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CONFERENCE ON SCHOOL HYGIENE.

PRESIDENTIAL ADDRESS

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MY first duty and pleasure to-night is to welcome the members of this Conference to the University of London, and to thank you for the honour you have done me in electing me as president of your gathering. I cannot claim to be an expert in your subject, and though, as a man of science, I sympathise heartily with your aims and objects, and know something of the principles on which they are based, yet I take it that my presence here is a proof of the importance which you attach to the place of hygiene in any well-considered scheme of education.

Never, perhaps, was education more in the thoughts of the people of England than it is now. The great decentralisation, by which the control of the upbringing of our youth was handed over to local authorities, has encouraged many willing and compelled many unwilling recruits to busy themselves with educational matters. The country has not yet settled down to a system, or systems, which all approve, and we are feeling our way, in the tentative English fashion, through a mist of speeches, letters, reports, and conferences to ends which, as a nation, we do not clearly discern.

Progress has unquestionably been made in the last quarter of a century, but it is curious to note how little we have advanced towards agreement on fundamentals, and how unaltered is the attitude of those who hold conflicting opinions as to the older and newer forms of education.

Matthew Arnold's famous *jeu d'esprit*, "Friendship's Garland," was published thirty-four years ago, and he summed up the views of the

critics of that time on classical and scientific education respectively. A German professor, Arminius, wanted to know what Lord Lumpington and the Rev. Esau Hittall learnt at the great public schools they attended. "‘They followed,’ said I (the author), ‘the grand, old, fortifying, classical curriculum.’ “Did they know anything when they left?’ asked Arminius. ‘I have seen some longs and shorts of Hittall’s,’ said I, ‘about the Calydonian Boar, which were not bad. But you surely don’t need me to tell you, Arminius, that it is rather in training and bracing the mind for future acquisitions—a course of mental gymnastics, we call it—than in teaching any set thing, that the classical curriculum is so valuable.’ ‘Were the minds of Lord Lumpington and Mr. Hittall much braced by their mental gymnastics?’ inquired Arminius. ‘Well,’ I answered, ‘during their three years at Oxford they were so much occupied with Bullingdon and hunting there was no great opportunity to judge.’” To this curriculum is opposed that of “the thoughtful educator,” who was principal of the Lycurgus House Academy, Archimedes Silverpump, Ph.D. “‘We must be men of our age,’ he used to say. ‘Useful knowledge, living languages, and the forming of the mind through observation and experiment, these are the fundamental articles of my educational creed.’” The result in this case was not more satisfactory. Dr. Silverpump’s pupil made an immense fortune, but the author was obliged to confess that “‘his mind, *quâ* mind——.’ ‘You need not go on,’ interrupted Arminius, with a magnificent wave of his hand, ‘I know what that man’s mind, *quâ* mind, is, well enough.’”

It is true that these passages already sound old-fashioned. “Longs and shorts” play a less prominent part in classical education than they used to do. No one would now regard the scientific education given by Dr. Silverpump as the best that the modern school of education could do, or as fairly to be compared with the classical course of a public school and Oxford. In 1871 the Clarendon Physical Laboratory at Oxford had only been opened for two years; the Cavendish Laboratory at Cambridge had not been built; the Owens College alone foreshadowed the Universities and University colleges which now exist in every large town. But, apart from these indications of progress, the fundamentals of the controversy are still the same. The theory of mental gymnastics is still strenuously supported, and is still attacked on the ground that, if it is all it is said to be, the results are disappointing. “The forming of the mind through observation and experiment” was in 1871 a fundamental article of the creed of the scientific school of educators, of whom Matthew Arnold’s picture of Dr. Silverpump would now be a gross and unfair

