

# SCIENCE

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THE PURPOSE AND SPIRIT OF THE  
UNIVERSITY<sup>1</sup>

## CONTENTS

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| <i>The Purpose and Spirit of the University:</i><br>PRESIDENT GEORGE E. VINCENT .....  | 977  |
| <i>Courses in Higher Pure Mathematics:</i> PROFESSOR G. A. MILLER .....  | 984  |
| <i>Williamina Paton Fleming:</i> ANNIE J. CAN-<br>NON .....  | 987  |
| <i>The Society for the Promotion of Engineer-<br/>ing Education</i> .....  | 988  |
| <i>The Indianapolis Meeting of the American<br/>Chemical Society:</i> PROFESSOR CHARLES L.<br>PARSONS .....  | 989  |
| <i>Scientific Notes and News</i> .....   | 990  |
| <i>University and Educational News</i> .....   | 992  |
| <i>Discussion and Correspondence:—</i>   |      |
| <i>The Diseases of Economic Plants:</i> PRO-<br>FESSOR F. L. STEVENS .....   | 993  |
| <i>Scientific Books:—</i>  |      |
| <i>Moorehead on the Stone Age in North<br/>America:</i> CHARLES C. WILLOUGHBY. <i>Hil-<br/>ditch's History of Chemistry:</i> DR. F. W.<br>CLARKE. <i>Friend on the Chemistry of<br/>Paints:</i> PROFESSOR A. H. GILL .....         | 995  |
| <i>The Work of the Marine Biological Station<br/>of the U. S. Bureau of Fisheries, at Beau-<br/>fort, N. C.:</i> DR. HENRY D. ALLER .....  | 997  |
| <i>The Biological Effects of Radium:</i> DR. WM.<br>ALLEN PUSEY .....  | 1001 |
| <i>Special Articles:—</i>  |      |
| <i>On the Classification of Sand Grains:</i> PRO-<br>FESSOR AMADEUS W. GRABAU .....  | 1005 |
| <i>Societies and Academies:—</i>   |      |
| <i>The Anthropological Society of Washing-<br/>ton:</i> DR. T. MICHELSON. <i>Research Workers<br/>in Experimental Biology:</i> LEWIS W.<br>PETZER. <i>The New York Section of the<br/>American Chemical Society:</i> C. M. JOYCE . | 1007 |

MODERN students of human nature have changed the old saying, "Many men, many minds," into the new dictum, "One man, many selves." There is much talk of multiple personality. Our complex modern life reflects itself in a composite person. A man is said to have as many selves as there are social groups of which he feels himself a member. To maintain a business self which can look a moral self straight in the eye, to have a theological self on good terms with a scientific self, to keep the peace between a party self and a patriotic self, to preserve in right relations a church self and a club self—such are the present problems of many a man or woman. One way to escape embarrassment is to invite at a given time only congenial and harmonious selves, and to banish from the company the selves that are discordant and disconcerting. The strong soul is he who can summon all his selves into loyal team play. Personality is the name men give to this unity of the self, and purpose is the organizing principle. Only as many groups of thought and feeling are schooled into cooperation by a well-considered, steadfast aim can a man be master of a single self. To be sure, unity of a sort can be achieved by one who has a meager company of selves. Narrowness, provincialism, bigotry, describe a personality in which unity of purpose is won at a sacrifice of breadth, outlook and sympathy. The highest type of personality grows out of many far-reaching selves which have

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been selected and organized into unity by a dominant purpose. It is no easy task to unify often divergent and conflicting impulses, habits, memories and ideals into a harmonious hierarchy of aims. But such singleness of ideal and effort creates power. The man of purpose is not to be resisted. Every instinct and habit, every picture of the mind, every effort of the will, every emotion, fits into his scheme of things. He never wanders from the path which leads toward the end he has set up. He turns every opportunity to account. He foresees problems and is prepared to meet them. He confronts difficulties undaunted. He is master of a company ever devoted and responsive to command. The world submits to great men of single aim.

Education seeks just this unification of personality. Plato's philosopher was he in whose life reason aided by will kept appetite and passion in servitude to the higher aims of life. Sir Richard Jebb tells us that

Education consists in organizing the resources of the human being. It seeks to give him powers which shall fit him for his social and physical world. . . . The educated person is able to deal with circumstances in which he has never been placed before. He is so because he has acquired general conceptions. His imagination, his judgment, his powers of intelligent sympathy, have been developed.

