

Introductory Lecture

AT

GUY'S HOSPITAL.

BY

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GENTLEMEN,—When our respected President did me the honour personally to request that I would undertake the accustomed duty of opening the session by an introductory address, I did not find it necessary for any long time to consider the comparative eligibility of the different subjects which naturally pressed upon my mind as suitable topics for such an occasion. Many of them were at once and, as I thought, necessarily, eliminated. The subject of medical education, in all its bearings; the mode of study most efficient for the acquisition of the various branches of knowledge necessary to form the sound and successful practitioner of our profession; the true relation between theory and its practical applications; the moral and intellectual culture essential to the completeness of the highest type of professional character; these and many other questions of great importance had been so often and so well treated in this place, as to show me, that by adopting any one of them, I should be guilty of presumption in attempting to give an air of novelty to that which had been already exhausted by those far more capable than myself of doing justice to them, and at the same time to risk the infliction upon my auditors of the tedium of an oft-told tale.

This pre-occupation of the ground most obviously offering itself as the arena of professional discussion at the commencement of the curriculum of a great medical school, afforded me, however, an opportunity of addressing the pupils of this my Alma Mater on a subject which has always appeared to me of great importance to the members of every profession, and the cultivators of every science or pursuit, in which the mind is occupied by harassing and absorbing duties or researches; and I am the more anxious to fulfil this desire at the present time, and in this place, as it will be readily believed that I feel a peculiar interest in offering any suggestion in my power to the furtherance of the future comfort or advantage of the pupils of an institution in which I received my own professional education; in which, too, I have been a humble but not uninterested teacher during forty years; and to my connexion with which, in both capacities of learner and instructor, I owe much of my success in my professional course, and many friendships which have constituted no inconsiderable part of the happiness and solace of my private life.

Every one who has experienced the *tedium vite*, the harass and fatigue of spirit, arising from the close application of the mental powers for any lengthened time to one absorbing and anxious object, must have felt the craving of the mind for some new occupation, which, by a healthful change in the direction of the intellectual force, might relieve the fatigue and weariness of the over-wrought and over-excited sensorium. This relief is not always to be obtained by abstract rest. The mere cessation of exertion does not satisfy or fill the void created by long and tiring labour on one exclusive subject. As when the eye has long been gazing upon any object of a bright and intense colour, the greatest relief that can be afforded to it is its resting, not in darkness, but in some material of a hue complementary to that by which it has been fatigued. Again: when, from illness, distress, or any other disqualification, the laborious man of business, or the diligent student, is incapacitated for his accustomed pursuits, how depressing are the languor and inanity which attend him in his retirement, unless he has some intellectual resource upon which to exercise his otherwise inert and useless powers. Accustomed to active exertion, and

possibly to experimental or abstruse investigation, in his ordinary avocations, if he be deprived of these, and no substitute presents itself to take their place, the mind becomes wearied and depressed from the very absence of healthful exercise and employment. And if, still further, through professional success, or from any other source, the approach of age finds him retiring from his wonted stirring occupation, and hoping, after a life spent in the exercise of active duties, to enjoy the blessings of a competency in that rest from his labours which, to a mind well regulated and stored with intellectual resources, constitutes the height of earthly enjoyment, and a precious auxiliary means of preparation for the great change to which he is hastening; if there be no such store of intellectual treasure—no pursuit in literature or science or philosophy, to occupy the leisure days and years that remain to him, how listless, at the best, and, too often, how full of misery is the interval allotted to him between the cessation of his active employment and the end of his earthly career. These considerations have at times forced themselves upon me so powerfully that I have without hesitation embraced the present opportunity of showing how important it is to provide, by some extra-professional pursuit, whether literary or scientific, a rational and intellectual amusement and relaxation in the intervals of business—a solace in the time of illness or distress—and an unfailing resource in retirement, after the ordinary duties and avocations of life are over.

Of the desirableness, I may say of the necessity, of such a provision, we have unhappily but too many proofs daily occurring around us, in the sad and often even fatal results of its neglect. The instances are not few in which a person, having been engrossed by business during the greater part of his life, his short intervals of rest spent in mere vacuity, or the indulgence of appetite, retires from business, having, as it is termed, “made his fortune,” and hoping now to enjoy the remainder of his existence in what he terms comfort and pleasure. But age has its growing effect on his powers of enjoyment, even of the poor sources of happiness which he has set before him; they all pall upon the appetite, and soon show how worthless they are even at the best. Disappointment and *ennui* are continually gnawing at his heart, and he flies perhaps to the stimulus of drink to drown his misery. This, however, only increases the evil, and it is no longer to be borne by a mind without an aim or a pursuit, and weakened by the very means resorted to for its relief; and too soon the daily journals announce that the unhappy man has sought in suicide the only termination within his reach, of his intolerable despondency.

But to turn from such an extreme case as this, but which your own recollection will tell you is not overdrawn, it is in truth a matter of daily experience that the man who, with an unprepared and unfurnished mind, suddenly retreats from an active life of mere business, after trying in vain to occupy his newly-acquired leisure in some vain routine of what is falsely called pleasure, returns, at whatever sacrifice, to his former avocation, and if he fails in this, or is incapacitated from its pursuit by increasing age or ill health, becomes the prey of incurable dejection; and I have been recently informed of the case of a medical man, formerly in extensive practice, who is now the inmate of a madhouse, the immediate cause of whose melancholy was his retirement from active life, without the resource of any intellectual occupation.