caricature. Thirty-one years later Professor Armstrong contended that in the school of the future "a great part of the time will be spent at the work bench, tool in hand. . . . Scientific method will underlie the whole of education." Elsewhere the same authority remarks that "literary methods must give place to practical methods; workshop methods must take the place of didactic desk methods." On the other hand, as the recent correspondence in the *Times* shows, eminent school-masters can be found who contend that the literary training is so far superior that boys who have gone through some of it will, if transferred to the study of science, beat those who have in their earlier stages learnt more science and less classics. Both sides are afraid of each other, both complain that their subjects are unduly neglected. Neither party believes that the principles it upholds are secure in the struggle for existence unless supported by rigid examinational regulations. Mr. Headlam complains that "the action of the University of London, which has made Latin an optional subject in the Matriculation Examination, is already beginning to affect the schools," and that "the disuse of Latin seems to him to be a cause for serious regret"; while Professor Armstrong contends that the action of the University in putting science on the same footing as Latin is a "national disaster." On these points I shall have more to say, but, for the moment, I am content with noting that the two extreme schools of thought are as widely divided as they were thirty-four years ago, and that both disputants practically admit that there is no solid basis of public opinion to rely on; that parents, teachers, and governing bodies are none of them to be trusted, and must be kept in order by the application of rigid rules of admission to Universities.

But amid this welter of conflicting opinions I think there can be no doubt that, in the last few years, the subject in which we are chiefly interested to-night has been steadily making its way to a position of more importance in educational curricula. Sanitary science has long occupied a relatively prominent position in this country, and now the determination with which we insist on sanitary precautions strikes the foreigner with amazement.

M. Emile Boutmy, of the Institute of France, has, in "The English People," made a careful study of this country, somewhat similar to that which Mr. Bodley gave to the world in his "France." He contends that in England "there is no province with clearly defined boundaries which belongs, theoretically, to private individuals alone, and access to which is, in principle, denied to the state. If I wished," he says, "to find in the present a positive proof that the state . . . does not allow itself to be

stopped by the superstition of any collective or individual right commanding respect, I shall only have to take, and rapidly analyse, the laws relating to public hygiene." He regards it as extraordinary that the local authorities, in spite of the desperate resistance of the town council and the majority of the inhabitants, should be compelled "to carry out the work necessary to procure an adequate provision of water for each habitation, and to secure the ejection of all waste matter by a proper system of drainage." In our regulations as to the isolation of persons suffering from infectious diseases, he recognises "a power of coercion which has no parallel in France," and describes the intervention of the officer of health as "insolent and arbitrary." I do not think that average English opinion would agree that in these matters the state or the local authorities have outstepped the limits of their legitimate functions, and we should point to the reduced death-rate as a proof of the efficiency, and even necessity, of these precautions. There are points, such as the regulations with respect to the building of cottages, on which there is not the same unanimity, and it is desirable that the chance of a re-action should not be risked by going too far or moving too rapidly for public opinion to follow.

The educational position, then, at the present moment, is that there are two widely divergent schools of thought, one of which claims that the highest training can be obtained, and obtained only, by a school of education of which the study of classics is the central feature; which reserves the term "general education" for that particular type only, and stigmatises anything which diminishes the share of classics and augments that of other subjects as "premature specialisation." Nay, they go so far as to contend that classics is the best gate to mathematics, and a high authority recently quoted the evidence of a pupil "now studying for the Engineering Tripos," who "declared that he owed any mathematical proficiency he might attain to the Greek which he did at school." It is interesting to compare with this single, not to say singular instance, accurate statistics showing the success or failure of a predominantly classical education to develop high mathematical power. "Who's Who" affords no information as to the school days of twelve of the fifty Fellows of the Royal Society who may be classed as mathematicians or mathematical physicists. Of the remaining thirty-six, only five hail from the public schools. No doubt many of the others had mastered more or less classics, but the figures, at least, prove that inductions based on single instances may be very misleading.

The opposing school of educationalists contend that the allotment of a large share to the classics and a very small share to science in the prevalent type of higher secondary education makes it not general but special; that

to the predominance of literary education is largely due the backwardness of the English governing classes, not only to foster the study of science, but to deal with problems of administration and government in a scientific spirit. Mental qualities, they assert, can be developed in the laboratory, which not only cannot be cultivated but are destroyed by excessive devotion to book-learning, and they insist that science should be regarded as an integral part of a general education, at least as much as Latin, and much more than Greek. Both sides cry to the Universities to help them to maintain, or to win, the position they desire.

