

Methods of work / by G. A. Gibson.

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Gibson, George Alexander, 1854-1913.
Royal College of Physicians of Edinburgh

Publication/Creation

Edinburgh : Young J. Pentland, 1901.

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METHODS OF WORK.¹

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It seems to me that this session a departure from my usual custom as regards the opening day may be not only permissible but indeed advisable. Feeling that even the whole of a long winter term is all too short for the Science and Art, or, as we are more commonly in the habit of putting it, the Principles and Practice of Medicine, the first lecture has almost invariably been devoted to the real commencement of the work of the session. But on this occasion you will allow me to address you with some words of a more general character.

There are abundant reasons for such a course. We are still upon the threshold of a new century, although you have during the last few months no doubt heard this so often that you may already think it old. Such a limit of time is purely arbitrary, yet it has become so thoroughly rooted in the thoughts of mankind that we must regard it as a useful convention. Like many another arbitrary limit of time, it is of use by affording us an opportunity of looking back and looking forward.

When we turn our eyes backwards upon the century which has so recently closed, we cannot fail to be struck by the fact of its having been above all else an era of progress. The spirit of advance has been seen in every branch of human knowledge, but perhaps most of all in that to which we have devoted ourselves. It were tedious to attempt even a short summary of the vast additions to the various departments of medical knowledge, and no such attempt is necessary. You are all familiar with the main features of the medical advances of the nineteenth century.

In the middle of last century, Goodsir was in the habit of say-

¹ An Introductory Address at Minto House, Edinburgh, 15th October 1901.

ing that in the early days of modern science those who laboured in its fields might be likened to reapers, those who followed at a later period could only be regarded as gleaners, while he and his contemporaries were to be fitly compared to the geese who picked up what was left on the stubble. But since the period in which this statement was made there has been vast progress in every department of the medical sciences. It is probable that Goodsir was only thinking of Anatomy when he uttered it, yet even in that subject—the oldest of the handmaidens of medicine, and therefore the most elaborated—important additions have been made. Witness the topography and structure of the brain, on which some of our mutual friends have made their mark so deeply. And when we turn from this eldest sister to the younger members of the family of Medical Science—Physiology, Pathology, Bacteriology, Pharmacology, and the rest of them—we are not merely astonished by the conquest of facts, but we are entranced by the vistas of possible conquests in the future which are opened up to our imagination.

While we stand in admiration of the advances we see on every hand, we cannot but remember that they involve much harder labour for those who tread the paths of medicine. The accumulation of knowledge and the diffusion of speculation render the general mass of information, which it is necessary for us to acquire, more and more weighty every year, and the palimpsest of the brain, as De Quincey¹ termed it, must be graven with an ever increasing burden.

Face to face with such facts, it will be clear to every one that our vocation is no flowery way or primrose path. No, it must be, nay it is, one of strenuous endeavour. Not by sitting with folded hands can we ever enter the temple of knowledge. The mental condition depicted in the poet's beautiful "Choric Song" will not lead us far within it:²—

"Let us swear an oath and keep it with an equal mind,
In the hollow Lotos-land to live and lie reclined
On the hills like gods together, careless of mankind."

Such, in the chaste word-mosaic of our late Laureate, is the mind of the wanderers after tasting the enchanted fruit. But this, it need not be insisted, were a fatal state for us. Hard, honest work was never more needful in the whole history of the world than it is now. Yes, instead of the dreamy languor of the "mild-eyed melancholy Lotos-eaters," we should assuredly strive to maintain the attitude of mind denoted by the lines of one who has been a source of refreshing to every age since the revival of letters:³—

"Quocirca vivite fortes
Fortiaque adversis opponite pectora rebus."

¹ De Quincey, "Suspiria de Profundis."

² Tennyson, "The Lotos-Eaters."

³ Horace, "Satires," book II. Sat. ii.

