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Defoe Abbot Melville Montaigne Cooper Emerson Hugo  
Stoker Wilde Christie Maupassant Haggard Chesterton Molière Eliot Grimm  
Garnett Engels Schiller Byron Maupassant Schiller  
Goethe Hawthorne Smith Kafka  
Cotton Dostoyevsky Dostoyevsky Smith Willis  
Baum Henry Kipling Doyle Henry Willis  
Leslie Dumas Flaubert Nietzsche Turgenev Balzac  
Stockton Vatsyayana Crane  
Burroughs Verne  
Curtis Tocqueville Gogol Vinci  
Homer Tolstoy Whitman Gogol Busch  
Darwin Thoreau Twain Plato Scott  
Potter Zola Lawrence Dickens Plato Scott  
Kant Freud Jowett Stevenson Dickens Plato Scott  
Andersen Andersen Cervantes Burton Hesse Harte  
London Descartes Wells Voltaire Cooke  
Poe Aristotle Wells Voltaire Cooke  
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**Essays on Education and Kindred  
Subjects Everyman's Library**

Herbert Spencer

# Imprint

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*EVERYMAN, I will go with thee,  
and be thy guide,  
In thy most need to go by thy side*

HERBERT SPENCER

Born at Derby in 1820, the son of a teacher, from whom he received most of his education. Obtained employment on the London and Birmingham Railway. After the strike of 1846 he devoted himself to journalism, and in 1848 was sub-editor of *The Economist*.

He died in 1903.



## INTRODUCTION

The four essays on education which Herbert Spencer published in a single volume in 1861 were all written and separately published between 1854 and 1859. Their tone was aggressive and their proposals revolutionary; although all the doctrines—with one important exception—had already been vigorously preached by earlier writers on education, as Spencer himself was at pains to point out. The doctrine which was comparatively new ran through all four essays; but was most amply stated in the essay first published in 1859 under the title "What Knowledge is of Most Worth?" In this essay Spencer divided the leading kinds of human activity into those which minister to self-preservation, those which secure the necessaries of life, those whose end is the care of offspring, those which make good citizens, and those which prepare adults to enjoy nature, literature, and the fine arts; and he then maintained that in each of these several classes, knowledge of science was worth more than any other knowledge. He argued that everywhere throughout creation faculties are developed through the performance of the appropriate functions; so that it would be contrary to the whole harmony of nature "if one kind of culture were needed for the gaining of information, and another kind were needed as a mental gymnastic." He then maintained that the sciences are superior in all respects to languages as educational material; they train the memory better, and a superior kind of memory; they cultivate the judgment, and they impart an admirable moral and religious discipline. He concluded that "for discipline, as well as for guidance, science is of chiefest value. In all its effects, learning the meaning of things is better than learning the meaning of words." He answered the question "what knowledge is of most worth?" with the one word—science.

This doctrine was extremely repulsive to the established profession of education in England, where Latin, Greek, and mathematics had been the staples of education for many generations, and were believed to afford the only suitable preparation for the learned professions, public life, and cultivated society. In proclaiming this doctrine with ample illustration, ingenious argument, and forcible reiteration, Spencer was a true educational pioneer, although some of

his scientific contemporaries were really preaching similar doctrines, each in his own field.

The profession of teaching has long been characterised by certain habitual convictions, which Spencer undertook to shake rudely, and even to deride. The first of these convictions is that all education, physical, intellectual, and moral, must be authoritative, and need take no account of the natural wishes, tendencies, and motives of the ignorant and undeveloped child. The second dominating conviction is that to teach means to tell, or show, children what they ought to see, believe, and utter. Expositions by the teacher and books are therefore the true means of education. The third and supreme conviction is that the method of education which produced the teacher himself and the contemporary or earlier scholars, authors, and publicists, must be the righteous and sufficient method. Its fruits demonstrate its soundness, and make it sacred. Herbert Spencer, in the essays included in the present volume, assaulted all three of these firm convictions. Accordingly, the ideas on education which he put forth more than fifty years ago have penetrated educational practice very slowly—particularly in England; but they are now coming to prevail in most civilised countries, and they will prevail more and more. Through him, the thoughts on education of Comenius, Montaigne, Locke, Milton, Rousseau, Pestalozzi, and other noted writers on this neglected subject are at last winning their way into practice, with the modifications or adaptations which the immense gains of the human race in knowledge and power since the nineteenth century opened have shown to be wise.

