

STUDENTS OF THE UNIVERSITY OF GLASGOW

I was abroad during most of the period of the Great War. Its events are deeply rooted in my mind and it appears difficult to get away from its splendour, its sacrifice, and its terrible tragedy. This is my excuse for mentioning the subject at the beginning of my address. You are most of you too young to have been personally engaged in the great struggle. But there are lessons to be learned which it is well not to forget. No one, I think, before the War could read the "Homes of England" without some feeling of uneasiness and alarm –

"By a Divine instinct men's minds mistrust
Ensuring dangers, as by proof we see
The waters swell before a boisterous storm."

Or as Byron puts it many were conscious of "the murmuring prelude to the ruder gale."

Before the War we lived in an age in which the nations of Europe were engaged in silent warfare. Britain could say with the Psalmist "I labour for peace, but when I speak unto them thereof, they make them ready to battle". The Military Autocracy of Prussia worshipped nothing but the Sword and the Golden Calf.

Modern Germany deserted the ideals of Christianity, which have influenced so deeply the mind and life of the British people, and this made the Great War unavoidable and inevitable. In olden time it was written:

"The walls of Athens are impregnable,
Their firmest bulwarks – her heroic sons."

And these lines were true in the Great War of all the British peoples, for Britain's walls consisted of the impregnable rampart of her heroic sons.

Twenty-four centuries ago, the first champions of liberty routed and destroyed the barbaric hosts, which the will and power of an ambitious king had gathered to crush the civilisation of the world. The battle cry of the victors, as they dashed upon the foe, is our cry of yesterday, consecrated by the wider vision and revelation vouchsafed to us; but it is fresh and true as when it first rang out at Salamis:

"Sons of the Greeks, speed on!
For freedom strike, the freedom of your land,
Of wives and children, of the hallowed fanes
Where your forefathers worshipped, and the graves
That keep their bones. All's now at stake!
Now is the fight for all!"

Have you ever attempted to realise the matchless heroism and constancy of the vanguard – the first seven divisions of Britain's mighty armies? Does not your blood kindle when you think that these men were your brothers, at any rate they were all of the stock from which you come? Do you realise that the vanguard all told numbered eighty thousand officers and men? That the Germans numbered eight hundred thousand men. Our vanguard was never defeated: it was almost destroyed, but day by day, it imposed its will upon the enemy. The path of duty and of sacrifice of our

vanguard stands out as one of the grandest monuments in our rough island's story. It is not of transcendent importance that the manhood and womanhood of our country in the coming years should be worthy of the courage, of the constancy, of the grit and of the self-sacrifice of our people during the Great War?

We Britons fought for Faith, for Honour, for righteousness, and for Freedom; and the paradox then was more true than ever before "that he that loses his life shall save it."

"On Fane's eternal camping ground
Their silent tents are spread
And Glory guards with solemn round
The bivouac of the dead!"

Of those who gave their lives to the great cause we may use the glorious words of St. Paul,
"Opera Sequentia illos".

These few words are intended to be a humble tribute to the immortal valour of the Scottish regiments.

The best part of my life is behind me. The best part of your life, I trust, still remains to be spent. Under the circumstances, you will perhaps pardon me if I express to you my best wishes for the coming time, and also offer you a word of advice – though I know, of course, that advice is seldom welcome. But I have a long experience of professional life, and a little experience, gathered from mine, will perhaps be useful to you.

The motto which should be that of every student of Medicine is the old Latin line:

"Labor ipse voluptas"

for it points the way to happiness, self-respect and success.
The same thought is found in Shakespeare:

"All things that are
Are with more spirits chased than enjoyed"

And perhaps best of all in the words of Robert Louis Stevenson

"To travel hopefully is a better thing than to arrive,
And the true success is to labour."

When I entered the profession of the work of the experimental school of Pasteur and Lister had but commenced to influence practice. Intestinal and gastro-intestinal anastomosis were unknown. The reduction of intussusception was attempted by means of the kitchen bellows. The operations for brain tumour and brain abscess were unknown. No operations were performed on the heart and spleen. Patients with renal or biliary calculi, and with appendicitis or peritonitis, were left to their fate.

