FORUM

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Symposium on the Plowden Report

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Discussion

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We regret to announce the sudden death in April of Mr. J. H. Turner, Director of Education for West Bromwich, who had been a member of the Editorial Board since FORUM'S foundation in 1958.

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Plowden Perspectives

The three reports on education in the 1960s have each enunciated new principles: the right to higher education of all who qualify, of 'equal opportunity of acquiring intelligence' and now, in Plowden, of nursery education available to all and of 'positive discrimination' whereby betterthan-average schools 'must supply a compensating environment' in deprived areas. These principles are logically connected and hence interdependent. For their realisation a vastly increased expenditure will be required on all stages of education; but in practice each stage vies with others for a proportionately larger share of public funds. This is inevitable until a coherent philosophy of education pervades official policy and planning ceases to be piecemeal.

The pattern of sectional reports on education was set in the last century, and no committee of enquiry in this century has had so wide a brief as that given to the Plowden Committee. Written at a time when government policy was known to be committed to fully comprehensive education through the whole length of compulsory education, and the Robbins and Newsom principles were already accepted, the report on Children and their Primary Schools has to be seen as advice to government on the foundation of its educational structure. The Council's deliberations, however, were more darkly over-shadowed throughout by economic crisis than were those of Robbins and Newsom. Herein lies much of the inherent contradiction evident in the report.

Conflict between what is desirable and what may be immediately and economically possible might well have suggested a clear distinction between long-term and short-term policy recommendations. Such a distinguishing element is contained in the report, particularly in the chapter on Educational Priority Areas. But, as the long-awaited document which may be expected to determine educational policy towards the primary stages for the rest of this century, it can justly be criticised for a blurring of perspectives.

The Plowden Report must undoubtedly be regarded as a landmark in the progress of education in England. The first four chapters represent a qualitatively new approach in an official report, humane and securely based on appropriate research. Not new in itself, much of the material on maturation and the key role of language will be unfamiliar to many teachers, as is all too evident from the qualitative survey of primary schools carried out at the committee's request. Never before has the crucial role of the teacher been so explicity recognised, for it follows directly from accepting responsibility for controlling, within the school, environmental factors influencing intellectual and emotional development: 'as we have surveyed the way children learn, the demands made on teachers have appeared frighteningly high.'

Then comes the other reality of teacher shortage, over-large classes, career prospects in primary schools under current Burnham patterns, and the anticipated pressures of extending compulsory education to sixteen. Hence the suspicion that expediency dictated recommendations on aides, nursery assistants and the reorganisation of ages of entry and transfer.

There is nothing sacrosanct about the Hadow structure of age-stages: the arguments on which this was based were even then largely suspect. But reform must be convincingly justified on educational grounds, and not merely be plausible in terms of administrative or economic rationale. Some of the proposals do not synchronise either with exposures of neglect or with the careful exposition and evaluation of research. The onus of reassessing the main content of the report before ultimately formulating policy must, therefore, be accepted by government.

Primary schools have been neglected for decades; and nursery schools have never yet formed an accepted part of the statutory provision-despite the substantiated evidence of need put forward by the women inspectors in 1905 and the Consultative Committee in 1933, or the 1944 plans. Previously the case for educational provision in the nursery-infant years was argued largely in terms of social and physical needs, especially in the more impoverished sections of the community, though teachers of very young children realised the educative value of their work. The Plowden Committee's findings and acceptance of current developmental theories, not least in language, make imperative the ultimate target of nursery places available to all from the age of three. The committee's own corollaries are far too hesitant in the light of their own evidence.

The report's timidity in this and certain other respects, in not insisting on the full implications of the evidence contained therein, is considered by FORUM contributors to this number.

Such a report is significant not only for the direction it may give to central and local government policy. The descriptions of practices in 'good' schools, the condemnation of corporal punishment, the emphasis on the necessity for close co-operation between parents and schools and, above all, the clear exposition of the complexities of maturation and its variability should make the first volume a powerful force in the progressive evolution of education in this country. Concerned with the education of *all* young children, it has none of the condescension that marred the Newsom Report and, despite some equivocation on the matter of streaming, it should effectively discredit the notion of immutable intellectual ability and practices that followed from that concept.

Indeed, the very principle of 'positive discrimination' and the designation of Educational Priority Areas recognises the significance now known to attach to environment in determining a child's ability to develop his individual potential. When combined with recognition that 'a child grows up intellectually, emotionally and physically at different (and individual) rates", this implies a new definition of equality of educational opportunity that is central to the report. It is germane to the essential meaning of comprehensive education, and underlines the obvious corollary that this cannot be made a reality simply through structural reorganisation of either the external or internal school structure.

It was noted at the time that one of the deficiencies of the Newsom Report was its failure to cost its recommendations. In Part Nine of its Report the Plowden Committee attempted to work out the likely costs of its proposals and to suggest feasible timing and an order of priorities. This is not the place to enter into detailed analysis of costs, though it is appropriate to question their adequacy and to wonder whether a note of sufficient urgency has been struck to shatter complacency on the long-neglected primary sector. That the report's order of priorities put E.P.A.s first is an important point that has not been lost on Mr. Crosland who had already announced before the end of March that about £3,500,000 or half the 1968-69 major school building programme's allocation as well as much under minor works will be spent on these areas, and that he was anticipating a figure of £28,000,00 by 1968-69. It seems that the relatively low priority given to nursery schools may be reviewed by the D.E.S., to judge from Mrs. Shirley Williams' remarks in the debate in the Commons. What is important is that any changes in the statutory starting age and in the reorganisation of transfer between stages be made only with serious attention to the kind and quality of education being provided. No reading of the report can underestimate the importance of quality.

Plowden Symposium

Content and Methods in the Primary School

Some Comments on Part V of the Plowden Report

BRIAN SIMON

The key reports of consultative committees have usually been prefaced by an historical chapter showing, with a greater or lesser degree of clarity, how the present has emerged from the past. This is a fruitful method of approach in that it highlights what have been the main trends in development and why. Against this background it is possible to discern whether there have been any important modifications of the prevailing trends, in thought or practice, which point the way to a new stage of development. So attention is focused, in a realistic way, both on the position as it is and as it might be, and more specific matters can then be discussed with due regard to their relative importance.

Other approaches carry a danger of diffuseness, of covering too much and emphasising too little giving every aspect its due to the detriment of making clear which matters may profitably be tackled first, possibly bringing in their train solutions to other dependent problems as well. It cannot be said that the Plowden Report has altogether avoided the dangers of enumeration at the expense of evaluation, welcome though its weight is in emphasising the fundamental importance of primary education.

The historical view

Had the Committee adopted an historical approach, we should have seen how the separate primary school gradually emerged out of the allage elementary school in the 1920's and '30's, with much new hope in the new prospects. Then, how the need to select for a limited number of secondary schools imposed continued pressures so that, despite the enlightened outlook of much of the 1931 Hadow Report, the characteristics inherited from early elementary school days persisted. Teachers were advised to stream children, to establish 'homogeneous' groups which could easily be instructed along particular lines, according-as Plowden notes-to rigid time tables demanded by local education authorities (para. 537). We could also have seen, however, that some infant schools ---particularly separate ones comparatively remote from these pressures-managed to break out of the straitjacket and develop quite new, flexible, methods

of which they were the pioneers. To follow these contradictory trends on into the post-war period would have brought to light that the gradually increasing tyranny of the 11 plus threatened to overwhelm the positions gained, that even infant schools often felt forced to stream children, almost from reception. Then came exposure of the weaknesses of 'intelligence' testing, the retreat from selection on these lines and the move towards comprehensive reorganisation, with beneficent effects on the work of primary schools—particularly in those areas where selection was actually abolished.

This would have brought us straight to the present situation when many teachers are actively rethinking their approach to what they teach and how they teach, whether within the classroom or in terms of the organisation of schools as a whole. In this connection it is no longer of the demands of the 11 plus that we hear, but rather of the integrated curriculum and discovery methods, or, more specifically, of the 'new mathematics', Nuffield science, and so on. In short, there is a move away from the idea that children should be ranged into categories and instructed in a specific and narrow range of skills, and towards the idea that schools should be adapted to provide children with maximum opportunities for learning-socially and emotionally as well as intellectually. At the same time it is recognised that 'free activity', of the kind sometimes promoted, represented a flight to the opposite pole from over formal instruction. The emphasis now tends to be on the need to organise the child's environment and to plan programmes in such a way as to facilitate learning, on the fact that this is the best means of motivating children to participate in fruitful activities and so to develop their potentialities. In this connection there is particular emphasis on language and concept formation.

These are important modifications of thought and practice which point the way to a new stage of development. What, above all, we now need to know is how best to advance along that way—how to think clearly about contradictions in our ideas or methods and how to work out effective means of attaining realisable ends. The Plowden Report

has much to say of relevance to these matters but, perhaps, too much at large in various chapters which appear to have been written by different hands and do not always hang together. One commentator-John Vaizey-has unkindly remarked on the patches of DOD (Dreadful Old Drivel) padding out sensible conclusions, though this is a much more solid report than that of the Newsom Committee. But it must be admitted that there are loose passages, not least in the chapter on ends, or 'aims'-a subject from which, on the advice of some philosophers, the committee retreated in disorder, after a few general sallies which apply equally well to children of any age. The point should be made because the failure here is deplored by primary teachers discussing the report.

Planned research needed

Given so general an approach, the key questions do not always emerge clearly. Agreed, for instance, that flexibility rather than rigidity should be the watchword, as the report suggests (para 538 ff). But the real issue is how, in what measure in different spheres, is the primary school to combine flexibility with structure or systematisation? Or, again, is it altogether logical, when increasing emphasis is laid on research and attention to its findings (Chapter 30), to come down also in favour of the widest eclecticism? (e.g. "The most successful infant teachers have refused to follow the wind of fashion and to commit themselves to any one method" etc., p. 212). There is a contradiction here, a contrast between old and new approaches, and clear thinking is necessary if it is to be fruitfully resolved. One would agree that 'the willingness of teachers to experiment, to innovate and to change has been one of the mainsprings of progress in the primary schools' (para. 1151), while on the other hand planned research is a relative newcomer in the educational (particularly methodological) field and still tends to trail behind (as witness the N.F.E.R. research into streaming, published in Volume II of the Report, which throws little light on what is of most relevance). The key question here is how to ground research in the work of the schools, preferably the most experimental schools, so that teachers find out what they need to know about the efficacy of the curricula they introduce, the methods of teaching-or organising learning-that they employ. Much of the suspicion of research that undoubtedly exists derives, justifiably, from the remoteness of this in the past, or the feeling that psychologists have tended to lay down the law to teachers on the basis of partial or provisional findings.

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Rather than facing up to some basic contradictions and giving clear and unequivocal advice about the way forward, the Plowden Committee has preferred-like most advisory committees-to be a little of all things to all men. Even on the vital question of streaming, or non-streaming, it does not really have the courage of its convictions as expressed elsewhere but is rather timid. The committee fail to see, or present, this question as *central* to the transformation now taking place in primary schools, whether in relation to the curriculum, attitudes to children, or an approach to education which takes much more than the narrowly intellectual into consideration. For if there is to be a flexible school, so organised as to facilitate and foster learning in the widest sense-social, emotional, intellectual-then there clearly cannot be streaming by ability from an early age, any more than there can be discipline enforced by corporal punishment, a point on which the committee's advice is unequivocal (with one dissentient). The only question for discussion is what form of organisation will take the place of streaming to realise the educational aims of the flexible school.

Curriculum and learning

This is the problem with which many primary teachers have been grappling for a decade or more. Primary schools today cover a spectrum from the rigidly streamed and instructional on the one hand, through various levels of more flexible grouping, to total non-streaming with much 'free' and individual activity. Within the non-streamed schools themselves a variety of approaches have been adopted, some emphasising class teaching, some favouring mainly individualised activity. True, the Committee show awareness of this for they feel that the present variety is too great. But the trouble is that they discuss this question under the heading 'school organisation', quite separately from their discussions of the content of education and children's learning. This is to miss the whole point, that changes in school and classroom organisation are made precisely to facilitate the flexibility the Committee elsewhere advocates-the projects, centres of interest, and other means of integrating the curriculum and motivating children to learn. To separate the two aspects is no way to achieve greater clarity and sense of direction. Nor does the idea of flexibility itself clearly prevail when a whole chapter (Chapter 17) is devoted to different subjects, considered separately-beginning, it may be noted, with religion (a subject which no less than six members regarded as "not suitable . . . to be taken in primary schools", pp. 489-52), and proceeding through the more generally recognised core subjects to sex.

Presumably teachers are expected to pick and choose from the wide variety of advice what suits them best. And undoubtedly there is much that will be of use to heads who have many authoritarians on their staffs. But there is not much of moment for those teachers in the van of change, which means not much of real substance for schools now considering how best to move towards the goal of flexibility in order to provide the maximal conditions for learning. How, for instance, in the flexible class-in which children are working, say, on a number of 'centres of interest', in groups or as individuals—can the situation be so structured as to ensure that each child has a variety of experience, of such a nature that he masters the necessary mental operations underlying intellectual development? How may it best be ensured that different children have sufficient opportunities to use language in ways necessary to their overall mental development? What are the best forms of grouping within a class-should groups form and reform for different kinds of activity and if so on what basis? For instance, how can activities with mathematical materials, or scientific apparatus, most usefully be introduced in the flexible situation?

These are immediate questions facing class teachers in the 'good' schools, of which Plowden approves. They become of crucial importance if this approach is to thrust upwards to cover the 11-12 age group, as the Committee proposes, or even to the 12-13 age group in the new 'middle schools' now being planned by many authorities. But, apart from suggesting that the right balance between class, individual and group work be found, the committee tend to drop the matter as if solutions were easy to find and not of great moment. They are not easily found and they are of enormous moment, for on the solutions arrived at will depend the whole future development of primary education.

