

the bath. In fact when given in the early stages of the disease I think it only tends to increase the deafness and general stupor of the patient. Next with regard to the administration of opium, I know of a case of enteric that occurred in which trismus or locked-jaw took place as a complication, and was obviously the result of pressure caused by the engorged cerebral vessels on the brain; imagine the effect of opium if given in that case, in anything like a narcotic dose. I am of opinion that opium given as a narcotic in the earlier stages of enteric fever can not fail to cause positive harm. Antiseptic remedies including turpentine would appear to be specially called for in this disease, and the latter medicine may possibly exercise a healing effect on the ulcers as the disease advances. There is another point that I am convinced is of considerable importance in the treatment, that is, the external application of spongio-piline or several layers of flannel wrung out of hot or cold water, and kept applied over the abdominal region; it is a source of much comfort to the patient, and particularly needful in guarding against sudden chills, especially where the patient is obliged to lie under a *punkah*.

In conclusion I must again state that to be given a fair trial the cold bath treatment must be used *from the beginning of the disease*; by this means we directly attack the high temperature, which latter may either aggravate or be the cause of, the disorganisation going on internally, and though by this means we do not claim to cut short the disease, yet we are enabled to render, what might be a severe case, a mild one, and like a ship in a storm steer it safely amidst the surrounding dangers to the haven of convalescence.

*Campbellpore, 20th July 1881.*

### MADRAS MEDICAL COLLEGE.

VALEDICTORY ADDRESS DELIVERED AT THE

CLOSE OF SESSION 1880-81.

BY SURGEON C. McNALLY.

VENERABLE SIR, LADIES AND GENTLEMEN,

The report of the Madras Medical College for the past academical year shows that the institution continues to prosper more than at any period since its foundation as a Medical School 46 years ago. The presence of 54 private students in the senior department is a most satisfactory feature; but there are two less encouraging points to which I would direct your attention: the absence of female, and the paucity of Mahomedan students.

In this enlightened assembly there must be some whose views of female emancipation and education are more or less consonant with those upheld by Mill and his school, as well as many who consider the subordination of woman an inviolable law of Nature. But, however divergent be speculations as to woman's place in the highest development of civilized society, all must agree in this, that the enforced idleness of many women is a great defect in all present social systems. Unmarried women and childless wives,—some mothers too—women

often of energy and talent, are too frequently a trial to themselves and a burden to others, simply because no career is open to them. Many are the individual lives thus unhappily wasted, and incalculable is the store of potential energy thus irretrievably lost to humanity. But matters are mending. In Europe educational advantages for women have much increased of late years, and, with improved social freedom, many employments have been opened to them. Women are no longer debarred from entering the medical profession. In America lady practitioners of medicine have, in many instances, met with well-deserved success. For example, of one hundred and eighty-one graduates of the Woman's Medical College of Philadelphia, whose career has been traced, no less than a hundred and fifty-one are in active practice, and several of these have attained high distinction.

There are still a good many who doubt the necessity for, or the propriety of, female medical practitioners in European countries; but even they cannot but admit that such practitioners are needed in India. In India, more perhaps than in any other country, there is a field for the labors of well-educated medical ladies. A medical zenana mission might accomplish immeasurable good throughout the length and breadth of the land; and such a mission would assuredly be welcomed everywhere if it were free from any suspicion of religious proselytism. It is an incontestable fact that humanity in general is much more alive to a palpable ill of the flesh than to any metaphysical canker-worm which preys upon the soul, especially when the ghostly canker-worm belongs to a species unrecognised in the theological system of a revered ancestry. Without in the least degree disparaging the goodness and earnestness of medical missionaries, I do object to the system of combined religious and medical missions, particularly in a country where hospitals exist in every place of importance; I do protest against the use of our profession to further the ends of religious proselytism. I feel sure that the learned and reverend prelate who does us the honor of presiding here to-day will agree with me in asserting that religion should have no need to shine with borrowed light. If we are to have medical missions, let us have purely medical missionaries, who shall devote their entire energies to healing the sick and disseminating principles conducive to that physical well-being which is the surest guarantee of moral soundness.