The ideal personality, then, includes many selves organized by a masterful purpose and unified by a spirit of harmony.

In many ways a human group, a family, a community, an institution, a nation, is like a personality. Hobbes saw the state as a vast Leviathan. Comte conceived humanity as an on-going continuous life which sweeps through the centuries. Bluntschli endows political society with the characteristics of a person. Contemporary philosophers attribute to society

the mental and moral traits of a vast super-man. The analogy is not wholly fanciful. Just as purpose unifies the individual, so a common aim gives the human group a sense of solidarity. Social consciousness is the well-worn term for this thrill of comradeship. The sense of team play that makes the eleven or the nine an efficient unit gives us the type. Each individual sees the group as a whole, is aware of his own relation to it, knows that his fellows share his feeling, and counts upon them to act promptly for a common end. A group which can not control its members and rally them in loyalty to a single aim lacks solidarity and effectiveness.

So, too, a large inclusive group like the nation must subordinate the minor groups that make it up, must rally them to the service of the whole, must provide the ideals and the plans for gaining a national end. The story of modern Germany is eloquent of imperial purpose and of aims unswervingly pursued. Contrast the broken, humiliated German states after the battle of Jena with the unified, efficient triumphant empire of to-day. The names of von Stein, von Moltke and Bismarck spell purpose and policy, far-seeing, statesmanlike, remorselessly followed. These aims seem like vast independent forces, molding men and institutions to their service. Schools, army discipline, scientific research, technical skill, commercial resourcefulness, governmental efficiency, social legislation, are all well considered parts of one comprehensive, far-reaching national program. Against such a power a disorganized, untrained and undisciplined nation is impotent. The law of unification through purpose holds good whether the units be the impulses, thoughts and feelings of the individual, or the persons and groups that make up a great people. As we classify the powers

of the world we may value them for their contributions to the past, but their futures we measure in terms of social unity and national purpose. To a despondent observer our own nation at times appears to lack both unity and a clear vision of its task. Sections, classes, interests, parties, cliques, sects seem to the gloomy onlooker to give the lie to the idea of national unity. Faith in a glorious manifest destiny is not the same thing as a real sense of national purpose. But beneath all the discord and clash of antagonistic groups, and vaguely emerging from a fatalistic optimism, we discern an underlying loyalty to American ideals and a clearer conception of American aim and American duty. Our national greatness will depend upon the growth of loyalty and good will, and upon the working out of an ever clearer conception of America's part in the building of a nobler civilization.

As with the nation, so with the institution. Consciousness of itself, a sense of team play, loyalty to a common aim, make a university strong and efficient. But the university gets its meaning from society and from the nation and therefore must be an expression of the common life. In the words of Dr. Pritchett, "No nation is likely to be educationally efficient until it has grown into some fair possession of a national educational consciousness." The university is one of the agencies of national purpose. "The kings," writes President Jordan, "have recognized the need of universities and university men. In this need Alfred founded Oxford, and Charlemagne the University of Paris. The Emperor William is quoted as saying that 'Bismarck and von Moltke were but tools in the hands of my august grandfather.' To furnish more such tools and in all the range of human activity, the University of Berlin was established."

If the university, as an organ of society, is to gain strength of purpose it must have a consciousness of its function and duty. Only by such sense of team play can individuals, departments, schools, colleges, faculties, classes, student groups, be fused into genuine unity and rallied to a common loyalty. In general, the university ideal is changing from the thought of personal privilege to the conception of social service, from a preaching of personal culture to a democracy of studies, or in another phrase, from culture to efficiency. This does not mean that colleges and universities have not always had some sense of social obligation. But too generally the privileges of higher education were for the favored few who by virtue of their special opportunities were set off from the masses of men. The growth of democracy has made new demands, has widened opportunity, has broken down the barriers of class. Even in the old world, and notably in the new, democracy has created schools, colleges and universities and has chartered them to serve the common welfare. The university has become, therefore, especially in this mid-western region, "the people's organized instrument of research," or as President Van Hise puts it, "the scientific adviser of the state." On every hand we hear variations of this central theme of social service. College presidents and men in political life, each group from its own point of view, insist upon this conception of higher education. In this view the university appeals to the imagination, it becomes an organ of the higher life of the community and the state, it connects itself at every point with the industry, commerce, social conditions, educational interests, ideal purposes of the commonwealth.