These remarks have been made on the assumption that the mind of every one of you has been made up as to the necessity of work. The youth's choice, if we may call it so, has been a favourite subject for the painter in every age. The earliest known picture of Raphael, and one of his greatest masterpieces, represents a young knight asleep below a laurel tree, the emblem of honour. A fair girl, beautifully attired, stands by, offering him a myrtle flower, the significance of which needs no comment; while another damsel, with grave mien and simple raiment, bends over him from the other side, offering a sword with her right hand and a book with her left—power and knowledge to aid him in the battle of life. From the clean-cut features and the well-knit limbs of the young knight it is not difficult to divine what will be his choice.

To return—the age we live in is above all an epoch of work. Evidences of this are to be seen on every side. The varied triumphs of the last century, which though dead yet speaks to us, could not have been achieved without labour. Sometimes a new light is vouchsafed, or a fresh fact is attained by a flash of genius; much more often, however, such advances are the result of long-continued exertion; and genius may then be held, as it has been put, to be the faculty of taking infinite pains.

But we do not only see proofs of this tireless industry around us; some of the greatest writers of the age have consecrated many of their pages to the importance of work. To three of these you will allow me to direct your attention very briefly. Our fellow-countryman Carlyle has given us, in one of his most picturesque books, glowing descriptions of the work done in the olden times by a mitred abbot of the Church, and has shown how in his view the methods of the old ecclesiastic should be applied in our own days. His hope for the future lies in governments that will guide, a working aristocracy, the nobleness of labour, and captains of industry. "For there is a perennial nobleness, and even sacredness in Work." "The latest Gospel in this world is, Know thy Work and do it." "Blessed is he who has found his work; let him ask no other blessedness." "Labour is Life: from the inmost heart of the Worker rises his god-given Force, the sacred celestial Life-essence breathed into him by Almighty God; from his inmost heart awakens him to all nobleness,—to all knowledge, 'self-knowledge,' and much else, so soon as Work fitly begins."¹ These are but a few of the truths which may be brought before you, by way of illustrating the views of this great writer.

Tolstoy, certainly one of the most striking personalities in the world of letters of our time, is also never weary of insisting on the necessity of labour, and in one of his most recent works he urges a return to the state of society amongst the early Christians. The retention by the labourer of such results alone of his labour as he can use, and the yielding of all superfluous products of

¹ "Past and Present," book III. chap. xi.

industry to the common good, is, according to him, the only true principle of human life. "Work, brother! Work is happiness." Such is the burden of his theme.¹

Zola devotes his latest tale to the subject of work. In this remarkable volume, carefully conceived and minutely elaborated, like a pre-Raphaelite painting, the author preaches the doctrines of Fourier the collectivist. His hero, Luc Froment, a relative of the clergyman who figures throughout the series of the Three Cities—Lourdes, Rome, Paris—and engaged in an industrial vocation, is struck by the sights which he sees in a busy centre of production. The hatred for work shown by the labourers, their debased lives and brutal pleasures; above all, the degradation of their wives and sisters—these facts pierce his heart and render him, one night in a friend's house, absolutely sleepless. Rising from his bed he glances at the bookcase in his chamber, and sees the whole array of the collectivist authors—Fourier, Saint-Simon, Comte, Proudhon, Cabet, Leroux, and many others. Taking down one of these, a little volume by one of Fourier's disciples, entitled "Solidarité," he reads it with care, and, fascinated by its teaching, makes up his mind at once to strive for the furtherance of its doctrines. How the hero of the story succeeds in building up an association on these principles, how it flourished in contrast to a neighbouring town belonging to a capitalist, cannot be detailed here. "Et c'était le travail roi, le travail seul guide, seul maître et seul dieu, d'une noblesse souveraine, ayant racheté l'humanité qui se mourait de mensonge et d'injustice, la rendant enfin à la vigueur, à la joie de vivre, à l'amour et à la beauté."²

Thus these three great writers, starting from very different points of departure, and travelling along widely diverse paths, arrive at the same end—the necessity and the happiness of work. From the silent moors of Scotland, from the lonely steppes of Russia, and from the gay boulevards of France, we hear the echo of a similar strain.

