

229 The Darbys and The Dale Company

P. Lead and J. Waddington-Feather

*Staffordshire: Institute of Education,
University of Keele. 60p.*

The Darbys and The Dale Company, number three in the Keele Teaching Unit Series, is a pack designed for use of children at Middle and Secondary (up to CSE) School levels. The production is clean and simple and designed to put a limited range of source material in the children's hands. The sources include engravings, maps, letters, technical drawings and other manuscript documentation each of which is carefully chosen to enable the enquirer to deepen his understanding of this key episode in the early history of modern technology. The enquirer — or his instructor — is not left unguided in his exploration, for the pack also contains a helpful bibliography and a critical introduction placing the work of Abraham Darby in the context of the pre-history of the Industrial Revolution.

Explanations of the industrial processes involved in the manufacture of iron, complete with clear diagrams, should instruct even the most technically-illiterate on how iron was made. Suggestions for 'Follow Up Work' suggest a number of ways in which related field-work can be undertaken as well as pointing to the essential questions about the nature of technology and its social context proposed by the historical material studied. The pack is completed by a series of questions, capable of direction to groups of differing academic abilities, on each of the units within the study. The pack is available from the Institute of Education at Keele at 60p, which makes it a viable proposition for classroom use even within the restraints of contemporary austerity.

J.H.Y. Briggs

Materials Science: Unit Two — Modern Materials

Haydn J. Webb

London: John Murray

This package (a 16-page Teachers Guide + 16 work-cards) is aimed at pupils of average ability and under in the 13-16 age group; the series is planned for use with Nuffield Secondary Science or a similar C.S.E. course.

The 16 cards in this set are nearly all concerned with plastic materials and operations on them — their synthesis and use, moulding, shaping, machining, and disposal of waste. The teachers' guide gives plenty of practical hints clearly derived from classroom experience.

The cards (A4 size) are clearly printed with excellent diagrams and a text mostly written in monosyllables; fundamental experiments in physical sciences (e.g. conductivity testing) are included in the scheme and set in the context of practical creative work with plastics. Simple models of molecular structure in plastics are also investigated, and the whole problem of waste disposal is discussed in depth along with other social consequences of (for example) plastic buildings and plastic weapons.

All the learning experiences presented here are designed for school laboratory or workshop use, using simple equipment and inexpensive materials, and creativity is mixed with scientific analysis and social responsibility. The package doesn't replace a teacher, but it does offer some refreshing ideas for integrating crafts and sciences with the less academic pupils.

M. Sayer

Arts and the Adolescent: Schools Council Working Paper 54

Malcolm Ross

London: Evans/Methuen Educational, £1.20

If this 87-page Working Paper is read and discussed as widely as it should be by teachers of art, English, drama, dance and music, its publication could be an event of major importance. Its sub-title is 'A curriculum study of the Schools Council's Arts and the Adolescent Project based at the University of Exeter Institute of Education (1968-72)', and the author hopes it will enable arts teachers to 'Judge the value of our work and . . . use it to bring about such changes as they would like to see'. The really significant changes, however, will be in their own thinking.

The project team's original brief was much concerned with *relevance* to ROSLA children and with *integration*. The first chapter outlines frankly the often troubled history of the early days of the project, rumours of which must have reached many ears: not least, the problems were semantic ones. 'The frustration of the working party and its fundamental ineffectuality arose from the difficulty members had in communicating with each other'. In 1968 the Schools Council's *Enquiry 1* had revealed the young school leavers' poor evaluation of their music, art and drama lessons and brought into focus the deep-rooted malaise in arts education. When Robert Witkin, a social scientist, became Research Director he saw that the fundamental need was 'to construct a basic conceptual framework which would permit the analysis and assessment of current practice and provide a proper foundation for controlled experiment'. The Schools Council showed remarkable perspicacity in continuing to invest £40,000 in a project which proposed to get at the root of the problem rather than hustle into

production curriculum materials to meet the supposed immediate needs of teachers.

Though the fundamental failure of arts teachers is identified as lying at the conceptual rather than the presentational level, Chapter 2 does qualify in tables the relative disadvantages of the arts in schools in terms of teacher numbers, training and promotion prospects, curriculum time, facilities, and research and development expenditure. All this should strengthen their aim in the fight for a fairer share of a diminishing cake.

Chapter 3, however, reaches the heart of the matter. There has been a rift in thinking about art education between an analytical, problem-solving, design-centred functional approach and an expressive, self-reflexive, affective orientation which could be crudely characterized as the contrast between craftsmanship and creativity. When we probe the philosophical groundwork underlying the teaching of English, drama, dance and music very similar crevasses are revealed beneath the surface. Apprehensions about the danger and the social unacceptability of facilitating the expression of feelings on the part of young people are found deeply buried everywhere. The project team's reaction is unambiguous and bold; 'It is our view that the prime concern of the arts curriculum should be with the emotional development of the child through creative self-expression'. Readers who have previously wrestled with the difficult analysis in Witkin's *The Intelligence of Feeling* (Heinemann, 1974) will be particularly glad of the succinct and lucid summary provided here on p.57 et seq. It provides a potentially powerful remedy for some of the schizoid contradictions in arts teachers' work and thinking.

