

NEW FILMS ON CHILD DEVELOPMENT. N. O'DOHERTY & M. SHERIDAN, *Neurological examination of the full term neonate* (ICEM Ltd, 20 min., 2 reels, £82), *Child development: the six months examination* (ICEM Ltd, 13 min., 1 reel, £65), *Child development: the twelve months examination* (ICEM Ltd, 13½ min., 1 reel, £65), *Child development: the two year examination* (ICEM Ltd, 14½ min., 1 reel, £75), *Medical examination at school entry* (ICEM Ltd, 23 min., 3 reels, £100), *Hearing in the pre-school child* (ICEM Ltd, 20 min., 2 reels, £85), *Vision in the pre-school child* (ICEM Ltd, 14 min., 1 reel, £70), *Developmental aspects of play* (ICEM Ltd, 24 min., 3 reels, £100).

J. KAGAN & H. GARDNER, *Infancy* (Harper & Row, 20 min., 2 reels, £140), *Cognition* (Harper & Row, 20 min., 2 reels, £140), *Language* (Harper & Row, 20 min., 2 reels, £140).<sup>1</sup>

It is remarkable how little used the medium of film has been for the dissemination of information about child language development. There are, after all, so many areas which could benefit from its use – research, teaching, parentcraft, therapy, fund-raising – not to mention the insistent demand from popular educators for contributions to a general account of human behaviour. It is true that video is nowadays widely used in research; but it is little used elsewhere. It is also true that there are now available filmed accounts of some of the more ‘dramatic’ aspects of normal and pathological development for mass consumption, such as the BBC TV documentaries in the *Horizon* series. But teaching films aimed at restricted audiences have been conspicuous by their absence. The production of a number of new series in recent months is thus very welcome. We see these films as providing a significant contribution to educational progress in the field of child development, and a valuable perspective for specialists in child language. But, as is inevitable with pioneering work, there are many criticisms that can be made. We hope, then, that by devoting space to a discussion of what we see to be the main difficulties in these films, the problems peculiar to films on the subject of language will be better appreciated, and further ventures of this kind begun.

All the films are 16 mm. and in colour. The first series (of eight films) was devised by Neil O’Doherty and Mary Sheridan. Five of the films deal with the

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[1] The rental price per film from one company (Guild Sound and Vision, Ltd) was £8.50 in 1973 (excluding carriage, insurance and tax), but this was for rental in the United Kingdom only. Other prices given are also as of 1973.

medical assessment of the developing child. *Neurological examination of the full term neonate* demonstrates how it is possible to make a reliable examination of nervous function in the newborn, and outlines why it is important to make this examination in the early days of life. The first part of the film illustrates the role and techniques of reflex response testing; the main part shows the full neurological examination of the normal baby, with some explanation of technique; and the final part shows something of the outlook for those children presenting minor neurological disorders in the nursery. *Child development: the six months examination* demonstrates simple reliable testing of a six-month-old child, such as is carried out routinely at welfare clinics and surgeries. The opening sequence shows the dissolution of most of the primitive reflexes on which the neonatal examination was based. It is followed by illustrations of the baby's developing social awareness, tests of vision (eye movements, extent of the field, acuity), hearing, hand-eye coordination, prehension, manipulation and motor development generally, including the testing of certain postural responses. *Child development: the twelve months examination* demonstrates the corresponding testing six months later. The film shows the development of the child's personality in the context of family relationships, and his realization of the separate and permanent existence of people and objects. The child's exploration of and curiosity about the world, his awareness of the functional relationships between objects (e.g. matching cup and spoon), and his developing vocalization are all illustrated. The film then looks at the testing of vision and hearing at this stage, as well as the level of manipulation and the quality of hand-eye coordination. The examiner also demonstrates how nearly all of the primitive motor reflexes have been lost, and replaced by numerous, specific motor actions. *Child development: the two year examination* begins with a mother being interviewed when the child is brought for routine medical examination. The interval history is taken in relation to his general health, and as the mother outlines the child's developmental advances, the film moves to the home setting, where the achievements appropriate to his age are portrayed. Social and emotional behaviour, along with aspects of play, are shown, as is posture, and movement indicating various levels of refinement in prehension, manipulation and coordination. Some comparison is made with performance at earlier stages. The final part of the film looks at tests of vision, hearing and language in the examining room.

*Medical examination at school entry* is a film about the statutory duty of the School Health Service to medically examine every child at or around five years of age upon entering school. This examination has two main objectives, which are explored in the film. The first is to evaluate the state of health, developmental progress and environmental condition of each child in order to detect the earliest signs of illness or defect of body, mind or personality likely to interfere with his normal growth and development or his capacity to learn in school or to socialize happily with other people. The second objective is to provide epidemio-

logical information concerning the state of health of the nation's children, particularly in relation to socio-economic, geographical and climatic factors. The film starts with a brief conference regarding the children to be seen between doctor, head teacher and health visitor. It goes on to show the order and content of a complete medical examination designed to elicit the maximum amount of information in the time available, carried out by an experienced school doctor, in order to illustrate particularly instructive responses and events. The examination portrayed is a composite one, constructed from unrehearsed film recordings of four healthy children of five years during a single session at an ordinary primary school in Middlesex, using volunteers previously unknown to the examining doctor. Special attention in the film is paid to methods of establishing and maintaining a good relationship between the participants, and to the demonstration of testing procedures which the authors have found to be particularly useful in the assessment of neuro-developmental status, visual, auditory and linguistic competence, and everyday manipulative skills. In conclusion, the importance of keeping good case records is stressed, as also the need to share relevant information between school, home and family doctor.