But it is not only in the graver instances which I have now pictured to you that the want of some distinct extra-professional occupation is felt. Even with persons of education, and occupied with a profession partaking so much of the intellectual as ours, the mind requires something to fall back upon when resting from the labours of life. I will mention one anecdote illustrative of this phase of the subject. One of the most distinguished members of the medical profession that this or any other country ever produced, tried the experiment of retiring from practice. He had wealth, health, society, a fine estate, and every material means of enjoyment; but his heart was wholly and only in his profession. It had been the end and aim of his whole previous life, and he had failed to secure any other source of intellectual happiness when that excitement was at an end. A friend of mine, who happened to call upon him very shortly after he had taken up what he intended to be his final residence on his estate, was shown his house, his gardens, his stables, his fields, and at the end of the survey my friend addressed him in these terms: “Well, you have now in your possession every means of earthly happiness. Your life has been spent hitherto in the honourable and successful practice of your profession, and you retire at an age still capable of much enjoyment, with the respect of the world, a sound constitution, an ample fortune, a fine estate, and every other

earthly blessing; you must be, indeed, a happy man." "My dear Sir," was his reply, "do you see that tree standing on that rising ground? Well, that tree stands in the middle of my estate. I have been just four weeks here, and I have been twenty-eight times tempted to hang myself on that tree." The result will be anticipated. This eminent person found the sudden cessation of his former laborious occupation a source of incessant and irremediable *ennui*; and after trying change of scene and other equally futile expedients to kill time, he returned to practice, and literally fulfilled his prophecy, contained in a letter to myself, still in my possession, that he should "die in harness!"

I will detain you, on this part of my subject, only by one more anecdote, which exhibits my position in a more ludicrous point of view. Some of you may have heard the story—a true one—of the tallow-chandler, who, having accumulated a sufficient fortune by his industry, sold his business, and retired to his suburban villa. For a short time the novelty of his position, the laying out of his garden, the leisurely spelling through the newspapers, led him fondly to believe that he might be an exception to the rule, that misery is the companion of idleness; but he was soon undeceived, and, after the lapse of a few weeks only, he called upon his successor at the old shop, and asked to be kindly allowed to occupy his former quarters upon "melting days."

Have I now sufficiently stated and illustrated the gloomy phase of my subject? I will turn the picture, and endeavour to show to my young friends, by examples drawn from persons of various occupations and professions, how possible it is, without in any way interfering with the ordinary duties of life, or entrenching upon the time which those duties imperatively demand, to render their acquirements in science or literature available, not only to their own comfort and happiness, but to the advantage of thousands around them. And here, I would observe, that in the examples which I shall bring before you, I have been scrupulous in selecting those only in which the extra-professional pursuits have been made entirely secondary to professional duty. It would, indeed, be an evil, instead of a good, were I to advise the adoption of any occupation, however rational and intellectual in itself, the means of acquiring or of enjoying which, should in any degree interfere with the conscientious and successful prosecution of professional practice. This must be the unceasing object of your studies now, the primary duty of your future life; but there are, in every man's life, hours or minutes not necessarily claimed by the sterner demands of duty, which are too often passed either in listless idleness or worse. The aggregate of these lost minutes or hours in the course of a single year, without reckoning those which are required for health, or for such amusements as I, for one, would not deprive you of, will still, in the case of almost all, amount to no inconsiderable sum. Our great moralist has said, with his accustomed wisdom, that "the true economy of time consists in the employment of intervals;" a maxim which should be written in letters of gold on the walls of every man's study, or, better still, engraven indelibly on the memory of every student. It is this habit alone which has enabled the great men whose examples I shall presently place before you, to accomplish results which, in some cases, would astonish us by their magnitude and importance, and by the grasp of intellect, and the extent of knowledge, and the depth of wisdom which they evince—even had the whole life been devoted to such pursuits, instead of the intervals only of professional duty. There is no profession, no occupation, however absorbing, which will not allow time for some intellectual preparation for the employment of the future leisure. We hear constantly of persons laying by their money profits "against a rainy day," as the phrase goes, but how few think of laying by intellectual capital for the rainy day of the mind.

And to this end we have the attestation of the greatest philosopher that ever lived; who, in that marvellous congeries of wisdom, "The Advancement of Learning," says: "The most active and busy man that hath been or can be, hath, no question, many vacant times of leisure, while he expecteth the tides and returns of business (except he be tedious and of no dispatch, or lightly and unworthily ambitious to meddle with things that may be better done by others); and then the question is how those spaces and times of leisure shall be filled and spent—whether in pleasures or studies." And let it not be supposed that even with regard either to the acquisition or the practical application of professional knowledge, a general acquaintance with science can have otherwise than a beneficial influence. The same great authority whom I have already quoted, shall speak for me:—"No man," says Bacon, "need doubt that learning will expulse business, but rather that it

will keep and defend the possession of the mind against idleness and pleasure, which otherwise at unawares may enter to the prejudice of both."

