but "there is much land yet to be possessed." I look forward, with fond anticipation, to a period (although I shall not see it) when scarlet fever, small-pox, and other zymotics, will be as much mere matters of history as the great plague and sweating-sickness in England; when the assurance of human life will be confined to a very narrow range, the central point of which will be 100 years.

These are bright anticipations; but, having regard to our progress in the past, they are, as I conceive, not altogether visionary. In anticipating such a happy consummation, which we, especially in this Section, are endeavouring to hasten, the words of the old song, which I used to sing when a youth, recur to my mind—

"There is a good time coming, boys;
We may not live to see the day,
But earth shall glisten in the ray
Of the good time coming."

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PSYCHOLOGY.

At the Annual Meeting of the British Medical Association, held in Cardiff, July, 1885.

By D. YELLOWLEES, M.D.,

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THE CAUSES AND PREVENTION OF INSANITY.

My first duty is to acknowledge the great honour done me by the Council of the Association in inviting me to preside over this Section, an honour which I very highly appreciate, and which is doubly welcome because our meeting is held in the county whose asylum I organised and opened 20 years ago, and in whose service I spent 11 of the best years of my life.

At our last annual meeting, at Belfast, the subject of the presidential address was the relation of our speciality to the other branches of medicine. To-day, I invite your attention to our relation and duty to the public as regards the causation and prevention of insanity. This is a practical rather than a pathological aspect of our subject, but its extreme importance must atone for the want of purely scientific interest.

During the dark period when insanity was at once the reproach of medicine and the horror of the public, the mere suggestion that the nervous system required wise and watchful care was resented as an insult, because it seemed to impute a liability to mental disorder. Now that insanity is no longer deemed either a crime or a disgrace, there is some hope that the counsels and warnings of the physician may receive greater attention.

The causes and prevention of insanity may well be considered together, for prevention can be intelligent and effective only in proportion as the causes are accurately ascertained and wisely avoided.

The causes of mental disorder group themselves at once into two categories; those arising from conditions in the life-history of the individual, and those entailed upon him by ancestral inheritance. It is too true that both kinds of causes often co-exist, and that the immediate or personal cause is potent only because it has awakened and developed inherited weakness. Still, there are causes so directly personal to the individual, that they must be regarded as sole and sufficient, irrespectively of inheritance. The chief causes of this class are brain-injury, brain-exhaustion, brain-anæmia, brain-irritation due to disease in other organs, and organic changes in the brain itself. From such causes, any brain may suffer, and they may induce insanity in persons wholly free from hereditary neuroses.

Brain-injury is a cause often assigned by friends, without sufficient grounds, as the history of a blow or fall seems to them to remove all suspicion of hereditaryness.

Undoubtedly, mental peculiarities, or an entire change of character sometimes follow a blow which has left no outward sign; and it is equally certain that the commencement of organic disease, or of the chronic changes of general paralysis, may date from such an injury.

The mischief produced may be out of all proportion to the apparent severity of the blow, and therefore such injury should never be lightly regarded. On the other hand, it is a mere shot in the dark to assign as the cause of insanity a head-injury sustained some years previously, if it have meanwhile given rise to neither local irritation nor general

symptoms. Distance magnifies the gravity of the injury, and friends unconsciously mislead the physician and themselves in their desire to demonstrate the accidental origin of the disorder.

Brain-exhaustion may follow from continued overwork or incessant worry, if the brain have been denied due rest and sleep. The student, the politician, and the merchant, may alike be victims of brain-exhaustion, in their undue pursuit of knowledge, influence, or wealth.

This is too high a price to pay for anything on earth. Besides, such overwork often defeats its end, for the work of a wearied brain is never the best work of which it is capable. Our powers will bear spurring for a time; but there is a limit, beyond which the effort is fatally exhausting, while the result is woefully inadequate.

The amount of overwork habitually done, nowadays, in all departments of life, by the best and ablest workers, is appalling, and, they pitifully declare, inevitable. They do not seek this overwork for selfish or personal ends, but the work seeks them, and being set to them it must be done. It is done, often nobly done, but the cost is terrible. There is no time for healthful exercise or restful leisure; the happiness of the home-circle, the pleasures of friendship, the delights of nature, literature, and art, can be enjoyed only by snatches; life is an incessant rush to overtake the engagement of the passing minute; the day is too short for its duties, and the night must sacrifice largely of its sleeping hours. The very holiday, if a holiday be taken at all, is often accomplished in like fashion, and a hurried rush to the continent is vainly called rest. This feverish haste has been intensified by the greater rapidity of communication in recent years, and it implies a degree of nervous strain unknown to former generations. Reason and life are often sacrificed in the rush of our high pressure civilisation; and the influence of this civilisation, with its terrible extremes of reckless luxury and woeful want, on the national brain and the national character, is a momentous question. Assuredly it is our province and duty to proclaim that such flagrant violation of the laws of brain-health cannot be perpetrated with impunity, but must entail direful results.

