FORUM

for the discussion of

NEW TRENDS IN EDUCATION

contents

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CONTENTS

The 18 Plus Bottleneck

ITS EFFECT ON THE SCHOOLS

R. S. FISHER

Mr. Fisher is head of the history department at Woodberry Down comprehensive school, London. He was a member of the N.U.T. Grammar School Committee for several years and is now vice-chairman of the newly created Comprehensive Schools Advisory Committee of the N.U.T. and chairman of the Education Committee of the London Teachers' Association.

IN THE ATMOSPHERE of most sixth forms there has always been an undercurrent of adolescent tribulation, taut with examination suspense and the imminence of 'irrevocable decisions'. (The 'Olympian serenity of the Sixth', familiar in fiction, is a by-product of closed university scholarships, abundant family incomes and influential contacts; it is limited, therefore, to the more eminent public schools.)

Never were there more harassed faces and more near-neurosis in the sixth form than today. Maurice Hookham, in his article *The '18 Plus' Battle is Coming* published in the last issue of FORUM has pointed to the root cause of all this —the nagging tension of increasingly competitive university selection. The reason is clear. In the fourteen years since 1945, university places have increased by just over one-third, from 70,000 to 95,000. In half that time, since 1952, the proportion of pupils remaining in school to 17+ has increased from 6·6% to 10% of the total age group. The acute, relative shortage of university places which this means arises from an utterly inadequate programme of university expansion and has several extremely serious results.

In the first place it involves a denial of educational opportunity for many adequately qualified university candidates and all the frustration and anxiety in the sixth form, to which we have referred. Secondly, it means a considerable wastage of talent, quite impermissible when the national shortage of highly qualified people is a matter of widespread and urgent concern. Compared with these two grave consequences, the third result of the shortage, that is the acute immediate problem of selection which devolves upon the universities, whilst real, is an incidental technical difficulty which would begin to disappear as soon as the major problem, the shortage, was tackled in a positive fashion.

This has been recognised by the Association of University Teachers whose attitude to further education always seems to be more direct and constructive than that of many, at least, of the university authorities. They have urged a bold programme of university expansion as the only measure which can solve simultaneously the problems of the schools and their pupils, the universities, and the nation.

Unfortunately, most university and faculty authorities have been mainly concerned with their own limited problem of selection quite in isolation

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from the needs of the schools or the nation, and their only solution is the purely negative one of so raising and multiplying the hurdles to be cleared by university candidates that the selection problem virtually disappears.

This attitude is not merely a narrow administrative one but derives from an outmoded and reactionary educational philosophy held by many members of the university authorities. It was clearly expressed a few years ago when Sir John Wolfenden astonished an audience of N.U.T. grammar school teachers by the assertion that a student body of 80,000, as it then was, was excessive luxury for a country of this size. Underlying such a notion is the Platonic conception of the universities as the sanctum of an intellectual élite, catering for the limited spheres of the professions, the upper levels of the civil service, and the Church, but otherwise far removed from the mainstream of national life, and regarding research rather than teaching as their primary function.

Raising the pass standard

From this standpoint, the shortage of university places can be regarded, even gleefully, as an opportunity to pick and choose among the candidates so as to secure the highest of 'high fliers' as suitable entrants into the exclusive coterie. The pass standard of the G.C.E. has been raised to a level where the agreed minimum entrance requirements render matriculation more difficult than ever before. In practice, however, these minimum requirements of two 'A' level and three 'O' level passes are very rarely regarded as adequate. Generally a minimum of three 'A' level passes is demanded, with a specified minimum mark well above the pass mark. Moreover the subject requirements are specified and vary from university to university and faculty to faculty so widely that sixth form pupils may have to tackle additional subjects in order to meet the differing requirements of the long list of universities to which it is now necessary to apply.

Thus this negative pre-occupation with selection destroys all security in the sixth form. Further than this, precisely because it arises from a narrow university-biased approach to the problem, considered in isolation from the needs of the pupils, the schools, and the nation, it has disastrous educational consequences which run counter to the general trend of progressive educational opinion.

For years progressive opinion has been increasingly critical of the nature of sixth form work. It has maintained that all sixth form work should be determined by the intellectual needs of pupils at this stage and not by quite arbitrary notions of university requirements which are, in fact, devised to save time in our traditionally, and excessively, brief degree courses by relegating to the sixth form material and techniques which should more properly be dealt with at university. In view of the broad intellectual interests of adolescent pupils with their dawning awareness of the whole range of man's cultural achievements, there has been an increasing demand for the liberalisation of sixth form courses.

The scientific and technological revolution of recent years has greatly strengthened this case by adding to the needs of the pupils, the needs of society. It has become increasingly clear that the specialisation in the sixth form is excessive, and the separation into arts and science courses over-rigid and premature. It results in a division which not only reflects the polarisation of intellectual life into 'literary' and 'scientific', analysed so devastatingly in Sir Charles Snow's Rede lecture *The Two Cultures and the Scientific Revolution,* but which is itself the mechanism by which the process is begun.

The National Union of Teachers in its *Memorandum on the Education of Children 15-18,* submitted to the Central Advisory Council for Education, urges that the sixth forms should be enabled to provide "a broader and more flexible preparation for university work" and insists that conditions must not be imposed which require an exclusive choice between Arts and Sciences at any stage of school life.

Technically, the individual subject basis of the G.C.E. examinations makes this possible. In the very period, however, when more and more schools are seeking ways and means to make sixth form courses broader and more flexible, the increasing severity of de facto university requirements and G.C.E. syllabuses has fallen heavily upon them, resulting in the cramming of an ever-increasing corpus of factual knowledge, the dropping of 'irrelevant' subjects, the development of three year, and even four year, 'A' level courses with wholesale specialisation beginning, not in the sixth, but in the fifth, and even the fourth, forms. Quoting the N.U.T. memorandum again, "curricular difficulties in schools with advanced courses mostly stem from the diverse and complex university requirements and, in particular, from the rigidity imposed by faculty requirements."

The need for expansion

In case too much emphasis seems to have been placed on the role of the universities, it must in justice be said that they are faced with a very real problem. Their fault lies in this concentration upon the negative expedient of intensive selection. The real obstacle has been created by the government's refusal to authorise and finance the adequate expansion of higher education.

This may surprise many for much play has been

made with bold government plans for higher education. In fact there are no plans; only suggested targets. What, then, do these amount to?

For the universities, the government has set a target of 125,000 students by 1966 and possibly 135,000 by 1970. The target for technical colleges, including Colleges of Advanced Technology, is an increase in the annual output of students at university level from 6,500 now to 10,000 in 1966.

Educational targets have a persistent habit of not being fulfilled. In this case, even if they are, they will not result in any increase in educational opportunity whatever because of the movement upward of the 'bulge' in the child population. As now, some 4% of each age group will attend university. If the technical and training colleges are added, the proportion, as now, becomes 7%, or possibly rather more, if the late Minister of Education's somewhat belated acceptance of 16,000 instead of 12,000, as the proper annual intake into training colleges, is translated into practice.

In view of the nation's needs, these static figures are disastrous enough. For the effect upon the schools, they must be worked out not in relation to the whole age group, but to the increasing numbers remaining at school until 18+. Seen thus, they become catastrophic. According to the estimate made by the Association of University Teachers, the number of people eligible to be at a university by 1966 will be above 175,000, as opposed to the government's target of 125,000. The A.U.T.'s estimate is conservative, based mainly on the grammar schools. To it must be added the increasing output from comprehensive and other secondary schools, including some secondary modern schools which are beginning to feed good 16+ pupils into sixth forms elsewhere and even to develop sixth forms of their own. Thus, by the middle sixties, 'Eighteen Plus' selection will have been fully established.

The timid and conservative sections of university opinion, anticipating this sort of disastrous situation, are seeking now to minimise the difficulties, again not by pressing for bold higher educational expansion to accommodate the crowds already milling at the portals, but by demanding 'bold' measures to thin the crowds out. This is what lies behind the proposals against which Maurice Hookham warned us in his article, the proposal to withdraw recognition of 'A' level as satisfying university entrance requirements, and replace it by full-scale 'S' level or Matriculation level papers intended only for pupils wishing to go on to university.

This kite has already been flown on the Secondary School Examinations Council and utterly rejected by the Grammar School Committee of the N.U.T. in its memorandum *Comments on Possible Changes in the G.C.E. Structure,* later adopted as policy by the N.U.T. executive.

Premature specialisation

The proposal is unacceptable to the schools from every point of view. With present staffing, it is difficult enough for schools to cater flexibly for present G.C.E. requirements, let alone to provide parallel 'A' and 'S' level courses in every subject. Worse still it would banish all hope of broadening and liberalising sixth form work. The future leaders of intellectual opinion in the new 'S' level courses would be subjected to a drastic raising of standards which would intensify the worst features of sixth form life, premature specialisation, cramming (of a sophisticated type) and thus the 'polarisation' into the 'two cultures'. Three and four year 'S' level courses would multiply. Finally, the proposal would decrease social opportunity in education. In working class and lower middle class areas, the majority of 'first generation' sixth formers and their parents want to see 'how they get on'. Their interests, as well as the nation's, demand that the decision to seek university entrance should be left as late as possible, and should not have to be taken at the end of the fifth year.

Finally the proposal evades the main issue, or rather would perpetuate it whilst partly concealing it. There is only one solution. The rate of expansion of universities and technical colleges must be substantially accelerated, at least in accordance with the modest A.U.T. estimate of 175,000 by 1966. This should be regarded as the first step towards a university population of 400,000 or more, a figure which is far from excessive by comparison with present figures let alone future plans in other advanced countries such as the U.S.A. and U.S.S.R.

The first effective measures of expansion would immediately reduce the problem of selection both for the university authorities and the schools. Entry requirements should be simplified, made uniform and within the reach of all suitable candidates, and a clearing house established to deal with unplaced pupils and unfilled places. To ensure that full and proper advantage be taken of increased opportunities, adequate maintenance grants, freed from the present very parsimonious test, should be granted and made automatic on university acceptance.

As soon as the situation eased, the schools could devote themselves to their real job, devising courses educationally suited to their pupils, and to the twentieth century, and, of course, greatly increasing the numbers remaining at school to 18, thus providing the basis for an ever expanding higher education structure attuned to the needs of our age.

Unstreaming a Junior School

E. HARVEY

Mr. Harvey is head of the new Weston Lane junior school, Otley, Yorkshire. He has taught at a grammar school, and was earlier headmaster of another junior school. He is now President of the Yorkshire Federation of the National Association of Head Teachers.

MY EXPERIENCES in changing from streaming to non-streaming in a junior school, and my reasons for so doing, may be of interest as a contribution to the discussion that has been going on in FORUM.

This is a new school opened in 1953 with accommodation for 320 juniors. I had formerly been head of a single stream school and had hoped that all the advantages claimed for streaming would result in the children making better progress. In this I was disappointed. After two years' experience of streaming I began to notice trends which I felt were undesirable and met with certain difficulties—affecting the children, the staff and the parents.

The attainment of the children in the 'A' classes was certainly no better than in the case of brighter children in a single stream school, while children in 'B' classes were producing work which could not by any stretch of imagination be called satisfactory. The atmosphere in the 'A' classes was bright and had the zest to which I had been used, but there was developing in the 'B' classes a dullness and lack of interest which was most disturbing. More particularly, the top children in the 'B' stream were falling further and further behind the bottom children in the 'A' stream so that transfers up or down were apparently justified in very few cases. It seemed, therefore, that once a child had been labelled 'A' or 'B' he was likely to retain this label throughout the school.

Turning from the children to the staff there were again difficulties which I had not foreseen, in part owing to the fact that the school was growing rapidly. In the first two years there were many staff changes. I had decided that a new teacher straight from college should always take an 'A' class for the first year, and that all teachers should normally take 'A' and 'B' classes in alternate years. Unfortunately these two principles often conflicted; a teacher of a 'B' class would be looking forward to a change when the appointment of a newly trained teacher would make this impossible. The result was that from time to time various members of the staff felt that they were having a raw deal.

Similar difficulties arose with parents. New admissions meant that, in order to keep a fair balance between classes, children were frequently redistributed, often being transferred from 'A' to 'B' classes. I found it most difficult to convince parents that this was necessary only on account of numbers and was no reflection on their children.

These and other difficulties apart, the result of streaming was quite clear. The school was rapidly becoming two schools under one roof. There were two standards of work, of behaviour, of cleanliness, even two standards of table manners. Most regrettable of all, there was a tendency for members of staff to look on their colleagues as either 'A' or 'B' teachers.

A new situation

Having found that in this school streaming had not been justified, I reallocated the children to classes on an age basis, the normal range in each class being about six months. The results have been most gratifying. After four years without streaming I have a happy and enthusiastic staff, all of whom prefer the present organisation, the standard of work has improved, and relations with the parents are excellent.

That non-streaming has overwhelming advantages I am firmly convinced and I should like to marshal some of the arguments in its favour.

The basis of streaming is an assessment of the abilities and aptitudes of the children admitted; but all methods are suspect as no allowance can be made for a number of varying factors. For instance, because of the fixed age of entry to infant school, some children admitted to junior school may have spent one or two terms less in school than others; an only child may appear bright or dull according to the interest shown by parents; a child with older brothers and sisters will learn much from them and so often appear brighter than children of equal ability from small families.