I have said that there is no profession the members of which may not avail themselves of the benefits of extra-professional study. Clergymen, statesmen, lawyers, physicians, merchants, naval and military men, all afford examples of its practicability. If, indeed, we were asked to select the occupation which, more than all others, would prove, from the nature of its duties, an exception to this general necessity, we should perhaps at once fix upon the sacred character of the parochial clergyman. The duties of his calling are so various in their different phases, and so intensely interesting, and withal so often self-rewarding, that, on a superficial view, we can scarcely imagine any necessity for other change than that afforded by the occupation itself. The sincere and devoted parish priest goes forth in the strength of his duty to his daily visitations. He finds his visits, especially to the poor, received with gratitude, and followed by the comfort and improvement of those on whom he bestows his admonitions or his sympathy. He sees the wicked forsaking his ways, the drunkard sobered, the licentious brought to repentance, the erring led into the right paths, the backsliders recalled. He comforts the widow and the fatherless and the afflicted, sustains the weak and drooping, awakens the careless, succours the distressed, relieves the needy; he instructs the ignorant, visits and directs the schools, and then changes his occupations by the study and preparation of his weekly discourses. These and similar duties would appear sufficiently varied to relieve each other, and so delightful to the mind of a conscientious minister of His gospel in whose footsteps he humbly treads, as to ask for no further means of happiness. But this, unhappily, is but one side of the picture. Too often he has to attend the death bed of the impenitent, and to find the ear and the heart closed against the most earnest and affectionate warnings and entreaties. He goes from this scene of discouragement to one of affliction which he is incompetent to heal or to soothe; he next, perhaps, sees with pain, that one whom he had for a time roused to a sense of his evil ways, has returned to them with increased energy of ill. He finds his counsels disregarded, his warnings scoffed at, his sympathy unavailing, his preaching ineffectual; and he returns home jaded and worn and disappointed. It is true he has one unfailing means of consolation and support, and to that he flies; but it is no disparagement even to the most sacred source of peace and consolation and encouragement to say, that philosophy, or science, or literature, may now prove a sure and effectual assistant to those higher resources to which I have alluded. If, too, the change to which he resorts be the knowledge of Nature in any of its branches, he feels that in the alternation between the word and the works of God, he is only transferring his attention from one volume to another of the productions of the same divine Author.

The examples which I could adduce of the clergy of our church, who, to the diligent and conscientious fulfilment of their sacred calling have added the successful acquisition of other branches of knowledge, are so numerous that selection becomes exceedingly difficult. But I may well commence with one whose extra-professional pursuits have contributed more extensively than perhaps any other, similarly occupied, to the rational enjoyment of thousands, and particularly to the spread of a taste for natural history, and a general knowledge of the works of God. Of the late Mr. Kirby it has with truth been said, that he, in conjunction with his friend, Mr. Spence, has created more naturalists than any other man that ever lived, and numbers now recur with delight to the impression first made upon their minds by the perusal of their charming work. I had the happiness of an intimate acquaintance with that admirable man, and can, from my own personal knowledge, attest the continual and equable flow of comfort and enjoyment which he derived from his pursuit. His life was one continued scene of useful parochial labour. He was incumbent of the same parish for more than sixty years, and the affectionate respect with which he was regarded by all his parishioners, is the best test of the conscientious manner in which his sacred duties were discharged. The recollection of the sweet, calm, almost heavenly, cheerfulness of that revered old man's countenance when at the advanced age of upwards of ninety, frequently recurs to my mind, as a beautiful instance of the tranquillizing effect of the study of Nature. He truly found that it was not only compatible with his more important duties, but gave him great support and assistance in the performance of them. His was a long life spent in active benevolence, in sincere and unostentatious piety. He was the delight of his friends, the beloved and honoured pastor of his

flock, and, withal, a zealous, devoted, and accomplished naturalist, and he might well be apostrophized in the words of a little known, but elegant poet of the middle ages—

“ * * * viridis tibi senectus,
Mens candida, candidique mores,
Abest ambitio, timorque lathi,
Et quicquid miseram facit senectam.
Nam Deo pietas amica vitæ
Et morti, bona cuncta pollicetur.
* Vixisti bene et beate!
* * * valente
Semper corpore, mente sanâ,
Amicis jucundus, pietate singulari.”

Of a kindred spirit, in many respects, to him whose character I have just attempted to sketch, was the well-known author of the natural history of his native parish, Selborne. It is true that during a considerable portion of his life, Gilbert White had no settled parochial duty, but at two different periods, in order to give his spiritual and charitable administrations a character of greater sanction and authority, he assumed the curacy of the parish, and from the testimony of many whom I have myself questioned on the subject, and who recollected him well, he discharged the duties in the most exemplary manner. He was a scholar, an antiquary, a naturalist, and found in the change of these studies, and their alternations with his sacred and social duties, the chief solace and enjoyment of a life, which, as his relation and biographer truly says, passed tranquil and serene, and his own testimony to their value still remains in the simple but touching assurance, “that these pursuits, by keeping the body and mind employed, have, under Providence, contributed to much health and cheerfulness of spirit even to old age.” I might go on and swell the catalogue to any extent. I might mention the name of my revered friend, the late Bishop Stanley, who often, very often, expressed to me the deep gratitude he felt for that love and study of nature which had so often soothed and cheered and supported him in the offices of his parish, and in the far more arduous and almost overwhelming duties of his diocese. I might dwell with pleasure upon the work which my friend, Professor Henslow, is now carrying on in his parish—in the instruction of the children of his school in natural history, the results of which are equally gratifying and surprising. In his case, science is made, not only the handmaid, but part and parcel of his parochial office; and the results of his examination of the children in botany, at his last school-feast, are such as would shame many a highly-educated person in the upper ranks of life.