Far commoner than exhaustion from overwork, and far more potent as a cause of insanity, is the irritation and exhaustion produced by excesses in the two most frequent forms of alcoholic and sexual dissipation. The ruin of brain wrought by intemperance, whether in its sudden and fiercer forms or in the chronic delusional conditions to which they tend, is too familiar. Too familiar, also, is the drink-crave, to gratify which, even for a moment, love and honour and truth and duty are all forgotten. This malady, which some would vainly persuade us is but vulgar vice, is often an inherited neurosis, and then belongs to the second category of causes; but often, too, it is the outcome of habitual indulgence, and thus ranks as a personal cause.

A man need not be a drunkard before he can develop insanity or transmit it to his offspring. If he indulge in "nips" throughout the day, or saturate himself with beer, or cannot go to bed without his grog, he is steadily creating constitutional tendencies which will some day develop evil results; and if he crown his sinful folly by giving alcohol to his children, he is preparing for them a double curse. There is no form of foolish indulgence which calls for stronger reprobation than the giving of wine to children. The only folly which approaches it in its evil results is the baneful delusion, that most women need alcohol at their monthly periods. Both these habits but manufacture drunkards, and demand our emphatic condemnation.

Brain-exhaustion from sexual excesses, or from self-pollution, is another fruitful cause of insanity, and it is wholly a false delicacy which hesitates to expose this degrading evil. We know too well how one prurient boy can pollute a whole school with the vice of self-abuse, though we can never know or measure the ruin he may have wrought. We are too often sadly certain that like practices exist in the sex where we expect only purity and innocence, and that they produce sorrowful results in all the protean forms of nerve-instability. We know, too, how the marriage-relationship can be degraded into an excuse for unbridled indulgence, and that such folly or ignorance may wreck the strongest brain.

Society needs plain words about these things, and we fail in our duty if we do not speak them. Especially do we need to impress on parents the duty of wisely informing their children, lest ignorance, or, still worse, knowledge wrongly sought for, prove fruitful of evil.

Brain-starvation, whether the anæmia result from malnutrition or from undue waste, may give rise to mental disturbance, which is, happily, curable by the removal of its cause.

Brain-irritation, due to disease in other organs, may produce insanity, either through nervous sympathy or through disturbance of the quality and regularity of the blood-supply. The occurrence of this secondary insanity often reveals the pre-existence of nerve-

instability. Its treatment and prognosis depend largely, of course, on the disease which has occasioned it.

Lastly, among the personal causes, *organic changes in the brain itself*, of whatever nature, and however produced, may develop insanity, whose symptoms, when thus arising, we can, at best, only try to mitigate.

It may seem as if a large group of personal causes had been omitted. Emotional causes, such as terror, anxiety, and disappointment, seem at first to be purely personal, and therefore to belong to this category. Doubtless, this view is sometimes correct; but, in the majority of cases, these extreme emotions are essentially manifestations of an inherited nervous temperament, without which the insanity would never have occurred. The joys and sorrows of humanity are too familiar and inevitable to develop insanity, except in brains predisposed to it.

An *inherited predisposition to insanity* is assuredly the most potent of all the causes which produce it. Every attack of insanity, however produced, certainly creates a liability to its return; and this acquired tendency is at least as grave a fact in the history of the individual as a predisposition inherited from his ancestors. How this predisposition, whether inherited or acquired, can be managed and modified, is the question now before us; and we could scarcely have under consideration a more important or a more practical subject.

First, and chiefly, we can certainly declare that this predisposition is not a mysterious and fateful doom, haunting and dogging its victim, and sure one day to overtake and overwhelm him. It is a purely physical condition, and loses half its horror when this is realised. We cannot, it is true, fully understand the pathology of nerve-instability; but we know that insanity is only one of its many manifestations, and that it may equally reveal itself in paralysis, epilepsy, and neuralgia, in asthma, diabetes, and hysteria, and also, beyond doubt, in certain types of drunkenness, of crime, and of genius.

The subject of this predisposition should not pretend to ignore it, as though it were a nameless horror or a secret disgrace. The fancied disgrace is a wretched relic of the time when an insane man was deemed something lower than a brute, and was treated accordingly. The civil and social consequences of insanity are doubtless grave, but it no more implies disgrace than any other physical illness. We are all handicapped, in some way or other, for the race of life, and much of our success depends on recognising this from the first and running accordingly.