I have begun my address by this survey of the controversy which is raging now even more furiously than it did in Matthew Arnold's time, because I wish from the first to make it clear that the position which hygiene should take in our educational systems is but a part of the larger question of the position of science, and you will forgive me if I sometimes deal rather with the strategy which should govern the whole movement than with the tactical advantages which you have gained in the past, or may gain in the future. Your tactical position is, however, very strong. The relative importance of Greek and science affects only the education of the upper and a part of the middle classes. Hygiene is of interest to all alike. The struggle between those who would educate the mind in different ways must influence the future of all branches of science; but hygiene, apart from the fact that it occupies a place among the sciences, deals with the cultivation and health of the body, which is as much the business of the educator as is the development of the intellect. In pursuing my subject further I shall therefore regard it primarily from the point of view proper to this Congress by enquiring how far your immediate educational aims have been attained; but I shall offer no apology if the questions which arise sometimes lead me to deal with problems which affect science and educational methods as a whole.

Beginning with the earlier stages of education, a division of our subject is at once made necessary, as we must distinguish between those who go to a public elementary school, and the children whose earlier instruction is framed as a preparation for entry into the higher public or grammar schools. No doubt the boundary between the two classes cannot be defined with scientific precision, but the division serves to indicate the general circumstances of two very large and important groups. Taking the elementary school children as a class, it is certain that the education of few of them will be carried to a high standard. Some may climb the ladder of education to its loftiest rungs; many will never make the attempt, or will abandon it before they have mounted far; and, if all are to

be treated alike, the first stages of education must be such as to meet the needs of this latter class, and must contain all that it is absolutely essential that each individual should know.

Here then we at once enter upon the battle of the subjects. The time is short, and so much knowledge is so very needful that it is difficult to include it all without prematurely taxing the brains and risking the health of little lads and lasses whose school days are to be ended as soon as the law permits.

The old solution of the problem was to make their education solely literary and arithmetical, but happily this is being abandoned. Among the subjects prescribed by the Board of Education to be taught in every public elementary school is "Knowledge of the common phenomena of the external world, with special reference to the formation of a habit of intelligent and accurate observation, and to the application of that habit—in conjunction with simple forms of experiment—in the daily life and surroundings of the scholars." The word "hygiene" is not actually used in this definition, but in the introduction it is laid down that the school should give instruction "in the working of some of the simpler laws of health." The general principle that the laws of hygiene shall be inculcated from a very early age is thus admirably insisted on, and it is only necessary to ensure that the teaching shall be really practical and not the mere learning by heart of a number of more or less isolated facts. The Board of Education puts the question of the teaching of hygiene in its proper place, as part of the wider question as to how to foster a habit of intelligent and accurate observation, and to apply that habit to the daily life and surroundings of the scholars. If that habit is to be successfully cultivated, it would appear that hygiene should play a larger part in the education of town than of country children. Excellently as the subject of nature study is being developed, certain branches of it must be less practical to the town dweller than to the rustic; while the necessity of warning against dangers which arise from the neglect of sanitary laws is more urgent in a crowded than in a sparse population. If, then, the restricted time at the disposal of the teacher makes competition between the two subjects inevitable, the doctrine that the teaching should be applicable to the daily life and surroundings of the scholars leads to the result that the study of the life histories of animals, insects, and plants should be made more prominent in the country; while the facts which bear more directly on the amelioration and preservation of the lives spent in the dull streets of a workman's suburb, and under the pall which enshrouds a great city, should be specially insisted on in urban schools.

The precise subjects to be taught, and the method of teaching them, are matters rather for sectional discussion than for a presidential address; but I may be allowed to point out that a committee of the medical profession of the United Kingdom, of which Sir William Broadbent was chairman, has prepared suggested courses of teaching on hygiene and temperance for boys and girls in the public elementary schools of the United Kingdom. This is based on a scheme which had its origin in America, and is divided into five progressive sections suitable for children of different ages. Whether or no it commands, or will command, general acceptance, there can be no doubt that this and the other facts I have mentioned prove that educational and medical authorities are alive to the importance of the teaching of hygiene. It is agreed that children who have to leave school at a very early age shall not be sent into the battle of life ignorant of the simplest truths as to the construction of their own bodies, and of the most fundamental conditions for the maintenance of those bodies in health and vigour.