I have not entered upon the literary attainments of the clergy, because they belong so essentially to their education and calling, and are so necessary even to their entering into holy orders, that they may be looked upon rather as a part of their clerical acquirements than as secondary and extra-professional. I will pass therefore to another of the learned professions, in which one example at least, in proof of my position, is to be found, which throws all others into the shade. The occupants of the higher grades of the legal profession have at all times been distinguished by the extent of their literary or scientific attainments. How many of the learned judges now and formerly on the bench, and how many eminent counsel, have been first-class men or wranglers at their respective universities! and how many have distinguished themselves in the ranks of literature or of science, even when occupied by the incessant drudgery of the practice of their profession, or of the more solemn functions of the bench! The very mention of this part of my subject calls up at once to our recollection the father of philosophy, the originator of the inductive method, which is the very soul of science, without which, indeed, science could scarcely be said to exist. Before the advent of Bacon, knowledge was empirical, and philosophy a chaos. It was he who reduced the whole to order, and enabled the thousands of great men who have since enlightened the world to work out their discoveries upon a basis of certainty and reason. Had Bacon not lived, Newton would have been a stargazer, and Davy and Wollaston empirics. But I will borrow an abler hand than mine to offer the comment I want on the attainments of this admirable person:—“He was,” says Bishop Spratt, “a man of strong, clear, and powerful imagination; his genius was searching and inimitable; and of this I need give no other proof than his style itself, which, as for the most part it describes men’s minds as pictures do their bodies, so it did his, above all men living: the course of it is vigorous and majestic; the wit bold and familiar; the comparisons fetched out of the way, and yet the most easy; in all expressing a soul equally skilled in men and nature. Methinks,” (and this is the passage to which I would especially call your attention,) “methinks in this one man I do at once find enough occasion to admire the strength

of humane wit, and to bewail the weakness of a mortal condition. For is it not wonderful that he who had run through all the degrees of that profession which usually takes up men’s whole time—who had studied and practised and governed the common law—who had always lived in the crowd, and borne the greatest burden of civil business—should yet find leisure enough for these retired studies to excel all those men who separate themselves for this very purpose.”

To come down, however, to our own times. Some years since, a gentleman who was even then distinguishing himself as a young and rising barrister, and who at the same time was employing his leisure in the pursuit of science, availed himself of the facilities afforded by the laboratory of the London institution; and, in order to give him a fuller opportunity both of studying his subject and of enunciating its results, a professorship was determined on, and Mr. Grove was appointed to the chair. Since that period it would be difficult to say whether the law-courts or the laboratory have been the source of his greatest distinction. Amidst the absorbing and onerous duties of a considerable practice at the bar, in chamber consultation, or on the circuit, he has still found leisure to become a high authority in the science of physics, a respected and influential member of the council of the Royal Society, and the author of numerous works of great merit and of permanent influence on physical science. As I consider Mr. Grove’s example as one of considerable importance, as evidencing not only what can be done in the intervals of a busy professional career, but also the influence exercised on the personal happiness of the student of science, I will take the liberty of hastily stating some of the principal results of his physical researches: 1st. He invented the Nitric Acid, or (as it is universally called) the Grove’s Battery, by which one of the most powerful chemical actions can be converted into an electrical action, and a battery of a square foot produce greater effects than those of the old form which covered the floor of a laboratory. 2nd. The Gas Battery, in which gases were first used as a source of continuous voltaic currents, and by which the combination of gases (oxygen and hydrogen, for example) at one point of space were made to produce the correlative effect of the decomposition of water, or, so to speak, the decomposition of the same elements at another point. 3rd. The Decomposition of Water by Heat; not the mere combination of oxygen with an oxydizable metal, and the liberation of hydrogen, but the separation of the two constituents by plunging in the water some inoxydizable metal, as platinum, in a state of incandescence. 4th. The Production of a Voltaic Current by Flame. 5th. The Evolution of Heat by a permanent Magnet. But the great work of Mr. Grove is that in which he has demonstrated the Correlation of Physical Forces. I have not time to enlarge on this important result of his labours; but the perusal of his work will at once gratify the student of such subjects, and prove how much of profound philosophy may co-exist with the active and energetic practice of a laborious profession. Now, as to the effect on the happiness of my distinguished friend. In a letter which I recently received from him, he says—“Science has given me great gratification; and in the early blank of my professional course, it made a life that is usually of the most dreary character, one of pleasing and useful occupation. I quite think, moreover, that, as a question of time, a man may better qualify himself for a profession by having another pursuit to which he is attached; the mind is more relieved by complete change of occupation than by ordinary recreations, which do not much interest a thinking man.”

I will now detain you only a moment, to refer to one distinguished ornament of the Bench, the present Lord Chief Baron of the Exchequer. After having been senior wrangler of his year, he entered upon the routine of practice at the bar, where, as Mr. Frederick Pollock, he attained to great eminence; he became Attorney-General, and was afterwards elevated to his present high position on the Bench. In the midst of all the onerous duties of his successive stages in the profession, his love of mathematical science, and even its earnest cultivation, was never lost sight of, and it was my fortune, during my period of office as Secretary of the Royal Society, to read there several very elaborate and abstruse papers of his on the properties of numbers. The Chief Baron has often expressed to me, in the warmest terms, the delight he has always had in prosecuting his favourite pursuit, even in the midst of his laborious judicial functions; and there can be no doubt that the remarkable freshness and cheerfulness of spirit by which he is now distinguished is attributable in no small degree to the influence of “the sweets of sweet philosophy” on a mind naturally attuned to happy and kindly associations.