New aims

In fact, the change of emphasis from rigidity and class teaching to flexibility and individual or group activities poses problems more difficult than any hitherto encountered. In particular, there is a danger that the weaker, or more underprivileged, children—with whom, in another chapter, the committee is particularly concerned—may go the wall unless there is a clearly thought out approach to fostering learning. It may well be necessary to introduce compensatory devices at the classroom level to meet their needs. In this connection it is

clearly important to work within a broad scheme of objectives and to devise, where possible, means of recording progress towards them at different levels, from the individual and class to the school as a whole. Here one may take issue with the committee's conclusion that it is neither possible, nor desirable, to formulate minimum requirements (para. 551). This is to react away from the former 11 plus situation, or the even older but long pervasive idea of formal 'standards', rather than looking clearly at present developments and the new needs to which they give rise. It is perfectly possible, without sacrificing a single principle, to see as aims, or objectives, that children should leave primary school able to work on their own and programme, or take responsibility for, the pattern of their own activities, with some well-defined interest serving as an anchor, with ability to read, to think mathematically at a certain level, and so on. It may well be that teachers themselves, in the centres now being set up, will take up such matters where Plowden leaves off. The Schools Council is now considering what steps it can best take to follow up the report and it is for teachers to see that the relevant steps are taken. When research genuinely arises from, and ministers to, the needs of the classroom, teachers will gain that interest in and respect for it that the Plowden Committee thinks is important and desirable.

Teacher's key rôle

A report of this kind, launched on the world at large and required to deal with 'all aspects' of primary education, must necessarily cover a lot of ground in a way that the average uninstructed reader (in the field of politics, for instance) can understand. It is satisfactory, then, that what does emerge from its pages, with welcome emphasis, is how responsible, how skilled, how fundamentally important, is the work of the primary school teacher. Certainly the old idea that primary teaching is inherently less intellectually demanding than that in secondary schools or universities is now obsolete. As the Committee stress, this requires recognition in the field of teacher education (into which they propose a full enquiry-long overdue) and the lengthy list of subjects which they suggest it is essential for primary teachers to study, underlines once more that a new stage in the development of primary education is upon us. We can move into it, on a broad front, with the best chances of success, if there is attention on all sides to the needs of primary schools and teachers, of a kind that has all too often been lacking and that the Plowden Committee rightly urges as their due.

The Nursery-Infant Range

JEAN APPLEFORD

Jean Appleford is now Head of the Infant Department at Eaton Hall College of Education after many years experience in infant schools and in training infant teachers.

The infant school is an institution unique to this country, for its age range of from five to seven years is, in most countries, found partly in nursery schools or kindergartens and partly in primary schools catering for children of from six or seven years of age to eleven years or older. This peculiar character of the infant school may not be unconnected with its reputation as a lively pioneering force in education-at least the Plowden Report on Children in Their Primary Schools seems to suggest so when it states: "There is a marked contrast between the education given to six or seven year olds in England and in most other countries with a later age of entry," and goes on to say that in these other countries the approach to learning through play and creative work is probably sacrificed to the formal work a later age of entry seems to demand, adding that "we should not want this to happen in England".

Perhaps because a report on primary education is long overdue, many teachers welcome the Plowden Report more for the support which it gives to educational practices they have long been trying to introduce into their schools than because it points any significantly new path forward.

The skilled teacher

The assessment of the value of play or 'self-chosen activity' as a basis for young children's learning gives welcome encouragement to teachers continuing with this approach in the infant school despite setbacks resulting from the mistakes of enthusiasts insufficiently aware of the full demands of the learning process and the subtle role of the teacher. The report stresses the role of the teacher in the 'free' or 'integrated' day in ensuring that the time is profitably spent, "by watching the connections and relationships which children are making by introducing almost incidentally the words for the concepts and feelings which are being expressed". Thus summarising the conclusions of experienced infant teachers that they must use their skill to ensure that the play experiences of children are both sufficiently varied and sufficiently repeated to minimise the time and effort necessary to gain the required concepts, and that language is vital to this.

Many teachers have challenged theories and educational practices traditional since at least the 1930s when appeared the Hadow Reports on *The Primary School* and *The Infant and Nursery School*. Outstanding was the concept of a fixed, measurable intelligence quotient as a reliable prediction of future attainment and of those educational practices which followed from this assumption.

A variety of evidence is produced to challenge this concept. Piaget's work appears to have had considerable influence on the committee: his approach to the study of intellectual development has been fundamentally different from that previously found in Great Britain and the U.S.A., where in the 1930s and 1940s such of his work as was then available in English met with considerable criticism. Piaget's concern was to study the way in which intelligence develops, not to provide a means of grading or classifying children.

Many teachers have been quick to see that the essential value of his work is the help it gives in determining the type of educational experience for which a child is ready and not as a means of labelling or classifying him. In the field of mathematics, for example, Piaget's work has given strong support for the active and individual approach of the infant school teacher.

Children as individuals

The whole ethos of the Plowden Report is the stress upon the individuality of each child. This is particularly apparent in the concept of 'developmental age'—that differences between children of the same age may not relate to their potential attainment, but to the speed with which they have so far progressed towards this.

Thus again is stressed not only the foolishness of organising education on supposed ability to measure children's potential achievement, but also the immense skill and perception needed by the teacher since not only are there these differences between children, but each child "grows up intellectually, emotionally and physically at different rates": successful teaching must take full account of all three.

This concern for individual children and their needs is typical of the sympathetic, humane approach of the Plowden Committee; but so great is the stress upon the individuality of children and the flexibility necessary to cater for this, that it is welcome to find some recognition of the importance of peer groups and the dangers of isolating a backward or an advanced child from his "friends of the same age".

A weakness of the report is the almost complete

omission of the work of the social psychologists on the studies of group behaviour. The social and emotional needs of children are not ignored, but the functioning of groups, the interaction of individuals within the group, the development of group norms and standards and their effect upon the motivation, levels of aspiration and achievements of individuals within the group are hardly mentioned.

It is true that the youngest children in the infant school are first of all concerned about their relationships with adults; but observation of quite young children in the infant school shows that the group situation is not unimportant to them, and that a teacher whose approach is too oriented to the individual child may fail to foster the group situation most helpful to his development and to his learning.

However, despite these omissions the report's findings should go far to raise the status and conditions of the primary school, for it shows clearly the immense importance of the early years of childhood and the complex and vital role of the teacher. At the same time attention is drawn to the problems peculiar to the infant school seldom recognised by those not working in it-the organisational difficulties of termly entry but yearly transfer and the educational problems arising from this. The particular disadvantage of the 'summer birthday' children is noted, about whom there has been growing concern ever since more and more LEAs lowered the age for children to transfer to the junior school. These children, some of whom are not quite seven when they leave the infant school, have the added disadvantage of two years' schooling only as compared with a possible three experienced by the oldest children in their age group. (In my own school any children failing to reach a minimum standard of a reading age of six-and-ahalf years nearly always fell within the 'summer birthday' group.) The full significance of this is that once this standard is reached by young children their progress is usually rapid.

Circumstances in schools have been such that there can sometimes be an 'intake' of children at the beginning of the term before their fifth birthday, and sometimes in that following it. My impression that the younger children settled more easily had already led me to feel that investigation on these lines might be warranted. It is interesting to read in *Volume 11* that such a comparison has been made in the National Survey initiated by the Plowden Committee: "Nevertheless the conclusion is warranted that children of the same age who commence full infant schooling before the age of five are, as they approach the transfer to junior schools and classes some two years later, more advanced educationally and better adjusted in school than those who commence school after the age of five irrespective of the socio-economic status of their fathers."

The vital nursery stage

A chapter is devoted to the educational provision necessary before the age of compulsory schooling and a strong case made for the provisions of nursery education—what this can offer in physical care and in rich play opportunities, companionship with other children and understanding adults and the value of forming relationships outside the family circle.

Reference is made to research showing how nursery education can compensate for deprivation, and to the strong support of witnesses for the theories of Bernstein and Deutsch that "poverty of language is a major cause of poor achievement" and that attempts to offset this are best made as early as possible.

In contrast to this need, we are told of the long waiting lists of nursery schools and the restricted opportunities of not only children in deprived homes, but in large blocks of flats even be they modern.

However, despite the high hopes raised by the findings of the Plowden Committee, the recommendations on nursery and infant education, or what is to be known as the 'First' school, are both disappointing and disturbing.

For many years teachers in the infant school, particularly of the 'admission' class, have used play and activity as an approach to learning and so introduced into the infant school not only the atmosphere of a good nursery school, but adapted this to cater for that vital, but difficult stage when young children may be strongly motivated to read, while still emotionally unready for the long-term goals this aim entails. This stage requires the most subtle skill on the teacher's part and its success or failure go far to determine the whole of a child's future attitude to learning. It also coincides with the stage when great skill and perception are needed to introduce the language for the mathematical concepts the child is discovering, and convince parents and children that progress is not measured by 'doing sums'. To avoid these difficulties by delaying any attempt to teach the basic skills, even if it were possible to do so, would risk missing one of those critical or sensitive periods postulated in Chaper II of the Plowden Report.

Thus we have had for years, demands for something more akin to nursery conditions in the infant school, in the admission class at least, together with the need for a highly skilled teacher.

But the recommendations of the Plowden Report are quite different from this. Instead of the infant school becoming increasingly adjusted to the needs of the five year old, many of them will be excluded from it until well into their sixth year. The alternative offered is nursery provision with one trained teacher to sixty children who may not even be all on the same site. They will be in groups of twenty with their 'day to day education' in the hands of nursery assistants, and these groups may be scattered in three different places. It is a disturbing thought that the concept of nursery education has been so watered down that such proposals can be put forward for a long term plan. For we read that "as soon as there is nursery provision for all children whose parents wish it, for a year before starting school, the normal time by which a child should go to school should be defined as the September following the fifth birthday".

Eventually there should be nursery provision from the September following a child's third birthday; but even if the exclusion of the younger fives waits upon nursery provision—and remembering that the recommendation for better provision for the under fives made in 1905 and 1908 resulted only in their exclusion from school altogether, we may doubt this—we will still be left with a provision for children of the age now in the infant school which, measured in teacher terms at least, is certainly inferior. Yet it is the teacher and the educational experience in these early years which, the Plowden Report constantly reminds us, are so vitally important.

Contradictory recommendations

The proposals made seem to ignore some of the committee's own findings. Teachers who have striven for more creative learning in the infant school cannot escape concern about the possible effect of the altered age range for which the 'First' school will cater, for autumn born children will be nearly six on entry and nearly nine years old when they leave it. It is difficult to find in the Report any sound reasons for determining this age of transfer. which seems to result from the fact that having fixed a later starting age this is the only way to ensure a three year course. There seems a definite danger that these proposals, if carried out, will quite alter the character of the 'First' school, that they will in fact have the very effect which the Committee, when discussing schools in other countries, hoped would be avoided here.

It seems that the evidence presented by the

report does not really prepare us for the proposals made. The key seems to lie in the statement that the committee do not intend to write another report on "how to get enough teachers", but to consider how best to use the present teaching force in the light of the national situation. There seems here a lack of the imaginative awareness shown in other parts of the report. The situation is accepted with no thought given to the possible changes which will take place, as for example in the decreasing demands for secretarial woman power which will result from increased automation.

Even if certain rather drastic short-term measures have to be taken to deal with present teacher shortage, it is to be strongly hoped that the longterm proposals of the Plowden Committee will be reviewed before they set the pattern of primary education for a long time to come.

Streaming: Plowden and N.F.E.R.

PATRIC McGEENEY

Patrick McGeeney has had a wide range of teaching experience from primary to further education and is now working in sociology at Exeter University Department of Education.

Half the time when he is horsing around with girls, says Holden Caulfield, he has a hell of a lot of trouble just finding what he is looking for—and even when he has found it, he's not quite certain what to do with it. My impression was that the Plowden Committee, on streaming, were similarly uncertain of their objectives and embarrassed by the findings. The main embarrassment was the evidence¹ that children in streamed schools achieved slightly higher attainment test scores than those in unstreamed schools.

The immediate dilemma was the fact that, on this particular point, the research findings are hedged in with so many reservations that one is left with hardly any conclusions at all. Thus Professor Wiseman:

"Little emphasis ought to be placed on the relationship between streamed schools and test performance."

And the N.F.E.R.:

"These cautions are reiterated to guard against too much emphasis being placed on the results of this part of the enquiry. As they stand they lend small support to the controversialists on either side."

Meanwhile, we are asked to await the results, in 1965, of the N.F.E.R. longitudinal study on the effects of streaming. However, as Plowden informs us, "professional opinion is swinging more rapidly against streaming than is public opinion generally", but that, "many more heads than assistants are critical or undecided about streaming". Heads, by virtue of their age, are more likely than assistants to have been conditioned at college to believe in the constancy of IQ and their consequent powerlessness to alter it. Some heads, therefore, may be influenced by the N.F.E.R. enquiry to abandon or postpone their decision. For this reason it is necessary to examine the assumptions behind the N.F.E.R. study; to indicate the conclusions which are firmly established; to underline the reasons for caution and doubt already expressed; and to restate some of the arguments in favour of non-streaming.

The N.F.E.R. enquiry involved three main parts. First, a general survey of current practices by means of a questionnaire to heads in a stratified random sample of some 2,000 primary schools in England and Wales. Second, a comparison of 42 pairs of matched streamed and non-streamed schools; and finally, a more intensive study of ten junior schools was undertaken. The report has all the earmarks of having been submitted apologetically under pressure to meet a deadline so that one has constantly to flip back and forth in search of definitions.

On what basis, for instance, does one define a non-streamed school? We are told that the 42 matching pairs were obtained "by asking all local authorities for lists of their non-streamed schools". Was the definition left to them? In the larger sample of some 2,000 schools, non-streaming is defined in two ways: parallel classes of mixed ability; and classes within each year group where the children are divided according to age; but the statistics which follow suggest that there is considerable variation in practice. Of schools using non-streaming, 36% streamed their fourth year, and 21% had a remedial class. Less precisely we are informed that "there was a tendency for more (intra-class) attainment grouping in schools using heteregeneous ability grouping". In this respect, the comment in the main Plowden Report is that,

"Clear-cut streaming within a class can be more damaging to children than streaming within a school."

All this implies that a sizeable proportion of teachers within schools which claim to have unstreamed, "have changed to non-streaming without making the fundamental assessment of aims and purpose that this requires".²

This is confirmed when we turn to "The Charac-

teristics and Attitudes of Teachers in Streamed and Non-Streamed Schools". Though the general conclusion is that,

"The climate in the unstreamed school . . . is more permissive and tolerant, less structured and places less emphasis on the more traditional methods of class teaching than its streamed counterpart,"

the graphs and tables show that,

"teachers in both types of school are fairly 'traditional'."

