LANGDON DOWN, M.B.

*President.*—Charles Arthur Mercier, M.B. Lond.

*Vice-Presidents.*—Ernest W. White, M.B.; James Neil, M.D.; T. Seymour Tuke, M.B.

*Hon. Secretaries.*—W. Ford Robertson, M.D.; R. L. Langdon Down, M.B.

The section was very well attended, and the papers read were fully discussed.

#### CRIMINAL RESPONSIBILITY AND DEGENERACY.

The proceedings opened with a discussion of this subject, which was introduced by the President of the section. In prefacing his remarks Dr. Mercier referred to the long-standing difference in this matter between the legal and medical professions, and claimed that if each side would endeavour to understand the attitude of the other there was no essential antagonism, and the time was ripe

for a complete reconciliation between them. In support of his thesis he put forward the following propositions:

The view that the chief aim in dealing with criminals is to protect the community, and the view that regard should be paid to the individual peculiarities of the offender, are not antagonistic, but complementary.

Superior to both is the aim of cultivating and increasing the sense of responsibility in all citizens.

This aim is prevented by the doctrine that criminals form a "natural kind," distinct from other men. That doctrine is unproved, and its consequences are pernicious, both to the criminal himself and to the community.

The problems to be solved are,—Who ought to be punished? and With how much punishment?

The answer to the first question is—Wrong-doers; by which is meant those who, for their own gratification, and without justifying provocation, wilfully do harm to others. This definition excludes from wrongness certain cases of harming, whether wrought by the sane or the insane, and applies the same criterion of responsibility to both. So that:

1. Insanity in the wrong-doer does not of itself necessarily exonerate him from punishment.

2. Insanity may exonerate him, wholly or partially, but only by bringing the harm that he has done within the exonerating provisions of the definition of wrong-doing; that is to say, it must be shown, in accordance with the answers given by the judges in 1843, that the *animus nocendi* or *sclerandi* was wanting. Consequently, the injurer should not be punished if:

(a) The harm was done with no intention of obtaining gratification for the harmer.

(b) The harm was done to prevent injury threatened, and was not more than was justified by the threat.

(c) The act was not wilful. A wilful act means an act done with knowledge of the act and of its obvious consequences, and with intention to do the act and bring about these consequences. With respect to knowledge the judges' answers may be accepted as a guide, with one proviso. With respect to Will—if the true Will of the man himself did prompt the act, he is guilty and punishable; if not, he is not.

When the citadel of personality is itself invaded; when not merely Will but Desire itself is morbid, the case becomes extremely difficult, and is arguable both ways. The suggestion of the address is that in such cases a mitigated punishment most nearly satisfies justice.

#### HEREDITY.

This subject was discussed both from the point of view of modern embryological and biological research, and also from the aspect which it presents more directly to those concerned with the study of insanity and its origins.

*Biological aspect.*—On its biological side the discussion was opened by Dr. J. Beard, Lecturer in Embryology in the University of Edinburgh, who illustrated his researches by lantern slides, and presented the following conclusions:

The phenomena of heredity and genetic variation appertain to the germ-cells, that is to say, they are germinal in nature. All ancestry passing through a continuous line of germ-cells, and never through the cells of the individual (somatic cells) containing the germ-cells, in the sense of a handing-on of anything there is no such thing as heredity. The individual is merely a lateral and terminal offshoot. As a recent writer, A. Robinson, has well said, "the germ-cells are the Alpha and Omega: they pass from a beginning, of which we have no knowledge, to an end, which we cannot conceive." Since other existing theories either assume an intangible germ-plasm, or make the line of descent pass through the individuals, with the exception of Galton's "stirp" they have no sort of identity with the "under-study theory of heredity" set up by the writer as one result of the discovery of a morphological continuity of germ-cells. In the higher animals direct development, epigenesis, and a somatic origin of germ-cells do not exist. The recapitulation theory, according to which every animal in the course of its development "climbs its own genealogical tree," is merely an illusion of the imagination and without any basis in fact. The mode of the development is not "egg-