In Dublin, which city enjoys in the United Kingdom the same unenviable pre-eminence in mortality that distinguishes Madras in India, a *Ladies' Sanitary Association* has lately been established "for improving the condition of the houses of the poor and for the promotion of health reform amongst all classes of society." It is to be hoped that the members of the association, while, with commendable charity, extracting sanitary straws from the eyes of their poorer neighbours, may not entirely overlook certain not insignificant notes in their own. Let them institute a crusade against some "follies of fashion" which are not less barbarous than the deforming practices of limping Celestials or tattooed savages, and revert a little towards that Greek and natural type of beauty which they profess to admire.

However there is no doubt that such an association has before it a vast field of practical philanthropy among the poor. There is room for many such associations in India, where ladies might do much good sanitary work without actually becoming *female medical men*.

I am sure that all here, while sharing my regret at the absence of a large sprinkling of the softer sex from our benches, will be glad to learn that there is a prospect of at least three female students, who have just completed a pre-collegiate year of study, joining the college next session. Hitherto we have had but six female students, of whom four passed the examination for the apothecary grade, two of these have obtained honorable and lucrative appointments, one is gone to England to engage in further professional studies, and the fourth has devoted herself to other duties. But more than this is required. The portals of the Madras University are open to all, and any fairly well educated lady of moderate energy and ability may become a graduate in medicine. Any lady who does obtain such guarantee of a sound medical education may be assured that her ministrations to suffering humanity will secure to her not only an honorable competence in any part of India, but that which is of truer value, the esteem of many friends and that inward satisfaction which is the best reward of merit.

With regard to the paucity of Mahomedan students, it is notable that out of 179 students at present on the College roll, but 3 are Mahomedans, and in the Auxiliary Medical School they number only 4 in a total of 56 students. I am at a loss to fully account for this small proportion. Islam not only offers no discouragement to medical studies, but the profession of medicine has ever, in Musalman countries, been the most esteemed and venerated of lay occupations. It is strange, however, that many Mahomedans should still be satisfied with a system of medicine which gains reverence from its antiquity, and which can scarcely be said to have advanced since the time of Hippocrates. They witness our marvellous practical developments of chemistry, mechanics, optics, electricity, and yet are slow in giving full credit to our advances in the science of medicine, or rather to the elevation of medicine above the rank of an empiric art.

Class and religious prejudice is strongly rooted among uneducated Musalmans—as it is indeed among the ignorant everywhere. A larger intercourse with Hindus, Christians, and others, particularly in educational institutions, would remove much unreasonable prejudice and teach them that all is not darkness outside of Islam. Apathy, poverty, and deficient means of education appear to be other causes which prevent Madras Mahomedans from utilizing the career which is here open to them. Wealthy Musalmans show too little disposition to assist the education of their poorer co-religionists, and the efforts of the late Lord Hobart in this direction met with more praise than encouragement. Religion too, I fear, is sometimes used as a cloak for very irreligious idleness and for eating the bread of dependance. I would remind some of our Moslem friends of their own oft-quoted and wholesome maxim *الكاسب حبيب الله*

and of Sadi's graceful lines, which convey not only a religious moral :

تا کوردی اختیار از آن این فریق را  
گفتم میان عالم و عابد چه فرق بود  
وین جهد میکند که بگیرد غریق را  
گفت او گلیم خویش بدر میدهد ز موج

While labor devotees themselves to save.  
To rescue others scholars breast the wave.

I shall here allude to the subject of medical education only to observe that one point upon which all are agreed is, that a good general education with some special training in physical and natural science, is essential for the successful prosecution of medical studies. An acquaintance with the classic writers of Greece and Rome is doubtless of great value to students of philosophy, literature, philology, religion, and history; but, with the exception of some incorrigible classical pedagogues, there are few men who do not believe that classical education has been overdone—largely overdone—to the detriment of modern literary and scientific culture.

This is scarcely the place to consider the causes which have led to this undue appreciation of ancient classics. The fact suffices that universities and schools, all the world over, are beginning to recognise that such classical lore is an artificial growth which cannot fructify in practical modern life; and, before long, we may expect to see ancient classics relegated to their proper position—the position assigned to scientific studies some generations ago.