Thirty-one per cent of teachers in unstreamed schools, for example, think that the eleven plus examination is an entirely fair method of assessing a child's abilities; and only half of them are against streaming. Granted that the test attainments of two much smaller groups of children, the one taught by "the most convinced supporters of streaming" and the other by "the most convinced supporters of non-streaming", reveal that the former did marginally better—but we are not told precisely the criteria of conviction, and the assessment is based on formal tests which favour streamed children.

Doubtful validity

It would seem that neither the baseline of comparison nor the criteria of assessment is acceptable. These doubts about the validity of the exercise are reinforced when we turn to a consideration-or lack of consideration on the part of the N.F.E.R. investigators-of the children's background. The accumulated evidence from research since the War has demonstrated conclusively that the educational attainment of children is to a considerable extent dependent on their family and home circumstances. Such factors as birth order, family size, parental education, parental attitudes, and social class have a marked influence on the intelligence and attainment of children and, as Dr. Douglas has shown, these socio-economic factors operate to the disadvantage of children from manual working-class homes, particularly where children are streamed. Yet, apart from social class, none of these factors is taken into account in the N.F.E.R. enquiry. The socio-economic status of the parents, incidentally, was arrived at by asking the heads to estimate the percentage of parents in each of the five occupational categories. Later, it was decided to ask the teachers, and it was discovered that, "the streamed schools had slightly more pupils from somewhat higher social backgrounds". It is just as likely that the teachers were wrong in their estimates as the heads.

Floundering thus in the ill-defined waters of the pool of ability, spewing out occasionally a mouth-

ful of figures spawned from the computer, it is extremely difficult to know in which direction to strike out. There are, nevertheless, some facts emerging from the N.F.E.R. enquiry which point to the injustice of streaming. First, "There were proportionally more girls than boys in the higher ability streams and conversely more boys than girls in the lower ability streams"; second, "There was a difference in the average ages of the A, B and C streams in all year groups. The A streams had the highest average age and the lowest ability streams were the youngest", and third, "Almost two-fifths of the children in these (remedial) classes had had only six terms infant schooling. On the other hand, only 12% with nine terms in the infant school were found in a remedial class". Further, "Once children had been assigned to their streams at seven-plus most of them would remain in the same stream throughout the four years of the junior school". This is seen to be all the more unjust when one considers that, "Schools using homogeneous ability grouping commonly assigned children to classes in their first year at junior school on the basis of their infant record", and, "Since the same largely unscientific criteria as are used to grade the children initially are also used to assess whether second, third or fourth year children should be regraded, it is hardly likely that grading errors will be recognised or rectified at these later stages". A sufficient indictment of streaming, surely.

Emotional effects ignored

What the N.F.E.R. did not investigate were the effects emotionally of streaming upon children except to suggest, somewhat inconclusively, that girls show greater anxiety in tests under a prostreaming teacher than under an anti-streaming teacher. In this respect, we need to be reminded of the findings of Dr. Douglas.³ He confirms the earlier suggestion of Dr. Daniels that children put by their teachers into the A stream, where most of the middle class children in his sample went, improve their scores, while children in the lower streams fall off in theirs. The children conformed to the expectations of their teachers.

"Once allocated, the children tend to take on the characteristics expected of them and the forecasts of ability made at the point of streaming are to this extent self-fulfilling."

The fact that this aspect of the effects of streaming was largely ignored by the N.F.E.R. enquiry is its main weakness.

One would have liked to have known more about the kind of longitudinal study intended. The few

hints that are dropped suggest that its scope, design and methods will not be very much different. Section 3 of Appendix 11, says,

"Each test was devised to be suitable for all ages from seven-plus to 10-plus, so that in the longitudinal study measures of gain in achievement could be made . . . and their content was of the kind usually demanded for juniors by teachers and education authorities."

It then goes on to say,

"Comparisons have yet to be made on the basis of how far other aims and objectives proposed by the non-streamers are attained."

But if such comparisons were made, the outcome would be just as debatable, for the pro-streamers could claim that the tests were biased in favour of the anti-streamers. This brings us back to the dilemma of the Plowden Committee.

Missing the Point

The section on streaming in the main Plowden Report stands in sharp contrast to most others which set out not merely to interpret the educational scene, but to promote change by making strong positive recommendations and, wherever possible, by giving examples of good practice already established. In Part 3, for example, "The Home, School and Neighbourhood," the line of argument is forceful and challenging, and the research findings are seized upon readily to underline the convictions expressed. In the paragraphs on streaming, however, the argument is half-hearted and shifting. For instance,

"We know of no satisfactory method of assigning seven-year-old children, still less those even younger, to classes graded by attainment and ability."

Do they then know of any satisfactory method of assigning older primary school children? As they do not commit themselves on this point, they have to state less forcefully,

"We welcome unstreaming in the infant or first school and hope that it will continue to spread throughout the age groups of the junior and middle school."

The faint-heartedness underlying this hope is revealed in an earlier paragraph:

"Selection will inevitably be inaccurate. If the conditions for upper and lower streams were equally good and if all children stood equally high in the respect and affection of the staff, it would not perhaps matter very much whether children were wrongly placed." But this is to miss the whole point of the controversy, which is fundamentally about the effects of streaming on the confidence of children and their consequent ability to learn; and on the attitudes of teachers and their consequent approach to teaching.

It also indicates a failure to relate the conclusions in the rest of the report to the new trend in primary education. The fact is that on the question of curriculum we are not led to think much beyond the recommendations of the Hadow Report. In spite of all the talk about flexibility and freedom, all too often in Part 5, "Curriculum and Internal Organisation", the Committee seem to be thinking of the separation of subjects and of the class and the classroom as a context for learning, which doesn't quite tie up with what is so admirably advocated in other sections. The involvement of parents and auxiliaries can be more easily envisaged in a school which bases its curriculum on discovery through activity and experience than in the traditional desk-centred set up of formal lessons. Similarly, the arrangement and disposition of learning resources affects the way children are organised to make the most effective use of these resources. At the Evelvn Lowe School, for instance, which has no classrooms at all, but instead a number of inter-connecting work spaces which can be adapted to suit the activities of each child, the notion that children should be separated into groups for teaching purposes becomes obsolete and irrelevant. Once this fact is grasped, we can see that non-streaming is an indispensable pre-condition for basing the curriculum on each child's individual needs and interests.

We can also see that the kind of research that is required is not that which seeks to separate the sheep from the goats, but that which gives us insight into the ways children learn. To quote again from FORUM'S evidence to Plowden:

"We wish to stress that it is research of this kind—into the psychology of learning and the methodology of teaching—that is required, rather than research into whether streaming is needed or not. This latter question cannot, in any case, be determined purely on the basis of research results, since fundamentally it raises questions concerning aims and these must be largely a matter for subjective judgement. To devote research resources to this latter question is to look backward—not forward. The real educational challenge of today is how best to educate the mass of children—not a selected few."

1. Appendix 9 & 11.

- 2. FORUM Evidence to Plowden.
- 3. J. W. B. Douglas: The Home and the School.

FORUM AND COMPREHENSIVE SCHOOLS COMMITTEE JOINT DAY CONFERENCE

The Sixth Form in Comprehensive Schools

SATURDAY, JUNE 3rd, 1967 10 a.m. to 6 p.m.

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New Methods, New Curricula

LAWRENCE STENHOUSE—Jordanhill College of Education, Glasgow, and Nuffield Foundation

- MICHAEL ARMSTRONG—Chairman, Comprehensive Schools Committee
- JACK WALTON formerly headteacher, Beaminster School, Dorset, now Exeter University Institute of Education

AFTERNOON SESSION:

Present Practice in the Schools

PETER HANCOCK-Holloway School, London

- J. R. FARTHING—Director of sixth form studies, Hartcliffe School, Bristol
- R. G. CROW—Headteacher, Saltash Grammar School (14-18 comprehensive), Cornwall
- ROY WATERS Headteacher. William Penn School, London

FINAL SESSION:

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- R. S. FISHER—Head of history department, Woodberry Down School, London
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Subject Teaching in Non-Streamed Comprehensive Schools

Opposition to non-streaming in comprehensive schools seems most often to come from specialist teachers in Mathematics, Science and Modern Languages. The following articles, therefore, discuss the teaching of just these subjects. It seems that the new methodologies in these subjects are particularly appropriate in non-streamed situations, and we have included an article on French in a junior school as the methods used are likely to be equally appropriate when the subject is introduced at the secondary level.

Mathematics

PHILIMA HERBERT

Mrs. Herbert has done scientific research and has taught mathematics in a non-streamed comprehensive school.

The prospect of taking an unstreamed class for the first time is one which alarms most specialist secondary teachers. Mathematics is accepted as a school subject in which many intellectually-gifted adults have experienced great difficulties. It is not surprising then that proposals to teach maths in unset groups meet with opposition even within schools where a degree of selection has already taken place.

The difficulty seems, however, to concern the aims of education—equally in the specialised field as in the broader context. Mathematics, with its demand that the individual either masters by rôte complex and detailed skills and large masses of factual material or learns to think logically, precisely and abstractly merely highlights the general problem. Indeed, in a very real sense, to teach mathematics is to teach thinking in its most rational form.

Yet it is precisely in this subject that the temptation to hide "the enormity of man's ignorance" is greatest. By the readiness with which mathematics lends itself to the setting up of situations in which performances (thus, inevitably, individuals) can be marked right or wrong (good or bad), it offers a ready escape from that tolerance of doubt and depression which seems to be a necessary part of learning. We are today still almost totally ignorant of how to teach children to learn. Yet we are required by the nature of our role in society to carry responsibility not only for the mental, but also to a considerable extent for the emotional development of the individual children we teach. Small wonder if we and those who judge our work tend to cling to the examination result, or the neat rows of sums in the exercise book, as token of success. Man Must Measure, says Hogben.

In this very compulsion, however, lies great hope for the future. Mathematics as a school subject offers situations in which children can easily fail. It may equally offer situations in which they may learn to succeed. The very internal logic of the material which offers such obstacles also provides a series of logical graded systems, inherently programmed, through which to progress. If setting is futile because of the diversity of the problems encountered, then individual working becomes the norm. Setting is irrelevant when the teacher becomes tutor.

Whether this view be unduly optimistic can only be tested in practice. That such development can occur can be seen by looking at the rapidity with which the more modern developments in mathematics are reaching the classroom. Areas of mathematics which ten years ago were regarded as suitable for study only at university level are now being taught in secondary and even primary schools. It has always been true at academic levels that mathematics is a creative subject. Quite apart from 'pure' mathematics, developing sciences have always required the invention of new mathematics. The demand is no longer for people who are accurate in calculation or familiar with particular techniques. It is increasingly for logical understanding, the ability to analyse, to ask the relevant question, to invent the appropriate process. Since thinking is essentially a lonely procedure it seems inevitable that learning to think must also require a degree of mental isolation and individuality. It is, paradoxically, just this need to endure mental isolation that makes the physical presence of the supporting and stimulating heterogeneous group-that is, the unset class-essential.

At this point it seems important to be clear about one thing. I am not implying that teaching mathematics is easy. I am saying that mathematics, particularly with an unset form, offers unparalleled opportunities to discover the difficulties inherent in learning to think. Precisely because it demands logic the irrationalities become apparent.. Mathematics requires abstraction and generalisation; human dependence on the concrete and the specific is openly displayed. Tolerance of vagueness allows precision to develop.

With regard to the practical question of what to do, from the teacher's point of view, I believe firmly that method is subordinate to personality. If a particular teacher is happiest in a fairly controlled situation then diagnostic tests and prescribed courses of study will probably be most successful. The method whereby children are encouraged to work through a workbook, a set of work cards or a series of text books may be appropriate at the secondary stage. These can be allocated by the teacher or chosen by the child, and provide learning situations not very different in principle to that 'reading' which forms the hard core of work in the older universities of this country. If the school needs quiet in its classrooms this is probably the method of choice; and with text books that lead the children to practical experiences becoming increasingly available, it can be very successful.

Developing a topic

In a school where pupils are used to not being in sets it is possible to be more adventurous and an approach nearer to the modern primary school method is possible. Here I owe a debt of gratitude to that member of Her Majesty's Inspectorate who first encouraged me to allow a topic to develop from lesson to lesson and week to week. Almost any practical starting point can lead almost anywhere, depending on the particular children at a given moment. A box of 1" cubes, a set of structural material, a piece of rough paper folded to a straight edge-these will inevitably at first turn into towers, paper darts or paper hats. Adults do it too and because it's fun it may be difficult to remember that this is mathematics. If pictures, books, paste, paper, scissors are available some children will make models. Others will colour patterns. Others will do sums. Particular themes may be selected later for individuals who may be guided along specific lines according to "age and ability".

There is a real sense in which these methods are easy to operate—so long as the children are allowed to work as fast and go as far as they want. There is another sense in which the situation is almost impossible. Availability of answer books leads to cheating, so one has to take time off from maths to deal with morals. In the early stages it is impossible to answer all the questions and mark all the work. Some kind of immediate reward (*pace* earlier remarks) is really essential so this needs considerable priority, but the immediacy becomes less urgent as the class settles. Excitement and frustration to both lead to noise so one has to quench enthusiasm to some extent. A quiz book is helpful—Ballard's *Arithmetic Dictation* series asks questions that require thought and covers a wide area of the traditional syllabus. Homework is not usually a problem, though checking it may be. It can be used to widen the area covered. The Hesse books are useful here. They provide a self-tutoring device for teaching mechanical arithmetic and most children enjoy them.

It must be clear from these random thoughts that teaching maths, at least in the lower half of the secondary school presents no *new* problems when the form is unset. It is certainly very exhausting, or can be at times. But isn't that just teaching?

Science

DAVID P. BOSWORTH

David Bosworth has taught sciences in two secondary modern schools and is now Head of the Science Department at Kibworth High School, an unstreamed Leicestershire junior comprehensive.

My purpose was to introduce a system whereby each pupil could work on his own.

A start was made on individualisation of the course with experiment cards. Each pupil completed his own experimental work, recorded the results and drew the conclusion. The necessary follow up was still oral and, when this was done individually, led to a bottleneck where pupils could be held up for a long time. Introduction of job cards such as have been described by A. W. Rowe in Education of the Average Child were not found to be completely satisfactory. There was, all too often, insufficient understanding of the concept under study when job cards were the sole source of formal instruction. Under individualised schemes of work, of course, the teacher is in a position to help each pupil with difficulties in comprehension of the written material or of the basic concept underlying the experimental work. With job cards, however, it was found that many pupils had the same difficulties and there was a great deal of repetition for the teacher. This could have been done with the whole class: in this case all the pupils would have to do the experiment at the same time and do it in the same time. In practice this can be expensive, while some children will not complete the experiment properly due to a time limit which must be imposed. By arranging for

several experiments to be in progress at the same time the expense of the scheme is kept to the normal running costs of a laboratory. It became obvious that the only way in which the theory behind experimental work and the necessary reinforcement of the concepts discovered could be presented was to use programmes.