embryo egg-embryo, etc.," but in a mammal or a man it is "egg (zygote)—a sexual generation (chorion)—primary germ-cells—secondary germ-cells (oogonia, etc.)—oocytes, etc.—gametes (eggs and sperms)," "the embryo" arising by the unfolding of one primary germ-cell. The formation of an embryo is a mere incident in a certain chain of events. The phenomena, to which the term heredity is applied, have their basis in certain facts of embryology. Given in any life-history the period of the formation of the primary germ-cells, and for simplicity let there be of these but two, AB and BA. On one will fall the lot of developing into an embryo, while the other will furnish the sexual products of this. The two cells are in all respects similar or equivalent, so much so that if both form embryos these are identical twins. In the ancestry neither cell had ever been a higher animal, neither they nor their ancestors had ever formed parts, that is to say, been somatic cells, of an animal body. But this ancestry is continuous with a long line of germ-cells, and at regular intervals these were exactly like certain sister-cells, which did develop and form individuals. Although one of the two, AB, does not itself give rise to an embryo, in the meantime it retains for itself and for all its immediate progeny the properties of BA, those characters which, were it or any of its progeny to develop, would make it or them identical twins with BA, the other cell, which did develop. But the foregoing takes no account of two things, that the conjugation of two germ-cells at fertilisation is the joining together, loose and without blending, of two complete sets of potential characters, of two individualities, and that as living entities the germ-cells like all living things must be influenced by and react to their total environment. This introduces the important factor of genetic variation.

As Wallace has said, the foundation of the Darwinian theory is the variability of species. It does not attempt to explain the cause of variation, but starts from the fact of its existence. Under this theory resulting from the struggle for existence there is a survival of the fittest. The only adequate cause of genetic variation yet suggested is Weismann's germinal selection. This is purely a mental concept; in its nature it is very complicated, and being quite without connection with any known phenomenon or epoch of the development, it hangs entirely in the air. As defined by Weismann, the process would furnish a very great variety of gametes or conjugating cells, and these would be so varied in their characters or qualities, that the resemblances rather than the differences among the progeny would require explanation. The problem of the true cause of variation belongs to embryology. For various reasons each and every egg or sperm must be regarded as containing *one* complete set of all the characters or qualities necessary to form an individual of the species. At fertilisation two sets of these are somewhat loosely joined together. In the developing embryo only one complete set of characters is made use of, and, while the other corresponding qualities remain more or less dormant in its cells, that set or pack actually employed may be made up of any characters taken from either of the two packs, but so as to make up one complete pack. Turning then to the germ-cells, each of these possesses the duplicated set, and later on at the so-called "reduction," *i.e.*, at the final division of the oogonia into oocytes, and of the spermatogonia into spermatocytes, prior to the formation of conjugating cells or gametes, the twofold set becomes diminished to one pack only by the elimination of one complete pack. The true meaning of the reduction of chromosomes is the elimination of one set of characters or qualities, such that if among those of the original sets there be any unsuitable ones these are rejected. The union of two sets of characters at conjugation is in animals retained by the germ-cells, until the period of the reduction, by the embryonic cell, until the commencement of its development, when it becomes latent, and in plants during the whole life-period of the flowering plant (*sporophyte*). The two sets cannot be identical at the start. As living organisms they must be influenced by the total environment, nutrition, climate, disease, toxins, etc. To all these influences they will react. The effect of all the factors will be a different one on the differently constituted characters. Some it will favour, and these will flourish and increase in import. Others will be unfavourably influenced or neglected, and these will diminish. At the reduction there will be a settling-up, and if the environment have not been a constant one, some of the characters will have become better than other corresponding ones, a new pack will be chosen, and the less favourable characters will be rejected. This elimination of characters

may on occasion become an elimination of complete individualities, or what is the same thing as a casting out of "ancestors." Moreover, because the two sets have been conjoined under the influences of the environment, and have reacted to this, the process becomes a self-adjusting mechanism, the up and down oscillations of the characters of the two sets endeavouring to follow and compensate the changes in the environment, and the result must be variation. This process may be defined as germinal election and elimination in adaptation to the environment.