In any representative group of children, 40% are likely to have near average intelligence and therefore all streaming must be based on small and unreliable differences in performance. This would suggest that there should be frequent reallocation, yet in some streamed schools only 2% of the children are redistributed. (More remarkable still, this has been used as an argument that the original streaming was 98% correct.) But the main argument in favour of non-streaming does not depend on statistics. One of the most potent forces in any class is the leadership provided by the really able children. Streaming deprives the 'B' classes of this leadership.

From the teacher's point of view there are definite advantages in an unstreamed school. The teacher of a 'B' class usually has few children who can work for any time without close supervision and this reduces the time available for work with the really backward. In an unstreamed class the ablest children can work for longer periods with less supervision and those of near average ability tend to emulate the brighter children; at times, therefore, a considerable proportion of the class can be well occupied with a minimum of supervision and there is more time for individual work with the poorest children who, in any case, number only half as many as in a 'B' class.

In an unstreamed school every teacher has a fair share both of rewarding work with the bright children and of hard work in teaching the less able. If, on the other hand, a teacher takes 'A' and 'B' classes in alternate years, an annual adjustment of standards is necessary; or if a teacher takes the same stream for several years he tends to become an 'A' or 'B' teacher and so less adaptable. By contrast the teacher in an unstreamed school, and particularly the new entrant to the profession, can quickly establish standards and relate previous experience, with its successes and failures, to each new class.

When my school was streamed parents would ask why their child had been put in a 'B' class. "He was always an 'A' child," they would say. "What has gone wrong to make him into a 'B' child?" When I tried to explain that a few children had been reallocated solely because new admissions had made classes unbalanced in size, they remained unconvinced. Their child, whose success at school had been the foundation of hopes for his future, had been labelled 'B' and they felt that from now on he would be condemned to the second rate and that he had almost no chance of gaining a grammar school place.

How different it is in an unstreamed school! I send for the two registers of the classes in the age group. When I explain the position and say: "You will see from these registers that when I make the classes as even as possible your boy falls into the younger group, whereas before he just came into the older group," the parents understand, the child understands and consequently there are no emotional disturbances.

It may happen, for various reasons, that certain children are put in an age group above their own. In a streamed school such a child progresses through the 'A' classes; if it is not considered advisable to enter him for the 11-plus tests as an under-age candidate, this child must spend a whole extra year in the same class doing much the same work as before. Non-streaming obviates this

difficulty for a child can work first with the younger half of the age group, then with the older half.

The usual criticism of non-streaming is that such an organisation cannot cater for the needs either of the able or the least intelligent children. But quite a lot can be done to satisfy the needs of these two groups. We are very fortunate in drawing most of our entrants from an excellent infants' school. It is exceptional if more than two out of an annual intake of about 80 cannot read. To these may be added a few children from other districts who require individual attention for various reasons. It is possible, owing to the limited numbers, to provide two additional half-hour periods for reading each week, with a teacher in charge of only two or three children. This arrangement has been most successful.

A flexible organisation

Special provision for the more able children has been made during the fourth year, when the two classes of 70 to 80 children are divided into three groups for about half of the time allocated to arithmetic and about one third of the English periods. I myself take the top group of the most able children for these periods, while the class teachers take the remaining members of their classes; thus the brighter children can attempt more advanced work while the others have the advantage of smaller classes. This arrangement is very flexible; a child making good progress in his class can be transferred to my group to try his hand at harder work while if any of my group appear to need more practice in basic work they can be transferred back to their usual class for a time. These transfers are always the result of consultation so that particular difficulties can be dealt with. In practice, it has been found that my own group contains rather more than 40 children at the end of the year, while the remaining 30 or so are shared between the two class teachers.

But no system is perfect and I feel that my time might more profitably be spent if, instead of taking some of the arithmetic, I devoted this time to science. The brighter children would then do different work while the slower ones were mastering the fundamentals. This raises a number of new questions. Should all children in the junior school take science? Should the brighter children attempt an extended syllabus in science while the less able devote more time to the basic subjects? Readers of FORUM may like to discuss these and similar points. For my own part, I feel that the inherent flexibility of the unstreamed school is of great help when putting any such new ideas to the test in practice.

Further Experiences With a Backward Class

MAURICE A. ASCHER

Mr. Ascher is a member of the diagnostic and remedial department, Wandsworth (comprehensive) school, London. He has completed two full years with the class he describes in this article.

TWENTY-ONE BOYS joined their comprehensively organised secondary school in September, 1957. They were eleven years old and at the so-called 'age of loyalty'. Loyalty has to be gained. Their class was to be the lowest of a fourteen-form entry.

The boys had been selected for their class by careful interviews following the 11+ tests. They were drawn from eight different junior schools.

Reading ages ranged from 5·5 to nearly 9. Arithmetic ages from 6 to just 10. Four boys had no I.Q.s recorded on their 11+ result sheets: simply the words 'below scale'. The main bunch of I.Q.s was 70. They spread from 65 to 73.

Most of the boys had the usual histories of broken schooling, broken homes, irregular health, inherited illiteracy, near-genius elder brother and so on.

Apart from the introvert couple who made straight for opposite corners at the back of the room, most of the boys began to show off and generally display the busy air which it is hoped camouflages self-recognised ignorance. I sat back and waited. Within a few minutes the extroverts became tired of playing to no audience. Everybody was too busy acting his part to bother with any other actor. They subsided.

Now was the moment for the extrovert who sits at the master's desk to begin his act. As they knew very well their educational deficiencies, I approached the matter frankly and modestly assured them that I was the person who was going to teach them to read perfectly.

They accepted this promise graciously, except for my two friends at the back. They were too busy to be taking notice. They had discovered the interesting and attractive books which I put at the back of the room to snare boys who dash for back seats. Work had begun.

Practical methods

I taught this same class for all subjects except woodwork, science and physical education. Having the same class nearly all day enabled me to switch from subject to subject at the dictate of span-of-attention, rather than end-of-lesson bells.

Methods were mainly practical. Measuring, fractions and space concepts were aided by bookbinding and allied light crafts. A hollow cubic yard, cubic foot and cubic inch were constructed. The differences between area and volume were well appreciated after the laughing imprisonment of four boys in the cubic yard they had just constructed. These jokes marked the end of 'impossible' answers in problems involving area and volume.

Length, money and many other problems had to be faced in real life problems such as building a full-size puppet theatre equipped with electric light. The boys assisted with the costing of book requisitions. A mark on a text book may result in the culprit being reproved by his class-mates for damaging a book worth 4s. 9d. less $\frac{1}{8}$ discount. The boys worked in pairs selling insurance for their 'cars'. 'No-claim' bonuses were carefully calculated by seller and customer. Real insurance documents were supplied by a kindly broker. Work was also done on cash and hire-purchase terms.

Care had to be taken in the early days that methods used without success in the junior school were not repeated. More important, care was taken not to abandon previous methods which were succeeding. Some knowledge of the supplying junior schools is useful.

Parental co-operation

Parents were wooed in the usual ways: parents' evenings, shopping in their shops, employing their labour at my home where this was applicable, visiting sick pupils. Letters were sent requesting parents to visit me at school when individual problems were urgent. Such methods can be embarrassingly successful. I am still visited and communicated with by parents and pupils I met several years ago when I worked for a different education authority.

One's methods, which vary from pupil to pupil, are usually so diverse that they may well appear as lack of method. However, the dull and backward pupil is often very sensitive. One walks the tightrope, every movement is calculated, every step planned.

Reading is not all individual. Some group work was done. Speed and speed of comprehension were trained. This led on to note-taking as an aid

when using reference books in our specially designed reading 'laboratory'. Arithmetic included some class work, particularly at times of revision and expansion. Generally the boys worked individually, spread over a couple of thousand examples in the text book. A colleague suggested that it must be easy to mark the maths of a small class. He did not realise that twenty-one retarded pupils have to be marked individually as twenty-one separate classes. Gradually the boys began self-marking and neighbour-aid was used when difficulties were met. Only when this failed did they come to me. They also brought me their books for periodic inspection. Neighbour-aid often brought to light purely mechanical mistakes and I was freed to deal with problems of method.

Without social development, learning of specific subjects is often difficult or even impossible. Backwardness in both usually go together.

Social development

Social development can only be achieved by constant effort and unvarying example. A feeling of responsibility is encouraged by the giving of special jobs. These jobs ranged from pencil-sharpener emptier for a boy who could not bear too much burden of responsibility, to membership of a team in charge of the smooth running of some aspects of school dinners. One boy actually set an imposition for an older boy who had not eaten all his lunch. The offender did the imposition! I meanly pointed out to the monitor that he must now read the imposition to ensure it contained no insults.

Promises of things from home had to be carried out and not just made to curry favour. One boy promised six orange boxes for a project. He brought them all together in a pony and trap which he drove, between 2,000 school-boys, up the drive. His school uniform and cap combined with the ancient nag made a sight probably unique in this atomic age.

The class printing club, with its parent-donated equipment, has turned out many school 'jobs'. Some needed real organisation as, for example, the tickets for the school theatre showing on three nights at three prices for audiences of eight hundred. The club printed a really ambitious four-page card-service programme. Owing to the size of the press each page had to be printed separately. All 1,200 copies had to be neatly scored and folded by the book-binders.

When one is making continual allowances for psychological and other handicaps one has to remember that the continual turning of a blind eye to a pupil's faults can be resented by other boys. So I was careful to be sympathetic, not sentimental.

The general level of attainment increased as we indulged in steady, orderly work. We kept inflexible standards of personal cleanliness and tidiness. Individual success had often to be engineered to help foster confidence. The achievement of goals was led up to by the attainment of partial objectives. General activity was gently regulated and the general class-room atmosphere was calm and purposeful.

Wandsworth School is flexibly organised and the original placing of a boy does not restrict him. At the beginning of the third year only thirteen boys remain of the original twenty-one. This is why it would be too involved to show attainment by tables of figures. Following the histories of those who have moved out of the class we see one boy move after one term, another after two. One boy moved after a year. After two years four boys moved to a class of less retarded boys and another two boys moved up two classes. Two of the original boys are now seven classes further up the school. As boys have moved out others have moved in. One boy came from a class three higher up. He received a compressed course of maths which helped his morale too. He is now seven classes higher.

The number of pupils has never been higher than twenty-three. Boys who leave the class can maintain contact, if they wish, through the Printing Club. This appears to help the transition to class where methods may be rather different.

As at the beginning of the course, we still find our pupils are 'retarded' or 'dull' or 'less dull'. Of these categories the most can be done for the 'retarded'. But the 'dullest' need the most equipping to face life.

It has been said that ideally these groups should not be taught together. In practice there is no easily defined dividing line. Careful selection and the periodic assessments have ensured that no boy is really out of context. At the end of two years we have no cases of intelligence combined with specific backwardness. We are working with the boys of lowest endowment and so we do not expect remarkable academic successes. It is true to say that all the boys work consistently close to their limited best.

Personal appearance

As they get older the boys take more interest in their appearance. This in itself is very good and they keep their uniforms clean and smart. Clothes have been a subject of discussion several times and they are quick to notice I had bought old-fashioned beetle-crushers instead of winkle-pickers. Many of them buy their own clothes, and while some amusement is afforded by their choice in shoes and socks it is still noticeable that they rarely have shoes repaired, preferring to save their money for new styles. Also as a teacher I am pleased to see well-tended hair, but it worries me that several attain elegance by 'individual styling' at seven shillings and sixpence. We discuss these matters. Tele-heroes set the fashion. Yet they become continually out-of-date. It is all very puzzling. Most things are puzzling for the mentally dull.

That is why in our work of enlarging horizons with vistas of worthwhile jobs and interests it is best not to offer a great deal at a time. Otherwise the perplexing multitude of choices makes the under-endowed person even more aware of his shortcomings.

We try to help our truly dull pupils to do their best possible.

At this stage in a three or four year course we clearly see the differences between low ability and low endowment. I make no extravagant claims about my pupils' attainments at the beginning of the third year. It is true to say that they all read quite well: some very well indeed. They all comprehend what they have read and can prove it in written or oral answers. They have a working knowledge of arithmetic, and although they varied between three feet in their calculation of the height of the school, they can get the right change in shops, and some of the boys can calculate the growth of their Post Office Savings.

Are they angels in behaviour? Some of my colleagues may read this, so I will answer truthfully that they have their fair share of scrapes and trouble.

What have we achieved? We have taken boys of low endowment and helped them to develop into people who are pleasant to know. They are people who have increased their academic subject learning. In some cases attainment has equalled chronological age.

They are people who can now manage their own affairs more competently and are less inclined to try to manage other people's affairs.

If you want to know if the course has been a success, well, you should have met the boys two years ago!

THE CROWTHER REPORT

The Crowther Report was published just as this number of FORUM was going to press. Its main proposals will by now be sufficiently familiar to our readers.

It is a lengthy and detailed document and deserves careful reading and study. For this reason we have postponed an assessment of the Report until the next issue, which will be published in May. THE EDITORS.

Education in Four New Communities

A SYMPOSIUM

(1) CRAWLEY NEW TOWN

JOHN H. MERRICK

Mr. Merrick is head of the English department, Hazelwick county secondary school, Crawley. He was formerly teacher-librarian at Great Barr comprehensive school, Birmingham, and assistant teacher in various other Midland secondary schools.

I HAVE BEEN ASKED to make it clear that what follows represents my own personal views. This is particularly true of what I have to say about possible future developments in Crawley. In this field I have relied on my own assessment of current trends, using information which is commonly known. What I have to say about past developments is based almost entirely on my interpretation of the reports of the education committee for West Sussex—the responsible authority for Crawley.