Nay, we may put it on still higher ground. That the ethical and physical sides of our natures act and re-act on each other is certain, though the relations between them are obscure. The habits of self-denial and self-respect, which are necessary to secure and maintain physical health, may assist in repelling the grosser forms of moral contagion, in cultivating sensitiveness to the whisperings of the monitor within, and in clearing the channels through which the intensity and the quality of those whisperings are improved. That these higher results do not necessarily follow is as true as the fact that a poor harvest is often reaped from a well-tilled soil, but neither in the one case nor in the other is occasional or even frequent failure a reason for neglecting a condition which, on the whole, makes for success.

An appeal, the first signature to which is that of our chairman, the Duke of Northumberland, has been issued to the local educational authorities of England and Wales, which sets forth as "the chief end of all true education, the moral formation of character." It was signed by representative men and women of different schools of thought and of varied walks in life. Among many practical suggestions, they lay it down that "scholars should have their attention drawn to the laws of health," and, thus, this appeal is one among many other happy omens that the time is passing away in which the neglect, nay, the injury of the body was regarded as a mark of moral elevation. We are learning that the methods of attaining sound physical, mental, and moral health are all necessary parts of a science of hygiene which transcends the mere laws of sanitation, of a science of education which goes beyond

the acquirement of knowledge, and aims at the highest development both of the individual and the race.

Turning now from the education given in elementary schools, with the assurance that the principles which this Congress would approve are being widely recognised, the question at once arises, are similar doctrines accepted in the case of children of richer parents who pass through the preparatory to the public schools? The only possible answer is that they are not, or, at all events, are not applied at the same early age.

For this I think some valid reasons can be alleged. The children of this class will not leave school when very young, and there is not the same necessity for crowding the fundamental essentials of hygienic knowledge into the instruction given in their earliest years. The question as to the best order and arrangement of the subjects of study may well have different answers according as school life terminates at the beginning or end of the teens.

It may also fairly be said that children brought up amid surroundings which are, on the whole, sanitary, learn instinctively to avoid things to which some of their less fortunate brethren are only too well accustomed. This view, I take it, is endorsed by The Royal Sanitary Institute itself. In a recent letter from the President of your Institute to educational authorities it is urged that "the proposals (of the Board of Education) with regard to dietaries and other matters of health, if adopted in the training colleges, would pass the trained teachers on to their work in life imbued with the habits and traditions of healthy living: these would then be instinctively followed in their school work." An analogous argument would show that it is less necessary to impress, by direct formal teaching, the principles of hygiene on children who are, to a certain extent, "imbued with the habits and traditions of healthy living" from their birth.

Nevertheless, regarding hygiene as a branch of science, I think it a pity that some of the elements of science do not oftener form a part of the early education of the children of well-to-do parents. A clever boy between seven and ten years of age is delighted if he is told something of such science as he can understand, is still more delighted if he is allowed to make an experiment. A tumbler of water, a glass tube closed at one end, and a candle will afford as much amusement as an expensive game, and will make the expansion of air a fact of experience. Many other simple experiments are available. They are useful, not only from the information they give, but because through them a knowledge of science becomes, not, as it is to too many educated men, a technical subject, the

details of which need be studied only by experts, but a part of the ordinary machinery of life.

According to the system now generally adopted, the child of well-to-do parents will begin Latin a year or two before he has completed his first decade, and French even earlier, and thus, *ceteris paribus*, has less time to give to the rudiments of science than is at the disposal of a pupil at an elementary school. I believe that many, who are better judges on such a question than I can pretend to be, think that the study of the classics might with advantage be postponed to a later date than that at which it is ordinarily begun. This view is, I am told, gaining ground in Germany, but, even if it is correct, the possibility of change is hindered in this country by the scholarship system, which tends to keep the abler boys to the beaten track and to prevent them from postponing the study of the principal subjects of the competition, among which that of classics is the chief. They must be begun early, and thus science (in which term I include the elements of hygiene) is crowded out.