However widely we may differ on matters of principle from many of the views on social subjects which they teach, we shall all doubtless agree with the contention of these writers in respect of the necessity of work, and we have all certainly found a real pleasure in its accomplishment. Each task we overtake, every goal we reach, renders further endeavour more easy, and future achievement more complete. It will be my duty, as it will be that of the other teachers whom you may elect to follow, to show you the example, so far as strength permits, of unstinted exertion. And from my experience of the students of medicine in the Grey Metropolis of the north, there can be no doubt that you will not only follow our lead, but by your generous emulation will stimulate us to fresh endeavours.

¹ "Work whilst ye have the Light," chap. x.

² "Travail," livre III. chap. v.

One of the most important subjects which must demand our attention is to determine the limits of useful work. We are surrounded by problems of life on every side, some soluble, others insoluble. We can peer into the darkness surrounding certain of these questions, and ascertain a number of truths. We can follow out the inevitable consequences of the inexorable sternness of nature; we are able to discern how our acts, whether good or evil, are the beginnings from which a long train of efforts will arise; we can trace out the consequences of such acts in the hereditary transmission of qualities; and we can observe the modification of every organism by its environments. We cannot, however, tear aside the veil which hides from us the origin of life, and we cannot see its beginnings. We do know that there must have been a beginning, for the realm of nature has had its origin, "not in the utmost depths of a past eternity, but separated from the present time by a finite interval."¹ Thoughts such as these will show us what is ascertainable and what is beyond our possibilities of investigation. No matter how fascinating speculations may be upon the deep things hidden from our eyes, it is our first duty to study those within our ken.

It is a trite, but none the less true, saying, that it is not work but worry that kills. Hard work, in very truth, never kills, so long as it is carried out on sound foundations. And these foundations must be built upon the laws of nature.

Everything in nature is rhythmic; the rhythm is as exquisitely timed as a beautiful melody; the cadence of the melody is work and rest. The virgin tints of spring, with its budding promise, merge into the lush profusion of summer, pass into the harvest glories of autumn, and fade into the pallid death of winter. The rosy fingers of the dawn steal upon the eastern sky, and the morning breeze—the fabled breath of the sun's panting steeds—ushers in the coming day; the flying hours chase each other across the vault of heaven, till the evening star lights the silvery lanterns of the night. Man awaking with the morn rises from his couch with renewed energy, and labours till the evening, when sleep falls sweetly upon his wearied eyelids. Summer and winter, day and night, sleeping and waking, repeat the rhythmic strain. Nay, we may go further, for every throbbing pulse has its periods of action and repose, every breath we draw is instinct with the same sequence. If we are wise, we shall follow as closely as we can in the path thus clearly indicated, for

"'Tis nature's voice, and nature we obey."²

There seems to be very considerable difficulty, in view of the enormous amount of knowledge you have to acquire, in arranging for the due alternation of work and rest. Let me say at once that

¹ Clerk Maxwell, "Address, Brit. Assoc., Liverpool," 1870.

² Homer, "Iliad," book II. (Pope's Translation).

it is far from my intention to impute blame to any one for the difficulties which we can see. The present system has gradually grown up during the last two centuries. At first there seems to have been only one session in the year—during the winter—and the students at that time, if they were so fortunate as to be country born and country bred, were able for nearly six months in every year to enjoy the beauties of nature. Happy youths! Judging of their labours by the records of the Royal Medical Society, as well as by direct or indirect references to their work in hospital reports and published papers, the long holiday of summer seems to have been the means of refreshing their energies, and they appear to have struggled strenuously with their tasks while at their studies.

This was not, however, the fate of all, for some students of medicine, we know, spent the summer in doing duty as unqualified assistants. It has to be remembered in this connection that in those days some form of the apprentice system was more or less in vogue on both sides of the Tweed. Even this alternation of attendance on lectures during winter and practical work during summer may, nevertheless, be regarded as restful, seeing that it furnished a change of occupation.