The Darwinian theory is undoubtedly largely based upon the analogy of artificial selection. Nature is supposed by natural selection, resulting from the struggle for existence, to eliminate all the unsuitable individuals, and thereby to select those for the continuance of the race, which are most or more suitable for the environment. Even if she did this its results would be as nothing compared with those of germinal election of fit with elimination of unsuitable characters, which at its basis is also a weeding-out of unsuitable individualities. A selection of individuals can give no certain result for either natural or artificial selection. Nature goes to the root of the matter, she makes no selection of individuals, for about these she cares nothing. She can exert her choice and she does it, among the germ-cells, and not merely in these, but among the characters or qualities the germ-cells possess. In this it would be futile to attempt to bind her down by cast-iron laws of inheritance, to dictate that "the average contribution" of a father should be so much, of a grandfather so much, and so on. This may hold good in cases, but only with a constant environment. When the latter obtain, if all the characters or qualities be equally good, then, as in the Mendelian experiments in intercrossing peas, the election and elimination may be left to the mathematical laws of probability; they may be taken apparently at random, and in this way it may become possible to speak of sexual reproduction as sometimes an "amphimixis" or mingling of characters, and to set up laws of inheritance by average contribution. With a constant environment or with what is assumed to be such, man first rejects (individuals of) certain varieties, and in this way favours (individuals of) some particular variety. By closely intercrossing these he accentuates particular points, because of course even in the characters of germ-cells suited to a particular environment there may be degrees. In this man takes a course the reverse of that adopted by Nature. Her method may be slower, but it is sure. When she causes variation, she initiates it by altering the environment. While some one or more varieties of a species may be able to adapt themselves to the new conditions, others will fail in this, and these will be eliminated either as individuals, or even if fertile with the favourable variety or varieties then by germinal elimination. Germinal election and elimination appear to offer adequate and simple explanations of all the phenomena, at any rate the author has encountered no real difficulties. They throw light upon the Mendelian cases of intercrossing peas, etc., on mimicry, protective coloration, bud-variation, and the loss of organs, such as the hind limb of the Greenland whale, for which latter cases Weismann found it necessary to call in a new principle, that of "panmixie" or the cessation of natural selection. They explain why the giraffe, for example, has a long neck; this is not because, as the Lamarckians assert, it was in the habit of stretching its neck, the effects of this being handed on by the inheritance of acquired characters; and again, not because, as the Darwinians maintain, by natural selection Nature picked out those individuals whose necks tended to be long, and destroyed those with shorter necks; but simply because Nature eliminated in the germ-cells those characters, which tended to the production of a short neck, while she fostered those other characters of the other parental line, which tended to the formation of a longer neck, and she increased the value of these characters from generation to generation. The principle resulting in the self-regulating mechanism offers a simple construction of all the phenomena of variation, an ultimate and a far more natural one than "natural selection" or the "germinal selection" of Weismann. Indeed, under it there is no necessity to invoke these: by germinal election and elimination their positions are completely and decisively outflanked and rendered untenable.

Under the views here advanced the words "parent," "ancestor," "offspring," and "reversion" become meaningless. In the same way an "appeal to ancestry" (Weldon) is barred by the absence of any "ancestors" to appeal to. In the union of egg and sperm we witness the joining together of *but two* sets of characters and

not that of "x" sets, derived from as many "ancestors." In the development of the individual for any given character only *one* of the two becomes manifest, but the other may reappear in the gametes. As in the reproduction of dioecious individuals these unite with the gametes of other individuals, in this union *a priori* there would be for any particular character *four* possibilities. To illustrate this, take the four grandparents, and consider only one character in the gamete of each. Assume, further, that in the two following generations there be no complete elimination of any character and that this reappear in some of the gametes. The characters may be called A, b, C, d, the first two being conjoined in the germ-cells of the father, the second two in those of the mother, and the large letters being dominant or prepotent. In the gametes of the parents the representative of this character may be either the dominant one or the latent one. That is to say, any particular gamete may contain any one of the four characters, A, b, C, d, and suppose then that b and C be conjoined to form the grandchild and that C be dominant in it, its gametes will then contain either character b or character C. Therefore, if this character b unite with another e, and if in the development b be the dominant one, the result will give the appearance of a "reversion" to the grandparent b, after a dormancy through two generations. But there is no room for more "ancestors." Similarly, the latency may extend over more generations, but always in such a way, that prior to the actual ripening of the egg and sperm, destined ultimately to produce as one product a particular embryo, only four characters come in question. Much attention is being devoted to the statistical study of variation in the hope of increasing our knowledge of heredity. Such investigations to be of value should include all the essential factors. But in none of the published investigations is due heed given to the influence of the environment. For the modern biometrician the environment, as a factor might be non-existent! He attaches as little weight to its influence as he does to the importance of making any distinction between somatic and genetic variations. In his published researches he ignores the influence of the environment and slumps somatic and genetic variations together! Environment is all-powerful for the individual and for the germ-cells too! A constant environment induces no change, and thus permits of the operation of the mathematical laws of probability in the selection and elimination of characters. A bad environment, leading to the mating of the unfit with the unfit, and in this way to the selection of the unsuitable, not among the individuals but among the characters or qualities of the germ-cells, can but result in deterioration and physical and moral degeneration. Finally, a good and favourable environment, with an approach at complete adaptation to it on the parts of the individuals and of the germ-cells, must be the prime cause of advance, and with this of the ever greater and greater improvement of the stock.