But what shall I say of my next example! I would parody

Dr. Johnson's apostrophe to Falstaff, and exclaim, "But Brougham, inimitable Brougham, how shall I describe thee"! Engaged during all the early and middle portion of his life in the constant hurry of a large practice at the bar, where he astonished everyone who heard him by his irresistible and impetuous eloquence, occupying, at the same time, one of the most prominent positions in the Legislature, as the leader of a great party in the House of Commons, which night after night was shaken by the thunders of his declamation, he ultimately forced his way to the woolsack by the power of his intellect, and the influence which that intellect gave him in the State. But whether at the bar, in the senate, or on the judicial bench—amidst the wrangling of lawyers and of clients, the clash of parties, the solemn deliberations of the seat of judgment, or the not less serious discussions of the legislature,—this extraordinary man never lost sight of the delights of literature and science, and ever sought in them the relief required by the astounding mass of labour to which his mind was uninterruptedly subjected. Whether it were classical literature or history, whether mathematics or physics or natural history, or natural theology, whether, in short, it were science, or literature, or philosophy that engaged him, he shone, nay, rather, he blazed, alike in all; and the energy with which the favourite subject of the moment was followed out will be imagined from the fact, within my own personal knowledge, that his anxiety for the fate of a paper on Physical Optics, read before the Royal Society, was as intense and exciting as if the fate of the commonwealth, or his own well-being here and hereafter, hung upon its acceptance and publication. His whole life—a life spent in such incessant and harassing occupation as I really believe no other man ever underwent—has consisted of the most rapid and restless transitions from one absorbing subject to another. This, Gentlemen, is, indeed, an example of the "employment of intervals," of which it were vain to attempt the imitation.

I will add one more illustrious example of the co-existence of literary eminence with the study and practice of the law. Sir Walter Scott was of the legal profession, and in the earlier part of his life had gone through its usual and more than its usual labours and trials. It is unnecessary for me to occupy your time by dwelling upon the results of this great man's amusements—of the occupations of his leisure—for it was as a recreation that he first took up those studies and pursuits, which in the end led to the production of a series of works in poetry and in prose, second only to the marvels of Shakspeare himself. Who is there that has not been delighted and improved by the emanations of his brilliant and fertile genius, charmed by his style, carried away by the interest of his stories, enlivened by his wit, and at once astonished and improved by his almost miraculous knowledge of mankind, and his intuitive insight into the most secret springs of human conduct? and all this again was the result of the early employment of intervals. To the effect upon the thousands and tens of thousands who have been made happier and wiser and better by this transcendent genius, I have already alluded, and what must have been the charm which they exercised upon his own mind? He shall tell you. In the beautiful Apostrophe to his Harp, at the close of his most perfect, if not his most exciting, poem, occurs the following touching passage:—

"Much have I owed thy strains on life's long way,
Through secret woes, the world has never known,
When on the weary night dawned wearier day,
And bitterer was the grief devoured alone;
That I o'erlive such woes, Enchantress, is thine own."

But quitting the walks of the two learned professions to which I have hitherto led you, (for with some remarks on our own I shall presently close my address,) I will now offer you a few brief examples of the effects of the same means of happiness in those paths of life which, whilst generally supposed to be less favourable to such objects, must be allowed to require their healthful and beneficent influences more than all others. I refer to those avocations which, connected with trade properly so-called, include the merchant, the banker, and the tradesmen in every phase and grade. In these affairs, regarded abstractedly, there is little to interest the intellectual man. It is true that in very numerous instances they are associated with the cultivation of the most refined taste and the highest intellect,—but this is obviously extrinsic and adventitious,—and some even of our merchant princes have been, at least in former times, men of small education, of low habits, and unable to appreciate the charms of literature or philosophy. Here then it is that the storing of the mind with intellectual resources is so inexpressibly valuable. In exact proportion as

they are unnecessary in the vocation itself, they are the more important as a superimposed acquirement.

What must have been the enjoyment during the progress, and the feeling of delight and self-gratulation when the last line was penned by the greatest of living historians, of his profoundly learned and philosophical "History of Ancient Greece." This elaborate work, now completed in twelve large volumes, is the result of the employment, at first of intervals of business, and latterly of the learned leisure of a London banker; and Mr. Grote's name may well be placed at the head of those who, devoted by their profession to a mercantile life, have honoured that profession, and benefited and improved mankind by the learned occupation of their spare hours.

To another gentleman of the same calling, and one, too, who is never absent from the counting-house for an hour, in the usual period of daily business,—I mean Mr. Samuel Sharpe, we are indebted for a learned work on the History of Egypt, and I believe there are few more profoundly informed in all that relates to the mysterious art and literature of that ancient nation than he is. And this has all been acquired by the "employment of intervals." I will allude, too, to a brother of the last-named gentleman, my lamented friend, Mr. Daniel Sharpe, the late learned President of the Geological Society, whose deep researches in science were coincident with a close attention to his mercantile avocations. It is to a merchant in full occupation that we owe some of the most important improvements in the construction of the object-glasses of the microscope. Mr. Lister has long been an intelligent observer of microscopic nature, and has furnished—still in the intervals of his business—several interesting papers to the "Philosophical Transactions" of the Royal Society, in this department of science.