The organisation of secondary education in Crawley is rather different from what was originally proposed by the West Sussex education authority in 1949. The authority then decided to build the three types of secondary school — grammar, technical and modern—in various combinations, close together on three large campus sites : what might be termed a progressive variation of the 'traditional' tripartite system. However, a number of circumstances, some of them unforeseen, have caused certain radical changes in the original plan.

First, it became apparent quite early in the life of the new town that the Ministry's estimate of the future child population was inaccurate and would have to be revised upwards. This meant that more secondary school places would be needed than was originally expected : a quantitative change which could, of course, have been catered for within the planned tripartite system. Second, the West Sussex education committee decided that technical education at secondary school level would, in future, be provided in grammar and modern schools, thus obviating the need for separate technical schools.

Towards the comprehensive school

As schools of this type had already been planned for Crawley, further revision was necessary. This decision marked a qualitative change in the organisation of secondary schools, a move away from the tripartite system. Third, and this, perhaps, provided the main impetus towards an even more flexible organisation, an 'Inquiry into secondary education in Crawley' was published in October, 1953. This inquiry, sponsored by the three councillors who represented Crawley on the West Sussex county council, suggested that a comprehensive school might be tried out in the new town.

In a follow-up report made to the education committee Dr. Read, director of education, said that the idea of introducing a comprehensive school into an area already committed to unilateral schools was unlikely to be favourably received by the Ministry of Education. He also pointed out that the campus idea already provided some of the desirable features found in schools of the comprehensive and multi-lateral type. If this seemed to tip the balance against the possibility of experiment, Item 29 of the same report restored it to a state of neutral equilibrium. It said that a bilateral mixed school might be tried on the Tilgate campus.

Today a new school, consisting of several separate buildings, exists at Tilgate, last and latest of the Crawley campuses. As it already has a name, the Sir Thomas Bennett School, it may avoid a label, but there is no doubt that it exemplifies the trend away from tripartitism in Crawley. The school opened in September, 1958, receiving as its first pupils all 'first year' children from the Tilgate neighbourhood, with the exception of some grammar school candidates whose parents, exercising their right of choice, sent their children to the grammar school on the Ifield campus, the only one in Crawley. The numbers lost by this were made up by grammar school optants from other neighbourhoods. Some 'borderline' children also came from outside the Tilgate catchment area.

A good beginning

The school gives, quoting from the headmaster's letter to parents, "the education normally found in a grammar school, a technical high school, and a secondary technical school, together with a general basic education for those who cannot

undertake a specialised course." As it enters upon its second year there is general agreement that the Sir Thomas Bennett school has already laid a firm foundation for high academic achievement by its pupils and has established an enviable reputation for the vigour of its multifarious clubs and societies. A measure of the public esteem it now enjoys is that the prejudice met with at the outset against a school which aimed to educate all types of children has remarkably lessened, if it has not vanished altogether. It says much for the flexible and encouraging attitude towards a local desire for experiment that the Sir Thomas Bennett School has had such an auspicious beginning.

Further developments

Inevitably, the establishment of a school of this type has had an effect on the other secondary schools in Crawley. At Hazelwick, for instance, a large modern secondary school housed in two separate buildings on the Hazelwick campus, the number of 'borderline' pupils entering the school in September of this year was considerably lower than was expected. Parents, exercising their right of choice, had sent their children to Sir Thomas Bennett's. Disregarding the fact that Hazelwick school already provided opportunities for children to take external examinations, up to 'O' level G.C.E., parents believed that their children would have a better chance of getting into a 'grammar stream' if they went to the school at Tilgate, where specific grammar provision was already made and cross-setting was the rule.

That this development was foreseen can be gauged from a recommendation made at a joint meeting of managers and governors of county secondary schools in Crawley and representatives of the county education committee on 24th March, 1959. It said: "A new 7 class block should be built on the Hazelwick campus to enable children of grammar school calibre to be accepted into the organisation of Hazelwick school as soon as possible." I believe that permission to build in the current period has been refused by the Ministry but I think that it is safe to say that further application will be made at a later date and that, even with the existing buildings, grammar school children can and will be accommodated at Hazelwick within the near future.

On the third campus, at Ifield, a grammar school of traditional type and a modern school, the latter housed in two separate buildings, already exist and it seems likely that this set-up will remain. Sarah Robinson, the modern school, is particularly strong on the arts side besides offering many extended courses, some leading to G.C.E.

There is already a tradition of co-operation between the two schools, particularly on the sports field, and it is envisaged that this will be extended to the academic field also. Pupils who wish to study a subject to advanced level will attend the grammar school while still belonging to their parent modern secondary, thus achieving economy of staff and avoiding truncation of the modern school.

It will be obvious, even from this necessarily brief survey, that secondary education in Crawley is already a reality, thanks to the work of teachers, administrators, governors and county councillors, and that the opportunities for its children will continue to grow on the foundations which have already been laid.

(2) HARLOW NEW TOWN

SHEILA HILLER

Mrs. Sheila Hiller has taught in a grammar school and a modern school, and lectured to adults before moving to Harlow in 1954. There she has since taught in infant, junior and bilateral schools as a supply teacher.

IN 1947 THERE WERE 815 children at village schools in the Harlow area. Three were all-age schools, all were in old buildings, some children travelled to distant grammar schools. By September, 1959, a rapid and startling transformation had taken place. Over 6,763 children are attending 20 primary schools; 3,880 pupils are at 5 co-educational bilateral secondary schools, the first of which opened in September, 1954, the fifth in September, 1959. Harlow's proportion of children far exceeds the national average: the schools are likely to bulge for years to come. It has already been necessary to provide additional classroom accommodation in some of the 17 new primary schools, and to plan for a seventh secondary school. A new technical college is developing.

A new approach

Harlow, with its complete lack of secondary schools, presented an obvious field for a new approach to secondary education. Essex county council decided to build six bilateral schools, to work in pairs: one of a pair to be a technical modern school of 930 pupils, the other a grammar modern school of 960. Each pair would provide all the courses needed for all ranges of ability.

Each would be 6-form entry; 2 selected, 4 non-selected. The difference on roll was explained by the theory—since discarded—that technical schools would not develop large sixth forms. The selected places would be used by Harlow children and others living outside the town. In practice, many children travel daily to Harlow, while some Harlow children travel out to older grammar schools. While not all the selective forms are full to capacity in the bilateral schools, numbers of 'modern' children far exceed calculations. Probably all the schools will average 1,000 eventually, as the two oldest already do.

Bilateral experiment

The authority hopes that this experiment in education will have a considerable period of time to develop before being compared with other forms of secondary education. The county's own tentative conclusion is that these schools are achieving what was hoped of them. They provide the educational and social advantages of large, well-equipped schools, while avoiding their difficulties.

What in fact are these schools like at this early stage? If their relative size makes them appear exhausting, their opportunities make them exhilarating places to be in. Equipped for a wide range of practical and aesthetic subjects, they will have, at full strength, staffs of over 50. But they are not being stamped out to the same pattern. Headmasters have wisely been given considerable freedom in appointing staff and deciding the curriculum. Yet all have certain outstanding merits in common, the result perhaps of the facilities they offer.

Each school is a united body. Children of all abilities share the same building, wear the same uniform, eat together, play together, pray together. They are streamed according to ability at 11, yet there are opportunities for transfer to faster groups within the schools. As they grow to the top of the school, distinctions tend to disappear. Substantial numbers of unselected children return each year to continue their education beyond the statutory leaving age.

Academic successes

Streaming has enabled Mark Hall (technical/modern), the oldest bilateral school, to appoint four teachers specially qualified to teach the lowest ability group, with very beneficial results. Mark Hall has also enabled other children to take G.C.E. in their stride, whether 'selected' or not. A first sixth-form group started in 1958, almost entirely of unselected children. One pupil is now at training college, two are working towards acceptance there in 1960, two (each with nine subjects at 'O' level) are aiming at university. The sister school, Netteswell (grammar/modern), has already three scholarships to its credit, won by pupils transferred there from other grammar schools when their parents came to Harlow.

All schools compete in athletic, dramatic, musical and other activities and many creditable successes have been achieved by children from selected and unselected groups. Some of the latter are showing themselves capable of passing five or more subjects at 'O' level with quite high marks. The small number of transfers between streams and schools has been said to confirm the reliability of the Essex selection procedure, but no great need exists for transfer within schools where setting is possible and 'extended courses' are developing. Moreover schools will be unwilling to part with their very able pupils, and will probably try to adapt the curriculum to meet their needs rather than part with them. Every school needs as big a nucleus of able pupils as possible. Technical courses can be as exacting as grammar courses intellectually, but this is not always realised.

Bilateral problems

The problem of attracting good material for these courses at the technical/modern schools is one of the difficulties facing the authority at present. The attraction of the word 'grammar' is such that most parents give the grammar/modern school as their first choice when their child is offered a selective place at 11, which has the effect of concentrating the abler children there. This is regretted, but defended on the ground that parents must have freedom of choice. In fact, only the parents of the brightest are able to choose. 'Borderline' and unselected pupils are usually directed by the authority.

It is difficult to see how all the schools can be fed with an equal proportion of very able children unless either the names are changed (they are the source of a good deal of misunderstanding) or parental choice is abolished. A 'wait and see' policy means that one type of school will build up selective streams of potentially brighter children. A school's achievements are not counted in terms of academic success alone, but in these new schools it is important. The Essex selection tests are being altered now. It is a pity that steps are not being taken to exclude parental choice between schools which offer equally excellent opportunities, before a tradition is established which might be difficult to alter. A new town is the right place for a new educational pattern. We should not be afraid of adapting it as the years pass and wisdom and experience accumulate.

Junior Science Topics

By W. G. WESTERN

Headmaster of Sandy County Secondary School, Bedfordshire and formerly Headmaster of Whipton Barton Primary School, Exeter

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(3) THE KIRKBY ESTATE

S. BURY

Mr. Bury was appointed head of Brookfield school, Lancashire's first comprehensive school, at its opening in 1956. He was earlier headmaster of a secondary modern school in Nottinghamshire, and has taught in all-age and grammar schools.

THE URBAN DISTRICT OF KIRKBY is an overspill area built in open country just over Liverpool's eastern boundary. It houses a working class population, many of whom are unskilled or semi-skilled, and latterly, many families have come from slum clearance areas. Liverpool was unable to get permission to take the area within its own boundaries, and there has, therefore, been a divided responsibility, Liverpool providing the houses, while schools have been left to the Lancashire Authority. In 1952, in old Kirkby, there was a village community of about 1,200 people with 134 children of school age. By 1959, the population had increased to 45,000 with over 13,000 school children, and by 1970 it is estimated that the population will be 70,000. In 1952 there were five teachers, whilst in 1959 there are more than 500.

All secondary education in Kirkby is now comprehensive, but this organisation has been reached by various paths. Three of the schools started as modern secondary schools, and so the result is that while Brookfield (county mixed) and St. Gregory's (R.C. girls) will each have two modern secondary buildings with quite substantial additions of new buildings, Ruffwood (county mixed) and St. Kevin's (R.C. boys) will have buildings planned from the start as comprehensive schools. All four schools will be 12 form entry. Ruffwood and St. Kevin's will have buildings which will allow the house system to be the basis of school organisation, while Brookfield and St. Gregory's, limited by the physical set-up of their buildings, are likely to develop a lower and upper school organisation.

The secondary schools have two main problems, one social, and the other educational, but these problems are interwoven, not separate, and they cannot be solved in isolation.

School and society

Jeffreys has written: "The school can do nothing better for the education of citizens than to make its boys and girls members of a true (school) community." Schools must indeed play their part in the development of a social consciousness and a civic purpose in the growing child. This is done chiefly in the day to day life of the school. If this is necessary in a settled community, how much more is it necessary in a new area such as Kirkby! The benefits of living in a settled community are very much taken for granted, but this is one of the essentials of 'security' for the growing child. The 'unsettledness' of a new population, especially where the families have a poor social background, is probably the feature that is most noticeable among the secondary children in a fast growing new town.

It is worth noting that schools in such a town are never static, because of the large number of incidental intakes. For example, in its first year, Brookfield increased in size by 50%, on an average eight children being admitted each week. This, of course, is itself a hindrance to developing a settled school community. In the early days of the school this showed itself especially in delinquency. This phase lasted for six to 12 months. Delinquency, as reckoned by court cases, was four times less in the third school year at Brookfield than in the first year, and is now about the national average. This pattern of a growing settledness is common to all schools in Kirkby. Apart from the home and the church, the school may be the only element of stability in the life of a child. For the boy or girl from a difficult home or a family cut off from a church, it may be the only stabilising factor.

Comprehensive advantages

I would suggest that comprehensive schools seem more likely than separate grammar and modern schools to help children and parents to settle more easily in a new town. Because of its size, a comprehensive school can offer better facilities for all children. A large staff can give variety both in and out of school, and the opportunities of achievement for each child are correspondingly enlarged. The importance of achievement as a basic psychological need of every child has long been recognised, for social as well as for educational development. Again, in these days of staffing difficulties it has proved comparatively easy to staff comprehensive schools in Kirkby, whereas modern schools would probably have had difficulties. Certainly the qualities of teaching staff are of a high standard. It can, therefore, be seen that a fifth form is easier to start than in a modern school, where staffing and facilities for varied courses may be lacking. The importance of such a 'top' to the school need not be stressed. Certainly at Brookfield larger numbers of children are staying on into the fifth form than might have seemed likely from the nature of the social setting.

