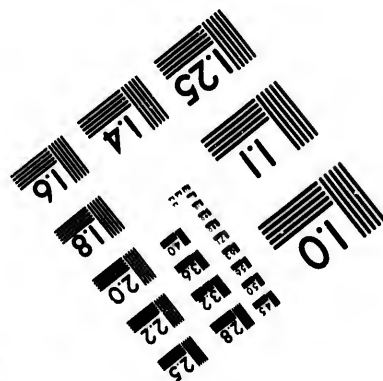
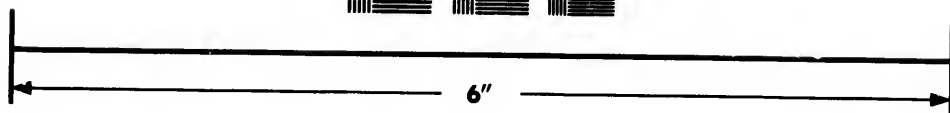
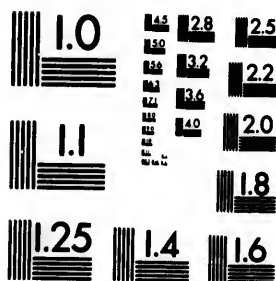


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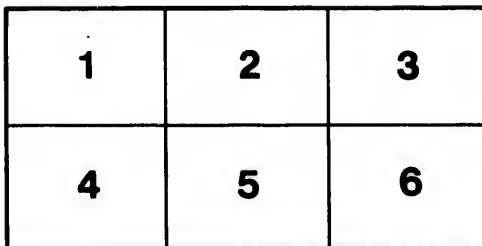
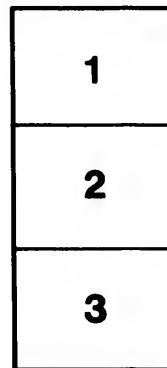
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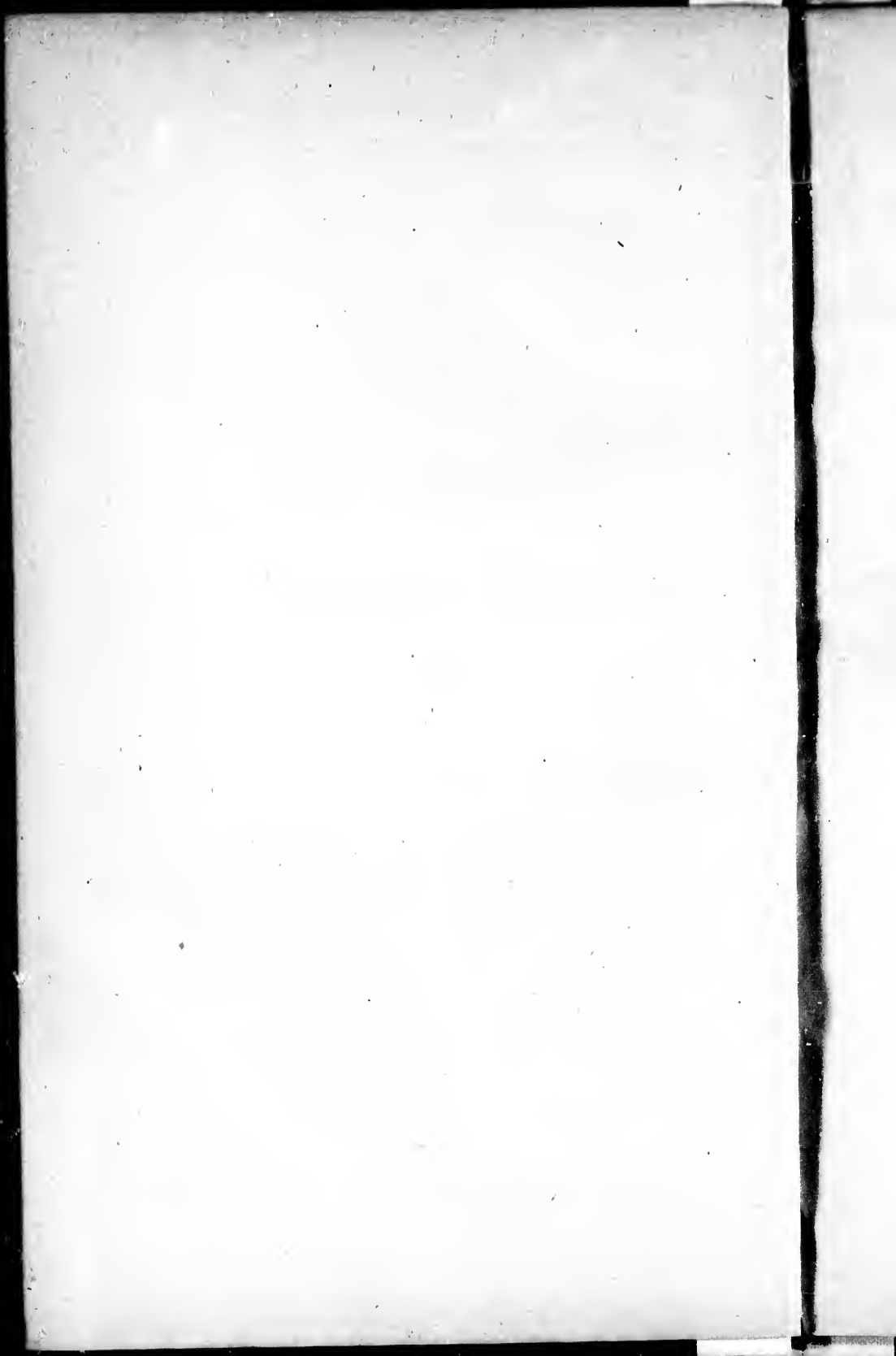
THE OBJECTS  
OF THE  
UNIVERSITY CURRICULUM.