A fuller statement of this theory, together with illustrations of many of the slides exhibited, will be found in the *Review of Neurology and Psychiatry*, vol. ii, 1904.

#### PSYCHIATRICAL ASPECT.

Dr. W. König (Daldorf Asylum, Berlin) dealt with this side of the subject in the following paper:

Certain types of mental disturbance are, or may be, acquired. These will be considered with regard to Dr. Beard's teaching and in the light of the author's own experience.

Three principal groups of heredity may be distinguished with respect to the purpose which is in question: (1) homologous heredity, (2) dissimilar heredity, (3) "mixed" heredity.

The main questions to be discussed are:

1. Is there any clinical evidence of acquired mental abnormalities being transmitted to the offspring?

2. To what extent in insanity does environment influence the germ cells, and under what circumstances does it affect the soma?

Adult general paralysis is an acquired disorder which is not propagated to posterity, but in all individuals of neuropathic heredity the parental germ cells may be adversely affected. In certain families there is an uncommonly high degree of predisposition towards parasyphilitic sequelæ. A leading rôle must be imparted to environmental agency in chronic alcoholism.

Among chronic alcoholics there is a large percentage who show homologous heredity, a rather low percentage of hereditarily untainted individuals, and an intermediate proportion of dissimilar heredity.

Amongst the adult descendants of alcoholics are numerous habitual drunkards, many instances of essential paranoia, dementia præcox, and imbecility. There is a very close relation between alcoholism and epilepsy.

The majority of chronic inebriates have a neurotic history. While there is no transmission of the habit, or even of the craving for drink, clinical evidence favours the view that the germ cells are so modified as to render the offspring particularly liable to the injurious influence of intoxicants.

Idiopathic epilepsy is that type of mental disorder which discloses the disastrous consequences of heredity perhaps more distinctly than any other nervous condition. It may be assumed that in essential epilepsy the germ cells are so seriously altered that the inherited disposition is duly developed. Disorders due to arterio-sclerotic changes frequently show hereditary disposition towards atheromatous degeneration.

The different types of functional psychoses show a more or less powerful hereditary disposition to insanity and other nervous disorders. Hereditary modification of the germ cells in one respect is apparently of a twofold nature. Sometimes, as in a case of essential paranoia, the morbid character of the germ cell develops at some time of life in spite of the most favourable surrounding factors; while in other cases environmental factors are necessary to awaken a dormant disposition.

There is no clinical evidence of acquired mental abnormalities being transmitted to the offspring. It is highly probable that the influences of the environment are reflected on the germ cells. The hereditary potentialities of the germ cells may in some cases develop in early or later life unaided by any traceable environmental influences; in other cases they certainly remain dormant or in a rudimentary state of development until roused to life by inimical extrinsic factors.

#### DEMENTIA PRÆCOX.

A discussion on this subject was initiated by Dr. Conolly Norman (Richmond District Asylum, Dublin). He said:

The existence as a distinct entity of a condition which can be well called by this name is disputed. The collective grouping of Hebephrenia, Katatonia, and Paranoid Forms make so vast a congeries that it is impossible to perceive any connecting link between the items of the mass, save in their origin at the age of adolescence and in their supposed unfavourable termination. So much is endeavoured to be put within one loose definition, that the continent bursts and the contents escape from our grasp. With regard to origin at the adolescent period, the peculiarities of cases which begin at this epoch are largely the psychological characteristics of a particular period of mental growth, exaggerated and distorted by disease, and are therefore not to be regarded as indications of a specific affection. Disease attacking an undeveloped organ has a natural tendency to interfere with its further development. This we see in every tissue from dental to cerebral. Hence it may often be that cases commencing at the period between puberty and adolescence and not recovering, retain the peculiar type of adolescent mind. It is scarcely allowable to include incurability in our definition unless we can point to definite destructive changes in the nervous tissue as the cause of the disease. For so far, these are purely hypothetical.