Much of what is now current surgical practice was, when I was a student, considered too hazardous to attempt or was altogether unknown. You, who are about to enter the profession, will have unfolded to your view quite another picture. You will find ready

to hand a precise and well-proved surgical technique, beautiful aseptic operation rooms, well-equipped laboratories for research, instruments of precision, and elaborate laboratory methods of diagnosis and treatment. You will see, when you visit the Surgical Clinics of great cities, an endless succession of major and minor operations, which concern every part and every organ of the human body, being performed successfully day by day. You will witness, and I hope will soon take part in, a constant struggle to improve our operation methods, and a continuous effort by the aid of experiment to attain “things unattempted yet,” in surgical practice. Sepsis, diphtheria, typhoid fever, yellow fever, carcinoma following X-Ray dermatitis, and other diseases take their toll among the heroic workers who are pushing forward in the front rank of the advance of medicine and surgery. Yet you will find, as witness the hundreds of British doctors who have been killed and wounded in the great war; you will find, I say, the doctor of the past, of this age, and of all the coming years “endued with comprehension and a steadfast will to take one step forwards and to secure that step.”

A striking example of the importance of attention as a principal factor in the intelligence of animals is related by the late Dr Bastian. The facts were communicated to Darwin by the late Mr Bartlett of the Zoological Gardens in London. A man who trained monkeys to act, used to purchase common kinds from the Zoological Society at the cost of £5 each, but he offered to give double the price if he might keep 3 or 4 of them for a few days, in order to select one. When asked how he could possibly so soon learn whether a particular monkey would turn out a good actor he answered that all depended on their power of attention. If when he was talking or explaining anything to a monkey its attention was easily distracted, as by a fly on the wall, or other trifling object, the case was hopeless. On the other hand a monkey which carefully attended to him could always be trained.

So it is with you and with me, and, indeed, all students of Medicine, nearly everything depends on the power of attention, for without it knowledge cannot be garnered and the case is hopeless. Those, on the other hand, who cultivate carefully the power of attention have the assurance, not only of present success, but of a future bright with promise.

The progress of our Science and Art in the present day rests in great part on the labours of past generations. As Carlyle so well said;-

“The craftsman there, the smith with that metal of his, with those tools, with these cunning methods, how little of all he does is properly his work All past inventive men work there with him as indeed with all of us in all things.”

During the American Civil War one of the most famous songs of the soldiers of the North was “John Brown’s body is mouldering in the dust, but his soul is marching on.”

I do not know the causes which have determined your choice of medicine as a profession, but let me offer you a most hearty welcome. The study of Medicine and other Sciences confers on you the prospect of the exercise of all the highest and noblest qualities that man possesses; and opens out to you a vision of truth, order and beauty; ever growing wider and wider as you learn more and more of Nature and her laws. Can any fairer prospect unfold before the gaze of any human being at the outset of his career? It is for you to seize upon Fortune. It is for you to determine the issue.

Soon those who are prominent now in the fight will have passed away; and in you, if you resolve earnestly to use these early days of your studentship, if you vow your life to Medicine, and if you give it to her wholly, “a bright, stainless, perfect life – a knightly life”, John Brown’s soul will be marching on, and the years of your life will be as full of blessing to humanity as those of your teachers have been before you.

The licence to practise, though it does not close your studentship, does add to your responsibility as you are then commissioned to go forth to investigate the phenomena of Nature in health and disease. The joy may soon be yours which attends the first realisation of the power of knowledge, the first successful effort to combat some pain or sickness in the body of a patient committed to your charge.

I hope many of you have taken a degree in Arts before launching yourselves on a voyage destined to lead you far in many of the natural sciences. The more your intellect has been exercised in the classics, in mathematics, in philosophy and in history: the more easily you will assimilate and delight in the facts, the laws and the problems of those sciences to which your studies are now mainly directed. Bacon and other great thinkers are unanimous in this, “that no natural phenomenon can be adequately studied by itself.” The Natural Sciences are so intimately related, that each one, in as far as it has been mastered, will illuminate phases and dark areas in the others. Our profession demands, not a minimum of general knowledge, but the maximum that can be obtained. In my experience the men in our profession who have had only a scientific education seem sometimes to have one side only of their minds developed. I am sure it is best not to become so engrossed in the study of the medical sciences as to be unsusceptible to the charm and claims of other byways of knowledge. Your life will be spent in the laboratory of the world, amongst diverse types of mankind, and to be in the best sense a successful doctor you must be not only scientific but human.