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AN ADDRESS

*by Prof. James Williamson*

DELIVERED AT THE OPENING OF QUEEN'S  
UNIVERSITY, 7<sup>TH</sup> OCTOBER, 1874.



**THE OBJECTS**  
**OF THE**  
**UNIVERSITY CURRICULUM.**

**AN ADDRESS**

Delivered at the Opening of Queen's University,  
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**KINGSTON:**  
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## ADDRESS.

He who engages in any worthy pursuit without duly considering its objects, and keeping them steadily in mind, is like a mariner without a chart, or compass, by which to lay his course aright to the haven which he seeks to reach. It is of the utmost consequence, therefore, for the student carefully to consider the aims which he ought to have in view in entering upon, and prosecuting, his University curriculum, and the purpose of the observations which follow is to assist him in some measure in doing this, and to show how these aims may best be attained. Having these distinctly and habitually before him, he will pursue his studies with far more energy, success, and satisfaction, than if he were to have scarcely any object, or thought, beyond that of a mere routine of preparation, and repetition, of the daily work prescribed.

In general, then, it may be observed, that while the lessons of the common school, and the Academy are designed to enable the pupil to keep abreast of the intelligence of the great mass of the community, and to prepare him for advancing farther still, the student is here to fit him to keep well abreast, if not ahead, of others in wider, and higher spheres in after life, and take an intelligent part in the great literary, and philosophical questions of the day. For the attainment of these ends, the objects towards which his efforts ought to be directed are mainly these two, *first*, an accurate and comprehensive knowledge of the elements of linguistic and scientific learning, and, *second*, the practical application, as far as possible, of this knowledge to the more immediate preparation for the special training required for professional and other important occupations of maturer years.

The former of these, or an acquaintance with the chief languages of ancient and modern times and with the leading principles in the different departments of scientific enquiry, being necessary as the foundation for the latter, *first* calls for the attention of the student. He enters within the walls of the University

to acquire a greater mastery over certain subjects on which he has already exercised his youthful powers, and with expanding intellect to achieve conquests in new fields of study, to traverse the wide and fruitful domains of literature and philosophy, and make himself familiar with the principal points in the whole circle of knowledge, not purely professional.