New subjects had one by one to be included within the medical curriculum, and to meet the increase in their number a summer session was added to that of the winter. Then, instead of beginning early in November, the winter session commenced earlier and earlier, so that, on at least one occasion, it began at the end of the first week of October. By and by it was discovered that four years were insufficient for the enormous amount of work which had to be got over, and about ten years ago it was decreed that, for the future, no one should be allowed to obtain a registrable qualification unless he had spent five years in medical studies. This is simple narrative, and it complains of no one, it censures no one; the course of events has been as inevitable as the footsteps of Fate in an old Greek tragedy. But the pity of it is, that with the addition of the fifth year to the curriculum, matters have not mended. Perhaps it would be too hard to say that the present state of affairs is worse than ever; it certainly is no better.

Now, last winter there was a Commission. These words make me almost imagine there is an echo to the effect: "‘There was a ship,’ quoth he."¹ You all know that there was such a Commission, and probably most of you know that those of us who were members of that Commission went through a considerable amount of arduous exertion. It is, however, not invidious to say that Mr. Hall, the secretary, spared neither time nor energy in its work. The labours of the Commission were necessarily limited to suggestions for a simple rearrangement of the subjects of the curriculum. We were urged on many sides to suggest certain radical

¹ Coleridge, "The Rime of the Ancient Mariner."

alterations, but, knowing the limits of power possessed by the Senatus and by the Court, we forbore. To have made any other proposals would have been to stultify ourselves, since it appears beyond the limits of possibility to effect any greater changes, without invoking the authority of the Privy Council, or its Scottish Universities Committee. Recognising that the movements of their machinery are like those of the "mills of God," we should have been wasting our time and our paper if we had done more.

A good many of the suggestions were warmly approved of by individual members of the Senatus Academicus and by almost the entire Extra-mural School, and it is a matter for congratulation that some of the proposals have been endorsed by the action of the University authorities. To condescend upon particulars, it is fortunate for the entire school that the Hospital hours, from eleven onwards, have been set free for Third Year men and their seniors.

It may savour at present of the Utopian to offer any further suggestions, but, having thought much upon the subject during the last few months, you will allow me to state some of the changes which would, in my opinion, conduce to the welfare of the entire medical school, certain of which will undoubtedly before long pass into the domain of realisation.

The first alteration is one of a somewhat radical character. Instead of the winter and summer session, which have for so long occupied the academic year, it would be infinitely better to have, as at Cambridge, three terms, beginning respectively in October, January, and May. My views on this subject are entirely in accord with those of Dr. Richard Berry, who lately produced a thoughtful article upon the subject,¹ and these views are shared by a very large proportion of those who have devoted any thought to the curriculum. If this improvement were carried out, it would render the rearrangement of the curriculum a simple matter, and although the suggested change has been called radical, there are not wanting indications, even on the part of the University authorities, of a need for some such arrangement. Certain courses of instruction even now begin in October and end at Christmas, while others begin in January and terminate in March. With three terms of ten weeks each, the various courses of instruction can be fitted in much more easily, and with a due sense of proportion. Botany and Zoology would, as at present, each have a three months course, to which practical classes would be added, and possibly Physics might be adequately treated, from the medical point of view, in a session of equal length. Chemistry would require two terms, and Practical Chemistry would require a third. Anatomy and Physiology in their systematised forms would certainly require six terms each, while Pathology would need at least three. In these three subjects adequate time would also be required for practical and technical instruction. With regard to

¹ *Edin. Med. Journ.*, New Series, vol. x.