The man who thinks only of his patient as an interesting pathological specimen does not succeed in practice. Think of the tragedies and sadness which day by day we witness. The relations and friends want to know, not what is the intimate nature of an obscure and serious illness, not whether an interesting post-mortem examination may be expected, but what are the chances of recovery. Devote yourselves without stint of time, and labour, and trouble, to your patient. Never give in, however grave and hopeless the illness, while life lasts – and you will have your reward.

On the walls of a famous surgical clinic is emblazoned the legend:-

“Ohne Gluck and Gurst ist Weissheit und Kurst umsunst.”

There appears to be a hidden meaning in these words beyond that conveyed by the English translation – “Without luck and favour, Knowledge and Art are in vain” – perhaps somewhat akin to the thought expressed by the Psalmist:-

“Except the Lord build the house, their labour is but lost that build it.”

“Except the Lord keep the city, the watchman waketh but in vain.”

From the surface meaning of the words as applied to surgical practice I entirely dissent. If a new wound heals by first intention, the surgeon has but done his duty; and luck and chance do not come in; but if the wound suppurates, the surgeon has no justification in assigning the disaster to luck or chance.

The Divine gift of Judgment,

“For judgment only doth belong to Thee”

is incommunicable, but I demur to the view that the possession of this gift is confined to the select few – Pope says:

“For if we look more closely we shall find
Most have the seeds of judgment in their mind.”

We speak of some animals as being sagacious, and the sagacity of brutes is allied to the talent of instinctive judgment in man. An acute observer once said to me of one of Britain’s greatest physicians: “He was the most sagacious beast I have ever known.” It is true that in times of stress and doubt some exhibit clearer insight and greater courage than others. In these the talent of judgment has been zealously nurtured. The lazy and indolent surgeon,

“His wit, all see-saw between that and this
Hangs between in doubt to act or not”

Will never possess the Divine gift of judgment. The patient will be lost: -

“For things bad begun make strong themselves by ill”

The life of the Doctor is so closely bound up with all the most intimate phases of human life, it touches so closely the finest and deepest chords of the life of man, that it is not surprising that literature teems with references to our profession.

Often in the most satirical and humorous descriptions of the Doctor’s life there is some underlying truth, which makes the satire or the humour all the more pungent.

Dr Sangrado combined a glib tongue with very active methods of treatment. No one could say of him, as we can of the charlatans of the present day, that

“Mere prattle, without practice, was all his soldier-ship.”

In appearance Dr Sangrado was tall and withered. He is described as the learned forerunner of the undertaker. His routine diagnosis was obstructed perspiration. His staple remedies were drenching and bleeding. He believed it was a mere vulgar error that blood was of any use in the system – “the faster you draw it off, the better.” To live, he said, was merely not to die; a patient has no more occasion for blood than a man in a trance. It is recorded that Dr Sangrado despatched business so fast, that the fraternity of notaries who made wills, found half their jobs spoiled, as they could not keep pace with him. Notwithstanding all this farrago of nonsense, it is true that in certain cases bleeding is an excellent remedy, and that drenching is patronised yearly by the fashion who over-eat themselves now, as they did in Valladolid, in Sangrado’s time, during most of the year.

In the case of Mr Pilgrim the satire is directed against his commercial instincts. Mr Pilgrim's estimate of even a confiding patient was apt to rise and fall with the entries in the day book. He was known to have discovered the most unexpected virtues in a patient seized with a promising illness. A good inflammation fired his enthusiasm, and a lingering dropsy dissolved him into charity. Gradually, as his patients became convalescent, his view of their characters became more dispassionate; when they could relish mutton chops, he began to admit that they had foibles; and by the time they had swallowed their last dose of tonic he was alive to their most inexcusable faults.

Passing from this sordid view, we have in the "Crown of Wild Olive" a noble statement of our relation to the necessary but always difficult question of fees.