Devising programmes

Very few commercial programmes were available at the time and those which were available did not give practical work. The idea that an interest would be engendered in science by ploughing through several hundred frames of a programme is obviously false. No doubt it is the thought that practical work would not be done which predisposes most science teachers against the use of programmed materials. We prepared our own programmes into which the experiments were incorporated. Nearly every programme starts, after a pretest, with an experiment. This experiment gives a lead into the particular piece of work by presenting a problem. Other experiments are written into the programme as the need arises to answer a problem. The pupil carries out his own experiment, records his results, draws his conclusions based on those results and then has the work checked. The checking of the experimental work serves two purposes. No one can guarantee the success of an experiment-one could discuss what is the 'right' answer to any experiment-but the programme must assume a certain answer. It is therefore necessary to see that this answer is apparent to the pupil before continuing the programme.

I should stress, however, that we do not tell the pupil that his answer is wrong: we question his procedure, observation, etc., and suggest alternative results in different circumstances. If the pupil himself can make suggestions as to why the 'erroneous' result was obtained, so much the better. The checking of experimental work also serves as a directive to involve the teacher with the pupil in the work.

Branching programmes might be used to deal with alternative conclusions to experiments. The multi-choice question would be a possible form. This, however, gives answers and could lead to less thought on the part of the pupil, who must also have to give reasons for having the wrong answers. On balance it would seem possible to find, by discussion with a pupil, why a wrong answer has appeared.

Once linear programmes had been written to cover the basic information in the science syllabus

many things became apparent. Using this system with any form of streamed group created difficulties. The better pupils finished work quickly and were frequently held up because the teacher wished to carry out a more detailed discussion of the work with them. At the other end of the scale the larger number of inefficient readers in one group required a great deal of attention. By spreading these children out amongst the 'average' it was possible to keep the scheme moving more smoothly. Most marked, however, has been the apparent lessening of the total number of 'D stream' pupils in these mixed ability classes. These pupils, often from homes of low socio-economic status, have not suddenly learnt to read and write, but they have been given something which they are capable of handling, in their own way, at their own rate. In really difficult cases the use of tape recorded material has allowed them to do something which we can, honestly, praise. This, as well as the fact that they are no longer labelled as failures, has lead to some improvement in the work they are undertaking.

Understanding better

The job of the teacher, of course, has become more difficult since he now has to deal with individual problems of each child as they occur, and he has to decide whether each child is working as well as he should. At the same time we have found the work more rewarding. There is more chance to make things clearer to the children. The very fact that programmes present work in small steps in logical sequence has allowed us to discover some of the reasons why what is learnt does not equate with what is taught. Obviously a teacher of experience knows those parts of the syllabus he has prepared which will cause difficulty and plans his work accordingly. In fact the parts that we have often taken for granted are the very ones the programme has shown to be unknown or not understood.

So much of a child's previous knowledge will depend on his background and, in particular, the language style used at home. We have discovered, for example, that parents *let* their children do things but very few *allow* them. The sort of language difficulty does not show itself in the classroom situation but, when the child can be sent back to check on his work, it becomes apparent what he does not understand. Few children not understanding a word such as 'allow' will ask about it.

As far as I was concerned, when the school first became a Non-streamed Leicestershire High School, it was possible to teach non-streamed groups. Programmes would take care of a situation which, as I still see it, would not work very well if formal class teaching were adopted. Since then it has become increasingly apparent that the teaching of science in mixed ability groups using individualised techniques produces a situation in which teacher and taught can function more profitably. The teacher can keep a check on the actual progress of each individual and the pupil is using his abilities to the full, is thinking for himself, and is gaining in self-confidence. Unfortunately, a lot of the selfconfidence may disappear under formal teaching later; but having once had to think for themselves the children should have a very sound grounding on which to build when they transfer to the Upper School. As yet it has not been possible to follow any children through a full programmed course into G.C.E.

In the future it is hoped to put into practice ideas for less formal reading rooms as well as other presentation devices. In fact, once started, this sort of work tends to produce its own ideas for change and for investigation.

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Languages

PHOEBE L. POLE

Phoebe L. Pole has had experience of teaching languages for nearly 40 years; she is a member of the governing body of Wall Hall College, Herts., of the Hampstead School, a London comprehensive, and of other schools.

All language teachers face the same problems in their work, *viz*. to make the children in their care understand the new language, to teach them how to speak and write it, and to give them ample opportunities of using it.

With mixed-ability groups these processes may have to be simplified and it may take longer to get all the class actively involved, but the following methods used with sympathetic understanding will enable all the children to make progress. When pupils begin the learning of a foreign language it is essential to establish good reasons for undertaking the task; all the more so in a mixedability group. Hence, it is necessary to talk to them about the country whose language they are going to learn, to have posters on the walls showing famous beauty spots, towns and buildings; to show how its climate, food, money and language are all different from ours; in short, to rouse interest in the discovery of the new country.

This will lead on to their different way of speaking-not just the words they use, but the different way they use their whole speech apparatus and the different tunes their sentences make. In this way pupils can be made to understand the importance of pronunciation and accent. A demonstration by the teacher of some of the sounds in the new language will soon get them exploring their mouths, and trying to make these sounds with the help of a diagram of the mouth, nose and throat, and small mirrors with which to watch their own. When a new sound has been mastered comes the need to write it down. At this point the need for phonetic symbols becomes evident, because we have no letters which correspond exactly with the sounds of the language. It is therefore essential to begin teaching a foreign language with a phonetic script. Not to use it entails unnecessary confusion. One can imagine the difficulties created by all the silent letters in such endings as -ant and -ent in French, and the vowels in, say, 'en' and 'bien', 'feu' and 'fleur', which though spelt the same are so different.

It is quite a good plan to devote two or three weeks just to learning to make the sounds alone, both vowels and consonants. This can be done by teaching a new group of sounds each day, together with the symbols for them according to any wellestablished script. When proficiency is established, genuine conversation can begin by naming all the objects in the room, writing them in script, memorising them and ensuring knowledge and accuracy by repetition in the form of question and answer, led first by the teacher but later by members of the class.

By this time the class should be ready to embark on a reader, printed, of course, in phonetic script, in which simple grammatical notions will be introduced, e.g. verb forms and agreement of adjectives, the idea of gender having already been introduced when teaching the names of objects with the appropriate article. This goes on for several weeks, varied by listening to recordings based on the textbook or to tape recordings of their own voices.

The decision when to switch from phonetic to traditional script must be made strictly in accordance with the accuracy of the pupils' pronunciation, (continued on page 94)

Discussion

Doubts raised by 'New Methods of Assessment' (FORUM Vol. 9, No. 2)

When one is fundamentally in sympathy with the aims of a piece of educational development it is important to consider very carefully what effects this development is likely to have on education in general, otherwise the implementation of this development can seriously jeopardise the broader educational aims which were its seed.

Such a development is the contemporary concern about assessment techniques. There are great dangers in this. Some of these dangers concern the assumptions behind assessment, some concern the way such assessments impinge on the teaching process and some relate to the use of these assessments in selection procedures at the next stage of education. Perhaps the simplest way to bring out these dangers is to pose a number of questions about assessment:

(1) What are the reasonable functions of an internal or external final assessment? Is it appropriate, to use such assessments diagnostically? It it the function of such an assessment to compare teachers? What is the point of assessing present competence or achievement? What is the prognostic value of a final assessment? How far should the design of an assessment procedure be influenced by the desire to influence teaching methods? Is it possible to design an assessment procedure which adequately serves divergent functions or should an assessment procedure be designed with a single function in mind?

(2) How far is it possible, or meaningful to translate 'curriculum objectives into assessable behaviours'? At what stage does this approach lead to aptitude testing? Are we concerned with such testing or with something broader and less definable? Is it appropriate to list and assess specific behaviours for courses which have no clear and specific purpose (such as a vocational course on diesel-engine maintenance would have)?

(3) Is it really desirable that teachers should be continually seen to be in an assessing role? Will not a fairly complex assessment procedure place an undue emphasis on what should be an incidental rather than a primary function of the teacher?

(4) What sort of correlation between teacher assessment of students and future performance is acceptable **from the point of view of the student?** Is a predictive correlation of 0.7 appreciable less humane than one of 0.6 if used for selection purposes? Will not the clear definition of 'assessable behaviours' lead only too often to the mistaken conclusion that gradings, based on these behaviours, have a validity commensurate with the clarity of the defining statements?

(5) Even if it is accepted that there is a value in assessing individual attributes in some way, is it not a supremely pointless operation? (All the information so gained is assigned a 'score' which is then added to a number of other 'scores', 'measuring' apparently different attributes. Thus all the information gained about these attributes is lost in a single grade or score which could equally well (?) have been gained in a more general fashion.) If a single final score is required is there any evidence that the specification of particular qualities helps at all in an assessment process? Would not an imaginative examination (e.g. the type used by the Nuffield 'O' level Physics project) have just as much chance of predictive success?

These sets of questions illustrate (but do not, by any means, exhaust!) the doubts one has about the striving after ever more perfect, or ever less imperfect, assessment techniques. The good points about these developments are often indirect and diagnostic. It is good that teachers think about what they are trying to do and it is true that work on assessment techniques gives teachers much more diagnostic material than they have had previously. But the work has been designed primarily with student assessment in mind and it is from this point of view that it must be viewed.

It would be comforting to have some statements of principle from those people who set such developments as these in train. Some that might be considered appropriate are given below :

(a) There is NO possibility of obtaining predictive correlations which are sufficiently good to allow selection procedures to depend upon them.

(b) The student rather than the system is the first concern of any assessment procedure.

(c) The design of any assessment procedure must be such as to emphasise its low predictive reliability !

Given these, or something similar, one would have more confidence that the work being done on assessment would not be misused. Indeed it could be suggested that the only assessment procedure which is acceptable to an educational system priding itself on concern for individuals is one which was so unreliable as to be not worth having.

In extreme this sounds ludicrous. But it is far less frightening than the thought that at some time someone will determine once and for all what our future holds for us. Eleven plus and the Rise of Meritocracy ought to warn us away from this.

BRYAN R. CHAPMAN, Ilkley, Yorks.

The comparability of Examinations

The decision that the attainment of a Grade I rating in a subject taken in the Certificate of Secondary Education should be regarded as being equivalent to an 'O' level pass in the General Certificate of Education was perhaps inevitable in the circumstances. To ensure that justice is not only done, but is seen to be done to the 'borderliners' at all stages is not the least of our educational problems. On the other hand, the decision, as it was bound to do, has brought into general prominence a subject that has long been a source of concern for teachers. The question of the comparability of C.S.E. and G.C.E. examinations has, in fact, served to highlight the scarcely less important question of the comparability of standards within the framework of the G.C.E. itself. Now, this note is in no sense an attempt to whitewash the contemporary examination system. Yet it would, I think, be foolish to suggest that this is a simple problem for which there is a unitary solution. Certainly it is reasonable to point out that there are factors other than the vagaries and deficiencies of examiners which might well account for quite startling discrepancies in the examination performance of the individual candidate.

This is particularly the case when the examinations concerned put a premium on factual knowledge rather than the exercise of a basic skill. When the candidate has a large number of facts to remember, and when his concern with a subject is temporary and essentially utilitarian, the question of last-minute revision becomes an important one. One suspects that, in the first analysis, he establishes an order of priority as between the various subjects in which he is being examined. In these circumstances one might expect a far lower performance in the Summer in a less favoured subject which is one of seven or eight than in the Autumn-when the same subject may well be one of two and the order of priority hardly matters. Then again, very few teachers would deny that while a candidate can reach a satisfactory standard by answering questions on a very limited part of the syllabus (as in the case of history examinations generally), the element of sheer luck can play an important part in a candidate's performance.

The question of a wide variation in the rating of a candidate who has made more than one attempt at an examination which aims at testing a basic skill, such as English language, at a given level is admittedly a far more worrying one. This is especially the case when the candidate has taken consecutive examinations in a given 'O' level subject with a single examining board. One can of course quote cases of notoriously temperamental candidates, or cases where the motivation of the individual candidate has been profoundly altered over a short period of time. On the other hand, it is often difficult to see how a candidate's powers of expression or capacity to reason mathematically can improve (or, in rarer cases, deteriorate) beyond all recognition in the space of a few months. In these circumstances there are real grounds for suspicion that the standardising procedures of the board in question need some radical overhaul.

Differential performance which comes to light when a candidate takes what appears to be the same subject at the same level with more than one board is more easily explicable, however. Even in such a subject as English there is room for wide differences of approach and emphasis, and it is undoubtedly true that a teacher, consciously or unconsciously, prepares his pupils for a specific examination. There is, for instance, a whole world of difference between a paper which allows a candidate to secure a given number of marks by tackling a comprehension exercise based on a romantic poem and one which permits a candidate to secure a similar number of marks by explaining how he would describe a bicycle to an inhabitant of Mars.

Similarly, a candidate adequately prepared for an 'O' level history paper with the customary five essay

questions might well perform rather disappointingly on a C.S.E. paper which, while covering the same period of history, includes objective tests, a compulsory map question, and a comprehension exercise based on a documentary source.

Everything depends, of course, on one's definition of 'comparability'. If we take a narrow definition of the word, it follows that we must work for a unitary examination system. On the other hand, if we take a rather wider definition, we must be prepared to anticipate and accept those anomalies that are more apparent than real. J. SALT.

David Holbrook replies

I would like to defend myself against the charge made by Mr. Blishen that I am 'aloof' from educational change, and his implication that I am a Superior Person who seeks, as it were, to coerce everyone into Superior Taste.

In *Roaring Boys*, which I recently re-read, I came across the following passage:

'There was always, of course, the danger that they might be given an opportunity to act out one of their foolish little dreams, but I think their nervousness would have saved them. What was tragic about them was that the community in which they lived should have given them, as ideals and dreams, this perilous nonsense about gunmen.'