One of the signs of the times is the institution of pure science degrees in the newly chartered University of Manchester. The older universities too, with the one exception of Oxford, are bestirring themselves with much success in the cause of medical and general scientific education. The result of unmixed scientific training, such as is now being initiated at Manchester, remains to be seen. It appears likely that, unless some such general subjects as history, moral philosophy, or a modern or ancient language and literature, are made compulsory, science degrees will degenerate into mere technical certificates or into diplomas of scientific pedantry. The scientific pedant is happily not very common, for he is a more obnoxious phenomenon than his classical prototype. In him dogmatic arrogance and a vain display of scientific verbiage may clothe a body of facts and theories; but he lacks the scientific spirit, the spirit of tolerant enquiry and of calm philosophy. One drop of knowledge so intoxicates his reason that he becomes oblivious of the boundless ocean before him. There is good evidence, however, that special scientific studies, when combined with general culture, largely enhance "the poetry of life" and the pleasures of existence, and establish most firmly that first of virtues, the love of truth. The natural philosopher beholds everywhere beautifully mutable expressions of immutable law; for him mountains and valleys disclose records of preadamite time; for him organic life has charms infinitely deeper and more varied than superficial harmonies and contrasts of color and form; for him the physical phenomena of

our little earth and the vast facts of astronomy are correlated; for him the bookless literature of Nature is an ever-present source of study and of gratification. His grand interpretations of Universal Law are surely incomparably more noble than the conceptions of any ignorant fetish worshipper or imaginative polytheist or superstitious præternaturalist.

Almost the only objection which has been seriously urged against scientific culture—sometimes with special reference to medicine—is, that it tends to infidelity in religion. This is a valid objection from the standpoint of a few men, who, whatever their errors, are no hypocrites, and deserve respect on account of their sincerity. But such were the persecutors of Galileo. These good people by *religion* understand an intolerant creed which sees no light, acknowledges no truth, outside of its narrow and uncharitable circle. Assuredly it is the herculean mission of modern science to overthrow the last strongholds of bigotry and of superstition, children of ignorance, and to rend the thick mists which shroud the throne of reason!

But, even at the centres of civilization the higher education of the masses is so little advanced that the higher education of the bucolic masses of India appears nothing short of a utopian fantasy. The great body of the people can be leavened intellectually only through the influence of its social leaders. It is then by the encouragement of liberal education among the influential classes that the practical benefits of such education may be most widely diffused. It would infallibly contribute to a higher cultivation of medical knowledge and tend to a larger appreciation of its benefits among the people were Mahomedans and Christians of influential family and high caste Hindus, men usually of superior natural and inherited mental qualities and presumably of superior general education, more frequently induced to devote themselves to medicine. Our native medical subordinates are recruited almost exclusively from classes of little or no social influence, and their deficiency in primary mental culture, renders it impossible to educate them beyond a very low professional standard—a standard too low for the responsible duties with which they are frequently entrusted.

Ladies and Gentlemen, I now bring to your notice a few medical questions regarding which legislation appears to be desirable; the wide importance of the subject must be my apology for this further trial of your kind attention.

India is not yet ripe for legislation to protect the people from unqualified medical practice; but the Government stamp must always carry great weight, and I fear that the present Government stamp is too cheap. Ill-qualified men placed in independent charges are of doubtful advantage to the people, and are apt to bring scientific medicine into disrepute. A partial remedy for this would be the institution of a minimum qualifying test of a practical nature, without passing which no hospital-assistant should be permitted to hold an independent charge; and the L. M. S. standard should be the minimum qualification for apothecaries and native surgeons in charge of important stations.

The cause of higher medical education in India would be much furthered by the granting of a legal status in Great Britain to graduates of the Indian Universities. It is to be hoped that this measure, which has, I believe, been for some time in contemplation, may be no longer delayed.