The Working Paper includes an appendix on The Arts and the Handicapped and an extensive bibliography.

Michael Paffard

231 The Steering Wheel of Destiny

Edward Semper

Nottingham: National Centre for School Technology, Trent Polytechnic. 20p.

This pamphlet restates, in 23 pages, the essential arguments for Technology Education — arguments that are becoming more urgent as it is realised that Technology Appreciation is vital to self-fulfilment in a technological society and that Technology, far from being restricted to the manufacture of technical gadgets, has been a largely unrecognised major component in much of European society for two and a half centuries at least.

Semper's writing is concentrated and not easily summarised without quoting the whole booklet; as specimens, the following particularly important paragraphs from pages 6-8 are reproduced here in full.

'If education, as a social process, is to help all young people to begin to learn how to live agreeably, wisely and adventurously in an era of advanced technology, we shall need to accept changes in our educational system as well as in the content and method of what we teach. Happily these changes are of a kind likely to bring fresh vitality to general education and appeal to those seeking to promote political, European, environmental and careers education. Moreover, they point the way towards a curriculum based upon the broad needs of society as well as the provision of a corps d'elite.

For these needs to be met, there must be an appropriate shift of emphasis in school programmes which although substantially revised in recent years to provide more equality of opportunity, still retain much of the traditional order of priorities in both subjects and skills. Dr de Bono's view of technology in schools makes explicit what is required. He sees it as two subjects: "the first would be a general subject which would

deal with the nature of technology, its possibilities and its limitations, the dangers and the impact of technology on society. There could be an historical element but it must not be allowed to dominate the subject as it so easily could . . . Its purpose would be to equip people to live in the technological age . . . One would learn technology in order to be able to use it properly so that one is able to communicate with the environment in which one is going to live. In addition, there would be a special subject covering design, invention, problem-solving, testing, how to bring about an effect and yet avoid another, cost effectiveness and the like".

" . . . There are two main reasons for pressing for changes in our educational system. The first relates to de Bono's general subject: in order to bring about a widespread and changed attitude to technology in these days of cafeteria and modular curricula, it is necessary to introduce a new element into the curriculum of every child. Moreover, if it is to be our aim to equip all people to live confidently and wisely in a technological age, we must consider carefully ways in which we might best inspire and develop the technological sensibility of all young people across the full range of abilities. We must consider the kinds of knowledge, attitudes and skills that are needed for them to identify with and in various ways become involved in the affairs of our democratic, technological and industrial society. In some degree or other, everyone is involved in decision-making within this framework and current preparation for this role is hopelessly inadequate'.

' . . . There are two ways in which we might endeavour to achieve these changes: the first is admirably expressed in the James' Report 4.15 viz. "the teaching of almost any subject, to intending teachers and their students alike, should be illuminated by some awareness of its relationship to other areas of knowledge and its reference to

social, political, economic, cultural and technological conditions of contemporary society".'

'... Allied to this attack on teacher education is an attempt to add a technological dimension to familiar school subjects — design opportunities to science, technology to design and craft, domestic technology to home economics — and to suggest appropriate extensions to items within familiar subjects. Some awareness of the history of technology, for example, enhances the teaching of history for, as Professor Lynn White says, "the acceptance or rejection of an invention, or the extent to which its implications are realised if it is accepted, depends quite as much upon the condition of a society and upon the imagination of its leaders, as upon the nature of the technological item itself". For example, religious idealism inspired craftsmen in the thirteenth century to invent an escape mechanism with which to reproduce the motions of heavenly bodies. Although intended to be used to predict the positions of the planets, the mechanical clock soon became 'the pocket indicator of modern life'. 'Time became money', 'as regular as clockwork' symbolised an ideal, events could be synchronised, and it became easier to believe in an 'independent world of mathematically measures sequences, for which there was little evidence in human experience of heart beats, rhythms of breathing, span of days and the like''.'

'... In general terms, social and religious idealism, depletion of and competition for natural resources, and stimulation of ingenuity by the sight of unfamiliar techniques and processes, are factors no less important than economic and political pressures in determining the course of technological diffusion and innovation, and hence of history'.

Michael Sayer

Musical Instruments You Can Make

232

Hugh Garnett

London: Pitman, £3.50

This is a book which should never be on the shelf of any craft teacher's library — it should be permanently on the workbench. It describes in clear detail and with ample illustrations and photographs how a whole range of instruments can be made easily and cheaply.

It starts with a simple drum made from a cardboard tube and a bath hat and it would be difficult to get more basic than that. From there it progresses to 'talking' drums, one using two plastic flower pots and the other involving a little woodwork. It then moves on to kazoos and horns made from plastic water piping. Then follow pan-pipes and a cylindrical flute also from water piping. A more technical version of the latter is keyed but the keys are simple to make and fit.

