

food-stuff to be made to the diet by its use. On the other hand, soured milk is by no means a universal panacea, and should not be taken indiscriminately without medical advice, as it sometimes disagrees.

Moreover, the home preparation of soured milk cannot be recommended unless it is undertaken by a member of the household having some knowledge of the scientific principles involved in the practice of sterilisation and use of pure cultures.

R. T. HEWLETT.

#### CLASSICS AND SCIENCE IN EDUCATION.

THE recent correspondence in *The Times* on the question of "compulsory Greek" at Oxford chiefly refers to academic expediency and the establishment of a *modus vivendi* between the Oxford tradition and the claims of scientific students. But the vital and ultimate question is not this detail of practical politics; it is the question of the fundamental principles of education. The recrudescence of the "Greek controversy" is important, as showing how social evolution is gradually forcing education—however unconscious educationists may be of the fact—along the lines of progress.

The issue at Oxford is between the classical or "literary" test, as a guarantee of the classical or "literary" foundation (or "character," it may be said) of the whole system of Oxford studies, and the interests of "the large body of scientific and other workers to whom literary studies are difficult and tiresome, and to whom the examination in Greek is a mere 'obstacle.'" We quote the words of Prof. Turner; he adds that, in his opinion, "Greek is as important to a literary education as mathematics to a scientific. In neither case is the particular study essential, but it is of vast importance." Dr. Jackson points out that "in many of the university studies the highest proficiency cannot be obtained without a knowledge of Greek. For the highest proficiency in mathematics or any branch of science Greek is not, but modern languages are, a necessity."

In connection with this reference to proficiency, a proposal was recently made that Greek should be retained where it is essential for a complete mastery of the subject, but that where it is not essential an alternative which ensured a certain amount of "literary culture" might be allowed.

Such a test is meant to safeguard the Oxford principle of a "literary" or humanistic foundation for all its studies. With this principle is supposed to be bound up "the Oxford spirit."

If this principle is interpreted to mean that the study of science, for example, should be preceded or accompanied by a training in the arts of language which are necessary for complete power of expression and for the development of that side of the mind which is built up by language, the principle is sound. But if it is made to mean the educational necessity of "culture," in the sense of a literary, rhetorical, or æsthetic habit of mind or refinement of "taste," one must protest. The former has no general applicability to education; it is merely a result of specialising upon literary, rhetorical, or æsthetic material. As for the latter, mental refinement is as much a result of scientific as of literary or classical studies. It is a manifestation of the critical, that is, of the scientific habit.

As a test of this, a general training in science would be at least as effective as the study of a special subject such as Greek. And, to take another point of view, a study of physical phenomena and of their relation to human life and history is essential to both complete mental development and a liberal education. To confuse these last with a "literary" or humanistic

tone or curriculum is to confuse general development and general education with specialisation.

Greek is essential to a study of literature or to a complete literary training, but to nothing else. But even supposing that it were necessary for a liberal education, and therefore desirable for scientific students, it is obvious that the standard of Greek required for entrance at Oxford is ludicrously inadequate; it is absolutely no test of anything except of a *beginning* in the study of a particular language.

It is as well to be clear on the meaning of the term "literary." As used in this controversy and with reference to the "Oxford spirit," the term implies rather that form of liberal education which consists mainly in a rhetorical philosophy of politics, history, law, and literature than a literary education proper. Even for this form of liberal education a knowledge of the Greek language, however high the standard attained, would not be essential. Greek, as we have said, is only essential to a literary training proper.

Again, whether used for this or for any purpose, it is useless unless it reaches a high standard. To reach such a standard is itself specialisation, and would require so much time that a boy would be unable to learn with any efficiency any other subject. That is to say, he would have to devote to the study as much time as those boys who enter for classical scholarships. Greek, be it understood, implies Latin. The abolition of Latin as well as of Greek is hardly dreamt of as yet.

Prof. Murray, who thinks that the vital point is "the maintenance of both Greek and Latin—but a better as well as an easier Greek and Latin," is assisted by the classical reformers. These are applying new systems, the most important of which is known as the Frankfurt scheme, for the production of better classical results in half the time. Thus, whereas in the old English public-school system a boy took about ten years to attain proficiency, but by no means adequate proficiency, in two dead languages which he never learned to speak, under the Frankfurt scheme, the first three years, say from nine to twelve, are chiefly devoted to obtaining a good grounding in French instead of in the acquisition of Greek and Latin grammar. Then, and not until then, is Latin commenced; Greek is commenced two years later.

On these lines a great deal of experiment is being made in English schools. Much ingenuity is also being shown in methods for quickening and improving the assimilation of Greek and Latin—the oral method, the heuristic, the principle of learning translation from the very beginning instead of after a long training in grammar, and so on. But it is noteworthy that towards the end of the course the classical time-table becomes excessive again.

It does not seem to have occurred to educationists that possibly the only way of learning a foreign language is by speaking it, and that the best results are obtained by learning the vernacular first. There is a further possibility awaiting realisation, namely, that the study of any other language than the vernacular is a case of specialisation. It follows that the imposition of Latin or Greek or French on the curriculum of young boys is at least premature. In time, lastly, we may come to realise that "no man fully capable of his own language ever masters another," or, at any rate, that for the purposes of a general preliminary education or propædeutic (as contrasted with specialisation), not only is the vernacular sufficient if properly taught, but that the learning of another language or languages while the vernacular is in process of formation is so far from being

an aid in this or an assistance to mental development that it is actually mischievous.