I would also suggest that the special social functions of any secondary schools in a new town are of degree rather than of kind. They must help to shape and form the new community, and by the nature of their buildings they can and must act as community centres. (An interesting field of study would be to consider whether comprehensive schools can perform this function better than other types of school.) At the same time, because of the large child population, the needs of youth are insistent and demanding. In an established area, various associations are taken for granted, but in a new town their formation is vital as a unifying and socialising factor, even though this may be unity in diversion. The formation of a Brookfield Old Students' Association, even at this early stage in the school's development, was seen in this light. It performs a useful social function simply by existing as a body with social aims.

The schools themselves make direct contacts on many sides with community life, quite apart from their directly educative influence on the parents. There are, of course, the normal contacts with the welfare services, with the churches, the urban district council, industry, the Rotary Club, and other organisations. Children take their part in civic occasions, and help to run a junior Road Safety Council (in a town where the road safety problem is particularly serious). People from outside the school, for example a section of the Liverpool Philharmonic Orchestra, a leader of a Student Christian Movement conference, and speakers on vocational topics, come into school, while in turn the school goes out to make many contacts with the immediate locality and beyond.

The school itself is a community, but not a closed one, helping to form the new urban community of today and tomorrow.

(4) EAST KILBRIDE NEW TOWN

JUDITH HART, M.P.

After taking a degree in Sociology at the London School of Economics, Mrs. Judith Hart became Lecturer in Sociology at Portsmouth Training College (1945-46). *In between bringing up two sons* (10 *and* 7) *she has since worked on social research for the Ministry of Health, and, later, for a new town Development Corporation. She fought two General Elections before gaining Lanark for Labour last October.*

IN THE STIMULATING ATMOSPHERE of a new community, where all traditions are in the melting-pot, one might reasonably hope to see signs of educational experiment. New schools, excitingly designed and luxuriously equipped; new teachers, many of them young; and an environment tempting to reformers and eccentrics—here, surely, is fertile ground for new ideas and modern methods in education.

But in East Kilbride, first and largest of Scotland's three new towns, eight miles from Glasgow, the dominant challenge in education has been quantitative. The feverish race to provide enough school places for a mushrooming child population has perhaps inhibited any emergence of experiment. There has been an almost constant threat of crisis, with schools sometimes bursting at the seams with over 60 children in a classroom. And next year's crisis always looms ahead.

Scottish traditions

Certainly the traditional pattern of Scottish education has undergone little modification in East Kilbride. (And the Scottish pattern seems to have been remarkably resistant to change in the last twenty years.) The good features remain: co-education, and—as in many small towns—comprehensive secondary education at present. But there are other features which are now often criticised; and they are to be found in the new town. In primary classes there is far less group work and far less activity than would have been found ten or fifteen years ago in an English primary class. A leading educationalist from an English university visited one of East Kilbride's new primary schools this year. He saw the colourful gaiety of its decor, was impressed by its lavish equipment. But he also saw the individual desks and subdued quiet of its six- and seven-year olds, and his comment on what he saw was: "If I were an Inspector, I'd have some rather harsh criticisms to make."

There may be a good deal of truth in the suggestion that Scotland's addiction to corporal punishment as the foundation of school discipline is a serious factor limiting progress in educational methods. It would seem very difficult to establish the kind of teacher-child relationships generally thought now to be essential as a sound basis for successful education in an atmosphere dominated by 'the strap' or 'the tawse'. Indeed, considerable efforts are now being made during teacher-training to emphasise the disadvantages of corporal punishment. Not long ago Professor Nisbet, of Glasgow

University's department of education, commented that "Its inveterate addiction to corporal punishment" was "the outstanding characteristic of Scottish education". But deeply-rooted traditions are not easily disturbed, rooted as they often are in prejudice. And although a few education authorities are leading the way in encouraging the abandonment of 'the strap' as a punishment for 'mistakes' or careless work, and as a method of disciplining five- and six-year olds, there is still a very long way to go. East Kilbride's primary schools demonstrate the truth that new buildings and stimulating architecture do not in themselves provoke any extensive departure from the established tradition.

The problem of overcrowding

Among East Kilbride's seven new schools (several more are at various stages of planning and construction) is Duncanrig, a secondary school designed by Basil Spence. It is at present a comprehensive school. But it is already severely overcrowded, and its non-academic streams are to be decanted to the one pre-war school which formerly served the original village of East Kilbride, and which is to become a junior secondary school (Scottish equivalent of a secondary modern school).

This seems a particularly unfortunate planning decision by the education authority. It is a pity that a new town cannot be given an opportunity to follow up the partial breaking-down of class barriers achieved by the homogeneity of its housing with education firmly based upon the comprehensive principle. And it is doubly tragic that the non-academic secondary streams are to be relegated to 'the old school', which is certainly destined to rate low in prestige compared with the elegance of Duncanrig.

Abnormal requirements

One danger lying ahead in East Kilbride could only arise in a new town. It is probable that estimates of the amount of senior secondary education which ought to be provided will be based on the needs of a normal population. But new towns have an abnormal occupational structure: and East Kilbride, in comparison with the nation as a whole, or with the surrounding area, contains an abnormally high proportion of workers in technical, managerial and skilled manual occupations, and an abnormally low proportion of semi-skilled and unskilled manual workers. Its main industry is engineering—and while it has many fitters and draughtsmen and research engineers, it has few labourers.

It follows from what we know of the hereditary factor in intelligence that East Kilbride will produce an exceptionally high proportion of children whose I.Q. will demand academic secondary education, and who are likely to need extensive provision of further technical and commercial education. Yet there is little indication that this need will be met.

A planning failure

Indeed, East Kilbride—one of our most planned communities—is exposed to the consequences of what must seem to the impartial observer to be an unpardonable failure to make realistic and adequate plans for educating its children. The recurring crises of shortage of school places, and the serious injustice likely to face its children of above-average intelligence, are two grave results of unintelligent anticipation. Who is responsible? The Development Corporation? The education authority? The Government? All must take some share of responsibility. The local authority ought to have initiated an exhaustive inquiry into the new town's school needs in the early stages of East Kilbride's growth—when there was still time to build schools ahead of the birth-rate. But it is understandable that it did not do so — local authorities in whose areas a new town is designated tend to regard it as an insatiable cuckoo in the nest, making incessant and greedy demands for more and more money to be spent on all its basic services, from drains and roads to police and midwives.

The Development Corporation ought to have examined the implications of its unusual population structure early enough to inform the local authority of the full extent of its need for schools. It certainly carried out a detailed inquiry—but only when the first overcrowding crisis was on its way. And it has no direct responsibility for educational provision.

Who is responsible?

Would it not have been reasonable to expect the Government departments responsible for the new towns to offer counsel and guidance? Only they have the opportunity to pool the experience of new town administrators—to enable one new town to learn from the mistakes of another. Only they have adequate facilities for promoting research at their disposal. One is forced to the conclusion that ultimate responsibility for many of the shortcomings of education in East Kilbride lies with the Government.

It has failed to understand that the successful growth of a new community only begins, and cannot end, with bricks and mortar.

DISCUSSION

A MOUSE IN THE CLASSROOM

EDWARD BLISHEN

IT WAS VERY NAUGHTY OF ME: but when I had finished reading the FORUM symposium on *The Education of the Average Child* I had a disrespectful vision of Mr. Peter Mauger and Miss Marjorie Cooke, their academic gowns drawn around them, leaping onto their desks: a mouse was loose! But what was this mouse? I had read Mr. Rowe's book without hearing a squeak of it.

Then (and I do apologise for this) I seemed to see Miss Cooke extending a trembling finger. I looked where it pointed and there the mouse cowered, alarming little beast: "The job card can never take the place of a lesson by the teacher." That was what Mr. Mauger and Miss Cooke had taken alarm at—that was what they felt Mr. Rowe had let loose: the danger that the teacher might lose his primacy within the school.

I felt puzzled. Here was Mr. Rowe being accused of destroying the essential influence of the teacher: whereas what one had thought he had done was to extend the function of the teacher in a rather fruitful way. One had read Mr. Rowe's sixth chapter, and, specifically, such sentences as: "Here is an occasion when he (the teacher) can remain in the background in wise passivity, and that will be what is wanted; there is an occasion when he can and should come forward and take the centre of the stage." Yet Mr. Mauger and Miss Cooke are quite clear that Mr. Rowe, in widening so challengingly the nature of a teacher's contribution to the process of learning, has reduced him to a mere backroom boy, entirely engrossed in producing job cards: a vaguely superintendent nullity. Miss Cooke, indeed, goes further and sees Mr. Rowe's teacher as an intellectually snobbish onlooker. One would dearly like to have chapter and verse for an accusation so devastating as this. The evidence is not in the book, and I have shaken my copy very severely.

It does seem clear that Mr. Rowe's book has become the occasion for an exhibition of alarm which is really a pointer to a deep and fascinating difference of views about the nature of teaching. It is nonsense to say that Mr. Rowe has dethroned the teacher; it is true to say that he has (to use Professor Tibble's words) "placed the emphasis on learning, not teaching." This is the essence of the outlook that made Holmer Green such a happy and successful school. It is the essence of Mr. Rowe's approach to the average child. It was, surely, the essence of the teaching that has given a certain prestige to the name of Socrates.

Your teacher is indeed not, as Mr. Mauger and Miss Cooke feel he basically should be, the expository fount, the informant, the man with the desk in front of the class. Instead, he is the man who sets the learning process going in such a way (*via* the job card) that no child can escape being involved in it, and who then brings himself into play, as judge, oracle, adviser, stimulator, and in some score of other roles, as the learning process develops. This, one must say again, is the essence of Mr. Rowe's methods: and it must seem to many of us, who have observed that conventional teaching often leaves children uninvolved and insidiously narrows the function of the teacher, an approach more promising by far than the one clung to by Mr. Mauger and Miss Cooke.

A final word: it is quite astonishing that Mr. Mauger can say that "the great weakness" of Mr. Rowe's methods is "the loss of the interaction of children's minds on each other in the questioning and discussing during the teaching of new processes. The children will become isolated . . ." Astonishing, that is, if Mr. Mauger really has read the remarkable specimen tape-recorded discussion that is quoted on pp. 74-79 of the book.

And a genuinely final word: I have said this as infuriatingly as possible in the hope that, unable to box my ears, Mr. Mauger and Miss Cooke will be driven, with others on both sides, into pursuing a most vital discussion. And I must admit now that I say this as one standing aghast on his own desk, pointing to a mouse that I'd swear wasn't in the room until Mr. Mauger and Miss Cooke came in.

And a Letter from the Author

Sirs,

After reading Miss Marjorie Cooke's effusion in your last issue, I am more relieved than I can say to find that, on her own admission, she and I "are both living in different worlds, educationally speaking."

Yours truly, A. W. ROWE.

The Margaret Tabor Secondary School,
Panfield Lane, Braintree.

A CHANGE OF ATTITUDE IS NOW NECESSARY

says F. C. A. CAMMAERTS, D.S.O., M.A.

Headmaster, Alleyne's Grammar School

THE EDITORIAL of the Autumn issue of FORUM starts with a statement of what may be considered to be a major error in the commonly accepted view of the reasons for a reform in secondary education. You say "the traditional view—that only a small minority is gifted enough to achieve significant intellectual success—is of course derived from a school system still dominated by streaming, selection and the other devices developed for the purpose of winnowing the élite from the mass." Is it certain that the traditional view springs from a system or is it not more reasonable to think that both the system and the traditional view spring from the economic conditions imposed on this country by the first industrial revolution?

Industry in the 19th century required, in fact, some-

thing less than 10% of the population to be available for key positions and the other 90% to be available largely as semi-skilled or unskilled workers. Is it not reasonable to say that our whole system grew around this fact and that our theories were built to adapt themselves to the fact? Those concerned with education would always be reluctant to say that their practice is not adapted to the natural development of the majority of children.

The new industrial revolution, when it is completed, may well demand only a tiny minority of unskilled or even semi-skilled workers and most industrial work will require not only a high degree of manual skill but a high level of understanding of the work being carried out and of the enormously complex machines which will be doing the work.

It is already clear in a new town like Stevenage that industry requires about 40% of its recruits to be at the level of—in the language they use—six 'O' level passes in the G.C.E. and they are probably underestimating their eventual needs. The immediate effect of this has been for almost 100% of boys at any rate, to wish to stay on to do sixth form work in a grammar school and for many secondary modern school pupils to be willing to work to achieve the same level of studies.

This demands a change of attitude on the part of the teachers in all types of secondary schools much more than a change of system and, if we approach the problem from this angle, our attitude towards the reorganisation of secondary education may well require rethinking. Under this type of stimulus, all secondary schools can flourish and the case for comprehensive education becomes less urgent than the case for a complete change in the nature of secondary education. The possibility of an earlier start on academic studies in the primary schools and possibly a later entry into secondary education becomes immediately an attractive proposition.

MORE ON THE TEACHING OF FRENCH

from ROY PALMER

Assistant Master, Calder High School

IT SEEMS GENERALLY AGREED that grammar-grind is no longer acceptable. Yet there remains the danger of a purely sociological interest in France. The language cannot be taught in a void, but references to French gastronomic habits and Brigitte Bardot are only a means to an end.