The assumption here is that society gives 'bad' children bad aspirations and that they are likely to act these out. I don't quite see it like that, in terms of direct influence. Against this problem in his book Mr. Blishen seems to believe in the civilising influence of school uniform : 'It is less easy to behave as a hooligan if you're wearing neat and formal clothes . . . The waning in coarseness amounted to not much more than this, but it was there, and every term added to it.' (P. 130.)

FORUM perhaps believes in the civilising influence of the change to comprehensive education, and such forms of reorganisation, as ways to foster individual development.

My own view is there is a sentimentality in attitudes that the reorganisation of social structure alone will overcome our deepest problems. Nor do I think that it is the 'community' which provides the 'foolish little dreams': they are there already, and commercial entertainment merely fosters them. But what is required is not more 'neat and formal' influences, nor merely the overcoming of segregation, but opportunities to develop richer dreams, and engagements between phantasy and reality, to build bridges : more creativity. Of course, society needs also to be changed to be able to accept creative development (as American society cannot yet accept the creative aspirations of the negro).

The trouble with second-grade fiction, etc. (what Mr. Blishen called 'perilous nonsense') is that its attitude to human nature, as expressed in the symbolism, is poor, and it provides inadequate symbolism to construct and explore life. This I would relate to my attitude to the deeper problems of the children in English for the Rejected. Though I may have deceived myself about the progress some of them were making, my exploration of the deeper meaning of their writing seems to me justified because it revealed that, despite the implications in the way our educational system treated them, they were human, and they were trying in human ways, by symbolism, to make their world whole. Insofar as this meant they were restoring wholeness to the inner world, as a means to relate to the outer world, I was trying to show that our whole society is deficient in provision for this kind of creative effort, not least at higher levels.

I don't quite see what Mr. Blishen means by the way I give the impression that 'these qualities in the writing are all the better for being smothered under such unhappy reluctant, difficult use of language'. What I thought I did show was that when one examined their painfully won writing in a 'literary critical' way, one found that (a) 'backward' children can write beautifully, (b) that they are grappling with philosophical and poetic problems as deep as those which are presented to any of us by life and inner needs, and (c) in this there are implications that call for major educational reform.

I don't think it is their 'nervousness' which saves children from disaster in our society—but their inward moral sense, which is a dynamic of creative reparation, of finding an identity and wholeness in the self. If this is not there, education can't provide it Education can crush it by coercing children into a false compliance (as it does largely in America). But the most important issue for democracy is that education shall foster strength and development of potentialities in the inner world, by creative disciplines.

Educational change (smaller classes, better teacher training, better equipment, less segregation) can make this possible. But what yet needs to be done is for the content of education to be made human at all levels. This I have tried to bring about by my practical contributions to education, and in this I have in fact altered many things in practice-indeed, I am far from aloof. To me, the fostering of individual capacities to deal with our inward problems of hate is our only hope for peace and survival. In this only that true creativity (like that of a Lawrence or a Tolstoy) which engages with the problems of hate and love is worth dealing in: where hate is exploited for its own sake (as in Ian Fleming, gunmen stuff-in much of Forrester, and in 'second-class books for second-class citizens') such 'parlous nonsense' promotes paranoia, and the denial of our need for human sympathy. Perhaps all this explains why I am so anxious to promote discrimination-not to be 'paternal', but to promote a more dynamic democracy, in which individuals feel the need to share human problems, towards independence, through culture.

Auxiliaries and Ancillaries

I was very interested in the article by Dr. M. O. Watson on Infant Classrooms.

She mentioned, in this article, the need for auxiliaries.

It has already become clear to some of us in Primary Schools that there is a real necessity for groups and teams of teachers to work together in their work. I am not advocating the loss of classes as such; these will continue, based of course on a non-streamed entry. I am quite sure in my own mind, having had nonstreaming in my school for the past twelve years, that this is the correct method of allocating classes, although I am certain that it cannot be haphazard. One must pick children for teachers and teachers for children, being aware of temperaments, personalities and abilities.

It is essential that teachers in each year of the school know how to co-operate, recognise each other's special abilities, and arrange that each and everyone of them can become a leader of a project or a group activity.

In Southampton it is intended that Middle Schools will start in 1970. To this end we shall be directing our attention to people, both of secondary and primary experience, who have special abilities in subjects such as languages, mathematics, science, craft, etc.; teachers who have depth of experience and ability, who can lead teams of teachers in these subjects.

The Ancillaries (based on the Plowden Report) will be about one per year at least, and will be used in these schools for an untold variety of jobs. I am quite sure that there will be distinctions in grade, but many of the jobs now done by teachers will be quite easily done by such ancillaries, e.g. keeping display corners tidy, taking down pictures, typing, organising apparatus, repairing books and cards, looking after registers, money matters, taking home sick children, etc.

In all these matters the teacher will be the person in charge. He should value his status, and the assistants will always give him the esteem that his status demands. His salary will of course be commensurate with this status. J. H. GUILMANT, Headmaster, Bitterne Park Junior Mixed School, Southampton.

'Everybody can grow'

Under this title a day conference attracted some 750 teachers from all kinds of school and from Colleges and Institutes of Education all over the country to the University of London Goldsmiths' College on February 25th.

It was very much a 'grouping' day. Although it opened with a series of statements from the architects of Interdisciplinary Enquiry, the conference was aimed at putting the audience in touch with staffs and children who are using Interdisciplinary Enquiry as their educational groundwork, and at demonstrating how collaboration between schools and the college, pivoting on the pilot courses for teachers mounted by the staff of the curriculum laboratory, works.

Children from Stockwell Manor School with Mr. Eddie Joseph and from Western County, Southall, with Mrs. Meg Kirby, showed and discussed their methods of study. Thirty Goldsmiths' students, with Leslie Smith, exhibited and discussed the work they did in a month's experimental teaching-practice as focus-groups in six schools. Staff focus-groups from Nightingale School led by Miss Beryl Jones, and from Fairlop School led by Mrs. Margaret Horne, discussed very frankly I.D.E. techniques and achievements. A panel of heads, with Peter Mauger, discussed the problems they ran into when initiating curriculum innovations in their schools.

The audience then went into small discussion groups shuffled to contain some who had experienced each of the six demonstrations, and each led by teachers with I.D.E. experience, to air and thrash out their doubts. Finally, some of the hundred or so questions put in writing were discussed by the main panel of speakers, with the help of Jack Abramowitz who, as Visiting Professor at Goldsmiths, has been working with the Curriculum Laboratory and experimenting with Basic Skills programmes at Stockwell Manor school.

Two emphases clearly emerged in the varied activities of the day—on the viability of collaborative learning and on the urgent need for flexible organisation of small pupil groups as the basic working-situation in schools ('clusters not classes').

Opening the conference, Dr. D. R. Chesterman, Warden of Goldsmiths', called for as much energy to be spent, and as much speed, in re-ordering secondary curriculum as in reorganising on comprehensive lines. Charity James, Director of the Curiculum Laboratory, pictured the shift of relationship needed between colleges and schools towards the equality in collaboration achieved in the Goldsmiths' work. Peter Mauger (Head of Education Department, Coventry College of Education) and Leslie Smith (Director of Consultative Services in the Curriculum Laboratory) made the nature of the proposed fourfold curriculum clear, drawing on their experience as heads of nonstreamed schools. Edwin Mason (Director of Courses in the Curriculum Laboratory) talked of priorities and of the amelioration of the human condition both of teachers and of pupils that can be achieved by moving right away from class-groupings to clusters.

Mrs. James pointed to future developments at Goldsmiths'. Pilot courses for teachers have hitherto been full-time one-term affairs; but to allow of even closer collaboration with schools, there will in future be two courses a year, running parallel, with teachers working in college a day a week throughout the year after an intensive three-week introductory course, and winding up with a fortnight's fulltime work. A further consolidation is to be achieved through the regular publication of a Goldsmiths' Curriculum Laboratory Bulletin, Ideas, the first issue of which was published on conference day, with a lengthy definition by Leslie Smith of the fourfold curriculum to be aimed at. Future issues are to concentrate on solutions to problems presented by teachers, and accounts of new work going forward in schools. EDWIN MASON.

(Teachers interested in the Goldsmiths' courses should write to the Secretary, Goldsmiths' College Curriculum Laboratory, 6 Dixon Road, London, S.E.14.)

New Design

Plans for a *new layout and format* are now under way. We aim to make FORUM more attractive to readers.

The new FORUM will appear in SEPTEMBER

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We regret to announce that the new design will coincide with a long overdue increase in price. Starting in September 1967, the annual subscription to FORUM will be 15s., the price of individual numbers at 5s. (post free).

The main factor leading to this increase is that our printers have, in fact, been printing FORUM at a loss to themselves for several years. They have offered to keep the price stable by reducing the size of the journal and the variety of type used. However the Editorial Board feel that, at this moment in particular, FORUM should not be reduced in size. We have, therefore, accepted the increased estimate. Estimates from other printers indicate that the new printing costs are fair.

There are other factors forcing this increase as well. As readers will know, with the exception of secretarial help, all the work which goes into the production of FORUM is contributed freely; the occasional small margin of revenue over expenditure is spent on advertising.

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(continued from page 89)

and the facility with which they can read. When that point is reached the class finds a fascinated pleasure in going back to the beginning of the course book and seeing the words and sentences they now know so well in their native spelling. Gone are the difficulties of silent vowels and consonants, since they already know how to pronounce these strangelooking words. However, to give them confidence and to ensure that they continue to pronounce them accurately, the pupils continue for some weeks to use the two scripts side by side. They soon become familiar with the new spelling, and generally the decision to abandon the phonetic version has already taken place involuntarily by the pupils' tending to concentrate on the traditional version, and only to refer to the phonetics when mistakes are made. Sometimes it can be abandoned at the end of the first term, sometimes later; but it is immaterial when it takes place provided that a confident approach to the traditional script has been achieved by the majority of the class. There are always some pupils who find difficulty in pronunciation and who make more mistakes and have less confidence than others; but if they are not hopelessly outpaced they should not be allowed to hold back the rest of the class, and it is amazing how even they achieve 80 per cent success. They will be borne along by the advancing current, though they need the careful attention of the teacher to ensure that they keep in the swim.

Mastering language tools

By now—roughly the middle of the first year—the pupils will have been doing simple written exercises involving the vocabulary and verb forms that they have learnt to use orally. And just a word at this point about the necessity to promote active learning of both. This should include oral and written drill of verbs and testing of vocabulary to ensure that everybody is in possession of the tools of the language.

In case this sounds dreadfully old-fashioned, let me say that constant drill and repetition are absolutely necessary. However, from the earliest lessons simple songs, poems and dialogue should be introduced. This relieves the monotony of class teaching, which to some extent is inevitable in languages, because so much depends on the teacher to ensure accuracy in the spoken word. To learn a song or a poem which can be sung or recited by the whole class or individually brings variety to the lesson. To write a script for a short scene to illustrate common situations such as shopping in different kinds of shops, planning a holiday, a picnic or an expedition, involves not only new vocabulary and idioms, but also handling money—a very essential branch of knowledge when one is going abroad. Most children love taking part in such activities, and good use can be made of this. Speaking and number games also play a part in keeping the class talking and listening to the language.

In the second and third years all these techniques can be continued and intensified. They can be reinforced by the use of films and radio and television lessons, while more and more use is made of the printed word, always ensuring that the spoken word predominates. This can be done by reading aloud to ensure correct accent and by getting answers to questions based on the text. These answers can form the basis for composition in writing. By a skilful linking of answers a reconstruction of the text can be made, involving the use of the new vocabulary and idioms, thus paving the way to the silent reading of longer texts which is invaluable for gaining a wide knowledge of the language later on.

Direct method

Of course it goes without saying that from the very start the lessons should be given in the language that is being taught, and this must be maintained as we get higher up in the school. This does not mean that English should never be used to clear up difficulties if it is really impossible to do so without. But once the point is grasped the lesson must proceed in the language, and this must be maintained in spite of all temptations to deviate from it.

It may seem that all that I have so far proposed is a recipe for language teaching in general and not for mixed-ability groups in particular. This may be true, but in any case it is essential in all language teaching to ensure complete understanding and participation, and in teaching unstreamed children this has to be done by keeping the subject matter as *concrete* as possible and by constant varying of the techniques of repetition and recapitulation to ensure *familiarity by use*, which is the whole basis of language learning, both one's own and others.

It may be necessary in unstreamed classes not to attempt to cover the ground so quickly and to be sure to consolidate every new acquisition before embarking on fresh ground; but here again care must be taken not to induce boredom in the quicker children. In such classes real advantage should be taken of the talent and ability of the brighter children by making them the leaders of dramatic groups, or getting them to ask the questions or conduct the choir or verse speaking group, or read their compositions to the class, which in its turn should be encouraged to ask questions about the composition or anything else. In all such teaching a great deal depends on the teacher's ability to maintain an atmosphere of enthusiasm and enterprise. It is difficult to convey what *can* be done with all the tools at the disposal of the language teacher nowadays.

Beginning French with Juniors GEORGE D. HANDLEY

George Handley taught French in a nonstreamed primary school in Otley before joining the staff of Westminster College of Education.

This is a brief account of my experiences with a class of nine-year-olds at Weston Lane County Primary School, Otley, Yorkshire. The class was unstreamed and had a chronological age-range of six months, though the range of mental ages was from seven to eleven at least. This was a mixed class of 35 children who learned French by the method outlined over a period of two years.

What did we set out to achieve? What was our aim? So often in secondary school teaching of French, the dominant aim becomes the passing of the G.C.E. 'O' Level examination, and the true aim—that of enabling one's pupils to communicate in a tongue other than their own—assumes second place. For success, in the written part of the examination anyway, accuracy is demanded; fluency seems to be less important. The 'purists' in language teaching will justify this, and argue strongly that accuracy must never be sacrificed for the sake of fluency; my view is that fluency should come first and accuracy will follow, given the right sort of conditions.

This surely is the way we learn to speak our own language. The efforts of the toddler are stumbling and imperfect, but in the course of time experience in hearing the language correctly spoken leads to the child's correcting of his errors in grammar and pronunciation. To insist too strongly on correct grammatical constructions and pronunciation would probably have the effect of making the toddler cease to try, perhaps even of making him afraid to try. Likewise in teaching a foreign language, too much emphasis on correctness undermines confidence. I heard of a Scandinavian who claimed that the reason why the English were in general such poor linguists was that the way they were taught foreign languages made them afraid to open their mouths. What matters is not so much that one should speak perfectly as that one should be understood. The purpose of learning any language is communication.