My friend Mr. Gassiot may be cited as a remarkable example in the same class. Immersed in extensive mercantile transactions, never absent from the counting-house at the earliest hour of city business, he employs his leisure in the successful cultivation of physical science; and not only as the liberal patron of such pursuits in others, but by his own personal application, has contributed greatly to its advancement, and has created for himself an honourable and useful position in the scientific world, where his worth is acknowledged by his having repeatedly been called to a seat in the Council of the Royal Society, and placed in the Chair of the Committee of the Royal Observatory at Kew. Mr. Gassiot's attestation to the value of these extraneous investigations is cordial and unexceptional, and rendered peculiarly valuable by his social position. I have, perhaps, already said more than is necessary in illustration of this part of my subject; yet I would fain bear testimony to the efficacy of the cause which I am advocating, on the happiness of one of the most estimable and habitually cheerful old men whom it has been my privilege to know. I need only name my late honoured friend, William Yarrell, whose life was one continued comment on the beneficent effects of the love and study of natural science on a heart peculiarly attuned to its cheering and elevating influences.

I might dwell upon the profound researches in physical astronomy of Sir John Lubbock, on the botanical acquirements of his partner, my old friend, the late Mr. Fowler, and many others. But I feel that I have already detained you too long in illustrating my position by examples drawn from other professions than our own. I have purposely deferred until the close of my address the statement of what has been done by certain members of our own profession in the same direction, in order to show you by example what you may do by similar means. I might cite within this category historians, poets, philosophers in every department; and swell the list to the extent of several lectures, instead of confining it, as I must now do, to the closing portion of one; and I have chosen such examples as appeared to me most likely to meet your own capabilities, and to be generally compatible with your own probable opportunities. I will therefore first offer you two illustrations drawn from that department of the profession which the majority of you will be called upon to follow—I mean what is ordinarily termed general practice. When I mention the name of John Mason Goode, those who are acquainted with the particular bent of his studies will see that I have made the selection because those studies were wholly removed out of the sphere of professional objects, and were not in any way collateral with them. His attainments in oriental literature, and particularly in the sacred languages—Chaldee and Hebrew, were, as his published works attest, of a very high order; and they were first attained, and afterwards employed, in the intervals of a large practice, which was in a considerable measure that of an accoucheur. Not an hour—nay, not a moment, of his waking time was unemployed. In going the

ordinary routine of his practice in his carriage, he was never without the means of study. If detained at a tedious case, the intervals of his attendance were passed, not in reading only, but in composing and in writing, and often on subjects of abstruse biblical criticism. His translation of one of the most difficult books of the Old Testament, and at the same time the earliest complete poem in the world—the Book of Job, and his translation and critical commentary on the Psalms, sufficiently attest how closely and laboriously, and how effectually, he must have occupied his every interval in studies as remote as possible from his ordinary duties. It would not be sufficient, however, were I to stop here. I must add, in order to render my illustration effective and practical, that his life was rendered at once more happy and more useful by these pursuits, and that, had he never made public the results of his lucubrations, they would still have afforded him an ample reward in the rational recreation, the peace and happiness which they afforded.

The next example I would offer you is of one whose constant cheerfulness in advancing age, and whose patience and resignation through much labour and severe affliction, are in a great degree to be attributed to the soothing influence of the love and study of nature upon a well-regulated and well-principled mind. The leisure minutes of a large and laborious practice have been employed by Nathaniel Bagshaw Ward in the prosecution of his botanical studies, not only with the happiest effect upon his own mind, but, by means of an ingenious application of simple but scientific principles, they have exercised a very extensive beneficial influence upon the happiness of mankind. The *Wardian case*, with the uses of which you are all well acquainted, has been the means of introducing, I may say with truth, hundreds of plants to our gardens, our hot-houses, and conservatories, which could only have been imported, before this invention, by expensive means and with great uncertainty; (and I need not do more than mention the pleasure which multitudes are now deriving from its application to in-door cultivation, in the closest and most smoky parts of cities, defying the usual destructive effects of an atmosphere which formerly rendered unavailing the most persevering attempts to bring the cultivation of the commonest flowers within the reach of the inhabitants of such localities,) and introduces into the drawing-rooms and boudoirs of the rich, and the workrooms and garrets of the poorer classes, the means of a rational and humanizing, and elevating enjoyment.

I must, however, restrain my inclination to multiply my illustrations. I will adduce in a few words the example of a distinguished physician, now no more, and that of a surgeon of the highest eminence still living amongst us.

Those who can look back, as I can, to the active period of the life of the late Dr. Babington, and who knew the bright halo of cheerfulness that constantly surrounded him; those who can recollect the warm benevolence of his heart and the active beneficence of his life; and can recall the association of all these qualities with the clear intellect, the calm and accurate judgment, and the sound practical spirit which characterized the practice of his profession,—and then combine with all these the zeal and delight with which he followed his favourite recreation of chemical and physical experiment, can scarcely fail to see, in this combination, a relation, in some degree at least, of cause and effect; and acknowledge that I have not erred in selecting an eminent physician, a most estimable and happy man, and an enlightened and zealous cultivator of science, as an example of that close alliance of these elements, the truth of which it is my object to exhibit.

I will close my illustrations by a brief allusion to one of our own contemporaries, than whom no one has done more to advance and dignify his profession,—few, more, to show its compatibility with the possession of high accomplishments in literature and philosophy. The advancing years of Sir Benjamin Brodie exhibit a beautiful example of the medical philosopher, who has employed the hours which were unclaimed by his more urgent duties in storing his mind with resources which, in the gradual approach of age, at once constitute the happiness of his own life and the almost unequalled charm which his conversation diffuses amongst his friends. To those who would see the perfect transcript of such a mind, I would recommend the perusal of a charming little work which this distinguished surgeon and philosopher has recently given to the world, entitled “*Psychological Enquiries*.”