It should not be obscured that drudgery is necessary to learn a language. It is perfectly possible to teach pure grammar in an interesting and creative way: children feel a great sense of satisfaction when they grasp, say, the mechanism of a certain tense. Many courses limit the children to the present tense for the whole of the first year, and even of the second, in some cases. Most children in the lower forms[1] are perfectly capable of assimilating at least the future, perfect and imperfect tenses, as well as the present.

It is useful to ask children to write out new tenses several months before they come to learn them. When they do tackle the new tense, it is already partly digested. (My forms keep a note-book in which they build up their own reference grammar.) Again, it helps, when parallel processes are being taught, for the respective word patterns to be written out, side by side, on the board. Children grasp the relationship very quickly this way: object pronouns, for example, are quickly understood.

The relationship between French and English is best studied by doing translation, which is in danger of being neglected. Children do enjoy translation provided that the passages chosen appeal to them. (One of my third forms recently translated *Little Red Riding Hood* into French with gusto.) Translation is essential for the study of words, which children again delight in. To give children a feeling for words and of comparative linguistics, translation, with abundant commentaries and excursions, is invaluable.

These points, about grammar and translation, seem to me to be particularly valid when considering the so-called non-academic children, who rightly wish to have immediately tangible results from the work. Comprehension, of course, supplies such results. It is particularly important for the mixed-ability group because it can take place at different levels simultaneously: the child who grasps only the drift, and the one who understands the details of a passage are both pleased with their achievement. (With comprehension, the children are usually allowed to see the text. I think it is useful for them to attempt comprehension by ear alone. I read instalments from a story as comprehension, and the children are asked for very hard concentration for a few minutes.)

[1] I am speaking of my own school, where only 4 out of 8 to 10 streams do French (1½ G.C.E., ½ R.S.A., 2 a 3-year course without external examination).

CO-OPERATION WITH OUR HIGH SCHOOL PARTNERS

HARRY MORRIS

Headmaster, Langmoor Junior School, Oadby, Leics

TO A JUNIOR SCHOOL HEADMASTER, collaborating closely with his counterpart at the secondary stage, the integration of primary and secondary education in an area of South Wales where the 11+ examination has mercifully been abolished, is most interesting; and one is impressed by the progress made during one year. (See FORUM, Vol. 2, No.1.)

It is now two and a half years since the introduction to this area of the Leicestershire Plan, under which approximately 92% of our 11+ pupils transfer to the high school to move on to the grammar school at their parents' discretion three years later. The remaining 8%, or therabouts, are advanced one year early at 10+, with a view to taking G.C.E. one year earlier.

During this period (and previously indeed when the present high was a secondary modern school) we have shared the experiences of R. J. Williams. One is tempted to elaborate at length upon the stimulating challenge presented to junior schools with the abolition of the 11+ examination—how that challenge has been met and the immense benefit arising therefrom is material for separate and longer discussion—we are for the moment concerned with the vital link bridging a stage where the human element plays a decisive part.

The classification of pupils now demands the closest

contact, particularly at Langmoor where 120+ children are moving from a non-streamed organisation to a seven streamed first year high school entry. Under the 11+ system five separate sets of marks were available, now only the I.Q.s (with their many limitations) from the 10+ and 11+ stages. Fortunately in junior school (500+) and high school (600+) both headmasters know all their pupils and their family background (in particular, elder brothers and sisters who have passed through our hands). Equally important, the teaching staffs of both schools are well known to each other.

As school record cards have proved to be of limited value, much effort has been put into the establishment of a transfer form to suit the requirements of this particular area. Having decided upon the original form two and a half years ago, representative teachers of each of the five junior schools contributory to the high school, each year meet opposite numbers in the latter to consider amendment, as necessary, of the transfer system, in the light of the previous year's working. Records of progress by first year entrants are published and commented upon, an agreed assessment scale is compiled so that pupils from the five contributory schools may be fitted into the seven streams; and on one occasion a special meeting of staffs of the five junior schools was convened for the consideration of mathematical method.

In the junior school individual assessments are made by head teacher and class teachers directly concerned with transfers, reference being made to other members of staff as necessary. The material to hand from periodic short tests given during the upper junior school is considered, the summary of our findings being then conveyed by me personally to the high school headmaster, with whom then follows discussion as necessary around each pupil.

Some 'reference back' necessarily follows when the headmaster of the high school is faced with the task of integrating entrants from the five contributory schools into his seven form entry, and here we attempt to do that in which the 11+ examination failed, i.e. to assess pupils' comparative potential at adolescence. This has been borne out when the high school has sent us, as is customary, examination placings during the ensuing year.

The 'under age' pupil, transferred a year early from the junior school, presents special problems both in the organisation of his junior schooling into three years instead of four, and in his transfer to the high school. He is, of course, the subject of even longer discussion : and once in the high school, judging from the additional amount of 'reference back', is known to be under the closest observation.

This close liaison is not concerned solely with transfer of pupils. We have a uniform, which except for the badge and tie, is common to both schools. Our social links are many, taking the form of inter-staff visits for functions such as open days, sports days and special services. We have welcomed the high school headmaster as our speaker at harvest festivals (in addition to his annual address to leavers who will be transferring). A special performance in our own school hall was given for juniors by the high school drama group prior to their making public performances. First year high school pupils are invited to return to the junior school morning assembly—and 'under age' pupils within that year have played football and netball against their contemporaries remaining in the junior school.

One doubts the real value of sending heads of departments into the junior school as R. J. Williams has done, similarly the provision of a first year science syllabus. Whilst encouraging junior school science, we have no intention of covering the early stages of the high school syllabus—rather we would send on pupils with an enquiring attitude, equipped for the exploration of the exciting fields ahead, maintaining that uninhibited enthusiasm which they possessed when they came to us from the infants school.

Changing Concepts of the Modern School—1944 and 1959

WILLIAM TAYLOR

Mr. Taylor is senior lecturer in education at Saint Luke's College, Exeter. He was formerly deputy head of Slade Green secondary school, Kent.

AT THE PRESENT TIME, when modern schools are developing a wide variety of advanced courses, many of which lead towards external examinations of various kinds, it is becoming fashionable to quote certain passages from the 1943 White Paper and the 1944 Education Act with a view to establishing a link between the educational ideals and intentions of that period and the modern school's actual pattern of growth over the past fifteen years. The White Paper and the Act certainly implied that the future of the new secondary schools was their own to make. On the other hand, the concept of the modern school that influenced educational opinion at that time was very different from the 'advanced and examination work' concept that is becoming common today. A glance at some expressions of opinion made during the earlier period may serve to remind us how far we have travelled since 1944.

The 1944 Education Act, by not specifying the function and purpose of the schools in other than the most general terms, left the door wide open to experimentation and new developments. In their immediately post-war publications, however, the

Ministry of Education, although still considering the content and the purpose of secondary education in general terms, were more specific in their references to the approaches that would characterise the work of different types of secondary schools.

Pamphlet No. 9, *The New Secondary Education,* is particularly interesting in this respect. The pamphlet suggests that the modern school "must be free to work out its own syllabuses and methods",[1] but at the same time it is clearly stated that "The aim of the modern school is to provide a good all-round secondary education, *not focused primarily on the traditional subjects of the school curriculum* but developing out of the interests of the children . . . Freedom and flexibility are its essence and indeed its great opportunity"[2] (my italics).

To interpret the phrase "freedom and flexibility" as it appears in this context as signifying opportunities for the development of, among other things, advanced and examination work in modern schools, is to forget the idiom of the period, summarised in the italicised passage above. It was "freedom from" that was implied rather than "freedom to". Examinations were under sustained fire, particularly the school certificate on its home ground of the grammar school. The use of the school certificate as a leaving certificate had been specially criticised, and Pamphlet No. 9 stated that "Another effect of the Act is the probability that grammar schools in the future will be enabled to concentrate more fully than they have done in recent years on their proper function."[3]

This "proper function" was to be the provision of a course, for suitable pupils, which would be "a single whole from 11 to 18, the earlier part of which should lead naturally to the later part and should no longer be conceived as a course complete in itself to which a few pupils add an extra period of one or two years",[3] and in which "any external examinations which may be taken (are) placed at the point in the course at which their purposes are seen to be relevant".[4]

Freedom of planning

Throughout *The New Secondary Education* the importance of examinations is played down—with respect to the modern school it is stated, "In schools that have to cope with the wide range of ability and aptitude that are found in all modern schools, it is impracticable to combine a system of external examinations, which presupposes a measure of uniformity, with the fundamental conception of modern school education which insists on variety".[5] The emphasis, as much in the whole field of educational thought as in Pamphlet No. 9, was inevitably upon internal rather than external incentives, upon the child rather than the subject. Teachers were warned of the need to be on their guard against thinking that what suited them at the grammar school might necessarily suit their pupils. A training in the tradition of the grammar school "need not, of course, prove any obstacle to being a good teacher in a modern school".[6] The teachers would be "free to plan the curriculum of the school on *purely educational lines* (my italics), to provide their pupils with the best possible conditions for growing up, and to ensure that they leave school with interests thoroughly aroused and a determination to continue their education throughout their lives".[7]

Some features of the introduction of the new General Certificate examination provided further evidence of the concern to 'free' the modern school from the possibility of examination work. In the words of a leader writer in the *Times Educational Supplement,* the new examination was intended "chiefly for those who are going on to the universities, the professions, or further education of some sort. It should not become, as School Certificate was, an essential passport to white collar work".[8] The Secondary School Examinations Council had recommended a minimum age of seventeen for the 'O' level General Certificate. The Minister made the age limit sixteen, but even this raised a storm of protest in the grammar schools. It was suggested that "doubtless one reason that has moved the Minister is the wish to put the new external examination beyond the normal reach of the new modern school".[9] Whilst disagreeing with the Minister's decision, Mr. R. A. Butler had in 1948 expressed widely held opinions regarding the place of external examinations when he stated in the House of Commons:

> "I have always had strong views about examinations, and I do not believe that an education can be good if it is dominated by an outside examination of any sort. In fact the one advantage I see in the modern secondary school is that, thank goodness, so far they have got no examination at all".[10]

In the event, the schools took matters into their own hands. References to the modern school in the press since 1952 have been greatly concerned with two topics—'Blackboard Jungle' conditions on the one hand, and advanced and examination work on the other. The latter has become the hall-mark of the 'good' modern school in 1959. The modern school's gain in status during the fifties has been largely a result of the way in which it has 'contracted in' to the 'competition—examination—success' system rather than by allowing its aim to be determined along 'purely educational lines'. In this the schools have displayed a good deal more social realism than was characteristic of much post-war educational thought.

Influences on the modern school

To sum up, the concept of the modern school as it appeared between 1943 and 1947 was a combination of three main trends. First was the experience of senior and central school work obtained in many areas between 1918 and the second world war, with its undertones of an 'elementary' tradition inherited from an earlier generation. Secondly, there was the impact of the views of 'progressive' educationalists on the need for a curriculum unhindered by 'external' influences and schools able to develop their educational methods and philosophy along new and individual lines. And, finally, there was the influence of a social philosophy that saw the post-war world as one in which the stresses and strains of occupational and social competition would be considerably lessened.

Official and unofficial sources encouraged the view that equality of *occupational* opportunity between children from different types of secondary school was to be obtained not by providing all children with access to the same qualifications, but by changes in the occupational field itself. In the words of *The New Secondary Education, "as the organisation of industry becomes more flexible,* it will offer the product of the modern school the same hope of promotion to the more responsible and better-paid jobs as is now in practice largely confined to the products of the grammar and technical schools"[11] (italics mine).

Progressive ideals have left their mark on the curriculum, particularly in the work that is done for retarded pupils and in subjects such as art, music, handicrafts and physical education. But social engineering has failed to bring into being the conditions that would have enabled the modern school to develop a new *type* of secondary education, different in direction from that characteristic of the grammar school.

The modern school of today may be in the direct line of succession from the specific subjects and the higher grade schools of the nineteenth century, and the senior and central schools of the nineteen-twenties and thirties. But to omit the attempt to alter direction that was made between 1943 and 1947 is to neglect a phase of educational history that should have valuable lessons for those at present concerned with the future structure of secondary education.

REFERENCES

[1] *The New Secondary Education,* p. 29.
[2] *Ibid.,* p. 30.
[3] *Ibid.,* p. 27.
[4] *Ibid.*
[5] *Ibid.,* p. 46.
[6] *Ibid.,* p. 30.
[7] *Ibid.,* p. 31.
[8] *T.E.S.,* 2/5/52.
[9] *T.E.S.,* 1/5/48.
[10] *Hansard,* 28/7/48.
[11] *The New Secondary Education,* p. 47.

The Three-Year Course and its Implications for the Future

E. M. WILLIAMS

Mrs. E. M. Williams, C.B.E., after several years of teaching and acting as joint head of an independent school, entered the field of teacher training as lecturer in education at King's College, London, then at Goldsmith's College for 10 years. In 1946 she was appointed principal of the new City of Leicester training college, and then (1952-8) of Whitelands college. She is a member of the National Advisory Council on the training and supply of teachers.

WHEN THE MINISTER OF EDUCATION announced September, 1960, as the date for the inauguration of a minimum three-year course of training for teachers the first response was a great sense of relief among the staffs of the training colleges. At last the notorious rush of the two-year course would be over and there would be time for the existing heavy programme to be carried through more thoroughly and more reflectively. This mood of content with the prospect of extending the period without increasing the demands of the training course was short-lived. From within the colleges and from many quarters outside them came ideas for seizing the opportunity to enlarge the content of the course so as to enable teachers to satisfy the needs of our expanding and changing educational pattern.