For the accomplishment of these ends his progress is secured and tested by the daily preparation and review of an appointed amount of work in the different classes. Your professors will, by their comments and illustrations, endeavour to throw on things, it may be, dimly seen at first a greater light, to clear away what may appear difficulties in the path, and show, how rugged and lofty ridges, that seem to bar the passage to the fertile plains beyond, may be surmounted by a better pass, and a more easy gradient. While this, however, will be the part of the professor, it will be the part of the genuine student to be diligent and thorough in the performance of his labours, not fulfilling them as a troublesome task, but pleasantly and heartily, ready to face, and overcome whatever difficulties he may encounter, and unravel even what is apparently intricate and abstruse. His will and industry will thus enable him to cope with, and surpass, the fitful efforts even of innate capacity, or genius.

He will be especially careful to cultivate an exact knowledge of the elements and fundamental principles of each subject of the curriculum, remembering, that the deeper, and more widely spreading the roots, the broader, more lofty, and more flourishing the tree. He will not rest satisfied with merely, and it may be carelessly, getting up his allotted work, living as it were from hand to mouth, and from day to day, with hardly any ulterior care, but will look upon himself as now laying the foundations of a glorious superstructure, which is to last for life, in which there is to be no piling together of rude and unconnected materials, but all is to be unity and harmony of design, solidity and polish in the workmanship and skill in the arrangement. In the spring time of his days he will gather honey from every source, and store it up for future use; like the prudent husbandman, he will sow the seed in the proper season to reap the coming harvest. Habits of persevering study will thus be fostered. He will even devote a portion of

his periods of leisure, particularly during the summer vacation, to private and voluntary reading, and research, and be watchful against undue inroads upon his time without being a recluse, and shutting himself up from those innocent amusements, and healthful recreations, which tend to sweeten and relieve his toils. With such a one, and let us hope, that such will be not a few among you, there will be no fear of trying examination papers. All the faculties of his mind, attention, memory, imagination, judgment and reasoning will be invigorated by practice, and possibly in a wonderful degree, just as we see surprising powers of strength and ability developed in the athlete by proper training, and exercise of the body.

In so far the education of the University curriculum is eminently calculated to add to the attainments, and promote the mental growth, and the future usefulness and honourable reputation of the faithful student. The object, however, to which we have just referred is not all which it contemplates. Its *second*, and main, object is the practical application of the knowledge which it imparts to more immediate preparation, as far as possible, for the special training required for the professional, and other business of a riper age. It is thus distinguished from the education of the school, which is necessarily almost wholly confined to the important task of laying the groundwork of instruction in the elements. In the University course, however, the doctrinal and the practical, the abstract and the concrete, the science and the art, are to be combined, and elementary instruction is to be regarded rather as the means towards this great end. No doubt the rudiments of learning and science must be fully mastered during the first years of his attendance at College, before the student can advance far into their applications to actual and palpable use, but even from the first these applications are never to be lost sight of. As he advances step by step, his education, while it is of a higher, must be of a more practical kind, and more directly adapted to meet the wants of an active life. It must be such as will enlarge his views, encourage independent thought, cultivate his taste, and confirm his moral principles, and contribute to make him one whose familiarity with the extensive walks of literature and philosophy, and whose noble aspirations will adorn whatever profession or pursuit he may hereafter follow, whether it be

divinity, or medicine, or the bar, or commerce, or science, theoretical or applied. A mere acquaintance with the construing of dead and living languages, and with the leading laws and facts, of science, however exact and comprehensive, if this be all which is acquired at College, will fall far short of what is requisite to bring about such a result. In each division of the course, the principles are not only to be learnt, but applied to those real and beneficial purposes which they are more peculiarly designed to serve.

A familiarity, for example, with the languages of Greece and Rome, and the chief among those of the present day, no doubt possesses an intrinsic importance, especially in philological and ethnological questions, and our intercourse with our fellowmen, but its principal value lies in its being the means of introducing us to the works of some of the master spirits of the world, the key which unlocks the treasures of ancient and modern times, their history, poetry, oratory, and philosophy, for the information and enlargement of the mind, and refinement of the taste. A man may know many languages, but if he know little of their literature, he will have far less influence over the minds of others than he who can from his ready stores enliven his speeches or writing by an apt quotation from an ancient or modern poet, or a striking historical illustration. Any beautiful sentiment, therefore, any weighty saying, or interesting fact in the classical authors with which he meets, the careful student will note, and his memory will not willingly let die.