Though I regret this, I do not think it is of vital importance if the subject is taken up later; but the curious difference between the official theory of the Board of Education as to what is desirable in elementary schools and the practice when the children of the richer classes are dealt with is deserving of notice. For my own part, I believe that the study of the elements of science, hygiene and other, should be carried on side by side with that of language and arithmetic from a very early stage. It must be of the nature study type, and should include information on many interesting subjects rather than a detailed knowledge even of the rudiments of any one. The knowledge attained will not be of a kind which can be readily tested by examinations, but then, though they may be necessary later on, examinations should play but little part in the education of mere children. If to secure such teaching it is necessary to postpone the beginning of some other subjects, I would postpone them. I confess that the arguments in favour of Latin as an excellent intellectual exercise for quite young boys appeal to me very strongly and are supported by instances within my knowledge, but to secure some science and manual work, I would be content that Latin be taken later. "In the early years of secondary education," says Professor Michael Sadler, "we are suffering from premature Latin and Greek."

There can be no question but that some science should be taught to all children at a secondary school, and under this general heading the principles of hygiene should be included. It is a moot point whether the

inclusion of science in the school curriculum should be enforced by its inclusion in all University entrance examinations. In considering this demand it is to be noted that, though it is generally admitted that examinations play too large a part in the educational systems of this country, and that though the Board of Education has been doing what is possible to substitute inspections for examinations, yet, whenever an Englishman believes that the importance of some particular subject in the machinery of education is overlooked, he immediately cries out that it should be made a compulsory subject in some examination. A striking exception, remarkable on account of its rarity, was the attitude lately assumed by Professor Mackinder in the controversy as to the teaching of geography. Instead of relying upon an easy but dangerous aid to learning he did his best to check the cry for the furtherance of the study of geography by the pressure of the examination system. In most cases, however, "the predominancy of custom is everywhere visible, insomuch as a man would wonder to hear men profess, protest, engage, give great words, and then do just as they have done before, as if they were dead images and engines, moved only by the wheels of custom." The ordinary controversialist first cries out that examinations are ruining the country, and then assumes either that teachers are already so tied and bound by the chains of examination systems that no reform can be obtained except by adding to their fetters, or that, if they were free, they would condemn his own pet subject. There is an element of truth in both assumptions. Teachers are apt to reproduce the system on which they themselves were educated. They are often unduly conservative, and when willing to introduce reforms, they are hampered by considerations of cost and by the prejudices of governing bodies. It is also true that, if the teacher's reputation is made to depend, as it too often is, on the number of pupils whom he can pass successfully through various examination tests, he is led to ignore everything that does not directly conduce to that success. But are we, on account of these difficulties, to assume that no more excellent way can be found? The method of compelling teachers and students to follow certain curricula by means of examinations imposed by some external authority is bad in almost every way. If an attempt is made to insist on a knowledge of everything that it is desirable a well-educated person should know, the number of subjects becomes unduly large; a charge to which the matriculation examination of the University of London was at one time open. If attention is concentrated on a few specified subjects which are regarded as supremely important, not only are others neglected, but no opportunity is left to allow for the varying abilities and wants of different individuals. Such education turns out, not

works of art designed to make the most of the material at the disposal of the educational artist, but machine-made products, forced artificially to assume, as far as may be, the same forms, and disguised, though made of very different materials, so as to look as much like each other as possible. We blame the taste which delighted to encourage the deception that an earthenware lustre teapot was made of silver or Sheffield plate, but we are not ashamed to try to mould young living intelligences according to the particular rule, all must know Greek or all must know science, which we ourselves affect.

The rigid binding together of the preparatory and public schools, and of the public schools and the Universities, by inelastic examination systems does infinite harm; and, to do it justice, the re-organized University of London has done what it can to strike a blow for freedom. It has reduced the whole number of the subjects in the matriculation to five, two of which only, English and elementary mathematics, are compulsory; and has added only two other rules, viz., that one of the other subjects must be a language, and that, if that language is not Latin, one of the fundamental sciences must be taken. So elastic a system allows for the necessities of many types of education.