For teachers and educational administrators it is interesting to observe the steps by which Spencer's doctrines—and especially his doctrine of the supreme value of science—have advanced towards acceptance in practice. In general, the advance has been brought about through the indirect effects of the enormous industrial, social, and political changes of the last fifty years. The first practical step was the introduction of laboratory teaching of one or more of the sciences into the secondary schools and colleges. Chemistry and physics were the commonest subjects selected. These two subjects had been taught from books even earlier; but memorising science out of books is far less useful as training than memorising grammars and vocabularies. The characteristic discipline of science can

be imparted only through the laboratory method. The schoolmasters and college faculties who took this step by no means admitted Spencer's contention that science should be the universal staple at all stages of child development. On the contrary, they believed, as most people do to-day, that the mind of the young child cannot grasp the processes and generalisations of science, and that science is no more universally fitted to develop mental power than the classics or mathematics. Indeed, experience during the past fifty years seems to have proved that fewer minds are naturally inclined to scientific study than to linguistic or historical study; so that if some science is to be learnt by everybody, the amount of such study should be limited to acquiring in one or two sciences knowledge of the scientific method in general. So much scientific training is indeed universally desirable; because good training of the senses to observe accurately is universally desirable, and the collecting, comparing, and grouping of many facts teach orderliness in thinking, and lead up to something which Spencer valued highly in education—"a rational explanation of phenomena."

Science having obtained a foothold in secondary schools and colleges, an adequate development of science-teaching resulted from the introduction of options or elections for the pupils among numerous different courses, in place of a curriculum prescribed for all. The elaborate teaching of many sciences was thus introduced. The pupil or student saw and recorded for himself; used books only as helps and guides in seeing, recording, and generalising; proceeded from the known to the unknown; and in short, made numerous applications of the doctrines which pervade all Spencer's writings on education. In the United States these methods were introduced earlier and have been carried farther than in England; but within the last few years the changes made in education have been more extensive and rapid in England than in any other country;—witness the announcements of the new high schools and the re-organised grammar schools, of such colleges as South Kensington, Armstrong, King's, the University College (London), and Goldsmiths', and of the new municipal universities such as Victoria, Bristol, Sheffield, Birmingham, Liverpool, and Leeds. The new technical schools also illustrate the advent of instruction in applied science as an important element in advanced education. Such institutions as the

Seafield Park Engineering College, the City Guilds of London Institute, the City of London College, and the Battersea Polytechnic are instances of the same development. Some endowed institutions for girls illustrate the same tendencies, as, for example, the Bedford College for Women and the Royal Holloway College. All these institutions teach sciences in considerable variety, and in the way that Spencer advocated,—not so much because they have distinctly accepted his views, as because modern industrial and social conditions compel the preparation in science of young people destined for various occupations and services indispensable to modern society. The method of the preparation is essentially that which he advocated.

Spencer's propositions to the effect that the study of science was desirable for artisans, artists, and, in general, for people who were to get their livings through various skills of hand and eye, were received with great incredulity, not to say derision—particularly when he maintained that some knowledge of the theory which underlies an art was desirable for manual practitioners of the art; but the changes of the last fifty years in the practice of the arts and trades may be said to have demonstrated that his views were thoroughly sound. The applications of science in the arts and trades have been so numerous and productive, that widespread training in science has become indispensable to any nation which means to excel in the manufacturing industries, whether of large scale or small scale. The extraordinary popularity of evening schools and correspondence schools in the United States rests on the need which young people employed in the various industries of the country feel of obtaining more theoretical knowledge about the physical or chemical processes through which they are earning a livelihood. The Young Men's Christian Associations in the American cities have become great centres of evening instruction for just such young persons. The correspondence schools are teaching hundreds of thousands of young people at work in machine-shops, mills, mines, and factories, who believe that they can advance themselves in their several occupations by supplementing their elementary education with correspondence courses, taken while they are at work earning a livelihood in industries that rest ultimately on applications of science.

Spencer's objection to the constant exercise of authority and compulsion in schools, families, and the State is felt to-day much more widely than it was in 1858, when he wrote his essay on moral education. His proposal that children should be allowed to suffer the natural consequences of their foolish or wrong acts does not seem to the present generation—any more than it did to him—to be applicable to very young children, who need protection from the undue severity of many natural penalties; but the soundness of his general doctrine that it is the true function of parents and teachers to see that children habitually experience the normal consequences of their conduct, without putting artificial consequences in place of them, now commands the assent of most persons whose minds have been freed from the theological dogmas of original sin and total depravity. Spencer did not expect the immediate adoption of this principle; because society as a whole was not yet humane enough. He admitted that the uncontrollable child of ill-controlled adults might sometimes have to be scolded or beaten, and that these barbarous methods might be "perhaps the best preparation such children can have for the barbarous society in which they are presently to play a part." He hoped, however, that the civilised members of society would by and by spontaneously use milder measures; and this hope has been realised in good degree, with the result that happiness in childhood is much commoner and more constant than it used to be. Parents and teachers are beginning to realise that self-control is a prime object in moral education, and that this self-control cannot be practised under a regime of constant supervision, unexplained commands, and painful punishments, but must be gained in freedom. Some large-scale experience with American secondary schools which prepare boys for admission to college has been edifying in this respect. The American colleges, as a rule, do not undertake to exercise much supervision over their students, but leave them free to regulate their own lives in regard to both work and play. Now it is the boys who come from the secondary schools where the closest supervision is maintained that are in most danger of falling into evil ways when they first go to college.