A matter of much concern to the public is the sale of secret medicines under a Government patent stamp, which ignorant people take to be a guarantee of their value. The revenue derived by the British Government from this disgraceful source is considerable; but the larger it be the more extensive is the harm, and, were it reckoned by millions, it could not be upheld for a moment on any ground of morality. Let the virtuous legislators who attack the opium traffic of India look nearer home for immorality!

The introduction of the metrical system of weights and measures is another question which well deserves attention. It is needless to dwell upon the value in commercial transactions of an international simple and uniform scale. The decimal metric system is admittedly the simplest and the best, and it is more widely used than any other. It has been adopted in science throughout the world, and it will no doubt soon replace the highly incongruous system—or want of system—in the British Pharmacopœia.

In India, where weights and measures are in a state perhaps even more chaotic than they are in England, the benefits of the metrical system would well repay the difficulties of its installation.

Color-blindness is a curious defect to which public attention has of late been prominently directed, and possibly its importance has been exaggerated. Recent statistics in America and Europe prove that about one man in twenty is more or less color blind, though the imperfection is much less frequent among women. The necessity for an accurate discrimination of colors by sailors and railway servants is evident; and the law should insist on public companies discarding color-blind officials for any service where the defect might be dangerous. Many railway companies voluntarily attend to this, and in the French army color-blind soldiers are disqualified for employment in signalling corps.

The subject of medico-legal evidence concerns the law as much as it does medicine. All are aware of the unsatisfactory nature of medical evidence in British law-courts. It has constantly been satirized by lawyers, and it has even drawn uncomplimentary comments from the judicial bench—from men who should be the last to form rash judgments. Learned counsel and stately Judges scarcely need to be reminded of "the glorious uncertainty of the law." It is notorious that learned counsel are not rarely divided in opinion about much less complex affairs than are most medical problems, and reversal of judgments on appeal—last year no less than fifty per cent of English appeals were successful—and want of unanimity among Judges of the law are by no means rare occurrences. I adduce these facts, not as *tu quoque* arguments nor with any intention of depreciating the learned and honored profession of the law, but merely to exemplify the fallibility of human judgment. I remem-

ber reading somewhere a witty observation to the effect that a man may be an indifferent cricketer, or rider, or chess player, or in fact, indifferent at almost everything without exciting animosity, but at whist he must be perfect. Now angry and unreasoning men sometimes make medicine the whist of the professions and sneer at its followers for want of that unanimity which is an attribute of perfection alone—an impossibility which is not expected from engineers, nor lawyers, nor statesmen, nor even from ecclesiastics.

It is the English system which is at fault; the system of allowing suitors to get up their own medical evidence; and (to quote Dr. Draper) "an entirely conscientious man may be unconsciously biased by having seen only one side of the shield, by having listened to only one version of the story from the party who retains him; and medical witnesses, to the discredit of a noble profession, are set up as partisans for cross-examination". Several remedies for this state of things have been suggested, such as the selection of an expert by mutual consent, or the Roman custom of summoning an expert as an *amicus curiæ* to interpret medical questions to the administrators of the law, or the present German system of official experts who have special training in medical jurisprudence. In these days of German forage caps and epaulettes, is it too much to hope that we may borrow this sensible practice?

Another medico-legal question is that of *privileged communications* between a patient and his medical adviser, as between a client and his lawyer. There is an old saying that "a man should have no secrets from his priest, his doctor, or his lawyer." Statements are frequently made by patients, as it were, *sub sigillo confessionis*, and they should not be liable to violation in law-courts.

I shall dismiss Homœopathy with a brief allusion. A full discussion of the subject would be superfluous in this place, and it has lately been exhaustively reviewed in the columns of professional journals. If the ill-judged and ill-informed articles which recently appeared in some English newspapers concerning the relations of Homœopathy to rational medicine be at all representative of popular opinion, that opinion sadly needs enlightenment. I do not deny that Hahnemannism may delude even clever men—though it cannot boast of a single able adherent—even as clever men have been deluded by such phantoms as witchcraft and magic, or hypnotism and its congeners, mesmerism, spiritualism, and metallotherapy; but, from the very nature of science, it is plain that there can be no compromise with the votaries of an unreasonable delusion or a dishonest assumption.