The threefold nature of a teacher's course, including the practice of education, the theories on which practice is based, and further study in the domain of knowledge or the creative arts, was bound to stimulate controversy about the share in the extra time which each aspect should be given. So vigorous was the disagreement between the partisans of the different sections that it seemed impossible that a common structure would be found among the schemes approved by the several Institutes or Schools of Education. Yet from many discussions and lively arguments, each Institute has evolved a new scheme of training which has enough features in common with the rest to make a recognisable national pattern. It is interesting to examine the general lines on which the new courses have been constructed and to see how the three sections have fared.

The case for lengthening the time spent on teaching in schools was forcefully put by those who realised the vulnerability of many young teachers. Yet in the event little extra time has been accorded to this experience. Other claims on time have been thought stronger. Moreover it has been argued that the necessary perceptiveness, confidence and awareness of children's ways may be strengthened in college by other means than prolonging teaching practice. But these qualities are of slow growth and must ultimately develop through experiencing the full responsibilities of an accepted teacher. One general tendency has been to reduce the concentration of practice in school and to lengthen the period during which contact with certain children can be maintained, thus enabling a student to make a sounder judgment of the pupil's response to his teaching. It may be significant that this new pattern is closer to that followed in post-graduate training.

The need for advanced studies

The situation in secondary schools has clearly been uppermost in the minds of many who have stressed the need for higher academic standards in the colleges after 1960. The increasing number of over-fifteens remaining at school and the enlargement of the secondary school curriculum impel us to seek for more teachers whose advanced studies and professional training equip them to meet this situation, and there has been much talk of degree level in the main subjects. In facing these demands the colleges have re-affirmed the belief that the function of the main subject is primarily to give a student the depth of understanding and range of power that are born of advanced and concentrated study in a particular field. Such qualities are as necessary for primary as for secondary teachers, and thus the minimum standards and conditions for main subject studies have in general been made identical. This has importance for the unity and flexibility of the profession.

Two problems have had to be faced. A high degree of specialisation is needed in some subjects to remedy an acute shortage in the schools — physical education provides an obvious example. Secondly, not all students have the natural endowments to enable them to carry a study to a very high level. Solutions to these problems have been found in several ways. Provision has been made for gifted students to take a main subject to a still

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higher level than that to be required normally in a three-year scheme. Names for such higher level courses vary from one institute to another. A common nomenclature would be of much value to enquirers and would have no restricting effect on the individual plans of colleges. In addition highly specialised courses, comparable with those in specialist colleges, have been arranged in colleges with suitable potential. These developments show that it can be expected that the majority of students will reach general degree level in one or more main subjects and some may even go beyond it. If the qualifications of candidates accepted by the colleges continue to rise as they have done in recent years it may well be that the general degree level will be reached by all students in their main subjects. The dividing line between graduate and non-graduate teachers is becoming very thin.

The discussion of degree level in training college studies has brought out an important distinction between the *level* of work and the *content* of the course followed. During the last fifteen years the colleges have worked out main subject courses of good academic standing but designed, not for future research workers in the field, but rather to give a rich background to teaching and to ensure an understanding of the fundamental principles and methods of the subject. There is a strong conviction that this pattern should be followed in the extensions planned for the three-year course. Clearly it gives a good springboard for those students who will go on in a *fourth* year to complete a university degree or the equivalent in one of the arts.

The problem of staffing

One of the most critical issues in planning for main courses of this calibre is whether colleges can be staffed to undertake the number of such courses which would offer effective choice to students and would at least cover the usual subjects of a school curriculum. This is a formidable difficulty, because for any subject the staff must include an expert in teaching it at school level as well as several people highly qualified in different aspects of the subject. To surmount the difficulty some valuable experiments have already begun. Colleges well placed for co-operation are combining classes in some subjects and using all the teaching resources of the colleges involved. For highly specialised work it is planned in some areas that a suitable member of staff of one college shall act as tutor to all the students in accessible colleges who are taking his particular branch. In some Institutes it has been possible to enlist the help of the university either in admitting students to certain classes or by allowing lecturers to give courses in a training college. These and similar schemes of co-operation with a School of Music, a College of Technology, etc., will afford the colleges a breadth of contact which they have too often lacked in the past and which they are anxious to foster through these new opportunities. The Institute of Education is the obvious body to co-ordinate and encourage such efforts to secure the best resources of the area for the service of its constituent colleges. At the same time it is clear that the challenge of the new openings for high level work will stimulate existing staff and will attract people of good academic achievements to their ranks.

The number of main courses desirable for any one college is generally thought to be ten or more. If classes are to be of reasonable size this implies that a three-year college must have about 300 students, and many colleges would wish to offer a still wider range of main subjects and include some more specialised courses. Thus colleges of 400 to 500 students are likely to form the majority. Still larger colleges, covering the whole range of training, or developing large specialist wings, will certainly form a substantial group and will be able to offer opportunities to staff and students which will have their particular value in the national scheme. Yet it is necessary to emphasise that a college of less than 300 students has advantages of great importance for teachers in English schools. The influence of the community life of a school upon its pupils and the effect of bearing responsibility within it are recognised as essential ingredients in the educational process. If a young teacher is to play his part in maintaining a liberal and responsible spirit in a school he must have had experience in a community of such a size as to give him opportunities of leadership and an awareness of the tensions and harmonies which develop in a purposeful society. Such experience a small college can give particularly well, provided of course that it has evolved a liberal and responsible way of life for its own students.

The accidents of history have placed some colleges in rather remote places, in historic mansions or on the sites of war-time hostels. Inaccessibility to a centre of intellectual life and the arts is a grave disadvantage. Nevertheless contact with the life of the countryside is known to be essential not only for teachers of rural science but for many general teachers, not least for those who will be teaching in dense urban areas where the children's lives may be arid and rootless. The siting of a college in a rural setting may be an asset. Modern transport can often remedy isolation. Alternatively suggestions have been made that experiments in exchange and collaboration between a city college and a rural college which have already been successful should be developed

further. The concentration of large numbers of students in a limited area creates such formidable difficulties in arranging supervised practice teaching that it has been argued that a nation-wide network of college centres is needed to give a fair distribution of facilities and burdens when 16,000 more students are in the colleges.

The study of educational theory is sometimes derided, yet in two respects it has made great headway recently. In three-year courses it is accepted that it will be an essential element throughout the period and will be given a special place in the third year when students are mature enough to consider thoughtfully the psychological and philosophical foundations of universal education, to examine their own attitudes, and to formulate for themselves a body of principles to guide their professional work. Indeed the education course is seen as the core round which all other college work is built. Some Institutes have included a branch of education as a possible second main subject, thus catering for those students who are more concerned with general teaching than with specific subjects.

The second step forward in the field of education has been in the number and quality of courses of further study established in Institutes of Education, in university departments, and in certain colleges. This makes it possible to envisage a *fourth* year of training, voluntary at first but ultimately obligatory, which, for some teachers, would consist of an advanced study of education. For others a one-year subject course would be more suitable. In either case four years of study at the level proposed would appear to give an entitlement to graduate status, but difficult negotiations lie ahead if universities, colleges of art, etc., are to recognise the three-year course as contributing to graduate qualification and to accept qualified teachers for a fourth-year course to allow them to complete the qualification.

Compulsory training for graduates?

When three-year trained students enter the schools in 1963 a remarkable anomaly will be seen. Graduates who have had no professional training, and whose degree may or may not be relevant to the teaching they will undertake, will receive in addition to the basic salary a graduate allowance to which the three-year trained teacher is not entitled. It is inconceivable that such a situation will be tolerated for long and great pressure will certainly be exerted to have the accepted principle of compulsory training for graduates put into effect. This will mean a large increase in post graduate training, enhanced for a time by the demands of untrained graduates then in the schools. At present it is the university departments which take the great majority of graduates for their professional training. Only a few colleges have post graduate courses and the groups are small.

Several questions arise. Can the departments provide the additional permanent places? Can they absorb the temporary increase in numbers? Are the departments in fact the best places for initial training? Is the division into two distinct forms of training useful? Does such a division match a difference of function in the schools? The answer to the first question will depend on the willingness of the universities to increase the number of Education students. Almost certainly the temporary increase could not be met by the departments. The more flexible college system could carry the load. By that time the colleges will be so staffed and equipped that their resources in many instances will far exceed those of an average department. It may well prove that for initial training a graduate will do better in a college.

Furthermore, a college which offered post graduate courses would in general be able to provide training for any branch of teaching and it would become easy for a graduate to train for primary teaching alongside non-graduates with the same intention and in the company of both graduates and non-graduates training for secondary teaching. This new unity in training would reinforce the collaboration among teachers in different types of school and would greatly help to unify the staffs in schools where graduates and non-graduates work closely together. Comprehensive and bilateral schools have clearly shown the advantages of having varying proportions of specialisation in the qualifications of the staff. They have also shown the need for mutual understanding and for a broader base to much graduate training.

From the questions raised it is evident that the introduction of the three-year course is proving to be the starting-point of a far-reaching re-organisation of teacher-training. The enlargement of the colleges and the higher level of their courses will give them a more authoritative voice in matters of training, a voice that will often speak through the Institute of Education which they compose. Departments and colleges will enter into a new relationship based on equality in the field of initial training and partnership in the provision of further studies.

The Institutes, strengthened by the new stature of their constituent colleges, will be able to form a strong national consultative body which could claim to be heard in regard to any aspect of the education of teachers.

Some Notes on the Teaching of Arithmetic

CRAIG SCOTT

Miss Scott is head of St. Nicholas school, Aberdeen. She has taught in the West of England and was earlier head of the junior school of a large girls' boarding school.

MY SUSPICION of the conventional ways of teaching arithmetic began when I was taking a class in mathematics in the senior part of the school in which I was teaching. (I was often lucky in getting the chance to do this.) It seemed to me that there was among my pupils a lack of the faculty of seeing a problem as a situation. And so they could not reason about it. They kept looking for 'the trick' that would solve the problem.

Then I began to think about their previous diet of tricks, which I and other teachers of arithmetic had been serving up since they were under seven.

One of the first tricks taught is in the adding of columns of figures, putting down one figure and carrying the other. There is no great progress in adding columns of thousands, hundreds, tens and units if this method is accepted. It is no more advanced than adding tens and units unless it is understood.

If you are really familiar with your notation—if you really know what written figures represent—there is not the need for this trick.

Even when children count objects we do not deduce that they understand the numbers. Even when they count four things and four more and four more we do not deduce that they understand either 12 or even four. It seems logical then not to expect a clear understanding of adding 'tens and units' at some arbitrarily-chosen time. They are ready to understand numbers and groups of numbers only when they have a grasp of what Professor Piaget calls conservation. "A quantity, as for instance of a liquid, or a collection of objects, is only conceivable if its total value remains constant whatever changes are introduced into the relationships of the elements among themselves." (*Some Aspects of Piaget's Work*, published by the National Froebel Foundation.)

The first stage

Grouping in tens and later in hundreds is a part of the children's experience necessary before they can discover the idea behind our notation. Then they find that an easy and natural way of adding 23 and 39 is twenty and thirty make fifty, nine and three make twelve, fifty and twelve make sixty-two. It is not until the numbers to be added become more unwieldy that starting with the units is felt to be easier. Then the arrangement in columns appears really handy. I have lately realised that there is a great danger in starting the use of columns too soon. If additions are arranged horizontally, children have to think what the figures represent.

Most teachers let children build at least some of their multiplication tables by adding. For example, $4 + 4 + 4 + 4 + 4 = 20$ — five fours make twenty. But the usual arrangement of the multiplication sum is often shown too soon. Take this sum:

$$\begin{array}{r} 245 \\ \times\ 3 \\ \hline 735 \end{array}$$

The carrying becomes a well known ritual, but the idea of making 245 three times its size is often lost sight of.

The conventional way of writing the multiplication sum must be left until the children are ready to see it as a useful shorthand. I think this shorthand can be left until at least a year later than is usual. With children who lack confidence it should be left longer.

If children can do a calculation in a simple way (even if it is laborious) the teacher's problem is simply *when* to show each child the shorthand, to find out *when* he will feel this to be a simplification and not something strange and difficult.

Long multiplication. Let's take 31 times 94. 94 can be written down 31 times. This is fun for some. Others may find the calculation simpler if they put their 31 times down in bits. For instance, they may add 5 times the number and 5 times and 5 times etc. until they reach 30 times. One more 94 added makes 31 times. Children choose to add in groups that seem easy to them. If they know their 10 times table well they may add ten rows of 94's at a time, then one extra 94. Still others have now got a feeling for the formal short multiplication sum as the obvious shorthand. Instead of writing out so many rows, they use the usual form of multiplication for each part, and add the results (or here again use the shorthand) and one more 94. What a help this kind of experience is later. There is no difficulty in multiplying by 20, 30, etc., and no child says 'put down 0 and multiply by 2'.

Another example. Anna was timid, afraid of figures, is only now gaining confidence. In order to multiply a number by 23 she will multiply the

number by 11 and then by 12 and will add the two answers. To her, the eleven times table is a very easy one. This does not mean she finds multiplying by 20 at all difficult. She multiplies by 10 and doubles her answer. For her multiplication by 20 and adding on three times the number means four steps in all : (a) $\times 10$, (b) double this answer, (c) $\times 3$, (d) add the last two answers. Rather than do this she will (a) $\times 11$, (b) $\times 12$, (c) add these two answers—three steps in all.