Spencer put very forcibly a valuable doctrine for which many earlier writers on the theory of education had failed to get a hearing—the doctrine, namely, that all instruction should be pleasurable and

interesting. Fifty years ago almost all teachers believed that it was impossible to make school-work interesting, or life-work either; so that the child must be forced to grind without pleasure, in preparation for life's grind; and the forcing was to be done by experience of the teacher's displeasure and the infliction of pain. Through the slow effects of Spencer's teaching and of the experience of practical teachers who have demonstrated that instruction can be made pleasurable, and that the very hardest work is done by interested pupils because they are interested, it has gradually come to pass that his heresy has become the prevailing judgment among sensible and humane teachers. The experience of many adults, hard at work in the modern industrial, commercial, and financial world, has taught them that human beings can make their intensest application only to problems in which they are personally interested for one reason or another, and that freemen work much harder than slaves, because they feel within themselves strong motives for exertion which slaves cannot possibly feel. So, many intelligent adults, including many parents and teachers, have come to believe it possible that children will learn to do hard work, both in school and in after life, through the free play of interior motives which appeal to them, and prompt them to persistent exertion.

The justice of Spencer's views about training through pleasurable sensation and achievement in freedom rather than through uninterested work and pain inflicted by despotic government, is well illustrated by the recent improvements in the discipline of reformatories for boys and girls and young men and women. It has been demonstrated that the only useful reformatories are those which diminish the criminal's liberty of action as little as possible, require him to perform productive labour, educate him for a trade or other useful occupation, and offer him the reward of an abridgment of sentence in return for industry and self-control. Repression and compulsion under penalties however severe fail to reform, and often make bad moral conditions worse. Instruction, as much freedom as is consistent with the safety of society, and an appeal to the ordinary motives of emulation, satisfaction in achievement, and the desire to win credit, can, and do, reform.

Many schools, both public and private, have now adopted—in most cases unconsciously—many of Spencer's more detailed sug-

gestions. The laboratory method of instruction, for example, now common for scientific subjects in good schools, is an application of his doctrines of concrete illustration, training in the accurate use of the senses, and subordination of book-work. Many schools realise, too, that learning by heart and, in general, memorising from books are not the only means of storing the mind of a child. They should make parts of a sound education, but should not be used to the exclusion of learning through eye, ear, and hand. Spencer pointed out with much elaboration that children acquire in their early years a vast amount of information exclusively through the incessant use of their senses. To-day teachers know this fact, and realise much better than the teachers of fifty years ago did, that all through the school and college period the pupils should be getting a large part of their new knowledge through the careful application of their own powers of observation, aided, indeed, by books and pictures which record the observations, old and new, of other people. The young human being, unlike the puppy or the kitten, is not confined to the use of his own senses as sources of information and discovery; but can enjoy the fruits of a prodigious width and depth of observation acquired by preceding generations and adult members of his own generation. A recent illustration of this extension of the method of observation in teaching to observations made by other people is the new method of giving moral instruction to school children through photographs of actual scenes which illustrate both good morals and bad, the exhibition of the photographs being accompanied by a running oral comment from the teacher. In this kind of moral instruction it seems to be possible to interest all kinds of children, both civilised and barbarous, both ill-bred and well-bred. The teaching comes through the eye, for the children themselves observe intently the pictures which the lantern throws on the screen; but the striking scenes thus put before them probably lie in most instances quite outside the region of their own experiences.

The essay on "What Knowledge is of Most Worth?" contains a hot denunciation of that kind of information which in most schools used to usurp the name of history. It is enough to say of this part of Spencer's educational doctrine that all the best historical writers since the middle of the nineteenth century seem to have adopted the principles which he declared should govern the writing of history.

As a result, the teaching of history in schools and colleges has undergone a profound change. It now deals with the nature and action of government, central, local, and ecclesiastical, with social observances, industrial systems, and the customs which regulate popular life, out-of-doors and indoors. It depicts also the intellectual condition of the nation and the progress it has made in applied science, the fine arts, and legislation, and includes descriptions of the peoples' food, shelters, and amusements. To this result many authors and teachers have contributed; but Spencer's violent denunciation of history as it was taught in his time has greatly promoted this important reform.