"A good soldier mainly wishes to do his fighting well. He is glad of his pay – very properly so – still his main notion of life is to win battles, not to be paid for winning them. So of doctors. They like fees no doubt – ought to like them; yet, if they are brave and well educated, - the entire object of their lives is not fees. They desire to cure the sick; and if they are good doctors, and the choice was fairly put to them, they would rather cure their patient and lose the fee, than kill him and get it. And so with all brave and right-minded men; their work is first, their fee, second – very important always, but still second. This is no small distinction. It is between life and death in a man; between heaven and hell for him. You cannot serve two masters; you must serve one or the other. If your work is first with you, and your fee second, work is your Master and the Lord of Work, who is God. But if your fee is first with you, and your work second, fee is your Master, and the lord of fee, who is the Devil, and not only the Devil, but the lowest of Devils – "the least erected fiend that fell." So there you have it in brief terms; work first – you are God's servant; fee first – you are the Fiend's. And it makes a difference, now and ever, believe me, says Ruskin, whether you serve Him who "hath on His vesture and on His thigh a name written; KING OF KINGS and LORD OF LORDS," and whose service is perfect freedom; or him on whose vesture and thigh the name is written, Slaves of Slaves, and whose service is perfect slavery."

Every one of us is a debtor to his profession. A vast field of our Art and Science remains unmapped and unexplored. Let it be the ambition of some amongst you to contribute something to the slow but certain advance of knowledge. The wilderness of truth in the science of medicine, of surgery and of pathology is no longer pathless. Do not be content simply to wander along the evergreen glades, which have been trodden by your predecessors. I trust that some of you will engage in research work. There are numerous problems of surgery and surgical pathology is no longer pathless. Do not be content simply to wander along the evergreen glades, which have been trodden by your predecessors. I trust that some of you will engage in research work. There are numerous problems of surgery and surgical pathology that await solution. You will require to cultivate the qualities of enthusiasm, industry, self-sacrifice, energy, determination and perseverance. I have no time to sketch the story of the conflict waged and the splendid victories won during the last 50 years by the members of our profession. The extraordinary evolution and advance in physiology, pathology, medicine and surgery is almost past belief, and can only be dimly realised by those

who have recently joined the profession. My desire is to stimulate your ambition, to fire your energies, and to clench your resolves to take a manly and noble part in this struggle. Nothing is more certain than that you cannot gain a reasonable and soul-sufficing knowledge of our Art and Science without a sustained effort. Look into Nature with her vast powers and inexhaustible resources; these are never used for production by sudden and spasmodic efforts. "Consider the lilies how they grow." How, then, can any one of us hope to gain the wisdom and knowledge required for the fight with death except by slow and persevering industry?

Do not let discouragement overtake you, because

"O vast is Art, so narrow human wit."
"the lyfe so short, the craft so long to lerne
Th' assay so hard, so sharpe the conquering"

I can promise you that if you do as I suggest and take up some research work, you will gain in self-respect, and you will add greatly to the interest and satisfaction of your life, and further you will be fulfilling the sacred duty laid upon us as students of medicine, of adding a stone to the building of the Temple. Nothing can exceed the zest to life that such work gives. Steady, daily industry will soon give you the sweet sense of overcoming. When all is permitted to depend on the skill of one, pause and reflect on the responsibility of wilful ignorance, when the beam of life is so nearly balance, that it turns this way or that, according to the more or less skill, that can be cast into the scale of life.

Labour is a moral obligation laid on all mankind:-

"And does the road lead uphill all the way?
Yes, to the very end.
And will the journey last the whole long day?
From morn till night, my friend."

"Genius", says Carlisle, "means transcendent capacity for taking trouble first of all." There is no palm of victory where there is no struggle. The Hill Difficulty may be climbed by cultivating the habit of industry; and Bacon's heaven on earth may be enjoyed by the Student of medicine "whose mind moves in charity, rests in Providence, and turns upon the poles of Truth". Hard work is necessary to any degree of success. It is a paramount duty to learn something or accomplish something every day:-

"Now he weighs time even to the utmost grain."
Act, don't talk, for
"Fearful commenting
Is leaden servitor to c ssa y?"

“Having then resolved that you will not waste recklessly but earnestly use these early days of yours, remember that all the duties of her children to Medicine may be summed up in two words – industry and honour. I say first industry for it is in this that student youth are especially tempted to fail. Secondly, honour. Though it is not exacted of you, yet exact it of yourselves, this vow of stainless truth. Vow yourselves crusaders to redeem that Sacred Sepulchre. Bind it like a shield about your necks; write it on the tables of your hearts.”