Our method was based on a few facts about the way children learn to speak their own language in the natural situation. Studies have shown that the appearance of the different parts of speech follows a regular pattern in very young children. The first 'words' are expressive ones—exclamations and so on; these are followed by nouns—the child loves to name things; subsequently verbs, then adjectives and adverbs, and finally the relational elements of speech—prepositions and conjunctions—are used. We accepted this as a guide in deciding where to start.

Another practical point is that if you are in a foreign country and you are able to name the object you require, you are likely to receive help in obtaining it. The simple words 'tabac' or 'gare' with an accompanying facial expression will usually succeed, and there will be no need to resort to ingenious mimes!

Qu'est-ce que c'est?

We began, therefore, with nouns; first the names of various things in the classroom or seen through the window, our clothes and parts of the body. In response to my question. 'Qu'est-ce que c'est?', the class would soon respond in unison, 'C'est une chaise' or 'C'est le tableau noir'. The noun is already being used within the framework of a sentence. When we had mastered the useful names from these sources, we widened our horizons by using cards with simple line drawings on them which I would hold up in front of the class, learning one or two new ones each day whilst not forgetting to revise the already familiar ones. I am no artist, but it is surprising how easily simple line drawings can be recognised. The drawing of an apple immediately evoked the response, 'C'est une pomme' without the intervening English word. The process became one of automatic responses rather than of conscious translation.

Qu'est-ce que je fais?

From nouns we moved on to verbs. Here again, one could either perform simple actions and ask, 'Qu'est-ce que je fais?' or one could hold up a drawing of a pin-man doing something and ask, 'Qu'est-ce qu'il fait?' Personal pronouns came to be learned quite incidentally, and were used surprisingly accurately by the children. Once 'Je marche' had been learned, it was not hard for the teacher to demonstrate the difference between 'Je marche vite' and 'Je marche lentement', and so the adverb was introduced. It is not difficult to see how adjectives could be learned in conjunction with nouns. We started with the more common colours and worked from there.

The children's ability to use and understand French was growing quite perceptibly, and they were enjoying it. Prepositions were not difficult to teach; a book and a desk were the only apparatus needed to begin with. The children soon learned the difference between 'Le livre est sur le pupitre' and 'Le livre est sous le pupitre.' Neither was it difficult to show them the meaning of phrases like 'par la fenetre' and 'a travers la salle de classe'. The brighter children picked up these ideas very quickly and sooner or later the less able ones grasped them too. Surely so much learning of one's own native language proceeds by guesswork, and mistakes are corrected by future use.

We did not use film strips at all, excellent as many of these are. The class blackboard and the children's artistic talent were all we used. Sometimes we would draw a scene on the blackboard, for example, at a railway station, and then spend several minutes talking about it. The general question, 'Que voyez-vous?', usually sufficed to get the conversation going. We made a large tableau in an art lesson depicting the seasons in the countryside, and were able to talk about this. A picture-map of an imaginary village served as an introduction to the useful practice of giving and understanding directions, and as the class by this time were contemplating a week's holiday at a French seaside town, the project had a particular relevance when one thought of the possibility of getting lost! Imaginary shopping expeditions and an introduction to French currency formed the basis of a number of short sessions.

Daily practice

None of our French lessons was ever long, but we tried hard to fit in at least five minutes every day. What the psychologists have pointed out about the value of spaced practice is nowhere more relevant than in the learning of a foreign language, and I am convinced that five five-minute sessions per week is much more valuable than one halfhour session per week.

I was constantly on my guard against undermining the children's confidence. Basically, the principle is very simple: one encourages the child to speak and makes light of the mistakes, though one may well repeat his statement in more acceptable French. The child's willingness to communicate is what matters; making oneself understood comes before accuracy. The latter can be learned later as the child hears French correctly spoken and has more practice himself.

Non-Streaming in Comprehensive Schools

FORUM Reporter

In the last issue we reported a number of conferences, teach-ins and study groups which had been organised following the full day conference on non-streaming in comprehensive schools organised by FORUM and the Comprehensive Schools Committee in June, 1966. This included a residential conference arranged by the Exeter University Institute of Education of which a fuller report was promised for this issue. Since then there have been other developments.

York

On 4th March the N.U.T. Young Teachers Association in York organised a one day conference at the University of York which was attended by some 160 teachers most from Yorkshire, others coming from Lancashire, Lincolnshire and Staffordshire. This was addressed by Michael Tucker, of Settle High School, Derek Roberts of the David Lister School at Hull and Brian Simon, and resulted in a most stimulating day's discussion. In the afternoon the conference split into discussion groups while the final session took the form of an open forum with Professor Rée, of the University of York, in the chair. Many controversial points were, of course, raised, but the general feeling of the conference was certainly sympathetic to the idea of non-streaming, while quite a considerable proportion of those present were, in fact, teaching in unstreamed schools, though these were predominantly junior schools. The topic for discussion here was non-streaming in general, both primary and secondary. There was general agreement that this move, in whatever type of school, demanded a fundamental re-thinking of aims and methods.

Bristol

On 17th and 18th March, Redland College of Education at Bristol organised a large conference under the title 'Planning for Today's Secondary Schools'. The first day was devoted to various aspects of group work in secondary schools and to organisational problems of inter-disciplinary teaching and team teaching, the speakers being Barrington Kaye and Hubert Bland, head of Wybourn High School, Sheffield. The second day was devoted to non-streaming at the secondary stage, the speakers being Miss Hoyles, Head of Vauxhall Manor School for Girls, London, and Jack Walton, now Senior Staff Tutor at the University of Exeter Institute of Education and a member of the FORUM editorial board. It is hoped to carry a fuller report of this conference in our next number.

Leicester, Preston, London

During the Easter term the University of Leicester School of Education ran a course for teachers, organised by Nanette Whitbread, on 'Problems and Opportunities in Comprehensive Schools' which included as it first two speakers Miss Hoyles of Vauxhall Manor and Mr. D. Thompson, headmaster of Woodlands School, Coventry (both schools with experience of nonstreaming). A number of discussion groups followed, one of which was concerned specifically with non-streaming. At Preston the district N.U.T. association has set up a discussion group on nonstreaming, the President, Mr. D. Gouldstone, playing a leading part; the group is taking FORUM articles over the last few years as the initial basis for discussion. Other groups, at London, Leicester and elsewhere reported in our last issue, are continuing to function and it may be expected that some of these will be producing material over the next year.

Exeter

The three day conference held at Exeter early in January resulted in an extremely useful report summing up the proceedings and conclusions. The conference was attended by some 50 teachers from secondary schools in Devon, Cornwall and Dorset together with a group from a Bristol comprehensive school. This was a working conference, opened with two lectures on non-streaming by Jack Walton, until recently head of Beaminster Down Comprehensive school, Dorset-a school in the process of becoming unstreamed-and Derek Roberts. On the second day detailed discussion took place on the problems of unstreamed teaching, subject groups being formed in mathematics, geography, history and English. During the morning an unstreamed class of children from a local secondary school was provided and practice lessons illustrating techniques of unstreamed teaching were given in history and English. The children also spent some time working in a maths workshop arranged specifically for the course, This practical work provided the basis for seminar groups, which examined in detail the problems of teaching unstreamed classes.

The report details some of the conclusions. It is (continued overleaf)

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interesting to note that the mathematicians found that the specific problems raised by non-streamed classes were not separable from the fundamental rethinking they have been concerned with in recent years. Mathematics was a difficult subject to 'unstream' if the mathematics taught remained unchanged; but where there are basic changes in the content and methods of mathematical education the question of whether the classes should be streamed or not becomes primarily a social or organisational issue. In the maths 'workshop', children were observed working freely with various types of material and this reflected the new concern with basis questions as to how children learn. It was clear that a wide range of materials is required in the mathematics classroom whether streamed or not. 'Apparatus, constructions, games, toys, films, work cards, pamphlets-these are the text books of the future.

The English group concluded that what they called the 'new' English, as pioneered for more than a decade by the quarterly The Use of English, more recently in the publications of N.A.T.E. and especially in the Schools Council Working Paper No. 3 'is apt for unstreamed teaching and learning'. If we accept, the report goes on, 'that English is about exploring, recording, interpreting, and exchanging experience through language, and that personal relationships between teacher and pupil, pupil and pupil are of the essence, then English is probably easier to unstream than most other subjects'. The geography and history groups concentrated also on the new techniques required for unstreamed classes, each raising a number of important points concerning the development of 'teaching units' (films, tapes, filmstrips, slides, etc.), the need for blocked periods, the provision of work sheets, and so on.

One of the most interesting contributions made at Exeter was made by R. G. Crow, headmaster of Saltash grammar school, now the upper tier of a comprehensive system. Mr. Crow abolished streaming in 1953, a step which resulted in a greatly increased number of children staving on to take 'O' and 'A' levels. There is now no streaming in the fourth and fifth years, though (in deference to the wishes of heads of departments) there is setting in maths, science and French. Mr. Crow dealt with the pre-requisites for mixed ability grouping in the upper school-given these, he concludes, 'the apparent difficulty of different syllabuses for G.C.E. and C.S.E. need not be an insuperable difficulty'. Since the question of the impact of these examinations on the school's structure is often raised at conferences on non-streaming, the Saltash experience is extremely relevant.

The Exeter conference raised a whole number of questions on which further research is needed, and the Institute is planning to carry out these enquiries, involving interested teachers. This is the first working conference which has produced a report, which is certainly of great interest. It can be obtained (price 1/6 post free) from: Senior Staff Tutor, University of Exeter Institute of Education, Gandy Street, Exeter, Devon.

The full verbatim transcript of the June, 1966, FORUM—Comprehensive School Committee conference is also now available. This contains all six main speeches, together with all questions and answers at each of the two main sessions. Entitled *Non-Streaming in Comprehensive Schools, the educational outcome,* it is available (price ten shillings post free) from The Secretary, Comprehensive Schools Committee, 123 Portland Road, London, W.11.

The Middle School: Which Way?

CAROLINE BENN

Caroline Benn is the Information Officer of the Comprehensive Schools Committee.

Three-tier schemes of comprehensive reorganisation, where the middle school straddles the age of 11, were allowed, but not encouraged, by Circular 10/65. It soon became obvious, however, that because so many Local Education Authorities were going ahead to play them anyway, the Secretary of State would have to agree, as he later did, to accept them in greater numbers. At the present writing about 75 (or nearly half) of the Authorities of England and Wales, including many large population centres, plan (or are seriously considering) some form of middle school scheme for the whole or a part of their Authority. More can be expected from Authorities (like Doncaster) now operating 'interim' schemes involving the co-existence of exmodern and ex-grammar schools with selection at 13-plus, but anxious to plan ahead to a scheme with automatic transfer between tiers of 9-13 and 13-18. (Not that middle school schemes automatically eliminate selection, as Birmingham's recent proposals illustrate.) Authorities like Bradford and Sheffield, now operating 11-13 schools, plan to extend these downwards to 9-13, while others (like

Hull) will shrink their present 11-18 comprehensives to make them 13-18 upper schools in a three-tier system. In some of the more conservative Authorities (like Worcestershire) isolated three-tier schemes are the only planned and approved reorganisation to date.

The success of all these three-tier schemes will depend a lot upon the success of their new element: the middle schools. Surprisingly little has been written about these transition schools, although there are working models in the U.S.A. far more relevant to planned British middle schools than are the American junior colleges so frequently studied for clues to the running of a British sixth form college. A recent series in The Teacher was the first in-gathering of the many differing views on the subject and of the criticism of middle schools that has been building up behind the scenes. Some of these articles were theoretical; others, like that by the Director of Education in Wigan, were practical, although it was he who threw off this sentence: "Incidentally, these schools can be designated as primary or secondary schools." This is not incidental; this is one of the central problems.

By far the best sources of information about middle schools are the publications of the Local Education Authorities planning them. Some of these reports are exceptionally well documented and carefully explore the problems involved in a change-over from tripartite to three-tier.

Advantages

Arguments for : primary schools find it hard to stretch their top juniors, who could start specialist teaching in languages and sciences from 8 or 9 in middle schools; with ages 9-10-11 removed, primary schools would not be overcrowded and could provide space for nursery classes for age 4-5; the transfer ages of 9-13 are those in the prep and public schools system; this age belongs together as a natural unit, coinciding with the age of curiosity and with Piaget's observations about the emergence of the capacity for abstract thought at 13; 11-18 is too long a span for a senior school now that so many more stay on after 15/16; younger ones get underfoot, are exposed to too much sophistication too early in 11-18 schools; middle schools could try more flexible teaching methods, would be free from external exams, could dispense with streaming; setting could be introduced; middle school schemes would ensure more co-education in the country; they would permit schools of viable size in a scattered rural situation; they would fit most Authorities' existing schools best; they could make best use of secondary modern schools now inadequate to provide for the needs of older-age specialist work; they could be housed in the present junior schools at relatively little cost and thus provide for the raising of the school leaving age in the most economical manner; would attract more men teachers to earlier age groups.

Disadvantages

Arguments against: middle schools would discourage men from teaching the earliest age groups; would be a death blow to rural primary schools, since, with ages 9-11 removed, many would be too small and would close; too long journeys for 9's and 10's; religious schools would lose pupils to non-denominational schools if there were too many 'breaks' in the educational process; specialist staff would not teach in middle schools, preferring upper schools; 6th forms in upper tiers of three-tier schemes would be too small to be practical; the 11-13 age group in middle schools in junior buildings would be denied the special subject teaching, standards of accommodation and recreation, and facilities they would enjoy in 11-18 schools; without a new Education Act no Authority is forced to provide comparable standards in middle schools; 9-13's would lose the benefit of enlightened primary approach to teaching if taught in middle schools in secondary modern buildings by secondary teachers; the effect of raising the school leaving age would be nullified by keeping back the 12's (and 13's) in junior schools just because it was more economical to fit in an extra year at primary stage; middle school schemes are far too costly.

By rehearsing these arguments in this shorthand form, the self-contradictory nature of many is evident; so too is the importance of the primary-orsecondary question, for most individual criticisms are valid only when applied to one particular version of a middle school. And there are many, for, in theory, middle schools can cover the ages of either 8-12, 9-13, 10-13 and 11-13 and 11-14; can be planned to occupy either the present primary or junior or secondary modern or grammar schools, adapted or unadapted; or be purpose built.