And now, gentlemen, a few words, more immediately applicable to yourselves. Although it would be far from my wish to limit you, by my advice or suggestion, to any particular department of knowledge, the choice of which must be left to the tendencies which education or other circumstances have induced, yet there is a class of studies which peculiarly harmo-

nize with the professional education you are all to receive, and no less with the future occupation of your life. You will at once understand that I allude to the study of the natural sciences, and especially those which are usually designated by the term *Natural History*; and it is strongly confirmatory of this view of the consonance which exists between the study of medicine as a profession, and that of natural history as an extra-professional resource, that there have been few persons eminently distinguished as naturalists who have not received at least a medical education. Linnæus, de Jussieu, the Decandolles, Geoffroy St. Hilaire,—and in our own country and our own time, Robert Brown, the Hookers, Edward Forbes, and Goodsir, and Huxley, and Busk, with a host of others, and, above all, Owen,—have all been educated to the profession, and many of them have been engaged in more or less extensive practice. Cuvier might, at first thought, appear an exception; but, although never intending to enter the profession, this great man was so persuaded of the intimate and necessary connexion between the two objects, that he went through a regular course of medical study to prepare him for the noble career which, with the prophetic eye of true genius, he saw before him in the distant future. Buffon was no exception, for he was rather the eloquent biographer of animals than a scientific naturalist; to which character, indeed, he had no claim. Now, it is not merely that a knowledge of botany and of animal physiology forms an important portion of your studies here, and so far renders you acquainted with the ground-work of the future superstructure, but that the exactness and certainty, and, if I may so speak, that wholesome philosophical scepticism,—refusing to take any fact or theory upon trust, and requiring actual demonstration to sanction assent,—which essentially characterize your present studies, peculiarly prepare the mind, by habits of caution and close observation, for the weighing and valuing of the phenomena which form the basis of the generalizations of natural science. A circumstance, too, which is much to be lamented, tends in another direction to limit the intellectual recreations of the majority of medical students; I mean, the absence of a high class of early instruction in the usual branches of either literary or philosophical acquirements; and I would take the opportunity now afforded me, of urging the great importance to the permanent respectability of the profession, of a great improvement in this respect: without it nothing can give to the medical practitioner the status and consideration which are due to the momentous value of his office, and to the extent and depth of knowledge required for its successful fulfilment.

But to return to our more immediate object. The field of Nature is always open to your investigation. To those of you who are destined to practise in the provinces, and especially in rural districts, not a walk or a ride can you take without numerous opportunities of observing and noting some interesting fact or other, in the geographical distribution or physiology of plants, or in the habits and functions of animals, every one of which may become an element in some important theory and generalization of the science itself; and, when at home, after the fatigues of the morning's or the day's visitations are over, the recording of these facts, and a philosophical reflection upon their bearing or relations, afford a recreation at once elevating and satisfying to the mind. Then, as one of the most interesting means of minutely investigating the secret recesses of Nature, and, as it were, forcing yourself into her very privacy and most sacred haunts, the microscope is ever ready for the improvement of even an hour's leisure, and never fails to reward the observer with some new and beautiful phenomenon.

May I be allowed here to offer the actual experience of a very humble but sincere and grateful devotee of this delightful science. Commencing life under considerable difficulties, and with a very doubtful prospect of success; thrown, too, at first, almost entirely upon my own resources, an early fondness for the pursuit of natural history proved an inestimable boon in offering me a pleasing and never-failing source of pure and rational recreation, and gradually procured for me the acquaintance and the intimate friendship of many of the most distinguished cultivators of science in this country and abroad. In seasons of deep depression, in times even of overwhelming sorrow, the holy and tranquillizing influence of an intense love of Nature has proved a blessing beyond all price; and there is scarcely a gift which it has pleased God to bestow upon me for which I have cause to be more deeply grateful than for this. I do not wish to obtrude my personal feelings upon you, but I thought that this brief allusion to my own experience might have the more effect, as coming from one who had himself tried the means of happi-

ness which he recommends to others, and feels that he can best show his gratitude for the blessing by endeavouring to extend it as widely as possible. Allow me also to add, that my pursuits in this province were never allowed to interfere with the practice of my profession, and they have never retarded or diminished its success.

And now, gentlemen, let me guard myself against a possible misapprehension. It may be feared, that even with the limitations with which I have endeavoured to restrict my advice, there may be some danger lest the present study and future practice of your profession may be interfered with by the adoption of such a line of collateral research as I have been recommending to you; but if this be your impression, I have failed indeed to make myself understood. No, gentlemen, let the preparation for the practice of your profession be the primary object of your pupilage. Let no enticements of pleasure—not even of the pure pleasure of the pursuits of science—interfere with that great aim. Let the duties of that practice be the main occupation of your future life. Let no other claim be allowed to take your attention from that duty—the duty, namely, of fulfilling (to employ the simple but expressive language with which your childhood was familiar) that vocation unto which it has pleased God to call you. But this need not prevent you from devoting your leisure to the cultivation of other branches of knowledge, nor from enjoying the fruits of that cultivation in future years. And let it not be supposed that such a prudent pursuit of science will interfere with your professional success; that, if you are always ready at your duties, always punctual to your appointments, always thoughtful and absorbed in the cases to which you are called, always making the well-doing of your patients the obvious and anxious subject of your consideration, your proficiency in scientific knowledge, and the devotion of your leisure to its acquisition or enjoyment, will ever interfere with your professional success, or diminish the confidence reposed in your judgment. I have mentioned to you many cases which point strongly to the truth of this position. I need not recapitulate them. I know that it requires a certain amount of courage and independence, of bold disregard of the prejudices of the world, an abnegation of that selfish timidity which often leads to the resignation of even the most worthy designs from the fear of injuring our worldly interests; these fears, I am confident, are in the main unfounded; but even admitting that there are some persons so obtuse as not to be able to distinguish between making the collateral pursuit primary or subsidiary, it requires but a firm and consistent and modest perseverance in the right path to silence detraction and to remove distrust. But I will go still further, and venture to assert, that in many instances the acquirements to which I refer have been the means of promoting, rather than impeding, even professional success. The instances are not few, in which a general character for intelligence and the possession of scientific knowledge, first acquired only as a means of relaxation, have led to important worldly advantages. I will not, however, dwell upon this point, as I am anxious to impress upon you higher and more unselfish motives. Those motives are to be found in the advantages which I have already held out to you—the relief and solace of your daily labours, a tranquillizing and elevating resource in the intervals of occupation, a treasure of inexhaustible enjoyment in future retirement; and its results, a cheerful and peaceful old age, the augmentation of the general mass of human happiness, and the promotion of His glory to whom you owe the possession of so great a blessing.