The attempt to solve one problem, you will soon find, determines the opening up of many others. The majestic range of science and the littleness of all our knowledge will dawn upon you. You will be brought face to face as a humble investigator with the problems of science, illimitable and inexhaustible, which await solution. You may attain the thrill of delight which accompanies the first perception, the slow unfolding of some new truth or principle. Though awed and amazed by the wonders that extend far beyond your vision, do not be discouraged by what may appear as a puny effort on your part. Take courage and resolution from the words of Paracelsus:-

“So that when, quailing at the mighty range
Of secret truths which yearn for birth, I haste
To contemplate some on truth,
Its bearings and effects alone – at once,
What was a speck expands into a star,
Asking a Life to pass exploring thus
Till I near craze. I go to prove my Soul!
I see my way as birds their trackless way.

In some time, His good time, I shall arrive.
He guides me and the bird – in His good time.”

It is a solemn and momentous fact that no individual in the world stands alone: “For none of us liveth to himself and no man dieth to himself.” In the closely compacted machinery of the moral world no man can be ignorant, or foolish, or vicious to himself. The present, in particular, is everywhere at once, the child of the past, and the parent of the future. It remains an everlasting truth that he who rules his spirit can alone rule his body. This is expressed in the ancient proverb that “he that ruleth his spirit is greater than he who taketh a city.” Let us always remember these thoughts in our relations with patients and others with whom we are associated. It is on the bearings of our words and acts on the lives of others that the solemn responsibility of human existence lies. The ripples produced by the casting of a pebble into the sea will theoretically never cease. Resolve, then, that your words and actions which start enduring ripples and eddies in the lives of others may be without spot and blameless. Wisdom is the principal thing, so let your influence lead to the love of wisdom, for is it not written, that “She is more beautiful than the sun, and above all the order of the stars; and being compared to the light she is found before it; she is the brightness of the everlasting light, the unspotted mirror of the power of God, and the image of His goodness.”

The pathway of medicine is like the pathways in all other departments of life, in which the lot of man is cast. The student pilgrim of medicine has a free choice offered

to him. It is the old, old story of the choice between good and evil. None of us are exempt from the dangers and temptations of life.

Pallas Athene, in her legendary address to Perseus demands an answer to the question as to which of two sorts of men are more blessed. "I am Pallas Athene, and I know the thoughts of all men's hearts, and discern their manhood, or their baseness. And from the souls of clay I turn away, and they are blest, but not by me. They fatten at ease, like sheep in the pasture, and eat what they did not sow, like oxen in the stall. They grow and spread, like the gourd, along the ground, but, like the gourd, they give no shade to the traveller, and when they are ripe, death gathers them; and they go down unloved into hell, and their name vanishes out of the land. But to the souls of fire I give more fire, and to those who are manful I give a might more than man's. These are the Heroes, the sons of the Immortals, who are blest, but not like the souls of clay. For I drive them forth by strange paths, that they may fight the Titans and the Monsters, the enemies of Gods and men. Through doubt and need, danger and battle, I drive them; and some of them are slain in the flower of youth, and some of them win noble names, and a fair and green old age."

There are still Titans and Monsters to be grappled with in the spiritual and secular world, and splendid victories to be won by the students of medicine, by industry and faith, over disease and death. May it be your resolve to answer with Perseus. "Better to die in the flower of youth, on the chance of winning a noble name, than to live at ease like the sheep, and die unloved and unrenowned."

It is to the experimental method no less than to the discoveries of anaesthesia and of the microbic origin of disease, that both Medicine and Surgery owe so much. Take for example, Sir Ronald Ross's demonstration that the mosquito was an essential link in the cycle of the "million murdering" malaria. Let me quote to you the lines which Ross wrote on the eve of his great discovery.

"This day relenting God,
hath placed within my hand
A wondrous thing: and God
Be praised. At His command
Seeking His secret deeds,
With tears and toiling breath
I find thy cunning seeds,
O million-murdering Death!
I know this little thing,
A myriad men will save.
O Death where is thy sting,
They victory O Grave?"

For surgeons the value of the experimental method is pre-eminently illustrated in the immortal labours of Pasteur and Lister. These greatest benefactors of mankind, both of whom I had the high privilege of knowing, were curiously alike in simplicity of life, in modesty, in the shunning of publicity and in their never-ceasing unobtrusive and fruitful endeavours to relieve suffering and to cure disease.