But the resources of a University are not exhausted if it refuses to attempt to dominate the previous education of all those who enter its doors by rigid tests, arranged, either by the narrowness of their scope or by a multiplicity of regulations, to force all would-be undergraduates not to wander far from some prescribed path. It can, as it were, take the schools themselves into partnership, and conduct its entrance examination in connection with them, and with modifications which may allow of varieties of treatment of the same subject in different schools. This the University of London has done by means of its school-leaving examination, and the result is that it is able to recognize variants of the current educational schemes, which could not have been dealt with in a single examination including very large numbers. A university may thus become, through its inspectors and by its communications with the school authorities, cognisant of the details of the curricula in the schools, and may be able to exert influence to secure the maintenance of studies which it may not think it desirable to insist upon as obligatory subjects in a general examination.

I have thought it well to explain the attitude of the University of London on this point, because it must be clearly understood that, by abandoning a particular method of enforcing its views, the University and its officers do not abandon the right to express opinions as to what is desirable in education, or to use more legitimate methods of giving effect to them.

Because we do not forthwith insist on every candidate for membership of the University passing a preliminary test in hygiene, it does not follow that we do not heartily sympathise with efforts to give some tincture of knowledge in this subject both to those who do and those who do not begin their education in public elementary schools.

The fact is that in education, as in most things, you cannot have it both ways. You cannot both weaken the undue influence which examinations have exerted in English education, and also use examinations to enforce all the details of your own views. Especially is the latter policy inexpedient at a time when there is so little agreement on educational ideals. It has been tried, and has failed. Each university has prescribed its own conditions of admission, and no one of them has converted the country as a whole to accept its scheme. The struggle must, therefore, I suppose, continue; but, meanwhile, it is important not to injure the schools and the scholars. The multiplicity of examinations for which the schools have to prepare is a grave evil, and, if we cannot accept each other's ideals, it is, at all events, desirable that we should recognise each other's examinations. This has been done by Cambridge and London, and the Senate of the University of London have agreed to terms which there is every reason to hope that the University of Oxford will accept. Should this be so, candidates from the same school will be able to enter any one of the three universities, not, indeed, on the same conditions, but by means of an examination conducted by any one of them. Each candidate, by whomsoever he is examined, must take the subjects required by the university he intends to enter, but, subject to a few simple modifications, the syllabus of the subject is that laid down by the University which conducts the examination. All the maddening difficulties due to minor variations in the examinations, the inclusion of another rule in algebra, the exclusion of a book of Euclid, and the like, will be done away with, and it may be hoped that the schoolmaster's task will be lightened. Nor is this all; the three new universities in the North of England are compelled by their charters to carry out their entrance examination in common; and the Consultative Committee of the Board of Education have recently put forward a scheme of a still more comprehensive character. That the movement will grow I have no doubt, and though further progress is not free from difficulties, they ought not to be insuperable. This is not the occasion for continuing the discussion, and I have only entered upon it up to this point because I desired to make it clear why I urge you not to rely too exclusively upon compulsory examinations in the promotion of the study of hygiene.

But if this study be desirable in the case of the students, how much more so is it in the case of those who are hereafter to instruct them! The Board of Education, which has of late been leading the way in necessary reforms rather than waiting for public opinion to drive it to change, is fully aware of this fact, and in a letter, to which I have already referred, the President of your Institute has welcomed, "as a most helpful and satisfactory measure, the recently issued regulations of the Board of Education for the training of teachers."

It may be useful to describe shortly what the regulations, thus approved, are.

In the first place, elementary science, including laboratory work, is a compulsory subject; so are the principles and practice of teaching, for the former of which five alternative courses are proposed for students who will be examined by the Board. The first of these includes "the physical health of the scholars, the means of testing, preserving and improving it; methods of detecting and dealing with physically and mentally defective children."

The second includes hygiene, with the sub-headings, "the health and physique of children as affected by school conditions; common physical defects and ailments, and their treatment at school; physical training."