The study of mathematics, also, has from its very nature advantages apart from its special applications. It accustoms to that steadiness of attention, which is the first and most essential condition of proficiency in every branch of knowledge, to precision of thought, and accuracy in reasoning. Valuable, however, as are its advantages in these respects, it is of still greater consequence from its more direct objects, with which it ought ever to be associated in the mind of the learner, as the basis of the measurement of planes, and solids, of the classification and determination of the forms of crystals, of the art of perspective, and the drawing of plans, the art of navigation, the surveying of estates and dominions, and the calculations of physical science. In order, therefore, that the student may more fully appreciate and reap its benefits, he ought habitually to have an eye to its practical

utility, and exercise himself, as far as possible, as he proceeds, in its employment for such purposes as these.

In Natural Philosophy, in like manner, the same method is to be pursued, as it is in textbooks on physics, where the important applications of each section of the subject are dwelt upon, after the statement of the principles on which they are founded. It is not an uncommon thing for one to have a superficial apprehension of its elementary truths, and yet be ignorant of things most essential to be known. Its facts and laws, therefore, having once been fully ascertained are to be applied by the student, as far as time will permit, to such objects as the acquisition of the knowledge of the structure and use of the instruments of physical research, of the telegraph, machinery in its various forms, the general rules to be observed in the works of construction of the civil engineer, and withal the frequent solution of problems at each stage of his progress, which, while they will form the arena in which to try his powers and attainments, will impress the points most necessary to be remembered more permanently on his mind.

With respect to the remaining departments of the course in Arts, my remarks as to what ought to be the practical nature of the earnest student's aims must be very brief, and are introduced here merely in continuation of the views which I have already endeavoured to bring before you with reference to the main object of a University Education.

Suffice it to say, that, in Natural History, besides gaining an acquaintance with the classification and other elementary principles, he ought to aim at acquiring the ability to determine the family and species of plants and minerals in the museum, and in the field, to ascertain for himself the geological formations most accessible to his investigation, and to distinguish between the members of the fauna of different regions, more particularly those of our own Dominion, and give some account of their peculiarities and habits. In Logic, again, he is to learn, from its fundamental rules, to detect sophistry and error in the reasonings of others, and fallacies in his own, while those of Rhetoric are to be sedulously observed to give method, clearness, and elegance to his style of essays, and, let me add, even to his answers to his examination papers, and his conversation. In Chemistry, he will endeavour to make himself acquainted not only with the elementary

substances and their compounds, but with their manifold applications to medicine, and the detection of poisons, to agriculture, and numberless useful arts and manufactures. In Metaphysics, and Mental and Moral science, while he traverses the wild fields of psychology, and ethics, and systems and schools of philosophy, he will learn, from the study of the faculties of the mind, the means of the improvement of his own, and, from that of the moral sense, motives for following after whatsoever things, are just and pure, and true, and rules for the conduct of his own life.

Such are the objects never to be dissociated from each other which the student in arts has to pursue. It may seem, that I have placed the standard of attainment too high, but these are the aims which he ought to set before himself, altho' they may be far from being ever completely reached. The combination of the assiduous study of the elements of literature and science with that of their various and interesting applications will greatly promote his pleasure and success in his labours. The dryness of grammatical and technical details; and abstract reasoning; will be relieved of their irksomeness by the consideration of their profitable adaptations, while the application of fundamental principles to practical cases will tend to make his knowledge of them less superficial, to penetrate and imbue his mind more deeply, and fit him for engaging to far greater advantage in the future studies, and work of his profession.

It only remains, in conclusion, to express the pleasure which the Professors feel in meeting with you, gentlemen, former and intending Students, on this occasion, and to the prospect of our intercourse with you during the ensuing session, and the hope that such intercourse will be as agreeable as in former years. Be assured, that it will be our anxious endeavour, with God's blessing, to render your attendance at the University profitable and pleasant to you all, and by all the means in our power to prepare you for that usefulness and eminence in after life, which will reflect credit on your Alma Mater, and be our highest reward for our exertions to attain so desirable a result.