In the beautiful story of "Rab and his Friends" there is painted by a master hand an operation in the pre-chloroform and pre-antiseptic days. The reaper whose name is death would still be reaping a harvest of countless deaths by means of the million-murderer sepsis, had not Lister, the peerless knight of surgery, vanquished the terror of the surgeon.

"We hold him for another Heracles
Battling with custom, prejudice, disease,
As once the son of Zeus with death and Hell."

It would be a waste of time for me to tell you of the present position of surgery. When a clot can be removed from the pulmonary artery, a wound of the heart sutured, a brain tumour removed, an artery and vein anastomosed, a piece of intestine excised, a clot in the brain due to apoplexy, successfully operated on, we are apt to think that the Art of Surgery has reached a stage beyond which we cannot expect advance.

Such a view, I believe, is wholly fallacious. The surgery of the chest is in its infancy, and what a change there will be when chemical pathology enables us to treat cancer without carrying out the horribly mutilating operations of the present day.

Again the wonderful experiments of Carrel and Guthrie on the anastomosis of vessels have made it possible to carry out successfully the transplantation of organs. At some future time it may be possible to treat brains which are not up to standard by transplantation. I am afraid the operations for this purpose would be very numerous. From whence are we to obtain the brain tissue for the transplant? The higher apes, the chimpanzee, and the gorilla are getting scarce. Perhaps the famous cellar of Mark Twain may come in useful. You may remember he had a notice over his cellar to this

effect. “To medical students, experimenters and others. Take notice, a select variety of hardened criminals, assorted vagabonds, and other undesirables always on hand for sale on reasonable terms.”

We are slowly gaining, in the strife for clearer knowledge in the mysterious world of disease and death. The world moves on in a succession of dreams and their fulfilment, and the wild imaginings of one age become the splendid realities of the next.

The Science and Art of Surgery have in my life-time achieved what in my student days would have been looked upon as the most magnificent promises of impossibilities. Kindled by the past we may look forward with confidence. The succession cannot break. The further evolution must go on- first the blade, where we are today; then the ear, where we shall be tomorrow, then the full corn in the ear, which awaits our children’s children, and which we live to hasten.

What developments in the field of surgery may take place in the future we cannot know. We cannot,

“Look into the seeds of time
And say which will grow and which will not.”

It is best to be content with the present splendour and not to be impatient to paint yet more glorious triumphs on the cloud curtain of the future. Surely the ancient prophecy that “Knowledge shall be increased” is being fulfilled in our own day and will continue to be fulfilled in the days to come. “There are many events in the womb of time which have yet to be delivered.”

“For these things tend still upward, progress is
The law of life, man is not Man as yet.”

“Things unattempted yet” the advance of knowledge will make possible. But the surgeon sees through a glass darkly. A thread of truth of incalculable interest to the human race lies in his path, but in spite of all his toil and pain he observes it not. How strange is this amnesia, this blindness of the mind. Clough in the “thread of Truth” has described this phenomenal failure of man’s intellect better than anyone else.

“Truth is a golden thread, seen here and there
In small bright specks upon the visible side
Of our strange being’s party coloured web.
How rich the converse. ‘Tis a vein of ore
Emerging now and then on Earth’s rude breast
But flowing full below. Like islands set
At distant intervals on Ocean’s face,
We see it on our course, but in the depths
The mystic colonnade unbroken keeps
Its faithful way, invisible but sure.
Oh if it be so, wherefore do we men
Pass by so many marks, so little heeding.”

The command and duty laid on each one of us who is a student of Medicine, and we are students all our days, is finely expressed in the lines of that great physician, poet and philosopher, Sir Thomas Browne.

“Search while thou wilt, and let thy reason go,
To ransom Truth, e’en to the abyss below,
Rally the scattered causes, and that line
Which Nature twists be able to untwine.”

The Drumtochty doctor won his way to glory, but the story of his life is but one example of the sympathy, the self-sacrifice, and the essential goodness exhibited in the lives of thousands of men who have ennobled that profession on the threshold of which you stand. The Drumtochty doctor didna’ trouble the Kirk often; but in the path