Supposing the heir to such an inheritance frankly recognises the fact, how shall we counsel him to avert the malady, and how should his life be ordered so as to prevent its development and transmission? It need scarcely be premised that no organ can be in vigorous health unless this be the condition of the organism. It is an axiom in all special treatment, that the general health must be maintained at the highest possible standard.

The first condition of brain-health, as it is the first condition of the health of every organ, is due and suitable exercise. If the brain-work be unduly prolonged or unduly severe, injury must follow. Therefore our imagined patient must not pore unremittently over the merchant's ledger, nor burn the midnight oil in exploring the arcana of science, and we must absolutely debar him from the rivalries of politics and the excitement of the Stock Exchange. Unwonted responsibility, or undue worry, tax him injuriously, and he should work within accustomed limits, and along familiar grooves which habit has made smooth. His ambition must be controlled by prudence, he should be a servant rather than a master, and he should choose the calm and even tenor of a country life, rather than mix in the rush and excitement of a great city.

Relaxation, the exercise to which inclination rather than duty prompts, is essential to him even if he be so fortunate as to find his daily work a daily pleasure. The relaxation should be something unlike his regular work. If possible, it should be in the open air, and should occupy both body and mind. He may, with advantage, become so addicted to it that his friends will smilingly call it his hobby, and he will be wise if he choose as the hobby—though, indeed, hobbies are rather adopted by instinct than selected by deliberate choice—something independent of the changing seasons, and which will not fail him in feeble health or declining years. The relaxation should include, in most cases, frequent short absences from the familiar surroundings and duties of home. An entire change, bringing new scenes, new faces, and perhaps a new language, has a wonderfully renovating power. It makes home more welcome, and familiar duties less irksome if we leave them for a time.

Exercise, whether for duty or for pleasure, implies and procures rest; and for the subject of nerve instability, sufficient and complete rest is indispensable. His rest should not be mere languid laziness, but genuine nerve-repose in sleep. If he can dine early, and sleep for an hour there-

after, he will do most wisely; and his head should be on the nightly pillow at least an hour before midnight. In the evening hours, he should avoid subjects likely to engross or agitate, that sleep be not hindered; or he should change the current of his thoughts before retiring, by such distraction as a book or a newspaper affords. I knew an eminent asylum-physician who habitually took the *Times* to bed, and found a soporific in its columns.

Some men are said to have possessed the invaluable faculty of sleeping at will amid any circumstances and surroundings. The man who could discover this secret, and confer the gift on his fellows, would be one of the greatest benefactors of his race. To seek sleep by the use of hypnotic drugs is rarely wise. It is often but combating the symptoms while the cause continues, and is frequently both futile and injurious.

But exercise, relaxation, and rest, while essential to brain-health, are not everything. Our emotions and affections are the mightiest factors in our lives, and they afford a vast field for the manifestations of nerve-instability. It is in the regulation of our moral nature, and in controlling our fancies, impulses, and passions, by reason and duty, that the hardest battle must be fought.

From whom are the ranks of the insane mainly recruited? Certainly from the men and women whose minds and hearts are untrained and ill-balanced, who are swayed by caprice or passion, who are fretful at every difficulty and envious of their neighbours' good, who are incapable of sustained effort or daily self-denial, and whose lives are thus ill-regulated, changeable, and useless. The access of insanity is often but the ultimate and utter wreck of a vessel without a helm, which has already been many a time damaged by storms of passion on the quicksands of indulgence.

Daily self-control, and wise moderation in all things, should characterise everyone; but they are specially required in one predisposed to insanity, and they must be earnestly cultivated by him till they acquire the blessed ease of habit, and are practised without an effort. An education which has failed to educe or impart these qualities has truly failed, and a life which has failed to teach them has been essentially a life of failure. "Greater is he that ruleth his spirit than he that taketh a city." Too often such qualities and lives are inherited, but too often they are created or aggravated by faulty education and foolish training. To correct the evil, and to foster the good, nothing is so potent as wise training in early years; but it is impossible to speak of education in relation to brain-health without indignation and sorrow; the evils are so great, the remedy so difficult.