The university as a social agent is entrusted with certain standards of the community, standards of scientific method and

of truth, standards of technical efficiency, standards of cultural attainment, standards of personal character and of civic duty. It is only through the creation, the guarding, the elevation of these standards that material and spiritual progress is possible. The university becomes a trustee of ideas and ideals, a custodian of standards. In the administration of these standards the university can not sacrifice the common welfare to individual need or desire. It must exclude those who fail to meet the standards of attainment and character which the university administers. Favoritism, faltering, compromise, cowardice mean betrayal of a social trust. Nor may the standards of the university be provincial and temporary. In the words of President Hadley, "the university must be judged by the standards which have held for all time rather than those of a single generation, or of a single profession." The imagination kindles at this thought of a university exalting the tests of truth and character by which society slowly gropes toward higher levels.

When the mind is possessed by this vision of the university, all the careers for which it provides training take on the dignity of social worth. Vocations which have been thought of as individual widen into literal calls to be servants of the common life. The office of the teacher, the function of the physician, the work of the engineer, get their higher meaning from their value to the community. The profession of the law, so often thought of as a field for personal exploitation, is in its true significance a social service. "We lawyers," declares Woodrow Wilson, "are servants of society, officers of the courts of justice . . . guardians of the public peace, . . . bond servants of the people." The scientific farmer is in one view seeking personal gain, but in a much deeper sense

he is diffusing knowledge and skill and is raising into higher esteem fundamental industry which makes modern society possible. The college graduate who has received the training men are fond of calling liberal, may no longer regard himself merely as a member of a privileged class. In the new spirit of *noblesse oblige* he must recognize his obligation to his fellows and to the community; must remember that "life is not a cup to be drained, but a measure to be filled." Such is the ideal purpose which summons the modern university to unity and comradeship in the service of the common life. When this vision fills the minds of all, when it controls their conduct, when it stirs their emotions and carries them steadily forward to loyal achievement, then the university gains an irresistible power and becomes a true expression of the higher purposes of the state, the nation and mankind.

As a general purpose, a settled character, a dominant spirit control the thoughts and impulses of the person, so the persistent aim and the enduring ideals of an institution influence and guide the individuals who compose it. The trustees of a university that is unified by the purpose of service must think of themselves as public officers entrusted with grave duties and heavy responsibilities. No personal ambition or interest can enter where the spirit of trusteeship for the common welfare is the controlling ideal. Strong, resourceful men may well sacrifice their personal interests in responding to so high a summons. To administer a university wisely, with open mind to the public welfare, with sympathetic insight into the needs and inspirations of all classes of citizens, to safeguard academic freedom, to guarantee positions of dignity and satisfying activity to competent scholars—these are the duties and

opportunities of men who accept a great educational trust.

Devotion to the common good lays upon members of the investigating and teaching staff duties they may not shirk. To maintain worthy standards of scholarship, to be loyal to these ideals, to be faithful to the pursuit of truth, to conceive education in its widest and most generous aspects, to have sympathetic insights into the lives of their students, to spend themselves freely for the community—to these things the vision of the university as a public servant must draw the teachers and the investigators of a true university. This is the call to the "scholarship whose devotees regard themselves as holding a trust for the benefit of the nation."

The university fails of its purpose if its students do not catch the inspiration of the common ideal. To generous-minded young men and women this thought of the university must make appeal. It is the duty of the institution to fix this image of the university in the imaginations of its students. From the day they enter to the day they leave, this dominant purpose, this persuasive spirit should grow ever more potent and fascinating. It would be well if students could begin their college life with formal ceremony so that at the very outset they might feel more keenly the social obligations they are assuming. Admission to the university should seem to them initiation into a high calling. It is a pity that they should begin for the most part thoughtlessly or with minds fixed solely upon personal aims and plans. The state is calling them to her service. She has a right to insist that only those who are in earnest, who have at least a dawning sense of social duty, should seek admission to the public training which can be justified only by its service to the state. It should be made clear that no one has the right to

demand admission as a personal privilege. Conformity with technicalities of entrance must not blind us to the moral obligations involved. Out of the common fund to which all citizens contribute the state erects and maintains not for personal advantage but for public good this West Point of science, the arts and the professions. Every matriculant, therefore, by virtue of admission is honor bound to meet the state half way in her desire to prepare soldiers of science for the battles of peace. The university must unhesitatingly rid itself of individuals who are indifferent to intellectual work or hostile to it. After fair test, those who fail to show their sense of the university's purpose must be dismissed. This is necessary not only in justice to the state, but in fairness to those who show due appreciation of their opportunities and duties.