To me it is easy to see why Anna finds it more convenient to use this unconventional method. Multiplying by 20 and 30 is not simple. 'Put down 0 and multiply by 2' is a piece of magic. The use of this rule is not necessary. Most arithmetic books give an explanation and then hurry children on to rows of examples before the explanation has become a part of their arithmetical experience.

If possible, new facts should be associated with facts already assimilated. Multiplication tables *can* be learnt at any time. How much better to wait until children are able to build on what they know. For example, when they realise that four 3's must be twice as much as two 3's, that three 6's and four 6's together give seven 6's, and that nine 7's is seven less than ten 7's, then they can work out their multiplications for themselves. This is a more advanced and less cumbersome way of learning than by adding and of course much superior to rote learning.

I have no objection to practising tables and have some self corrective puzzles which the children do, often at great speed, timing themselves with a stop watch. The fact of the presence of these attractive puzzles in the class room does however sometimes mean that younger children know the answers too soon. Unfortunately there are never any objections from their parents.

My criticism of many of the conventional ways of setting down calculations can be applied also to the setting down of 'problems'. The conventional set-down is an end product. To show it at the beginning may be a dangerous short cut. As the wife in Freud's story said to her husband as she got into the car, "Let's take the long way round. We have no time for short cuts."

How much is a million ?

Although I have been discussing conventional methods of doing sums, I should say that it seems to me that most calculations should arise out of a situation. Every teacher knows how often, in a school or classroom in which children can get around and do things, and can take time to think and talk, there is opportunity for interesting and, to the children, vital calculations. I will instance one only. 'Doing' the geography of Norway, Peter asked what was the population. Then he said : "but how much would a million really be ?"

We sent to a farm for barley. For half-an-hour every day for most of a term 15 children solemnly counted grains of barley. They put ten tens together to make a hundred. Each hundred went into a small container. Ten containers were emptied into a small plastic bag (1,000). Ten small plastic bags were emptied into a bigger plastic bag (10,000), and so on to 1,000,000. When we finished we had a large tin bathful, 103 lbs. 11 ozs. of barley. "My big brother says we're stark staring mad," said John. But a million to John will never be just six 0's after a 1. (Of course he, and the others, did realise that every day's counting was not necessarily accurate.)

I think it fair to say that, in spite of the effort to allow the children to learn arithmetic in their own way, we have not found it difficult to prepare clever and quick children for the 11+. (In our case the local authorities use the Moray House tests.) I am not sure that cleverness always includes quickness (see the Southampton experiments in lengthening the time given for arithmetic) but the Transfer Examinations here assume this. Certainly there is no time for arguing matters arithmetical with oneself. And therefore, during the two terms before the examination, those children who are at all likely to pass into Senior Secondary Schools practise speed tests.

New Developments in West Germany

K. SOUTHWELL DAVIS

Mrs. Davis was at one time an officer at Education Branch H.Q. of the Control Commission for Germany, working on textbook reform and its corollaries. Now she teaches (part-time) at the Mid-Hertfordshire College of Further Education, writes for the press, and edits textbooks in French and German. She recently returned from a visit to Germany, where she discussed the present situation with many teachers and officials.

THE FASCINATION of a kaleidoscope is that, at each shake, you have a fresh pattern, but that after several shakes you begin to recognise recurrent forms and colours. This is true of the German educational kaleidoscope; and few have been more violently shaken.

The latest conformations can be seen in the very important White Paper—if the comparison may be allowed—published at the end of May, 1959, by the German Committee for Education and Cultural Affairs (*Deutscher Ausschuss fur das Erziehungs- und Bildungswesen*). Its proposals, which may be regarded as significant for all West Germany, will be used as points of reference in the course of this article. It is called 'Framework for the Reform and Unification of the Public Schools System.' [1]

The play of forces between regionalism and centralism has been one of the most interesting—and instructive — trends in post-war West Germany. The 11 Lands of the German Federal Republic each have their own Ministry of Education (*Kultusministerium*). There is no Federal Ministry of Education. This was a return to the historic pattern of regional autonomy, but not to the original sovereign German States whose long traditions of state education have variously survived.

Regional differences

There is a general pattern of organisation and administration: from schools through the rural and urban district education offices (*Kreisschulamt, Stadtschulamt*) to the government regional offices (*Regierungsbezirk-Schulabteilung*) and thence to the respective Ministries of Education. But the differences of detail within this pattern can well be imagined; as between, let us say, the compact, protestant, socialist city state of West Berlin and the broad, Catholic, conservative ex-monarchy of Bavaria.

On the other hand, the German Federal Republic regards itself as a new nation and the nucleus of an ultimately reunited Greater Germany; and such an aim demands a certain unity in education at national level. The practical needs for social integration in a modern state are even more pressing.

In 1948, therefore, a standing conference of Ministers of Education was established. It has since conferred on such key questions as denominational freedom, length of schooling, the academic year, qualifying examinations, transference of pupils, school types and terminology. And what is still referred to by some teachers as the West German School Chaos, by others as the wealth of variety within the German Lands, is gradually being rationalised. From the earlier fifties reformers such as Dr. Hans Heckel were proposing a common basic school law and a unified system [2]; the 'Framework' takes it for granted.

The reform of school types and nomenclature has been a fundamental problem for school reformers in Germany, for much the same reasons as ours; to get rid of traditional social distinctions and privileges that no longer apply in a post-war democracy; to adapt education to the individual needs and gifts of each child; and to meet the demands of the new age of science and technology. The new trend has been to regard the school system as a single, organic growth and to object to the separate school types standing 'like columns side by side'. But the German schools system has deep foundations and rebuilders have found it difficult to change the columns upon which the structure rested. The 'Framework' has modified their design considerably, but not replaced them. It is worth studying some of the individual Land experiments which have helped at least towards these modifications.

The three city states, Bremen, Hamburg, and West Berlin, all with traditions of independence, all under socialist governments in the earlier years, and all compact planning units, set about radical school reform. They extended the 4-year primary school (*Grundschule*) to six years, from 6 to 12 years of age. (This was subsequently rescinded in Hamburg when the conservative C.D.U. took over

[1] *Rahmenplan zur Umgestaltung und Vereinheitlichung des allgemeinbildenden öffentlichen Schulwesens*, published Ernst Klett Verlag, Stuttgart.

[2] See *Eine Grundordnung der deutschen Schule*, Hans Heckel, 1958; published Deutsche Verlagsanstalt, Stuttgart.

from the socialist S.P.D., a pertinent point for those who cried 'Chaos'.) All children began a foreign language, English, in the fifth school year, or alternatively French or Latin; and parents were circularised about the choice of language and about the further types of schooling to which these might lead in two years' time. Two years later came the next circular—'To which branch of the secondary school shall I send my child ?'

So there are still 'branches', and choice and selection must go on; but all three authorities tried to rationalise their school system. Bremen's *Grundschule* branched up into a *Hauptschule* (literally 'Main School'), *Mittelschule* (Central School), or *Gymnasium* (Grammar School). From Easter 1959, the *Hauptschule* course lasts for three years, making a nine-year statutory minimum, to 15 years of age. The *Mittelschule* had a four-year course, the *Gymnasium* a seven-year academic one. Hamburg changed its nomenclature to *Grundschule* and *Oberschule* (Secondary School), the latter having three types: Practical, Technical and Academic.

East and west

West Berlin was the most radical. The presence of a communist school system on their doorstep has undoubtedly stimulated West Berlin educationists. They run the show window for Western democracy.

East Berlin's single-school system consisted of a *Grundschule* with junior and senior grades (6-10, 11-14), a *Mittelschule* (14-16)[3] and an *Oberschule* (15-18). East Germany is now implementing its definitive single-school plan, consisting of *Grundschule,* leading into the *Polytechnischen Oberschule* (Polytechnic Secondary School) (14-16), leading into the *Oberschule* (Secondary School) for 16-18 year-olds—the last is selective.

West Berlin established a *Grundschule* branching up into the *Oberschule*—Practical branch, Technical branch and Academic branch. "All three branches," it is officially stated, "are of equal status." "By the introduction of a compulsory foreign language," says its circular to parents, "and of the compulsory ninth school year, the character of the Practical School as a genuine secondary school is guaranteed." Statistics from Berlin (15.5.58) do show a remarkable distribution of secondary school pupils:

Practical (roughly Secondary Modern)	27,300
Technical	23,164
Academic	29,139

Looking beyond these schools, the traditional compulsory part-time education was still provided by the Vocation School, the *Berufsschule,* and full-time education in trade, technical and commercial-industrial schools (*Berufsfachschulen* and *Fachschulen*). When, therefore, Bremen explains that its *Hauptschule* leads on to the *Berufsschule,* its *Mittelschule* to the *Berufsschule* and *Berufsfachschule* and its *Gymnasium* to the University or equivalent institute, it is tying its new schools to a recognised older pattern. Parents know by this familiar nomenclature what types the schools are likely to be and where they are leading. This may help to explain why, in 1957, it was all too convenient to decide that a common and familiar nomenclature should be restored; and why Hamburg, for instance, under Federal pressure, found itself renaming its schools Elementary (*Volksschule*), 6-15, *Mittelschule* (12-16) and *Gymnasium* (10 or 12-19).[4] The typing and nomenclature in the 'Framework' will be given in the summing-up of this article; for there are two other questions that have ultimately affected it, both resting on that critical middle phase that has been the crux of our own school reform experiments.

The first is the transfer and selection of pupils. This reverse order is deliberate, because in Germany the question of 'staying down' is a source of anxiety before the transfer to a higher school ever arises. Keeping a pupil down if he or she has not reached the required standard is a statutory obligation. This anxiety may increase as the time approaches for transfer to a higher school, and much effort has gone into methods of selection.

Examinations or school records ?

Set examinations as we know them are not favoured. It is significant that the Berlin Ministry issued a regulation (12.11.57) forbidding promotion by examination results; and that its Review of School Organisation, issued the following year, stated that final decision would be based on a six-month observation period within the chosen secondary school, to which the child will have gone after preliminary selection on school record and parents' choice. Most Lands combine school records with a trial teaching period held in a grammar school at the end of the *Grundschule* course. This test period varies from three days to two weeks, five days being very common.

Personal testimonies from various parts of Germany convince me that this method gives children more time to settle down. Teachers say they do not appear anxious or overwrought, and that many enjoy it. But the 'Framework' hints

[3] Not full implemented. West German sources still say that only 40 per cent stay to 15. But East German teachers met the week before this article was completed, report differently about East Germany as a whole.

[4] Yet this apparent 'regression' was the result of a progressive resolution of the Ministers' Conference establishing as a norm of secondary education either a 'short form' (6-7 years) or a 'long form' (9 years).

that our old enemies also lurk in Germany—the sacrifice of the fourth year to special coaching, the anxiety of parents conveyed to their children, the unreliability of children's reactions in unaccustomed surroundings. Heads, assistant teachers, the school inspector and often a parent-representative sit on the selection board, and every effort is made to be fair. But, despite Berlin's claims, parents and teachers remain type-conscious.

The move towards unity

If that is a vertical question, the other is horizontal — how to make the secondary stage an organic whole. The most interesting experiment has, perhaps, been the 'Differenzierte Mittelbau' (differentiated intermediate stage) in Lower Saxony, at present incorporated in 13 schools. Children from the fifth to the eighth or ninth school year are taught certain 'core' subjects together, irrespective of ability, and separate for special 'course' subjects[5] — languages and mathematics, for instance. The erstwhile elementary children are called *Stammkinder,* foundation children, as it were; the ones who would otherwise already be separated in higher secondary schools are *Kurskinder,* special course children. They are all handled by a joint staff of primary, central and grammar school teachers, in diminishing proportion. The experiment has been built up from the former elementary schools, extremely well housed in such places as the Pestalozzischule, Hanover, and the Niedersächsische Erziehungstätte in Brunswick. It demands large and well-equipped buildings or a campus arrangement, and frequent staff conferences.

The results of this social experiment have caused much controversy, especially among grammar school teachers, and deserve an article to themselves. The influence of the American High School principle has been acknowledged, and also that of Professor Peter Petersen's 'Jena-Plan', which advocated group-teaching in three-year units. (The Jena-Plan primary stream that was set up in Brunswick when these reforms were initiated is about to be dissolved; but Hamburg has a complete Jena-Plan school.)

The recommendations of the 'Framework' planners are briefly these:

(1) There shall be a common primary stage, the *Grundschule,* from 6 to 10.

(2) Very able children, on recommendation of teachers and parents and the results of a test of suitability, may go to a *Studienschule,* a *classical* grammar school, at 10+, aiming at the Higher Leaving Certificate at 19.

(3) The vast majority of children will continue in a common two-year course, the *Förderstufe* (Remove Stage), from 10 to 12, which should compromise in subject and method between the old elementary school and the academic grammar school, facilitating transfer without examination at 12+.

(4) Probably more than half these children will proceed to a general, practical *Hauptschule* till 15, later to be extended to a further transitional year.

(5) A good number will go on to the *Realschule* (Modern School; this has long been an alternative title to *Mittelschule*), which will stress the practical-technical side.

