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THE UNIVERSITIES AND THE NEW ERA.*

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IN responding to the invitation of the Faculty of Arts to deliver an address on this occasion, I am glad to know that I am following a precedent set by the late Principal. I hope it may often thus befall me to copy one whose memory is cherished with so affectionate a reverence.

It is with gratitude as well as pride that I find myself doing this first public act of service to our beloved Alma Mater. Like most of her children, I let go her skirts as soon as I could walk alone. I have wandered far and long, and now enjoy the traditional welcome of the returning prodigal. She has induced me to come—when, indeed, I was not thinking of it—by offering the fattest calf at her disposal. She has brought forth the best robe and put it on me—a robe in which Solomon might have challenged comparison with the lilies of the field.

This is no time for making merry, but one may be allowed to express a certain quiet gladness in renewing associations which have lost nothing of their power to stimulate and charm. It is forty-five years since I entered the University as an undergraduate. The memory is vivid of my first day of academic life. The scene was the address of a Lord Rector—Sir William Stirling Maxwell. Chosen of the students, and prepared to lay before them the ripe fruits of his scholarship, he found them a hostile mob who would not listen to a word he had to say. I asked why, and was told he had voted as they disapproved on what was the burning question of that day—the admission of women to study medicine. And now, when I take my place in the Senatus and the University Court, I find that the chief question for consideration is still the admission of women to study medicine. It would seem that the

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mills of the University grind slowly. There is an absence of hustle which recalls the operations of geology or the evolution of species.

For nearly two generations the lady medicals, as they were called when I was a boy, have been wandering in the wilderness. Must the tale of weary years be extended, or is the land of promise now in sight? Let us hope that it is, and that they will enter the land and enjoy it without injury or loss to the existing occupants.

You of a later civilisation are no doubt less intolerant, or at least more courteous, than those who refused a hearing to the Lord Rector of 1871. But I trust and believe that the soul of undergraduate life remains as ardent as it was then, that to come up to the University still stirs every young spirit as it stirred mine, that the consciousness of intellectual expansion is still as glorious, that the springs of thought and feeling and action still respond as they did to the subtle influences of the place. Now, as then, Edinburgh makes its irresistible appeal to the æsthetic sense; now, as then, it fires the historical imagination. And if its students no longer have the good fortune to sit at the feet of a Lister or a Tait, teachers are never lacking who are worthy of that whole-hearted enthusiasm which gives the University its proper hold upon the minds and the affections of its sons.

The time has come for some of you to pass out into the bigger school of life. If you have studied to any purpose here, you will take with you the power to learn lessons which are awaiting you in that bigger school. You are to be congratulated on the successful finish of your academic career. The University has set her badge upon you; she owed you that for your sound work, and now you owe it to her not only that the badge be kept untarnished, but that you continue what she has begun. I mean something more than merely keeping up the habit of study. Remember that in her relations to the individual the University has three functions: first, to furnish the mind with knowledge; second, to quicken and widen the intelligence; and, third, to mould and set the character. The greatest of these is the last. It is by building well and truly on the foundations of character which the University has laid that you will best carry on her influence beyond these walls.

In the circumstances of the time you go out with a special inspiration. We live at present under the spell of a dominant motive beside which all the usual impulses of conduct are trivial.

You are about to play your several parts in the greatest struggle the world has ever known. There are some here who envy you the chance of such action as is the privilege of the young. But, young or old, the burden of the war presses on us all, and while we strive to carry it we are conscious of a new birth. The war has given life a seriousness of purpose which for most men was not there before. It has altered our standards of moral value. It has cut away rank growths which obscured the vision and encumbered the steps. It has given us a truer conception of social responsibility. It has swept aside much of what was mean, petty, sordid. It has convinced us of the primary duty of sacrificing self. It has made us face great issues with courage and sincerity: it has brought us back to the eternal difference of right and wrong. May I not say that in the personal experience of every man and woman here there is a sense of spiritual regeneration, that out of the misery and cruelty and madness of the war there comes a cleansing and uplifting of the heart?

“There is some soul of goodness in things evil,
Would men observingly distil it out.”

Observingly or unconsciously we are all affected, and so profoundly as to give hope that the soul of goodness will prove more enduring than the evil from which it is distilled.

One's thoughts turn to those who in normal circumstances would have been with us to-day. The Universities have taken a big share in the war, but no more than a proper share, by sending of their best. Our reduced numbers are witness to this, and we are proud to think they are so much reduced. More than four thousand members of this University are serving with the forces: more than three thousand hold commissions as officers. There are many who can never come back. They have given themselves freely, even cheerfully. They have died—they are dying—so that what they and we hold most dear may live. They have found their kingdom, and who shall pity them? To those who do come back life can never be the same again. It will be coloured by the memory of adventure, it will be ennobled by the sense of accomplished renunciation. To them will apply the words the poet uses of the Happy Warrior:—

“Whose high endeavours are an inward light
That makes the path before him always bright.”

May we not, then, turn hopefully and confidently to the future?