The dominant university purpose gives a proper setting to the activities of student life and to the standards and conduct of the groups into which the student community naturally falls. The contacts of daily association and searching tests of comradeship, the discovery and development of leadership, the give and take of social intercourse, the healthy recreation of undergraduate life—all constitute an environment which may afford admirable discipline. There is large truth in the assertion that the university is the world in miniature and that it offers a social training which will be turned to account in the wider life of the community. But all these activities must be tested by the dominant purpose of the university. The question must always be, is this or that out of harmony with the ideal of the university as an organ of the common life? Does this student demonstration or that rollicking festivity create in the public mind the feeling that the university is living for itself

and not for the community, does it foster the belief that the university is not dominated by the motive of service; does it create the suspicion that students ignore or forget their duty to the state which is making their self preparation possible? This is a vital question. So with the student groups that play so large a part in academic communities. Are these groups working loyally for the common welfare, have they due regard for the fundamental things of university life, are they actuated by a sense of responsibility for their members, do they cultivate tolerance, justice and good-will? These are questions which individuals and groups must constantly put to themselves and answer frankly and honestly. The good name of the university is safe only when its members feel an obligation to further the common purpose to make the university a true organ of the whole people.

So long as this spirit prevails, no sense of arrogance, of exclusiveness, of privilege or caste will enter the minds of its members. The old distinction of "town" and "gown," the traditional attitude of superiority toward those outside the walls of the academic cloister, these things have no place in an institution dominated by the spirit of social service. Every man and woman of the commonwealth becomes in this view a supporter and patron of the university, and may expect from it goodwill and loyal service. If to say that the university belongs to the state is anything more than phrase-making, every member who has imagination, the power to see the institution in its real relationships, must feel the genuine humility of one who would faithfully serve his fellows.

If the university is to fulfill its function, it must carry conviction to the people of the commonwealth. It must impress them with its purpose, make them see it as a

faithful agency of the people. The men and women of the state must not think of the university as an institution which, because it has public support, should lower its standards to admit the weak, indifferent or incompetent, or to graduate those who have failed to reach the minimum of attainment. People must not think of the university as a place in which personal influences can secure special privilege. Rather they must regard it as fearlessly loyal to the common welfare, true to high standards of scholarship, truth, efficiency, character and judgment. They must not ask or expect special favors from this servant of the whole democracy.

If the university purpose is to be achieved the institution must seek special ability wherever this is to be found. It would be a calamity if only sons and daughters of the rich and well-to-do could gain access to higher training. Talent and genius ignore the distinctions of wealth and class. A way must be found by which young men and young women of great promise, however they may be hampered by poverty, may gain access to the social training of the university, and be freed in large part or wholly from the self-supporting work which makes the best scholarship impossible. We must believe that men and communities will catch this vision of the university and by providing scholarships see to it that no exceptional ability shall be deprived of development for the service of the commonwealth. The university would lose its power and its ideals if it ever became a place of privilege for the well-to-do and not a training school for all who have talents and capacities for which the state has need. The controlling ideal, the mastering purpose of the university, therefore, is not a mere phrase or conceit; it is a guiding principle which finds application to every individual, to every group,

to every activity of academic life, and organizes these into the strength and unity which only a common aim can confer.

Purpose steadily pursued creates a persuasive spirit, registers itself in institutional character. Open-mindedness must be a conspicuous trait of a true academic community. The very search for new knowledge, the effort to see the relations of things, presupposes an attitude of enquiry, a willingness to look at an idea or a fact from many different standpoints. Open-mindedness toward truth merges into tolerance and mutual respect as between the individuals and groups who make up the university. Narrowness or prejudice, a patronizing attitude of one group toward another, the discrediting of this calling as compared with that, the limiting of the conception of research to traditional fields of enquiry—these things have no place in an institution mastered by a sense of loyal duty to commonwealth and nation. Genuine culture consists largely in sympathy with many kinds of men and in insight into the widest ranges of human life. To live in a highly specialized community and to enter with appreciation into the activities of one's colleagues in many fields is in itself a liberalizing experience. There is place for generous rivalry in a great university, but this rivalry must be kept on a high level and not allowed to sink into unworthy conflict and discord. Open-mindedness, tolerance, high-minded rivalry can not fail, under the guidance of a controlling ideal, to fuse the university into a genuine unity of comradeship and goodwill. When each man and each group can see, not only through its own eyes but through the eyes of other persons and groups, the common problems of the institution, there must develop a keener sense of team play, a quickened loyalty, a more vivid corporate consciousness.