The book then turns to strings and the work is a little more demanding. The first is a coke-hod dulcimer which calls for hack-sawing and drilling. It incorporates a fine-tuning device which is delightful in its conception and construction and admirable in its simplicity. Instead of a bought coke-hod, a body may be built from plywood which the author points out can serve as a coke-hod if all else fails.

The last chapter deals with keyed psalteries and these call for some degree of accuracy in working which includes the making of a keyboard but the result must be very exciting.

The range of instruments as set out follows a progressive age ability. Even a five-year-old could make the first drum, say eight-year-old the talking drums, eleven to thirteen for the flutes and dulcimer and fourteen for the keyed psalteries though all

these ages could be lowered by discreet help.

This book encourages several worthy activities and attitudes, imagination, invention, the joy of making music from an instrument of one's own building, the pleasure of playing in concert which the range of instruments permits, and the use of discarded bits and pieces of old school furniture, a very vital feature in our present need of conservation. In this respect the author is a man after my own heart for many of my early experiments were carried out with timber from old oak school cupboards and it is proved that very good and tuneful instruments of sophisticated sorts can be made from common timbers and on unconventional lines.

Peter Ecker

In-Service Education and Teachers' Centres

Edited by Elizabeth Adams

Oxford: Pergamon, £4.80

In the past decade teachers' centres have established themselves as a focal point of our educational arrangements. They are now to be found in almost all local education authorities, their wide range of facilities available to the majority of teachers. Not only in their formal programmes but also in the opportunities for informal contact that they provide, the teachers' centres have become a major agency for change and development; it is here that new ideas are transmitted, new curricula are advocated, new teaching strategies and organisational arrangements explored and even initiated. In the field of Design Education a great deal of development can be seen to have been facilitated by the existence of teachers' centres and the widespread and effective

work of specialist teachers and advisers in the design subjects working within them.

In this timely book, Elizabeth Adams brings together a detailed and perceptive analysis of the present state of teachers' centres aided by an international group of contributors including John Brand, Joan Dean, Arthur Duckers, Matthew Miles, James Porter, Malcolm Skilbeck, Jo Stephens and Nanette Whitbread.

But the book goes far beyond an analysis of teachers' centres and their activities and proceeds to consider the role of in-service education generally on the nature of professional development making a powerful case for an even greater emphasis on in-service rather than initial training. A particularly interesting argument that will evoke an enthusiastic response from many readers of *Studies in Design Education and Craft* is that in-service education in teachers' centres and elsewhere can create a situation in which teachers themselves come to make more effective decisions on the planning and realisation of their teaching. Perhaps the continued emphasis of design educators on individual decision making and responsibility has an even wider relevance in our educational system. Certainly Elizabeth Adams and her collaborators offers a stimulating view of events that has much of importance to say to design educators.

John Eggleston

Metal Jewelry Techniques

Marcia Chamberlain

London: Pitman £8.50

Modern Leather Design

Donald Wilcox

London: Pitman £4.80

Embroidery in Fashion

Annwen Nicholas and Daphne Teague

London: Pitman £6.25

Imaginative Canvas Embroidery

Nancy Outram Hobbs

London: Pitman £3.95

Creative Quilting

Elsa Brown

London: Pitman £5.95

One of the most active British based publishers in the field of Design and Craft Education at the present time is Pitman. Generating their own volumes here in Britain and reprinting many that have originally appeared in North America they are making available an impressive range of forward looking volumes on the interface between art and craft that is of particular value to all who practise and administer Design Education. The standard of Publication and especially the visual quality of the volumes is commendable.

Modern Jewelry Techniques offers a detailed and clearly written technical guide to the wide range of traditional and new jewelry techniques. It contains much information that has not been readily available previously; the chapters on chemical and heat processes and on casting are particularly informative. And unlike many technically sound books the volume does not fall down in its illustration of finished work. On the contrary much of the jewelry illustrated and described is in itself likely to be a stimulation to all who seek to design and produce personal ornamentation in metal.

Modern Leather Design performs a very similar and equally attractive service for those who wish to work in leather, covering

in detail the whole sequence of designing and making from preparation and selection of raw material through to finishing and distributing. Among the leather objects to which attention is given are sandals and slippers, handbags, belts, wallets and a range of clothing. But also included is the use of leather in furnishing, in upholstery and surface covering. The sections on the surface treatment of leather are particularly sound and show a proper respect for the enhancement rather than disfiguration of its natural qualities.

Two books on embroidery are again guided by a similar combination of sensitivity and respect for competent technique. The one on Canvas Embroidery is an area where some of the greatest crudity in the field of design and craft education has been perpetrated over the years not least of all in the commercially produced rag pattern. *Imaginative Canvas Embroidery* opens up a new world of possibilities in this all too often debased art form. Much the same contribution for the development of embroidery is to be found in *Embroidery in Fashion* in which Annwen Nicholas and Daphne Teague present a valuable review of the way in which new techniques are being developed in British colleges of art and further education. *Creative Quilting* also offers an important attempt to upstage a craft that in the past has often been seen as not only crude but also marginal. Here again an impressive path has been mapped out that, for the most part, avoids crudity on the one hand and over-sophistication on the other.

John Eggleston