The feeling of the profession on the subject was recently exemplified by the almost unanimous election of Sir W. Jenner to the presidency of the Royal College of Physicians.

The law should take cognisance of the homœopathic treatment of serious disease as it does of the equally rational, but more excusable, therapeutic method of the *Peculiar People*. In England there exists a sect of

Christians thus named, whose ministrations in sickness consist solely of prayer and the laying on of hands. British law, however, does not respect earnest faith; and peculiar people are punished for trusting to its therapeutic efficacy.

In addition to these and other medical affairs which require legal regulation, there are many matters concerning public health in which the State may wisely interfere. Sanitary reform must necessarily be slow work. People have to be educated to see its value, and oftentimes the inertia, if not the actual opposition, of religious prejudice, or ancient custom, or vested interest has to be overcome. The principal duty of the State, at present, with regard to sanitation, is to initiate and to foster the growth of correct public opinion upon hygienic subjects. This may be done effectively, if slowly, by insisting upon practical sanitation and physical education, as well as elementary instruction in the principles of Hygiene, in all schools, and by the influence of well-trained medical practitioners throughout the country. Thus people may be led to understand that disease is always more or less preventable, and that communal as well as individual hygiene may do much to promote the longevity, morality, and happiness of the present generation, and to lessen the heritage of disease to generations yet unborn.

Even in medical schools the science of health—the highest outcome of modern scientific medicine—is of quite recent growth; and only since a few years has Hygiene been taught as a separate subject. But it has advanced with giant strides—though strides still incommensurate with its endless and universal importance to the human race. It is difficult to limit the scope of sanitary science; "in its broadest sense the study of Hygiene includes the examination of the conditions which affect the generation, development, growth, and decay of individuals, of nations, and of races: being on its scientific side co-extensive with Biology in its broadest sense, including Sociology, rather than Physiology merely."

One of the most important starting points of Hygiene, public and private, is the consideration of the hereditary transmission of inherited or acquired qualities. It is certain that mental and moral qualities are transmitted from parents to offspring, exactly as physical qualities are so transmitted, for mental attributes depend upon the physical constitution of the brain and upon the general physical health. It is also beyond doubt that many diseases and dyscrasiæ are similarly transmittable, and that, in truth, the sins of fathers are visited upon their children for generations. Blyth observes: "If every man handed down to his children a chronicle of his ailments, although in many cases it is to be feared it would be a humiliating and painful record, yet it would be of the greatest use to the individual who has inherited the same features, passions, and predispositions." A fault which exists in both parents is apt to be reproduced in an exaggerated form in their offspring, and virtues may likewise be strengthened by double transmission. Careful breeding for a long period has combined the good qualities and eradicated the defects of ancestors in the thorough-bred horse, and our various breeds of other

domestic animals are the result of selection and education for many generations. Analogy—independently of such direct confirmation as the researches of Galton afford—teaches us that similar care would produce equally valuable results in the improvement of mankind. Hence it may be judged what an important influence each generation has upon its successors; how physical cultivation, combined with mental training, may, in a few generations, elevate a whole race physically and morally; and how a few generations of luxurious, intemperate, dissolute ancestors may deprave their descendants and precipitate a nation's ruin. History is replete with examples which testify this truth in unequivocal language.

It is unnecessary to cite statistics to show how largely in England, public sanitation has diminished the mortality from endemic as well as epidemic disease. In India, Calcutta and Bombay afford examples of similar improvement. If the measures already carried out in England—imperfect and incomplete as they are—have, in a few generations, doubled the average expectancy of life, what may we not anticipate from further hygienic advances? Even now very few people die from the natural decay of old age, and the vast majority are prematurely destroyed by preventable disease.

The time is approaching when it will be accepted as the highest duty of a civilized Government to adopt every means for the protection of its citizens from diseases which are public foes, more dangerous, because more insidious, and infinitely more destructive than hostile armies, or marauding bandits, or even the most terrible famines, and when it will be regarded as incumbent upon all good citizens to assist the efforts of the State in bequeathing to posterity the priceless endowment of health.