Many twentieth-century teachers are sure to put in practice Spencer's exhortation to teach children to draw with pen and pencil, and to use paints and brush. He maintained that the common omission of drawing as an important element in the training of children was in contempt of some of the most obvious of nature's suggestions with regard to the natural development of human faculties; and the better recent practice in some English and American schools verifies his statement; nevertheless some of the best secondary schools in both countries still fail to recognise drawing and painting as important elements in liberal education.

Modern society as yet hardly approaches the putting into effective practice of the sound views which Spencer set forth with great detail in his essay on "Physical Education." The instruction given in schools and colleges on the care of the body and the laws of health is still very meagre; and in certain subjects of the utmost importance no instruction whatever is given, as, for example, in the normal methods of reproduction in plants and animals, in eugenics, and in the ruinous consequences of disregarding sexual purity and honour. In one respect his fundamental doctrine of freedom, carried into the domain of physical exercise, has been extensively adopted in England, on the Continent, and in America. He taught that although gymnastics, military drill, and formal exercises of the limbs are better than nothing, they can never serve in place of the plays prompted by nature. He maintained that "for girls as well as boys the sportive activities to which the instincts impel are essential to bodily welfare." This principle is now being carried into practice not only for school-children, but for operatives in factories, clerks, and

other young persons whose occupations are sedentary and monotonous. For all such persons, free plays are vastly better than formal exercises of any sort.

The wide adoption of Spencer's educational ideas has had to await the advent of the new educational administration and the new public interest therein. It awaited the coming of the state university in the United States and of the city university in England, the establishment of numerous technical schools, the profound modifications made in grammar schools and academies, and the multiplication in both countries of the secondary schools called high schools. In other words, his ideas gradually gained admission to a vast number of new institutions of education, which were created and maintained because both the governments and the nations felt a new sense of responsibility for the training of the future generations. These new agencies have been created in great variety, and the introduction of Spencer's ideas has been much facilitated by this variety. These institutions were national, state, or municipal. They were tax-supported or endowed. They charged tuition fees, or were open to competent children or adults without fee. They undertook to meet alike the needs of the individual and the needs of the community; and this undertaking involved the introduction of many new subjects of instruction and many new methods. Through their variety they could be sympathetic with both individualism and collectivism. The variety of instruction offered is best illustrated in the strongest American universities, some of which are tax-supported and some endowed. These universities maintain a great variety of courses of instruction in subjects none of which was taught with the faintest approach to adequacy in American universities sixty years ago; but in making these extensions the universities have not found it necessary to reduce the instruction offered in the classics and mathematics. The traditional cultural studies are still provided; but they represent only one programme among many, and no one is compelled to follow it. The domination of the classics is at an end; but any student who prefers the traditional path to culture, or whose parents choose that path for him, will find in several American universities much richer provisions of classical instruction than any university in the country offered sixty years ago. The present proposals to widen the influence of Oxford Uni-

versity do not mean, therefore, that the classics, history, and philosophy are to be taught less there, but only that other subjects are to be taught more, and that a greater number and variety of young men will be prepared there for the service of the nation.

The new public interest in education as a necessary of modern industrial and political life has gradually brought about a great increase in the proportional number of young men and women whose education is prolonged beyond the period of primary or elementary instruction; and this multitude of young people is preparing for a great variety of callings, many of which are new within sixty years, having been brought into being by the extraordinary advances of applied science. The advent of these new callings has favoured the spread of Spencer's educational ideas. The recent agitation in favour of what is called vocational training is a vivid illustration of the wide acceptance of his arguments. Even the farmers, their farmhands, and their children must nowadays be offered free instruction in agriculture; because the public, and especially the urban public, believes that by disseminating better methods of tillage, better seed, and appropriate manures, the yield of the farms can be improved in quality and multiplied in quantity. In regard to all material interests, the free peoples are acting on the principle that science is the knowledge of most worth. Spencer's doctrine of natural consequences in place of artificial penalties, his view that all young people should be taught how to be wise parents and good citizens, and his advocacy of instruction in public and private hygiene, lie at the roots of many of the philanthropic and reformatory movements of the day.

On the whole, Herbert Spencer has been fortunate among educational philosophers. He has not had to wait so long for the acceptance of his teachings as Comenius, Montaigne, or Rousseau waited. His ideas have been floated on a prodigious tide of industrial and social change, which necessarily involved wide-spread and profound educational reform.

This introduction deals with Spencer's four essays on education; but in the present volume are included three other famous essays written by him during the same period (1854-59) which produced the essays on education. All three are germane to the educational

essays, because they deal with the general law of human progress, with the genesis of that science which Spencer thought to be the knowledge of most worth, and with the origin and function of music, a subject which he maintained should play an important part in any scheme of education.

CHARLES W. ELIOT.

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