The Department of Education and Science, perhaps aware of this confusion, has issued some maxims on middle schools in its *Building Bulletin No. 35*, which sets out plans for both purpose built middle schools and extensions to existing schools to permit them to accommodate another year (or two). Here the age range of middle schools is firmly presumed to be 8-12 or 9-13 only. Even clearer is the expectation that where existing schools are to be adapted they will be in the present junior schools only. "No examples are given of conversion of secondary schools to middle schools," says *Bulletin 35*, "This is likely to be an uneconomic solution . . ."

Unfortunately, this guidance will be of limited use to many Authorities now planning middle schools. Most are thinking in terms of ages 9-13 and 75% of the Authorities doing so plan to use their present secondary modern school buildings for their middle schools. The other 25% plan to use a half-and-half combination of the present junior/primary schools and secondary modern schools (a few will use a grammar or two). Using modern schools for middle schools raises the problem in some Authorities of building new upper schools for the 13-18's. Upper schools are always the most expensive and this extra cost involved may be what holds up approval of a number of middle school schemes that come before the D.E.S. The relatively less expensive use of junior schools may account for the relatively more numerous approvals given recently to schemes with 8-12 schools, using these present junior schools for middle schools.

Cost factors could force some Authorities to replan three-tier schemes to use junior rather than modern schools and to cover the ages 8-12 rather than 9-13; or both. (The Plowden Report may encourage this.) Certainly those Authorities who have bothered to work out comparisons between the cost of reorganising their present tripartite systems by each of the six alternatives of Circular 10/65, have found that middle school schemes (mainly 9-13 middle schools in secondary buildings) almost always work out the most expensive of the six.

What size?

In matters of class size, specialist teaching, staffing and overall size of middle schools there is further divergence between what the D.E.S. suggests and many Authorities are working out in their plans. Bulletin 35 assumes classes will be 40 in 8-12 schools and 35 in 9-13 schools, but most Authorities planning middle schools are thinking in terms of 30-plus, especially for 9-13 schools. As for overall size, 50% of the Authorities working out suggested plans intend their 9-13 schools to have rolls of 500 or over, a few over 800, 30% plan between 300-500. On the other hand, there are some Authorities (like the Isle of Wight) who plan some middle schools as small as 240 and many Authorities would appear to be planning both larger and smaller schools coexisting. Where the D.E.S. has been consulted about overall middle school size, as in Wallasey, it suggests it be reduced. Bulletin 35 gives plans for no middle

school larger than 480 and many as small as 280. It even suggests schools under 200 might possibly be considered in certain circumstances.

Small overall size of middle schools arouses a lot of criticism from those who are concerned with maintaining standards of accommodation (for example, for sports facilities, or Nuffield Science) and with providing specialist teaching in middle schools. A typical group, the Bedfordshire Grammar Schools Representative Committee (writing in the appendix to their local scheme), maintain that for a 9-13 school 600 is the minimum overall size necessary for adequate specialist teaching. G. Anstis of the N.U.T., writing in The Teacher, and many others elsewhere, say that no school under 500 would be really satisfactory for the 9-13 age group. In Holland (Lincolnshire) the local branches of the N.A.S., N.U.T., and N.A.H.T. have urged the D.E.S. to reject Holland's three-tier scheme on the grounds that its upper schools (and resulting 6th forms) would be too small to be practical. (Local Authorities' plans for overall size of upper schools varies from 700 to 1500).

Curriculum implications

Criticism about overall size is relevant in view of the fact that most Authorities, though hoping not burden their middle schools with formal to academic pressures and hoping to leave them free to develop and extend many of the teaching techniques pioneered in the best primary schools, nevertheless plan to introduce French from the first years and sometimes more intensive science teaching too. Bradford's Delf Hill School, the first purpose-built middle school that will open in 1968, plans a curriculum for the 9-13's that works out: 30% languages and literature; 30% maths and science; 20% making and doing; and 20% music, dance and games. But purpose-built schools have the advantage of purpose-recruited staff. Middle schools housed in some present secondary schools will no doubt have some useful specialist provision already and also the chance of acquiring staff (who might remain) with subject specialist qualifications and experience. But when the age groups 12 and 13 are added on to a present junior school, they will have to rely on some secondary school teachers wishing to teach in junior-type conditions and upon the kind of architectural extensions shown in Bulletin 35. Although the latter display a tempting array of science labs and language rooms and music centres, it is clear that no one school can add all these specialist features. Space limitations would force a school to choose between, say, a

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11 Thistle Street Edinburgh 2 language room and a science lab, perhaps with resulting effects on the school's curriculum.

Middle school critics further insist that staffing allowances must be generous and sufficient for graded posts and Head of Department posts to attract qualified staff. But not every Authority probably plans on making the subject specialist the centre of the middle school. A West Riding report of 1965 suggests that posts of special responsibility in middle schools go not to subject specialists but to the team leaders of each year's team of teachers. This is another decision that could influence a school profoundly. It is one that would alarm a critic like the headmaster of Stourbridge King Edward VI school, who wrote in the Times Education Supplement that minority options (like Classics) must remain available in middle schools and, if necessary, staff be brought in from upper schools to teach them. Few Authorities are probably considering this at the moment, although suggestions for coping with specialist teaching vary. For French, for example, some suggest teachers with O and A level qualifications have in-service retraining (Wakefield, for example, is already doing this for its primary schools) and others suggest that peripatetic specialists be attached to a group of middle schools. West Riding's Chief Education Officer, writing in The Teacher, sees middle schools with the years 9 and 10 taught by class teachers as in primary schools, but for the two older years that would have been spent in the present secondary schools he sees a "situation where the combined resources of a team of 5 or 6 class teachers", each with an individual subject specialty, would be "made available at certain times of the week".

Although West Riding's Chief Officer adds that it would be unfortunate if middle schools were just made up of the practices of the first two years of secondary school and the last two years of primary schools, his own suggestion in part and the planning of Authorities actually grappling with the change-over without guidance from legislation, reveal a tendency to do just this. Wallasey, for example, proposed working out the staffing ratio of its middle schools by combining the first two years of its secondary schools with the last two years of its primary schools to get a figure of 28.4.

What teachers?

But who would want to teach in middle schools, critics ask? Authorities like Wallasey and York, who have involved local teachers closely in planning, believe middle schools will not have trouble finding staff, some moving 'up' from junior teaching and others moving 'down' from secondary teaching. Obviously certain teachers will be attracted to middle schools straightaway, but others might like to feel firmer ground underfoot before committing themselves. The planned Department of Education amendment of building regulations will be useful no doubt, but much more to the point would be some assurances that a three-tier system will not mean, as one headmaster wrote in *The Teacher*, a salary system of "cheap, cheaper, cheapest", descending by tiers.

Now that decisions about local planning make it clear that transfer from primary to either middle or upper schools will take place at either 8, 9, 10, 11, 12, 13 or 14, according to the area in which a child or a teacher lives, the argument can no longer be about whether 12 is the 'best' age to transfer from primary to secondary education. It is rather about what a 12 year old and his teacher can expect to find in the way of curriculum, class size, recreational and practical facilities, staffing accommodation and payments—regardless of whether they are in the last year of a junior school, first year of a senior school, or middle year of a middle school. A new Education Act seems inevitable to many.

Examination problems

It is obvious that a lot of the argument surrounding middle school planning is a new form of the familiar one in comprehensive reorganisation: how to reconcile the claims of the 20-40% who will sit external examinations at 16-plus with those of the 60% who will not. Many of Leicestershire's 'middle' schools, with are the country's oldest, have not vet managed to solve this problem. If the new 8-12 or 9-13 middle schools were to feel the downward pressure of these distant external exams too severely, it would seriously undermine much of their raison d'etre. It is probably true that in addition to a new Education Act, a fundamental reform of the nation's examination system would do more to foster development of successful and imaginative middle schools than any amount of flexible wall dividers and team teaching techniques.

At the moment, Departmental policy, as quoted in *Bulletin 35*, is to 'refrain' from any "lengthy, and possibly controversial, examination of the educational characteristics" of middle schools, "especially to those confronted with the practical problems involved in planning middle schools". Unfortunately, a successful solution to many of the practical problems depends upon a fundamental assessment of the middle school's educational 'characteristics'. It would be a pity if this examination were left too long.

The Nuffield Science Teaching Project

Chemistry and Physics. MICHAEL

ROBINSON, who has taught in comprehensive schools and a college of education and is now working with the Medical Research Council, discusses Pupils' Question Books I & II, Teachers' Guides I-IV and Guide to Experiments I in Physics and Sample Schemes I & II, Laboratory Investigations Ia, Ib & II, Introduction and Guide and some background books in Chemistry.

It is quite unnecessary for any reviewer to extol the virtues of this work and its books. This has been done by virtually the whole educational administration. The combination of such teams of talented teachers and such unprecedented conditions of work was bound to produce remarkable and stirring results. Every book should be in the science teacher's library at school, or would provide an excuse for starting one. They are mines of inspiration, even if mining demands perspiration.

However, it would be quite wrong in a journal committed to Comprehensive schools and to the all-round raising of standards, not to sound a note of warning, almost of alarm.

The Nuffield project was started in 1962, five years after the first Sputnik had sent a shock through the whole education system in the West. It was conceived at a time when a holding operation was being carried out against the success of comprehensive schools; the critique of G.C.E. which eased the advent of C.S.E.; and the more general attack on segregation of all sorts, including that of pure from applied science.

Divisive approaches

Its actual advent in 1966, when we were in the throes of a nationwide move to comprehensive schools and a search for common curricula for the younger forms, was a minor national disaster. The bulk of science money is now being channelled into Nuffielding laboratories, when Nuffield was never intended to be more than a course for the top 10 per cent going forward to 'O' level. It is therefore fundamentally divisive, and not just academically, but scientifically. Each subject has gone its own sweet way—sweet as each may be. Cross links of the sort proven to be productive will have to be forged by the most forceful editing. The actual time allocation for science in most schools will enforce extensive cutting, and this is a time consuming business.

The pupils' texts themselves are a very doubtful investment in any wide-range school. They are expensive and poorly bound; beautifully produced and illustrated as they are, a lab. set might be justified. The Physics questions books are the only pupil material in this subject, and set a standard which again makes lab. sets the most practical proposition. The Chemistry looseleaf 'Laboratory Investigations' are the most acceptable, because they are the most flexible and adaptable. Many schools are using plastic covered lab. sets. The chemistry background readers have had a very mixed reception from any but the best readers and keenest scientists, but as they are aimed at this group, this may be a recommendation.

The production of film loops and the revision of science equipment catalogues is welcome, but limited by the generally academic re-writing of the syllabuses with little reference to technical subjects, or indeed, to new mathematics developments. Some of the equipment is also expensive. (Why short thermometers at 6/6d. as against long ones at 3/6d.?) Girls' schools are having difficulties with heavy gas cylinders, and most schools are having difficulty with test tubes of chlorine. Inadequate ventilation, inadequate advice to teachers and lack of fume cupboards have combined to produce some unfortunate chlorine sickness. The comparison of compounds in the second year chemistry produces some very confusing results with the inexpert technique of even bright children, so that a gradation of properties through a series of elements is difficult to establish.

The chapters on Electricity in the second year Physics are well worth reading, as probably the best 40 pages available on the teaching of this subject.

The whole basis of Nuffield was its inductive method—its learning through experiment, and in that sense it sends a quickening scientific breeze into the laboratories, but it was Pavlov who talked of facts as 'the air upon which scientists soar to the heights' and any over-estimation of children's ability to generalise and induce, or any under-estimation of their very great need for structure and facts to support their climb to vantage points, would be a grave danger to any course. Any reliance upon a cultural background providing these things must be suspect if it goes unstated, or even unrealised, because it will lead to failure in the teaching and, worse still, frustration in the children.

Brian Young, in his ubiquitous foreword, says that the Trustees of the Nuffield Foundation have sought to demonstrate that the continued renewal of the curriculum in all subjects should be a major educational objective, but his finale omits the central question, which must be the aims which the curriculum serves. If this is to be the creation of a cohesive science course for all children as a basis for educated citizenship, then Nuffield as it is produced is not a starter. In the transition we are facing it is a real danger, unless teachers understand its origins and its limitations and use it intelligently and selectively to improve a balanced integrated common course, adaptable to different situations and levels. Certainly, Nuffield 'O' levels are only the opening shots in one section of the great battle to bring the schools into the twentieth century.

Biology. J. F. EGGLESTON of the DESsponsored Research Unit for Assessment and Curriculum Studies, at the University of Leicester School of Education, discusses Students' Text I-IV and Teachers' Guides I-IV.

The task of the reviewer of text books often seems to be to judge idiosyncratically the idiosyncrasies of others. Convention seems to demand that he niggles about factual inaccuracies or lays down the law on syllabus shortfall. All this, when the book fits into the shelves of convention; but eight books (and the series not complete) written by a team of eight authors, whose efforts were over-seen by a Consultative Committee of ten notable academics, and were subjected to trials in some of 175 schools under the supervision of 11 area leaders, demands that the reviewer accepts a humbler role.

The authors describe what they conceived to be the objectives of biology teaching to those children in the age group 11 - 16 years who are in the higher echelons of intelligence. The freedom from the restrictions of conventional syllabuses allowed the authors to select experiences which satisfied criteria related to their stated objectives. Somebody once called modern enquiring methods of teaching 'stage managed Heurism'. This course is the best example of this approach yet published.

The functions of the students' texts are, to engage the attention of pupils in a series of enquiries which together with their teacher as 'team leader' they pursue by observing, hypothesising and experimenting, and by considering a second-hand evidence available when the necessary resources are beyond the schools capability or the pupils skill; and to introduce questions and information concerning the application of biological knowledge, the human activity, and social responsibility.

The Teachers Guide is designed to equip teachers with the intellectual and physical resources to make the students' text work in the way it was designed to work.