Dr. Clouston's definition "insanity is a tendency to dementia" may be recalled, and it may be admitted that adolescent cases not recovering have a special liability to run into dementia. Into the classification of which Dementia Præcox forms so large a feature, secondary dementia is not admitted, while we are taught to believe that dementia is from the beginning the note of the three types Hebephrenia, Katatonia, and the Paranoid Forms. An elaborate description is given of the flightiness, the oddities, the deficient attention, the incapacity for mental exertion, the unformed or unused judgment, and we are told that this is dementia, but it is submitted that of the adolescent types of insanity, so far as they are distinct, dementia in any sense in which the word was ever used before, is not the essential characteristic. To see this it is only necessary to compare the so-called dementia with the break up of the elementary thinking processes which occurs in general paresis or in dotage. In the latter two conditions the changes may be

likened to the paralysis which in one always, and in the other generally, accompanies them, but in "precocious dementia" this is rather an ataxy of the mind. There is inco-ordination, not paralysis. Therefore dementia is a very faulty term to use here. The qualifying adjective "precocious" is also to be deprecated. To call anything precocious merely because it occurs in early life is a perversion of terms, for "precocious" implies too early arrival at an inevitable end. Neither are these mere verbal quibbles, for the epithets beg the question. It is admitted, however, that Dementia Præcox is not absolutely incurable, and we are even advised, as Wernicke has pointed out, to treat cases early so as to give them the best chance of recovery. It is then wrong to dub them by a name which encourages despair.

Dr. DAVID ORR and Dr. W. G. ROWS showed, with the aid of a lantern, a series of microscopical preparations to illustrate the course of "*degenerative lesions of the posterior columns of the cord in general paralytics*," and particularly to show the "*point of origin of tabes dorsalis*." By complementary methods of staining, and the selection of very early cases of the disease it was possible to show that the point of special vulnerability to the disease corresponded with the point where suddenly, just before their entry into the spinal cord, the posterior root-fibres lose their protective sheath. It was suggested that the disease was due to a special liability to toxic action which acted first at the most vulnerable point. The research was not yet complete, but as far as it went the evidence was very convincing.

Dr. A. T. SCHOFIELD read a paper on the "Cure of Quackery," the essential point of which was that for the most part the quack utilised the powers which the mind exerts in an obscure way over the bodily functions in the cure of disease. His plea was that these natural powers should be studied, their laws investigated, their uses and actions incorporated in the science of medicine, taught in the schools and practised in the consulting-room, and thus the ground would be cut from under the feet of the quack.

Dr. PASMORE read a paper on "How to make a Family History." He pointed out that the collection of the facts as to the mental and other conditions in antecedent and collateral relatives was a complex matter, and one very difficult to carry out completely and rapidly unless some definite and simple scheme is adopted. He passed round a diagram of the scheme he had adopted in his own practice which enabled him to secure full data for three generations back in any case with ease and completeness. Further back than this the information obtained would not be worth securing. The general adoption of some such scheme would secure a desirable uniformity, and the President said he would bring the matter before the Statistical Committee of the Medico-Psychological Association.

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#### THE HORTON ASYLUM SCANDAL.

At the Surrey Assizes, held at Guildford yesterday, before Mr. Justice Darling, Thomas Wiles, twenty-three, carman, Maurice Clark, thirty-three, butcher, Charles Edward Morant, clerk, and Alexander James Ross, twenty-seven, clerk, were again brought up on indictments connected with the Horton Asylum scandal. The prisoners were indicted for conspiring together to steal a quantity of groceries and other goods, the property of the Asylums Committee of the London County Council, at Horton Asylum, near Epsom, between April 4th, 1903, and March 16th, 1904. They were also indicted for specific cases of theft. Altogether there were seventy-one counts in the indictment.

Mr. H. F. Dickens, K.C., Mr. George Elliott, and Mr. Cecil Whiteley prosecuted for the London County Council; Mr. Huntley Jenkins and Mr. Curtis Bennett represented Clark; Mr. Bridgwater appeared for Morant; Mr. H. Brandon for Wiles and Ross. A watching brief on behalf of a firm of contractors was held by Mr. Heber Hart.

At the outset there was an argument as to whether the statement made by Morant at the police-court should be put in, after which—

The Judge said he should tell the jury that this was evidence against Morant to