The traditionalists (for, after all, tradition, whether of the old "learning" or, in more subtle form, of a sort of class prejudice, seems to be the main reason for the retention of classics as a propædeutic) reply that the character of the classical tongues, their inflectional structure and their logical habit, are of great value in the development of the intellect. Instead of asking for proofs of this, we may note the possibility that an efficient study of the vernacular can secure the same results. The Germans (as is shown in a recent report<sup>1</sup>) are beginning to see this. The classicists may quote anecdotes of this or that distinguished man who attributed his lucid and logical English style to his early training in Latin prose, but the same or a better result could be secured in far less time. If the time now given in our schools to classical and modern languages were given to English, the benefits would be enormous both for the general culture of the people and for the special work of specialists, whether in science or languages, in "technical" or "literary" studies. The English taught in schools as yet is a mere parody of what it might be. It is remarkable that the English language does not possess a single text-book of its natural history that can claim any philosophic or scientific importance.

If English were properly taught as the main component of a propædeutic (the other components being elementary mathematics and science, the study of which also needs reorganisation), boys who begin specialisation (for specialisation now perforce begins at school), whether in science or mathematics, would find "literary" studies by no means an obstacle. They would have a command of their own language far in advance of the best classical or "literary" scholar as trained to-day. The result would also be a great benefit to science itself.

The world has already absorbed the Greek "spirit," but it should not forget the fact that the essence of that spirit is the scientific temper. It must also realise that as knowledge increases in bulk there must be periodic sacrifices of what can best be spared. "The wisdom of the ancients" is a phrase which, if not merely sentimental, is absurd. *Antiquitas saeculi juvenus mundi.*

Reform is needed in the school curriculum no less than in the university system. If the propædeutic there is on sound principles, there will be no fear of scientific students being without a literary training (and this in the best and most useful direction, the mother-tongue), nor, we may add, will there be any risk of "literary" students being without a scientific training. Greek and Latin will then be reserved for special university courses, just as Hebrew, or rigid dynamics, or forestry may be so reserved, according as the specialist is moved by his own spirit or the spirit of evolution.

A. E. CRAWLEY.

#### THE CENSUS OF 1911.

THE Census (Great Britain) Bill, making provision for the taking of the census of 1911, was read a first time in the House of Commons on March 4. The Act for the last census, that of 1901, provided that the schedule should require the following particulars, and no others:—(a) the name, sex, age, profession or occupation, condition as to marriage, relation to head of family, birthplace, and (where the

person was born abroad) nationality of every living person who abode in every house on the night of the census day; and (b) whether any person who so abode was blind or deaf and dumb, or imbecile or lunatic; and (c) where the occupier is in occupation of less than five rooms, the number of rooms occupied by him; and (d) in the case of Wales or the county of Monmouth, whether any person who so abode (being of three years of age or upwards) speaks English only or Welsh only, or both English and Welsh—a provision suitably modified in the case of Scotland by a reference to the speaking of Gaelic instead of Welsh.

These requirements have been amplified in the Bill now before Parliament by omitting the limitation to "less than five rooms" in (c), so that all occupiers will have to make a return as to the number of rooms inhabited, and by the addition of a new section:—"In the case of any person who so abode being married, the duration of marriage and the number of children born of the marriage. The first change is of importance, as it will enable the census authorities to give tables covering, more completely than was formerly the case, tenements inhabited by the working classes, and it may be hoped that, in the subsequent tabulation, some distinction as to the ages of persons inhabiting tenements of each given size may be found feasible; a distinction between children and adults would render possible some better indication of overcrowding than the present somewhat crude measure of "more than two persons to a room."

The new section requiring a return, in the case of married persons, as to the duration of marriage and the number of children born of the marriage is of the very highest interest, though its full value will not be reached until the results of later censuses are available for comparison. If the returns are tabulated so as to show the number of children for a given age of mother and a given duration of marriage, it will be possible to compare essentially similar marriages in different districts, and some fresh light will be thrown on the present state of legitimate fertility in this country. It is also to be hoped that a subdivision may be found possible according to the occupation of the father; it would be sufficient to choose a few typical groups of occupations, and it would hardly be necessary to do more than give tables for England and Wales as a whole. Such tables would afford information of the most important kind, which we do not at present possess in any form.

No question is included as to religion, except in the case of the Irish census, for which separate provision is made, and the present Census Bill is very disappointing in that it makes no attempt to place the organisation of the census on a permanent basis or to provide for an intermediate quinquennial census. It is absurd that so important a part of the stock-taking of the nation, as the census is, should be dependent on the chances of party politics, and it is false economy to spend time and money on training a staff for the execution of census work and then to scatter that staff to the four winds—only to go through the process again after a few years have elapsed. A smaller but more permanent staff would be much more efficient and could be fully engaged between one census and the next in the carrying out of supplementary investigations after the publication of the main report. The necessity for the intermediate quinquennial census has been shown again and again, but the statement of the President of the Local Government Board that he is "not without hope that a system of quinquennial census may come to be adopted" cannot be said to carry conviction.

<sup>1</sup> "The Teaching of Classics in Secondary Schools in Germany." (Board of Education Special Reports, vol. xx., 1910.)