TUMOUR PRESSING ON THE BRAIN.—M. Polerin du Motel presented to the Academy of Medicine of Paris, on the 21st of October, 1856, a preparation showing a tumour developed between the left margin of the pons and the corresponding lobe of the cerebellum. It had only a few vascular connexions with the pons, and the sensory root of the fifth pair was displaced by the tumour. A depression was noticed on the middle lobe of the brain, the pons and the cerebellum, in which depression the tumour had been lodged. The pons was, moreover, pushed to the right in a curved direction. The man from whom the preparation had been obtained had been in an idiotic state since his nineteenth year, and had died at fifty-three. No changes in motor or sensory powers were ever noticed, the man having only a rather awkward gait. He generally walked with his body leaning forward, his head inclining to the left, and affected with a constant slight rotation. From time to time, and at irregular periods, he had fits of delirium, accompanied with vertigo, in which he howled like a wild beast, and expended, in a few moments, the sum of motor power accumulated during long periods of inertia.

Contributions

TO THE

PHYSIOLOGY, PATHOLOGY, AND TREATMENT

OF

SPERMATORRHOEA.

By MARRIS WILSON, M.D.

PART III.

PURSuing the plan I have adopted in classifying the different forms of spermatorrhœa, as depending upon their special seats of excitement, I now enter upon a consideration of the prostate gland. The phenomena of disease affecting it are peculiar, depending very much upon the structural and functional importance which it bears in relation with the other organs. Structural excitement arising from spermatorrhœa seldom presents itself in a very acute form, but is apt to terminate in resolution of portions of the gland, and, in very aggravated cases, in abscess of the whole organ. Functional irritation occasions in the acute stage of spermatorrhœa a larger amount than usual of the prostatic secretion to be poured out, causing thereby great excitement of the urethra and the surrounding parts. In approaching the asthenic condition of the disease, the power of secretion and extrusion is so lost, that the earthy constituents are deposited in the ducts and sacculated tubules of the gland, in the form of calculi; while in the completely asthenic state, the structure of the gland itself almost entirely disappears. The application of the term "spermatorrhœa" does not appear quite so evident in this form of disease as in the affections of the organs I have previously described; but the use of the term will be perfectly justified, if we remember that the secretion of this organ forms part of the seminal fluid, being a highly necessary adjunct thereto, and the excessive loss of which entails those effects understood as the consequences of spermatorrhœa.

A short description of the anatomy of the prostate gland will not be out of place. Shaped like a Spanish chestnut, it is placed at the anterior part of the bladder, with its apex turned forward. It encloses in its upper third about an inch of the urethra at its commencement; the under part is traversed by the ejaculatory ducts. The prostatic portion of the urethra admits of considerable distension. The two lateral lobes of the prostate are united by the middle lobe, which connects them at their base, and is so disposed as to offer an impediment to the recession of the seminal fluid into the bladder. The bulk of the gland is composed of compressed ramified ducts, the secretion from which is poured into the urethra by the sides of the veru montanum from fifteen or twenty excretory tubes. This gland progresses in its development in a like proportion with the other organs of generation, indicating by this circumstance a purpose bearing special reference to that phenomenon. Unlike the more special organs, however, when the generative force ceases in old age, the misdirected activity of the prostate is apt to occasion several forms of troublesome disease.

I shall now subject the prostate gland to the physiological question by which the purpose of the other organs has been tested, and we shall arrive at something like an estimate of the want of knowledge existing with respect to it. What is the use of the prostate gland? Richerand says: "The mucous and whitish fluid secreted by the prostate gland mingles with the semen, adds to its quantity, and is perhaps emitted first, in order to lubricate the internal surface of the canal, and prepare it for the passage of the seminal fluid, by rendering the internal surface of the urethra more slippery." In March, 1855, Dr. Carpenter says: "Of the nature of this secretion scarcely anything is known; and it can be only surmised that the use, like that of the fluid of the vesiculæ seminales, is to dilute the seminal fluid, and to give it such an increase of bulk that it may be more effectually conveyed within the female passages." (*Principles of Human Physiology*, fifth edition.) In August, 1856, Dr. Carpenter, in the third edition of the "Manual of Physiology," echoes the same opinion, by observing: "The fluids of the vesiculæ seminales and of the prostate gland (which seem to serve for the