It seems impossible, in any national system of education, to do otherwise than have certain standards of knowledge for certain ages of pupils; yet it is utterly unphysiological to assume that all brains are alike and can acquire with equal ease; and unless the rigidity of the system be modified by the wise discretion of the teacher, great hardship and injury must be inflicted. It is, however, among the better classes that the evils of faulty upbringing are most noticeable and mischievous. The boys get early into harness of some sort for the work of life, and find their lessons, and their level, in the rough school of experience; but the girls want this corrective, and it is the future wives and mothers who are chiefly injured. All sorts of knowledge are indiscriminately stuffed into the head, irrespectively of selection, assimilation, or enjoyment; the accomplishments which society is supposed to demand are added regardless of aptitude or inclination; what is showy and ornamental is encouraged, what is sensible and useful is forgotten; and when the young lady is "finished," her character is too often allowed to *form itself* amid a round of frivolous occupations and yet more frivolous amusements. Marriage finds her sadly wanting alike as a companion to her husband, as the head of a household, or as the mother of children; and when, happily for the husband, she misses a dignity for which she is unfit, her wretched training makes her a soured, fretful, resourceless, disappointed being. While we rejoice in the multitude of homes where it is otherwise, we all know that in many cases this sad impeachment is too well founded.

Right feeling and conduct towards others are as needful as due control over our own impulses and desires, if life is to be sane and happy. No man liveth to himself; he could not, if he would; he would be a miserable wretch if he tried. It is needful, therefore, that our patient should have interests beyond himself, and should not live for merely personal ends. Such ends must by-and-by seem meagre to us all, and he of all men needs to lighten his daily life by the feeling that it blesses others as well as himself.

The question of marriage is a grave one in these cases. It is a welcome sign of growing intelligence in such matters, that this question is being put to us with increasing frequency. If the predisposition be but slight, and of remote origin, it seems hard to forbid marriage;

but we can urge that the partner selected should be of calm and well balanced mind, and free from all nerve-proclivities. Unfortunately, excitable unstable folk have an attraction for each other as remarkable as it is unwise. If the tendency be marked, the prohibition should be absolute. It is far better to endure isolation, and to miss the comfort and solace of married life, than to bring sorrow on others, and unknown ills upon offspring. To choose a partner beyond the age of child-bearing is one way out of the difficulty; but choice in these things is guided by feeling rather than by judgment, and love is so blind and persistent, that our wisest counsels are often disregarded.

The chiefest safeguard comes last, for I should be guilty of a fatal omission, and false to my deepest convictions, if I did not regard as the chiefest, faith in the unseen God. The relation of religion to insanity is often misunderstood. When the gloom of a melancholic takes a religious type, what is but a symptom is often regarded as the cause; the case is called religious insanity, and religion is supposed to have produced the disorder. It would be as accurate to regard the imaginary ailments of a hypochondriac as the cause of his condition. Cases certainly do occur in which true religious anxiety has produced insanity; and it would be strange indeed if the subject which is greatest of all, and which stirs the mind most deeply, did not sometimes overwhelm it; but too often this sad result has followed from views of religious truth so false and distorted as to be a libel upon its name. There is no security for conduct, no strength for duty, no support in sorrow to be compared to that which true religion affords. Tempests of trouble will not overwhelm the man who endures as seeing Him who is invisible.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OPHTHALMOLOGY AND OTOTOLOGY.

At the Annual Meeting of the British Medical Association, held in Cardiff, July 1885.

By HENRY POWER, M.B., F.R.C.S.,

Senior Ophthalmic Surgeon, and Lecturer on Ophthalmic Surgery, at St. Bartholomew's Hospital; President of the Section.

ON PROGRESS IN OPHTHALMOLOGY.

It is just 300 years since the first English work on the eye was published, I believe, by Richard Banister, Master in Surgery, Oculist and Practitioner in Physic, though without his name, under the title *Of the Preservation of the Eyesight*. The author of this curious little treatise, which I here show you, and for a copy of which I am indebted to my learned friend, Dr. Aquilla Smith, gives in 23 pages the regimen it was then thought advisable to adopt in order to preserve the sight, together with the chief lotions, syrups, and juices that should be applied to the eye in disease. Its perusal by one familiar with the modern practice of ophthalmology affords a measure of the advances that have been made in recent times, whilst it is interesting to read the singular notions that ignorance and prejudice have engendered, and which are handed down by tradition and half believed, even when the light of a better day has begun to dawn.