Materia Medica, a three months course of instruction in Pharmacy should be taken early in the curriculum, and at a later period a course of lectures on Pharmacology and Therapeutics should occupy two terms. This is known to have been the intention of Professor Fraser, but somehow, in the working of the Scottish Universities Commission, his wishes were not carried into effect. Medical Jurisprudence would receive a three months term, and Public Health a similar period. A much-needed improvement would be the separation of Midwifery and Gynæcology into two courses of three months each, which might be attended during two different summer terms. When we come to Medicine and Surgery, we find that the proposed system of three terms in the year would be most helpful. These two subjects should certainly have three terms each. In this way they could be adequately treated, and the apparent necessity for second courses would disappear. The clinical opportunities of the medical student would be considerably increased by a thorough arrangement of the systematic courses, and more time would be permitted for the study of Insanity, Ophthalmology, Otology, and Laryngology, Dermatology, the Diseases of Children, and any other special departments which are already, or may in the future, be recognised.

My views with regard to Examinations entirely accord with those of Dr. Berry. They ought to be held more frequently, and no candidate who has been rejected in any group should be allowed to proceed to the next course of instruction until he has passed. But there is one very important point as regards the final subjects which would be a great advance. Candidates should be examined at the end of the fourth year in the systematic aspects of Medicine, Surgery, and Midwifery, and the real Final Examination should be, as in the University of Dublin, upon clinical work in these subjects, along with the various special departments. In this way the fifth year would be an enormous boon to the future medical practitioner, as it would more thoroughly equip him for his life's work. To do this would be to carry out the spirit of the General Council, which allows the student to spend at least part of the final year in purely practical work.

In making these few remarks upon this branch of our subject, it is possible my views run counter to some of my colleagues, but it has been my endeavour to avoid any strictures that might give pain to any of them. We cannot all see eye to eye on such matters of detail, but we can recognise that each of us is solely actuated by an unselfish desire for the good of the whole school. It is probable that every one of us who is engaged in teaching is more or less tempted to lose a true sense of proportion, and to exaggerate the importance of his own subject. But the earnest aim of those who have deeply at heart the welfare of our Alma Mater is to yield in minor points of detail if we can secure the acceptance of weighty matters of principle.

You may think that my pleading has been for less work. Far from this, my sole wish is that you may be so favourably situated as to be able to turn out a greater amount, and a better quality of work, with the opportunity of taking better care of your health. More system in work; less waste of time: less sitting on benches; more hours in laboratory, ward, and dispensary: above all, more time for the open air. Such are the aims which have led me to make these remarks. And one of the greatest boons which could be obtained would be to have all lectures over in the forenoon, so that the afternoon would be free to a greater extent than at present. Celsus¹ tells us that it is the duty of every one to spend some part of every day in caring for health. How is that possible under present conditions?

Without due care for the health of the body, there cannot be sound health of the mind. This is a truism, no doubt, but it is a truism which the modern medical student seems to be expected to ignore. In respect of this matter, it is to be hoped that he will not follow the example of Allan Breck, who, you remember, had "a grand memory for forgetting."² No, let me ask you rather to bear in mind the words put in the mouth of an afflicted monarch by the greatest of English authors:³—

"We are not ourselves
When nature, being oppress'd, commands the mind
To suffer with the body."

In one of Ruskin's later attempts to lead the people of this country to ponder over and care for the welfare of the people, he makes the remark:⁴—"In fact, it may be discovered that the true veins of wealth are purple—and not in Rock, but in Flesh—perhaps even that the final outcome and consummation of all wealth is in the producing as many as possible full-breathed, bright-eyed, and happy-hearted human creatures." It is primarily intended for the man engaged in manual labour; it is no less applicable to him who devotes his life to mental effort.

If we give due proportion of time to work, to exercise, and to rest, we shall all be able to make the most of our lives for others as well as ourselves, and we shall then be able more fully, and more fruitfully, to act up to the advice of one to whom this country owes more than tongue can tell:—

"Go to your work and be strong, halting not in your ways,
Baulking the end half-won for an instant dole of praise.
Stand to your work and be wise—certain of sword and pen,
Who are neither children nor Gods, but men in a world of men!"⁵

¹ "De Medicina," liber i.

² Stevenson, "Kidnapped," chap. xviii.

³ "King Lear," Act II. Scene iv.

⁴ Ruskin, "Unto this Last," Essay ii.

⁵ Kipling, "The Seven Seas," *A Song of the English*.