The most important problem which the authors have attempted to resolve is that of the apparent incompatibility of a text on the one hand, with an enquiring approach on the other. This is more than 'not giving the game away'. The organising of observable events, the starting points of enquiry, requires very careful selection if the enquiry is not to lose its conceptual thread. In some cases this problem is brilliantly solved, for example in the *Pleurococcus* enquiry (year III chapter 10 p. 172-The uneven distribution of organisms). In other cases the solution is less acceptable. In year II Teachers Guide, p. 8 concerning the gas given off by yeast suspensions in sugar solution we read 'An important question of principle arises here—should we say what the gas is? If we introduce the lime water test and establish that we have got CO₂ what justification is there for doing so? It is like producing a rabbit out of a hat', yet in year III p. 1, Breathing an exchange of gases, we find the section prefaced by a study of burning in coke ovens-different rabbit, same hat.

There is little doubt that if Biology Teachers can overcome the not inconsiderable problems of acquiring the necessary resources to implement this approach the subject may again become the science of life rather than the science of progressive decay, it is in some quarters held to be.

The texts are well designed, splendidly produced and moderately priced.

(Texts in The Nuffield Science Teaching Project are published by Longmans and Penguin.)

Preparing for 1970

Working Paper No. 10. 'Curriculum Development: Teachers' Groups and Centres'. H.M.S.O. (1967). 15 pp. 28.

Working Paper No. 11. 'Society and the young school leaver'. H.M.S.O. (1967). 84 pp. 7s. 6d.

The Schools Council's two new Working Papers should be considered alongside Nos. 1 and 2, published in 1965 (and discussed in FORUM Vol. 9, No. 1). Working Paper No. 10 takes further the suggestions in No. 2 for local curriculum development centres that could pioneer, encourage and co-ordinate work in schools in preparation for the raising of the school leaving age in 1970. The frequent references to the need for co-operation between L.E.A.s, A.T.O.s, colleges and university departments of education and teachers' professional associations highlights the wasteful duplication of effort that could, and already does, prevail in the present haphazard circumstances. The need for local teachers' centres is made very clear, but the mode of organisation is not yet resolved: that the D.E.S. is willing to allow appointment of teachers outside the quota as leaders indicates the direction of Schools Council's thinking.

Despite the joint Schools Council and Nuffield Foundation report's acceptance that 'the educational life of the potential G.C.E. candidate is largely defined by the demands of the examination', *Working Paper No. 11* marks an important step away from the apartheid approach of *Nos. 1* and 2. The Schools Council in its Foreword states that 'there are not two distinct types of curriculum' for the 'young school leaver' and the 'G.C.E. pupil', but that much of the 'report is relevant to the pupil who leaves school at 18'.

Ten topics of enquiry in the central theme of 'man and his society' have been outlined in this feasibility study, and four examples are given in some detail in the Appendix. Some include considerable intellectual content and all could be geared to make appropriate demands on the various pupils taking part. The criteria are evidently interest, relevance and development of individual potential without the suggestion of preconceived ceilings. All the schemes involve some form of team teaching, use of assignments, work by individuals, pairs and small groups within larger groups; all demand discussion group techniques, and most include some form of field-work as well as library research. Blocked time is essential. It is emphasised that staff need to spend a year on preparation and planning, and it is evident that teachers qualified in social sciences such as psychology, sociology, economics and anthropology would be an asset on staff teams. All this is a welcome advance on the curriculum approach of the Newsom Report.

However, it is noteworthy that the examples quoted of existing courses are nearly all being undertaken with non-examination, early leavers' classes in secondary modern schools. Three examples may point the way towards a more flexible future in comprehensive schools: an integrated English-History-Biology course entered under C.S.E. Mode 3, a course with several grouped-subject biases that is now being pursued in a newly amalgamated comprehensive, and a social studies course taken by all pupils whatever C.S.E. or 'O' levels some may be doing.

This report should provide a useful fund of ideas for teachers who are wrestling with the problem of viable courses for 15- and 16-year-old school leavers, or are concerned at the irrelevance of much of the G.C.E. centred curriculum. But it is deplorable that both *Papers* have to accept that teachers will have to undertake most of the development work as a voluntary extra commitment, and that little, if any, additional capital expenditure will be allowed.

N. WHITBREAD.

Communications media

The Psychology of the use of audio-visual aids in primary education by G. Mialaret. Harrap/U.N.E.S.C.O. (1966). 226 pp. 30s.

The book revolution by Robert Escarpit. Harrap/U.N.E.S.C.O. (1966). 160 pp. 18s.

Every educator concerned with resources for curriculum development will find these two books useful. Professor Mialaret, Director of the Laboratoire de Psychopédagogie at the University of Caen organised a U.N.E.S.C.O. seminar there in May 1962 to explore 'a more scientific use of teaching aids'. The first book reports the results of this seminar and Mialaret's interesting researches. He explains that the use of new audio-visual techniques in schools has created new educational situations which give rise to new types of behaviour on the part of teachers as well as pupils. He argues that the teacher needs to understand much more than the technical framework of operations with equipment; better observation, time condensation, and the making of the unobservable capable of observation, are the more important aspects of audio-visual techniques. Visual and auditory perception are experimentally investigated and then related to the educational problems involved in audio-visual presentation to young children. He wants both teachers and their pupils to take a more active role in the making and evaluation of audio-visual materials, and suggests that an educational research laboratory is essential for this development. Perhaps the Schools Council could help here?

Professor Escarpit of the University of Bordeaux treats the book as a medium of mass-communication too. He shows a special concern for further development in paperback production. Cheaper costs related to mass markets for books must be encouraged so that the true function of the book 'the dissemination of knowledge among all men which must be limitless and unceasing' can be maintained and developed. He writes of the possible use of paperbacks in schools as well as by students in colleges and universities. He criticises the notion of egg-head paperbacks produced for an intellectual elite, and sees the paperback as the twentieth century liberator all over the world. Books are consumable reading machines for Escarpit, and he wants them pouring forth from the presses, for mass communication. He has a vision of bookshops on a much vaster scale than at present, of factory libraries, and of books being read and used in abundance.

Both these studies of different aspects of masscommunication will be useful to the forward-looking internationally minded teacher. U.N.E.S.C.O. studies like these indicate the need for broader educational thinking and planning than the national; Mialaret and Escarpit point the way ahead to further developments. ERIC LINFIELD.

The reading controversy

Progress in Reading, Education Pamphlet No. 30. H.M.S.O., 18 pp., 2s.

Standards and Progress in Reading by J. M. Morris. U.N.E.S.C.O. (1967) 493 pp. 50s.

The first of these books is a little pamphlet by H.M.S.O. giving the results of a survey of children's reading from 1948 to 1964, using the Watts-Vernon test of comprehension as a basis for assessment. There is an optimistic Foreword by the Minister of Education. The pamphlet shows a 24% increase in the pace of learning during these 16 years. Is this good enough? It must be remembered that in 1948 owing to all the shortages and stresses of war-time schooling, the level of reading attainment was at a very low ebb. The years since 1948 have seen tremendous efforts to produce better readers, better systems of reading and better teaching for backward readers. Yet still in 1964 no children below the 20th percentile could attain 10 simple answers to 10 simple comprehension questions at the age of 11.

It is as well that Standards and Progress in Reading has been published to wipe away the complacency that the pamphlet might engender. This is the most important book on the state of children's reading published recenly in this country. This book follows up the report of the Nuffield Foundation, Reading in the Primary School, which compared reading in the schools in Kent with the national average. From the first report ten schools were selected for careful examination. These schools were deviant from the norm in that they were 'Good, Bad, Improvers or Deteriorators'. An extremely thorough investigation into the whole school situation was carried out in each of these schools in order to find out if there was any common factor to account for their deviation. This investigation was extremely thorough and is a model of its kind.

The first thing that emerges from these investigations is that many empiric judgments about reasons for good or bad reading attainment must be considered very suspect. For example, it does not appear to matter whether phonic or whole word method is used; separate infant/junior organisations appear to help and size of classes (of all things) does not seem to influence reading ability; formal Infant schools produce better results, etc. Dyslexia appears to be only a synonym for inability to read. This makes fascinating reading. The only common factor for good reading ability seems to be good buildings, physical conditions and the right kind of head teacher. Most of these results were, however, borderline and there should be more research into each of them on a wider scale.

The most depressing result obtained, however, is that seven out of eight children who are backward at eight years of age in reading, continue to be backward and that many regress from the expected pattern of improvement. Most of these children come from poor working class homes. It also appears that there is no evidence that this is caused by long absences or frequent school change. All the schools selected for investigation were streamed. Here we enter the realms of contention. It is suggested that, on the whole, the lower streams are not so well treated as the higher streams, in staffing or amenities. This, together with a lower expectation of general attainment, could account for the fixation of so many children at this lower level.

It is suggested that all teachers in the primary school or lower secondary school should be able to teach the basic skills of reading. As there is evidence in the report that in the 'good' and 'improver' schools these skills are taught to the staff by the Head by example and precept, it would seem that the Colleges of Education must examine their curriculum to see if they are doing enough of this kind of instruction themselves.

The reviewer also notes that most of the effects of streaming can be quickly overcome by a simple expedient—unstreaming. T. ADAMS.

Reading in Infant Classes by E. J. Goodacre. N.F.E.R. (1967). 130 pp. 25s.

Plowden recommendations on age and time of school entry and transfer only serve to emphasise the importance of the teaching of reading and of teachers' attitudes to this.

Reading in Infant Classes is the first of three reports on the London inquiry into teaching beginners to read. It presents the field of the survey and its findings in a descriptive and readable form; statistics are there, but the analysis does not punctuate every page. Two variables were considered: school organisation (child- or curriculum-centred), and social background. The 100 schools were representative of lower working class, working class and middle class areas. Material was obtained from written replies by head teachers and reception-class teachers to two separate questionnaires, and from teacher-estimated attainment of children's reading ability and researcher-tested attainments.

Replies to questionnaires depict a cross-section of infant school approaches to the teaching of reading, and reveal a diversity of standards and opinions on 'readiness' for reading, motivation, 'backwardness', etc. The survey finds that the social area had little effect on teaching methods, materials or standards.

But the differences found between the estimated attainment and the tested attainment tended to imply that teachers expect a higher standard from all children of 'better' homes, and tend to accept as inevitable a proportion of poor readers in lower social class areas. There is need for further research into teachers' opinions and assessment of 'good' and 'bad' home backgrounds. The training, age, experience and social background of the teachers themselves may affect these opinions. The second volume of the report (soon to be published) will deal with this, and should provide valuable information.

It would appear that the schools surveyed were organised on horizontal, rather than on vertical grouping, as reference was continually made to the 'reception class teacher'. As teachers in many parts of the country are working in vertically or 'family' grouped schools, it would be interesting to know how this type of organisation affects assessment and attitudes. N. BLOOR.

Russian kaleidoscope

Schools, Palaces and People. Manchester Education Committee (1966). 36 pp. Free.

Backward Children in the U.S.S.R. Arnold (1966). 70 pp. 12s. 6d.

Leisure and Pleasure of Soviet Children by D. Levin. MacGibbon & Kee (1966). 131 pp., 8 illus. 25s.

In February 1966 the Chairman of Manchester Education Committee and four officials went on an educational study visit to Leningrad and Moscow. They compiled a factual and observational account of what they saw, confining their comments to the last chapter.

The report by the delegation of four from the Guild of Teachers of Backward Children is an important addition to the available literature on the Russian approach to physically and mentally handicapped and retarded children. It includes detailed observation of visits to institutions for S.S.N. and E.S.N. children, information on the training of specialist teachers for such work, and accounts of discussions with leading personnel at the Department of Special Education and the Research Institutes of Defectology and Psychology.

The delegates explain how a 'sharp distinction is made between retarded children and oligophrenics' whose brain injury 'has impaired the nervous processes' in a crucial way, and draw attention to specific diagnostic research into various handicaps. The aim of such research is to identify children with any learning disability and then to find methods to overcome it. Here the delegates stress the close link established between research and the schools so that planned remedial programmes can be devised and 'slowlearners' helped to overcome their particular difficulties. In his Moscow radio broadcast, Mr. Segal said that he was struck by 'the absolute assurance in the educability of children'.

The chief impression gained from Miss Levin's book is of the enormous variety of children's activities, and the range of voluntary and official provision. Unfortunately, the size of this book did not allow for very much detailed description, but it does contain a vast amount of information. The extent of voluntary youth work may surprise English readers, as may the great number of apparently flourishing extra-curricular 'circles' devoted to academic and semi-vocational subjects beyond the traditionally popular sports and hobbies. N. WHITBREAD.

Comparative approaches

Paedagogica Evropaea 1966. The European Yearbook of Educational Research, Vol. II. W. & R. Chambers, (1966). 339 pp. 85s.

It is often asked where material by T. Husén, whose name is cited in connection with the comprehensive system in Sweden, may be found. There is a paper in this volume on 'The contribution of research to the reform of secondary education'. It is one of a number given at the congress of the International Association for the Advancement of Educational Research, held at Cambridge in 1965. Another, 'A map of educational research in Britain', is by R. Thouless, who makes the point that a condition 'for healthy development of educational research is that it should be closely integrated with the practical activity of teaching, the teacher knowing and being influenced by what is found out about the teaching problems in his own subject, and the research workers also knowing and being influenced by the practical problems of the classroom. This integration does not seem to be yet satisfactorily achieved in Britain'. Thouless notes, in particular, 'a certain disconnectedness' between 'the activities of reform in science education and research into science teaching'-protagonists of the former, in the Nuffield project, paying little attention to the latter while researches are often 'directed more by theoretical curiosity than by the practical problems of the classroom'.

H. L. Elvin has a paper on 'Research in the planning of higher education' and other contributions come from France, Germany, Italy and the United States. JOAN SIMON.

Adolescence again

The Psychology of childhood and adolescence by C. I. Sandström. Translated by Albert Read. Methuen (1966). 260 pp. 36s.

The Psychology of Adolescence (Nine lectures). The Faculty of Education, University College of Swansea, September 1966. 150 pp. 10s. (plus postage).

Both these books are recommended to FORUM readers. The first is a Swedish survey of modern developmental psychology, which attempts an objective assessment of the psychology of childhood and adolescence from a European viewpoint. It should prove useful also to first year students in colleges of education and university departments, as Sandström wrote the book for their counterparts in Sweden. The second represents an up-to-date account of the latest ideas on adolescence which was given in the form of nine lectures at a conference at Swansea Faculty of Education in July, 1965. Maurice Chazan, James Hemming, Thelma Veness and Kenneth Lovell were among the lecturers taking part. Again, one welcomes this type of conference report; it is so useful to read the views of a bevy of experts speaking on a topic which they have all thoroughly studied and investigated. ERIC LINFIELD.

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