(6) The *Höheren Schulen* (Higher Schools) will be a joint system; the larger proportion of academically able children will go on to the *Gymnasium* at 12, proceding alongside the *Studienschule* [see (2)] to the Intermediate and Higher Leaving certificates at 17 and 19. Common Federal directives are recommended for these schools, and a revision of the present examination requirements in favour of greater specialisation at Upper School level.

(7) *Class promotion* should take place every *two* years instead of one to give slower children a chance to make the grade over a long period of adjustment.

These are some of the key proposals that are now being discussed at all levels in West Germany. They remain a framework; and what matters most is what goes on inside it. West Germany is full of individual experiment, not only at famous private schools like the Waldorf Schools or Salem or unique public ones like Berlin's comprehensive Insel Scharfenberg School Farm, but in ordinary schools up and down the country. The present cynicism about "us children of the Economic Miracle" is a healthy stimulant. Teachers are setting out to tackle the *Wirtschaftswunderkinder* of the younger generation with realism; and many with hope.

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[5] *Kern and Kurs,* core and course subjects, has been a feature of the Berlin Grundschule. A foreign language is a compulsory core subject, and may be Latin.

EDITORIAL NOTE

Owing to pressure on our limited space, an article announced for this number, *The Basis of Educability* by Brian Simon, has been held over for a later issue.

Book Reviews

Junior Science Books: a survey by Eric G. Linfield.

PUBLISHERS have made an excellent response to the needs and demands of teachers and children in primary schools for books on elementary science. Soon we shall have more concrete evidence of the increasing scientific interest of the primary child, but in the meantime teachers who feel the need for doing something practical with the children in the classroom might begin by investigating some of the invaluable junior science books which have already appeared.

The junior science book has to supply information, stimulate experiment, encourage careful observation and to a certain extent relate the child to its natural and technological environment. In this review the various books noticed meet these criteria in differing ways, but one soon discovers that the junior science book has to satisfy all these criteria to be really successful. Finally, one has to remember that the nature study tradition, established in the earlier phases of public elementary education in this country, needs integrating with the current need and demand for starting scientific investigation and experiment as early as possible.

Some of the books would be more valuable to the teacher, others to older juniors and the rest to the younger child; consequently, the survey has been sub-divided into these sections.

(i) SCIENCE BOOKS FOR THE YOUNGER CHILD

One must begin with two sets of books which are both American in origin: the Heath Elementary Science series (Harrap) and the Macmillan Science/Life series (The Macmillan Company, New York). These have the advantage of carefully graded vocabularies so that the information and experiments they contain suit the reading age of the child using it. Both are extremely well illustrated, and my personal experience indicates that they become some of the most popular books in the classroom as soon as they are introduced to the children. The teacher must be well prepared beforehand, as they contain some background information which belongs to another culture pattern. They are excellent books for initial scientific work with young children, particularly Books 1-3. There are six books in each set.

Next is *The Golden Picture Book of Science* (Adprint, Rathbone Books, 5s.) which has some very simple experiments concerning animals, plants, rocks, gravity, rain and snow, the sky and the ocean. The presentation is delightful and would be extremely popular with seven or eight year olds. A similar well-produced book is Illa Podendorf's *Junior True Book of Science Experiments* (Muller, 8s. 6d.), which contains simple experiments on air, magnets, gravity, water, sound, heat and cold; it has an authentic air too, as the author has tried the experiments herself with young children. Margaret Hutchinson's three information books *Making a Bird Table, In Hedge and Field* and *In a Wood* (E.S.A.) provide elementary biological work related to nature study and they are very well illustrated and written; they emphasise the value of collections and careful observation and recording. If these habits are established early in the junior child, the later stages of work come easier when recording is essential for each experiment. Technical information for younger juniors forms the background of the *Golly books* (E.S.A., 2s. 6d. each).

(ii) SCIENCE BOOKS FOR OLDER JUNIORS

The range here amazes me when one considers how recently this topic has become popular in educational circles. Some of the books are obviously intended for the secondary stage as well, but the more scientific children find interests in them. The first series *Junior Science Topic Books* (Oxford University Press, 2s. 6d. each) have been especially written by W. G. Western; each has 32 pages. Each book contains many simple experiments, well illustrated, and the basic scientific information is intelligently presented by a very direct method; topics dealt with are sound, magnets, air, heat and light.

The Book of Experiments (translated from the Dutch of Leonard de Vries, Murray, 15s.) appeals to the eye as well as to the scientific imagination, as the experiments are illustrated with amusing little drawings. Each section is introduced with a historical background with some information on the pioneers of scientific investigation. The series of six books, *Seekers and Finders* (Blackie, 3s. 3d., 3s. 6d. or 4s. each), written in brilliant language by Amabel Williams-Ellis, gives a similar biographical approach to the introduction of elementary scientific method to upper juniors. They are very good background books, even if they do not have so many experiments. *Visual Science*, First and Second books (Harrap, 4s. each) gives facts and experiments aided by isotype illustration.

The Heath Elementary Science series books 3-6 (Harrap, 19s. or 20s. each) and the Macmillan Science/Life series Books 3-6 (The Macmillan Company, New York, 19s. 6d., 20s. 3d., 20s. 9d.) are excellent for older juniors and can be used by the class teacher for devising experiment cards as well. *Science is Exciting* (Blackie, 6s.) includes some very interesting experimental work; the book is illustrated with many very useful diagrams and could be used in a junior science club or for individual use by an intelligent child.

The next collection of books is extremely useful

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† Y.4 THE YOUNG FARMERS

Orange Books

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Interest age 12 - 14

* O.1 SKINDIVING FOR TREASURE
* O.2 GREASEPAINT AND FOOTLIGHTS
* O.3 HOLIDAY IN INDIA
† O.4 THE DIAMOND STARS

Mauve Books

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Interest age 12 upwards

* M.1 BLACKFELLOWS AND BUFFALOES
† M.2 LIQUID GOLD
† M.3 THREE IN THE ANDES
† M.4 AFRICAN WATERFRONT
† M.5 JOURNEY TO THE AMAZON

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for a junior science library, for children browsing or for constant reference in the classroom. Many of these titles are very colourful and a great joy to handle; they contain masses of information skilfully presented and I know from experience are very popular with children. The first series are published by Rathbone Press; *Man Must Measure* and *Men, Missiles and Machines,* both by Lancelot Hogben, *Adventure of the Air* by James Fisher (all 18s. 6d. each) and just published by Adprint (Rathbone Press), *Exploring Chemistry* and *Exploring the Planets* by Roy A. Gallant (10s. 6d. each) and *The World of Science* by J. W. Watson (25s.). The *Pictorial Encyclopaedia of Scientific Knowledge* (Sampson, Low, Marston & Co., 21s.) presents complex scientific facts in a very appealing way and I have found this book an excellent background book for the more intelligent older juniors. Need I add that all these books are very readable for teachers too!

The junior science library, or a special section in the school library, ought to be built up simultaneously with the new practical work introduced in the classroom and all the following books could be included: *Medicine* by Boswell Taylor, *The Cinema* by Stanley Reed, *Unseen Forces* and *Weather* both by A. O. Chesters, *Petroleum* by W. W. Evans, *Plastics* by M. Farrell, *Wireless* by F. Roberts and, the newest and most topical, *Space Travel* by Dr. G. V. Groves (E.S.A. Information Books, 6s. limp or 8s. 6d. cloth). From Muller, *The Steam Engine, The Stars,* and various biographical titles like *Madame Curie* and *Louis Pasteur* in the True Book series (8s. 6d. each), and also an excellent new series called The Mechanical Age Library with these titles already published: *Rockets and Earth Satellites, Railway Signalling System* and *Submarines* (9s. 6d. each). Next we have the New Playbooks of Science (Oxford University Press, 7s. 6d. each) by Herbert McKay with titles like *Toys* and *Inventions, The Tricks of Light and Colour,* and several others. Lastly three fascinating books by W. & H. Bullough supply background biological information: *Introducing Animals, Introducing Animals with Backbones* and *Introducing Man* (Methuen, 9s. 6d. or 8s. 6d. each).

(iii) SCIENCE BOOKS FOR PRIMARY TEACHERS

The best introduction is the pamphlet just produced by a very representative science teachers committee, *Science in the Primary School* (Murray, 3s. 6d.). It shows the possibilities for development of junior science work and has an excellent bibliography of teachers' and children's books. For the more serious there are two very good books, *The New Basic Science* by Barnard and Edwards, and *Physics* by Elliott and Wilcox (The Macmillan Company, New York, 34s. 6d. and 36s. respectively). As a bridge between the traditional nature study and the new junior science we find a new approach in *Nature Study for Schools* by K. S. N. Kirby (Methuen, 12s. 6d.).

The publishers are giving us a good lead in junior science books as part of their contribution to making our younger children more scientifically alert, and now it is up to the teachers to use them and profit by this excellent beginning to a new phase of junior education. [1]

[1] Owing to pressure of space my comments are very much shortened, but I shall be pleased to send out full lists on the receipt of a stamped addressed foolscap envelope. (Letters should be sent to Eric Linfield at 233 Shephall Way, Stevenage, Herts.)

Coming Into Their Own, by M. L. Hourd and G. E. Cooper. Heinemann (1959), 192 pp., 21s.

The Oxford Books of Verse for Juniors: Teacher's Companion, by J. Britton. Oxford University Press (1959). Book 1: 72 pp., Limp 4s. 6d., Boards 5s. 6d. Book 2: 107 pp., Limp 5s., Boards 6s. Book 3: 86 pp., Limp 5s., Boards 6s. Book 4, 108 pp., Limp 6s., Boards 7s.

MISS MARJORIE HOURD'S search for personal meaning in children's writing is already familiar to teachers through her earlier study of the writings of some of her own pupils in a girls' high school. Now she gives us the results of a new investigation carried out in a mixed junior school in collaboration with its headmistress, Miss Gertrude Cooper.

The book falls into three parts. In the first, Miss Cooper gives an account of the organisation of her school and of the poetry-writing project she personally undertook with the third-year class, and Miss Hourd discusses how children express in writing their delights and terrors, their inner conflicts and anxieties and their struggle to master growing ideas.

Then follows the anthology, including 123 poems out of the total harvest of well over a thousand written during the two years of the experiment. Many of these poems linger in the mind; others are easily dismissed. And this is as it should be, for what matters in this book is the honesty of the reporting. In the five chapters which follow we are given further insight into some of the problems encountered — problems springing as much from the particular kind of pupil-teacher relationship involved as from the children's technical difficulties with language.

Miss Hourd has never been inclined to gloss over the difficulties inherent in this kind of teaching and here, as in her earlier books, she writes with wisdom, perception and honesty. Some teachers will be resistant to her analytic interpretations, as one reviewer has already been, and it is unfortunate that her phraseology is at times obscured by the very complexity of the ideas she puts forward. But the significant message comes through clearly. Miss Cooper's contribution to the book is partly an unwritten one. In the work of the children there is abundant evidence of a rare kind of inspirational

teaching. Poetry feeds on poetry, and these children have been well nourished. They have learned to listen, to savour the vicarious experiences that poetry can bring them and to blend these with their own personal experiences so as to discover new kinds of understanding.

Where can teachers find genuine poetry to which junior-school children can respond in this way? Unhappily many school anthologies rely too much on jingles, sentimental verses and third-rate narrative poems to satisfy the discriminating teacher. No such lack of care and integrity in selecting material can be detected in Mr. James Britton's anthology, *The Oxford Books of Verse for Juniors*, published two years ago.

These four collections are pure gold. Nothing trivial or shoddy has been allowed in. Now Mr. Britton has published a companion to this anthology which succeeds admirably in giving teachers some guidance without trying to do their job for them. He opens with a brief statement of his aims in selecting the poems; much of what he says here concerning the way in which children respond to poetry is complementary to Miss Hourd's analysis of the poems that children write themselves.

The notes which follow range over most of the contents of the four books—a comment here, a hint at interpretation there, an occasional suggestion for choral or dramatic treatment, a few useful bits of information, nothing dogmatic, no stultifying lists of questions for the teacher to put to the class. The notes read like snatches of conversation with teachers on the job—as some of them may well have been. Finally he provides a useful grouped index which teachers may use at their discretion in planning lessons.

J. E. RICHARDSON.

BOOKS RECEIVED

G. M. Harries & C. Sutherland: *Education through Crafts.* 56 pp. 5s. Training College of Domestic Arts for S. Wales and Monmouthshire.

E. Rolfe: *The Intelligent Agnostic's Introduction to Christianity.* 248 pp. 21s. Skeffington.

Granada TV and the National Association for Mental Health: *Insanity or Illness?* 29 pp. Granada TV Network.

National Association for Mental Health: *Annual Report, 1958-59.*

R. Macgregor-Hastie: *A Case for Poetry.* 120 pp. 5s.

National Association of Inspectors of Schools and Educational Organisers: *The Education and Training of Teachers.* 16 pp.

The Needs of Youth in Stevenage. 47 pp. 3s.
A report to the Calouste Gulbenkian Foundation. 1959.

A. L. Hinshaw: *'Teach Yourself Tables' Cards.* 4s. 9d. Owen Martin Pty. Ltd., French's Forest, N.S.W.

P. Barry, O.S.B.: *Handwriting Sheets.* 1s. 9d. Heinemann.
Beacon Writing, edited by Alfred Fairbank, C.B.E.
By Charlotte Stone: Book One, 2s. Book Two, 2s. Teachers' Book for Books One and Two, 6s.
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