In conclusion I must address a few words of counsel to students now entering this College, as well as to those who are about to leave its guidance and discipline. To beginners I would say: train your mind exactly as you would your muscle; let your rule of conduct be, daily exercise short of fatigue, and your motto, *mens sana in corpore sano*. Thus you may acquire a store of sound knowledge without overstraining your powers, and you will avoid the necessity for "cramming," of which the best fruit is a temporary and superficial display of learning and the frequent consequence is mental breakdown and incapacity. Never forget that examinations and prizes are not the real ends for which you labor, but that they are merely tests and rewards to weed out the incompetent and idle and to encourage the studious. I trust that all who to-day leave us, may prove their own worth and the value of the training which they have undergone by remaining students ever. Let them remember that, whether they labor in the higher or the lower spheres of professional duty, their mission is the noblest mission of humanity, in the conscientious execution of which each may find real happiness in life, and write his epitaph on the hearts of many in the words of Christian Scripture: "He went about doing good." Let them above all labor to spread enlightened views of social and of individual Hygiene, and find pleasure

in contributing, by practice as well as by precept, to diffuse the blessings of knowledge and of health.

"More powerful each, as needful to the rest,  
And in proportion as it blesses, blest."

CHILD—MORTALITY BY DR. PFEIFFER  
OF WEIMAR.

TRANSLATED BY SURGEON-MAJOR E. A. BIRCH,  
M. D., F. R. C. S.

[Continued from page 223.]

V.—STILL-BIRTHS, AND THE DEATHS CONSEQUENT  
UPON DEFICIENT VITALITY.

According to Wappäus, during the period 1845-55, taking 24½ millions of births and 19½ millions of deaths in 13 European States, the number of still-births amounted to 3.79 per cent of the births and 4.75 per cent of the deaths.

Prussia	... 1844-53	= 3.9	per cent. of Births,	5.8	p. c. Deaths.
Saxony	... "	= 4.45	"	"	"
Berlin	... 1863-68	= 4.72	"	"	"
Stettin	... "	= 5.90	"	"	"
Erfurt	... 1849-68	= 4.10	"	"	4.99 " "
Weimar circle	... "	= 3.8	"	"	" "
Weimar town	1860-69	= 3.7	"	"	4.7 " "
Do. do.	1870-75	= 4.7	"	"	6.4 " "
Apolda town	... 1850-59	= 5.7	"	"	9.6 " "
Do. do.	... 1860-69	= 4.2	"	"	7.9 " "
Do. do.	... 1870-75	= 3.9	"	"	7.8 " "
Chemnitz	.. 1872	= 6.4	"	"	" "

The differences in the modes of calculation scarcely admit of further comparisons being made.

In the first place, it is evident that the number of still-births is influenced by the number of births. In Wappäus' vast statistical collections, the child rich Russian Empire has the greatest number of still-births. Similarly the manufacturing towns, producing, as they do, a large number of children (for example Apolda, Chemnitz) have the most considerable excess above the average. The improvement observed in Apolda since the year 1850, is connected with the lightening of the work of the women who are there chiefly engaged within doors. Weimar, which is very poor in children, has few still-births. This favourable figure for Weimar, which, although deduced from a town population, still remains below the average for Europe, is rendered possible because Weimar has no proletariat and no manufacturing population, while there are many sources of relief for the needy. Still-births are frequent only in those localities in which the working classes live huddled together; in the well-to-do parts of towns still-births are scarcely known.

It is further shown by Wappäus' figures that the number of still-births among the illegitimate is nearly double that of those legitimately born. The official statistics of France for the years 1861-65 show that there were 4 still-births to 100 legitimate births and 8 to 100 illegitimate births. The proportion in Berlin (1863-68) stood as 4.72 : 7.06 per cent.; and in Stettin (1854-58) as 4.1 : 10.6 per cent.

Boys are subjected to greater danger at birth than girls (*vide*. "Influence of the Sexes upon child-mortality"). In Erfurt 1849-68 there were 3.16 per cent. still-born boys to 2.61 per cent. still-born girls. In Stettin 1854-58 to 100 still-born girls 134.3 boys, and so forth.

In towns (in spite of better midwives and better