The third includes nature study. The fourth, school hygiene, with but slight modifications of the syllabus of the third course; while the fifth scheme is divided into three principal sections, of which school hygiene is one. The details of this are stated at too great length to be quoted here, but it may be sufficient to say that they are grouped under the headings: the school and the house; school conditions; powers of endurance; fatigue; and children of normal and abnormal physique. The central educational authority of the country is thus evidently awake to the importance of a teacher's knowing something of the difference between healthy and unhealthy conditions, and of his being able to convey some of this knowledge to the children he will train. Equal solicitude is shown with regard to the health of the students in training colleges themselves. Regulations are laid down as to the air space and floor space in bed-rooms and class-rooms, and as to the number of baths which must be available, and several pages are devoted to suggestions as to dietary, exercise, and other conditions of health. The attitude of the Board of Education to the whole question is admirably summed up in the prefatory memorandum.

"The students ought to have an adequate knowledge of school hygiene. They should understand the general conditions necessary for making a building or a room healthy, and for keeping it so; and they should be well

acquainted with the rules of personal health, and, so far as possible, with the physiological principles upon which these rules are based. In the case of women students, the nutritive value of food-stuffs in connection with their cost in the market, and in relation to the needs of young children should be known in outline, even though the student may not be specially qualified in domestic economy. Only thus will they know how to conduct the school as a whole with the greatest profit to the health and bodily development of scholars, and how to adapt the instruction to the limitations which are imposed in some cases by the feeble health of the children, or by the poverty or neglect of their parents."

It is less satisfactory to report that, when The Royal Sanitary Institute drew the attention of about 300 local educational authorities to the above excellent sentiments and regulations, offering assistance in the preparation or carrying out of any scheme the authority might propose to adopt, answers were received from 51 only. Of these, 21 were mere acknowledgements, and 5 were refusals to take action. Of course, the regulations of the Board of Education will compel attention to hygiene as a subject for the training of teachers, but it is to be regretted that the opportunity of obtaining advice from a body which has earned the right to give it, should be thus neglected.

The general trend of opinion is, however, unmistakable. A committee of the British Association last year drew up an outline of a scheme of hygiene for school teaching. Sir John Gorst and Professor Armstrong both dealt with the subject in their addresses to the educational section, and The Royal Sanitary Institute itself has drawn up a scheme of examination in practical hygiene for school teachers.

As regards the second division of our subject, the position of hygiene in secondary education, we may sum up, as in the case of the first, that the Board of Education and expert opinion are at one as to the importance of a study of hygiene by those who are to be teachers, and as to the general character of practicable schemes of study, and that it only remains for the local authorities and others who control training colleges to apply, as they have in part already done, precept to practice.

I speak on this point with a sense of grave responsibility, for the University of London is itself organising a great training college. The magnificent gift of the Goldsmiths' Company to the University is to be utilised, in part at all events, for the training of teachers for elementary schools. The proposal was put forward at first in a tentative way, but it has been warmly welcomed by those immediately concerned. The counties of London, Kent, Surrey, Middlesex, and the county borough of Croydon have applied for more places than we shall probably be able to provide, so

that the success of the institution, so far as numbers are concerned, is assured from the first.

No country in the world staffs its elementary schools with graduates, and it is not intended that the great majority of those who attend the Goldsmiths' College shall be candidates for a degree; but each one ought to be educated so as to raise not only the level of knowledge, but also the general cultivation and the ethical standard of his pupils. It is casting no discredit on the aims or efficiency of the educational authorities, by whom this task must in the last resort be carried out, to say that it would be a pity if universities did not share in it. It would be too much to affirm that a university should itself undertake the management of schools, indeed, this is clearly not its work: but the training of teachers is a task concerned with the final stages of the education of the teachers themselves, and, even if they cannot and ought not to enter upon a course which leads to a degree, it is well for them to pass into the sphere of university influence. No detailed course of study has as yet been finally sanctioned for the Goldsmiths' College, but a general approval has been given by the Senate to a scheme drawn up by the Board of Pedagogy, in which hygiene forms an essential feature. I need not recite the syllabus, but I think it will satisfy those specially interested in the subject.