In one page, for example, the author declares that "no fishes are good;" in another, "that milke and all things made thereof are found by experience to induce dimness of sight;" in another, that "all waterlowe are to be dispraised;" and in yet another, that "of rawe herbs few are to be commended, and these are to be avoided as most hurtful, namely, lettis, coleworts, cabbages, beets, spinage, purslane, buds of dill, garlick, chilbotts, onions, skallions, etc.," leaving the reader to wonder what vegetables are left to be consumed in the scanty list of potherbs of that not very distant period. Permission, however, is soon discovered to be given for the use of fennel, eyebright, young sage, and tarragon, none of them particularly attractive to modern tastes, or likely to be indulged in to excess. The only remedies mentioned that are now in use are cubeb and sal gemma, though, perhaps, one or two, ascelandine and vervain, might possess some stimulant and astringent power. An inordinate value is placed upon spices, such as cinnamon, ginger, cloves, mace, nutmegs, capers, and the several kinds of peppers, perhaps because they were then of comparatively recent introduction; but the most important of all domestic remedies in our author's opinion is euphrasia, or eyebright, which,

following Arnoldus de Villanova, he holds to possess miraculous virtues, and to be good any way taken, "either with meate, drinke, or as medicine, green or drie, against all impediments of sight whereby the clearness of the same may be obscured." By the use of wine made with eyebright, "old men's sights are made younge, it taketh away the impediments of the sight in all men of all ages, specially in fat men and such which do abound in phlegm."

About 36 years later, in 1622, another work was published by Banister, in which the formerly written small treatise on the *Preservation of the Eyesight* was included, and which professes to be "a worthy treatise of the eyes, containing the knowledge and cure of one hundred and thirteen diseases incident unto them." In this quaint work, much sound knowledge, drawn from classical sources, and illustrated by observation and experience, is mingled with popular errors and absurdities." Thus he says: "The mistaking the use of some medicines spoyle many an eye, as thus, some will put a lowse in the eye, which is good for this cause, used as when the eye is dull, obscure, and dry, so wanteth humours and spirits. A lowse then put into the eye tickleth and pricketh, so that it maketh the eye moist and rheumaticke, and quickeneth the spirits; but, being used to an inflamed eye that hath a flux, it increaseth the flux and inflammation, and so doth much hurt." Thus it appears that this remedy approved itself to his mind as a mode of treatment; only the cases should be judiciously selected.

But, whilst smiling over some of Banister's crudities, his treatise is still, for those who are fond of old books, worth reading. Banister's method of couching—the only operation then known for cataract—though intermingled with some absurdities, is nevertheless essentially sound. Spring, he says, is the best time to undertake the operation, since great heat, cold, or rain are objectionable. Some preparatory lowering treatment should be insisted on; the patient must eat little, and drink water or some other thin drink, for the space of two or three days before the couching is attempted; and, "especially on the day before, his eating and drinking must be of marvellous sobriety." The operation is described as it might be practised to-day, except that the surgeon is directed "to rubbe the right eye with the left hand, and the left eye with the right hand, before he begin his work; or rather, let some child having a very clean mouth chew fenel or aniseed, which, when he hath spit forth, let him breathe upon the diseased part, that by this means the cataract may be made more thin and smaller." In dressing the eye, "a candle should be placed behind the patient, lest the eye be troubled." The occurrence of hæmorrhage into the anterior chamber is noted, and its frequent spontaneous disappearance insisted on. Finally, the suction-method is described; "the eye being pricked with an hollow needle, that by the hollowness of it the humour of the cataract may be raised up and drawn forth."

In the three centuries that have elapsed since the time of Banister, what advances have been made along the whole line, and what a contrast to his little treatise is presented by the valuable compilation, the work of many writers, which was completed a few years ago, and edited by Alfred Gräfe and Theodore Sämisch! The coarse anatomy of the eye has been thoroughly worked out. A few points only in the microscopical anatomy remain to be settled. Its development, and the causes of congenital defects, have been carefully studied. Its physiological peculiarities have been investigated, and have given rise to a special branch of research in which a close connection between physics and the functional activity of this organ, known as physiological optics, has been created. But specialties within our specialty, departments of our department of surgery have been gradually formed, in which, by practice and experience, such skill may be gained as may prove of infinite service to particular patients, and details in regard to which some reference will hereafter have to be made, if the account of a case is to be complete, though their names still sound strange in our ears, and were all unknown to Banister and the surgeons of his day and the following century. I refer to those inquiries which relate to eidiotometry, or the determination of visual acuity; photometry and photoptometry, which deal with the intensity of light and the response of the retina to varying degrees of light; chromatometry, or the reaction of the retina to colours; periophtometry, or the determination of the extent of the field of vision; diophtometry, or the determination of the refraction of the eye; entoptoscopy, or the study of the intra-ocular shadow; optasioscopy, or the response of the retina to mechanical and electrical stimuli; ophthalmotonometry, or the determination of the tension of the globe, so important in the diagnosis and treatment of glaucoma; ophthalmostatometry, or the determination of the relative position of the eyes; ophthalmometry, or the measurements of the diameters of the whole globe, and the size of its several parts; ophthalmoscopy, or the examination of the eye by means of the ophthalmoscope; ophthalmotropometry, or the exploration of the