The influence of the war on our social fabric can be compared to an effect one sometimes sees in the study of metals. Let a piece of metal be exposed to certain conditions, and almost suddenly a great internal transformation occurs. Its external form shows no change. In the last analysis of the chemist it is still the same substance. The same molecules are there, but silently and invisibly they have marshalled themselves into wholly different patterns of structure. In a very real sense the material has become new. Its old attributes have disappeared. What was hard and brittle is now plastic: it may readily be shaped into other forms: it is capable of uses to which it could not have been put in its former state. The effect is a permanent one, persisting after the conditions which produced it have been removed.

Is there not some parallel to this in the new-made world that awaits us after the war, in the enormous changes—spiritual, social, political, economic, industrial, educational—that are even now taking place, and must increasingly take place in the early years of peace? When our civilisation, which is now straining to save itself, settles to the task of reconstruction, will it not find men's minds more plastic, traditions less controlling, prejudices less final? The community has adapted itself marvellously to war. It will be under an equally stringent obligation to adapt itself to peace, not in the old ruts, but conscious of new wants, new duties, new powers.

Amongst many other changes we may expect to see a far-reaching revision of methods and aims in education. If the war has demonstrated some of the good fruits of our schools and Universities, it has also laid bare defects which we must set ourselves strenuously to make good. It will lie with the Universities not only to act as guides of public opinion, not only to make their influence felt by the schools, but to see to it that their own house is in order. Is it too much to hope that they will show the plasticity which will be required of every element in the State during that anxious period of reconstruction, and that in the process they will not lose any of those essential qualities we venerate and love?

I am no prophet, believing with George Eliot that of all forms of human error the most gratuitous is prophecy. But it needs no prophet to affirm that the Universities will continue, as ever, to be sanctuaries of the spirit of man, where he may learn how to live not by bread alone. They will continue also to be temples

of research, prominences from which to gaze into the unknown, citadels from which to advance to the conquest of territory now unexplored.

But while these basic features remain, may we not look in the future work of the Universities for a more direct relation to industrial requirements and economic problems? The war has given a marvellous impulse to productive activity, but the current for the most part now floods a single channel, from which it must be diverted when the demand for munitions abates with the coming of peace. It should then be turned into other streams, fertilising and beneficent, in which it may swiftly re-create the wealth that has been destroyed, and also secure for the Empire sufficient independence in respect of all products that are vital to its strength. In this process the Universities have a great part to play. It will be for them to promote industrial efficiency, to revise the dogmas of political economy in the light of a broader ethic, and to give such teaching as may lead capital and labour alike to strive, in no spirit of antagonism, for an end which will need their sanest co-operation. Again, it will be for the Universities to bring science to bear on manufacture, to see that no barriers are allowed to come between the laboratory and the workshop, to prepare Theory for her honest nuptials with Practice. *Fas est et ab hoste doceri.* In these matters we have much to learn from the Germans. Students of the subject have known for years that we have been behind Germany in the technical application of science, and especially in realising the extent to which industry should be founded upon and guided by the results of research. The war has brought this lesson home to a wider public, and opinion is ripe for reform. It rests partly on the manufacturers and partly on the Universities to see that this handicap to national prosperity is removed.

No review, however brief, of the situation as affecting the Universities can omit to notice the place women are taking in public and industrial life. In their response to the nation's urgent call they have shown capabilities and adaptability beyond expectation. The range of their activities is no less remarkable than the devotion and courage which have levelled mountains of obstacle. Many of their new occupations must be transient, but it cannot be expected that all will come to an end. We may surely welcome the prospect of a permanent increase in the army of productive workers. If so, the responsibility of the University in providing higher education for women is enlarged, and it becomes more

than ever necessary to study how best to meet their special requirements.

In these and other ways the Universities of the future have tasks to perform which are worthy of their powers. It is probable that a larger proportion of the people than before will seek to obtain the higher education. It is certain that all will be less able to pay for it. This may throw on the Universities of Scotland a relatively large share of the common work, for their boast has always been that their doors are open to the poor. We cultivate the Muses on a little oatmeal. Our Scottish virtue of thrift, which provides that indispensable modicum for not a few deserving sons, has at last come to its own: its praise is on all the hoardings. It is an austere virtue, but an excellent one, and a powerful ally to education. More attractive, perhaps, and a still more powerful ally, is another national characteristic, the devotion to learning which for generations has permeated all ranks of our people, which made Scotland a land of universities when universities were rare. Long may that robust passion for knowledge bring to the University of Edinburgh, not from Scotland only, but from the Dominions beyond the Seas, a crowd of eager youths, destined in due course to pass out bearing torches kindled at our shrine. They will go their several ways: there is no corner of the Empire where they will not be found. The torch in each man's hand may in time serve to guide his fellows; it may spread illumination over some region, great or small, of the world into which it is borne. In any event, let him but keep it burning, and with its light about his own feet he will walk serene.

LECTURE ON ACETONURIA, ACETONÆMIA, AND ACID-INTOXICATION IN CHILDREN.*

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OFTEN when we are examining a sick child our attention is arrested by a sweet chloroform-like smell of acetone in the breath. This is sometimes very noticeable; but sometimes it may be overlooked, because it is partly obscured by an offensive odour as of decaying epithelium and secretions. In many of the cases a similar smell of acetone is noticed in the urine also.

Although these symptoms have long been observed, it is only

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