But though the special circumstances and needs of the time have led the University to take up this work, it must not be supposed that the education of secondary teachers is not recognised as of equal urgency. For this, arrangements have already been made in the London County Council Day Training College, the distinguished principal of which is also the university professor of education. The two institutions, in both of which the University and the London County Council are interested, will, it is hoped, do much for the training of teachers.

The last point in connection with the educational ladder to which I need refer is, that the knowledge of school hygiene is required by authorities granting diplomas of education, though I confess that I am doubtful whether it always occupies a position adequate to its importance. It is, at all events, recognised, under one name or another, as an essential part of the education of those secondary teachers who undergo a formal preparation for their profession.

We have now surveyed the educational field from the elementary school to the university, and everywhere we have found that the study of hygiene is taking a more important place than it occupied a few years ago. In particular, earnest and persistent efforts are being made to give teachers

of all classes, and children in the elementary schools, some knowledge of this subject.

For the rest, I suppose that no one can foresee what will be the general result of the reconstruction of English education which is at present in progress. There is grave danger that in some districts secondary education will be starved. Some local authorities are obtaining the services either of universities or of some eminent educationalist to report on the condition of secondary education within their districts. Others are relying solely on the knowledge of their own members and officials. The variety of local conditions may justify this variety of procedure, and, indeed, much variety in the treatment of different districts; but it is most important, both that secondary education should be supported and that some root principles as to the method of conducting it should be acknowledged by all.

A most praiseworthy attempt was made at the meeting of the British Association at Southport, in 1903, to obtain a clear statement of the views of well-known authorities on school curricula. Many valuable opinions were obtained, and I confess that I think that something like the basis of an agreement might have been among those who took part in the discussion.

Putting all details aside, it is generally agreed that the curriculum for all boys should be the same, or nearly the same, up to 15 or 16 years of age; that at that age some differentiation may begin according as the pupil, who by that time must be looking ahead, is preparing for engineering and other professions depending on applied science, for commerce, or for a literary profession.

Personally, I should advocate the retention of Latin up to the stage at which the first specialisation begins, and the introduction of Greek at that point. The foundation course should consist, apart from religious instruction, of English, the elements of mathematics, French, Latin, history and geography, science, some handiwork, and, if the school is not favourably situated for the cultivation of sports, physical exercises. The beginnings of specialization may precede the passing of an examination qualifying for entrance into a university by a year or two; mathematics, science, modern or ancient languages becoming predominant according to the special gifts or probable future of the pupil. The entrance examination into the university should neither attempt to test the whole of the school education (this should be done by inspection), nor should it by its extreme narrowness exalt certain subjects unduly. The University of London insists on five subjects out of a wider list than that just proposed, so as to allow for the beginnings of specialisation. As I have already explained, inspection must be trusted to see that the subjects in which the

student is not actually examined have not been neglected. In this connection most valuable work has been done by the Army Council in recognising school-leaving certificates, given by universities to inspected schools, as excusing from the qualifying examination for the army. This, it must be explained, is not the competitive examination by which the candidates are chosen, but a preliminary test to decide whether they are worth examining more elaborately. As the issue of a school-leaving certificate implies an approval of the curriculum of the school, those masters who desire the support of the universities in maintaining certain courses of study may seek to obtain it, in future, directly in the form of an approval of certain curricula suited to the school, and not, as heretofore, indirectly by forcing their pupils through an examination framed on general assumptions or special prejudices, in which their own aims and objects have not been considered.

To these closer relations between the universities and the schools I look for some relaxation of the examination chain without the introduction of undue license in the shape of curricula; in like manner I look to the success of your endeavour for the reasonable cultivation of the study of hygiene, not to its figuring in the list of subjects for matriculation, but to the steady pressure of opinion. You will insist, as you have insisted, that the elements of education shall include, not merely the study of other forms of life, but some knowledge of the dangers by which we ourselves are surrounded, and of the means of keeping them at bay. You will insist that those to whom young lives are entrusted shall have learned, as part of their business, the main outlines of hygienic science; and in extending your influence further than it has already reached, you will go forward with the consciousness that in a very short time the merits of your cause have already attained an amount of general acceptance which is as hopeful as, in educational controversies, it is rare.