The university, a servant of the common life, exalting standards of efficiency and worth, summoning its members to a common task, must stand for the loftiest ideals. It must inspire enduring faith. It must exalt character above technical skill, mental alertness, refinement of feeling. It must lay hold of the fundamental motives. The university rightly aims at leadership, but in the words of Dr. Pritchett, it can win this "only by inspiring the youth of the democracy with a true, vibrant living faith. . . . The American university is today the home of that faith. It is the faith of humanity in humanity . . . and the American university, which embodies the intellectual aspirations of a free people, is becoming day by day the representative of their spiritual aspirations as well." The state university can not fulfill its true function unless it rises to the higher level of spiritual idealism. It may not ally itself with any church or support any one theology, but it must draw its inspiration from an essentially religious view of life. As the Sir Thomas More's Utopians tolerated many theologies of widely varying kinds, but united in common worship of the divine energy back of all nature and human life, so the university welcomes men and women of many faiths and rallies them to a devoted loyalty to common ideals of duty, service and reverent aspiration.

In the "Republic" Socrates, in talking of testing the young for leadership, declares, "We must inquire who are the best guardians of their own conviction that the interest of the state is to be the rule of all their actions. We must watch them from their youth upwards and propose deeds for them to perform in which they are most likely to forget or be deceived, and he who remembers and is not deceived is to be selected, and he who fails in the trial is to be rejected." The gentle sage goes on to

describe the tests of toil and pain, the tests of fear, the tests of seductive pleasures, and he tells us that "He who at every age as boy and youth, and in mature life, has come out of the trial victorious and pure, shall be appointed a ruler and guardian of the state. He shall be honored in life and death, and shall receive sepulcher and other memorials of honor, the greatest that we have to give."

The essentials of life and character have not changed since the days when Socrates talked of truth and justice in the groves of Academus. You graduates to-day go forth to be tested. You have in varying measure the vision of the university, the sense of obligation which your training lays upon you. You must hear, be it ever so faintly, the call to be servants of the commonwealth. Put to yourselves the question which comes down through the centuries, can you hold to this conviction that the interests of the community should be the rule of all your actions. You will face intellectual sophistry and beguiling fallacies. Have you the keenness of mind and the force of character to analyze these specious assertions and to hold steadfastly to things that are true and enduring? You will be tested by fear, fear of financial loss, fear of ridicule, fear it may be of social ostracism. Have you the courage and character to preserve your convictions of loyalty to the general good? You will be lured by pleasure, dazzled it may be by luxury and ostentation, tempted to self-indulgence and evanescent pleasures. Have you the fiber to resist these appeals and to remember that the social servant must be ever strong, clear eyed and faithful to his work?

May you hold to the vision you have caught: may it with the passing years grow ever clearer, brighter, more commanding in your lives. The university sends you

forth to-day with God speed, entrusts to you the good name of our widening community, summons you to loyalty, urges you to organize all your resources of mind and spirit into the unity of a high aim, the firm resolve to realize in your own lives the masterful purpose of the university which is to be in ever fuller measure at once the standard bearer and the servant of the state.

Go to your work and be strong, halting not in a world of men,  
Basking 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.

GEORGE E. VINCENT

#### *COURSES IN HIGHER PURE MATHEMATICS*

THE number of the objects of mathematical thought is infinite and the rapidly widening range of developed mathematics is continually directing mathematical attention to objects which were previously either practically or entirely ignored. Efforts to classify mathematics have been only partially successful and it is extremely difficult, in many cases, to draw reliable conclusions as to the nature of a course from its title. Hence the efforts to ascertain from the announcements of the leading universities of the world the relative emphasis which different countries place on the various subjects of higher mathematics can not be expected to lead to entirely trustworthy results.

The rapid development of our universities has led to such a rapid increase in the number of different mathematical courses beyond the first courses in differential and integral calculus, that many well-educated people have failed to keep informed as regards the general meaning of the titles of some of these courses. This is perhaps not surprising in view of the fact that several of our strongest universities offer their advanced courses under more than thirty different titles.