The three remaining films in the O'Doherty-Sheridan series concentrate on psychological aspects of development. *Hearing in the pre-school child* demonstrates a series of testing procedures designed by Mary Sheridan. The baby tests are modifications of conventional procedures which, for pediatric reasons, had to be standardized for duration and distance. The remaining tests make use of specially constructed toys, pictures, word lists and sentences for repetition. The procedures are mainly concerned with the testing of auditory competence, but inevitably information is provided concerning the reception of speech. The procedures shown were unrehearsed, and in their application to normal children at various stages of development, illustrate some of the difficulties encountered in using them (e.g. keeping the child's attention). *Vision in the pre-school child* begins at six months with tests using rolling balls and non-mobile balls mounted on sticks at various distances. Later, tests with miniature toys and a series of graded standard Snellen letters are applied at various distances, using children at regularly spaced ages up to six years. Once again, the film was unrehearsed, so as to demonstrate the ease of testing children under twelve months and over three years, and some of the difficulties encountered with children between one and three years. *Developmental aspects of play* covers aspects of play between three months and five years, different stages being traced from early locomotion to complex physical activity, from primitive manipulation to skilled hand-eye coordination, from imitative role-play to complicated make-believe, and finally to organized group play, with an indication of the necessity of rules, sharing and taking turns. A wide variety of backgrounds and situations are shown in home, day nursery and school; and the activities are again spontaneous and unrehearsed.

The three films in the Harper & Row series were produced by Jerome Kagan

of Harvard and Howard Gardner of Boston, and include a set of notes for the instructor, as well as a select bibliography. *Infancy* discusses the behaviour and cognitive patterns characteristic of the stage of infancy, including object permanence, stranger and separation anxiety, reaction to discrepancy and maturing of coordination. A wide range of children is illustrated, and the question of individual variation in infant temperament is discussed. *Cognition* begins with a discussion of problem-solving in terms of the processes of perception, memory, evaluation and reasoning, especially the generation of hypotheses to solve problems. The second part of the film then presents an overview of the essential aspects of Piaget's theory of intellectual development, relating this to the earlier discussion of problem-solving. The film looks particularly at the notions of attention, recognition and recall memory. *Language* discusses the developmental sequences in first language learning in terms of the major milestones in the acquisition of grammar and meaning. The generally recognized stages of development are illustrated from English – babble, holophrase, telegraphic, etc. – and a number of eliciting situations are demonstrated, showing the use of specific structures. Various general issues are pointed out, in particular the distinction between expression and comprehension, criticism of a view of language learning solely in terms of imitation and reinforcement, the contrast between human language and non-human communication, the notion of speech functions, and the importance of considering dialect, class and individual variation in language study.

According to the publicity brochure we received, these films are intended primarily for medical students and doctors working with young children, but the producers' experience has led them to claim that they are useful in addition for other specialist professions (e.g. nurses, social workers, teachers, health visitors) as well as for students of behaviour and interested lay people. This seemed in advance an impossibly wide audience for a film series to address itself to, and our main criticism of these films arises out of the failure of the producers to provide the material consistently at a given level. The level of presentation fluctuates wildly, and makes one wonder what kind of audience the producers must have been envisaging. For example, if these series are primarily intended for specialists or serious students of a subject, then it is hard to justify expensive footage on mother bringing her child along the road to the clinic, or birds on the wing (somewhat fancifully introducing *Cognition*), or a jet airliner passing low overhead (in *Hearing* – to show the joys of hearing?). While such touches might be thought worth while (but surely only by a patronizing film-director?) to soothe the layman's brow before the introduction of a fairly complex topic, this purpose is defeated subsequently by the abrupt use of quasi-technical terminology with little or no explanation (see, for instance, 'selective laterality' or 'manipulative play' in *Developmental aspects of play*, or 'supinate' forearm in *The twelve months examination*). Again, we may be presented first with a fair amount of technical

detail, by means of graphs and diagrams, all capably done (as in *The six months examination*), but if the commentary continues, as it does in that film, with 'If you suspect a squint... ', we may be forgiven for wondering just who is being addressed here. And yet it is impossible to be dismissive about the commentary of this film: indeed, it is at times quite excellent. The film's main trouble, as with all the others, is precisely that good is mixed with bad, in varying proportions, at every level: what might be good in its own right (a simple observation for the layman, or a brief reference to a technical point for the specialist) becomes bad because of its inappropriate context. The point may be illustrated with reference to problems of design, coverage, presentation and technique.

In terms of DESIGN, we were unhappy with the way commentary, natural settings and graphic aids (animation, graphs, etc.) often failed to complement each other, or were used inappropriately in relation to the subject-matter of the film. In *Language*, in particular, too much time is wasted looking at shots of children doing very little in various situations, while the commentary struggles to bear the load of explaining what is going on 'beneath the surface' by way of language acquisition. It is not surprising, therefore, that at the end of the film, when the commentator makes the claim that we have been provided with an EXPLANATION of the facts of language development, an integrated sense of explanatory principle is altogether lacking. The main danger with a film on language development, it seems to us, is in its relying too much on natural settings. These are essential for illustrating the development of play or motor abilities, of course, as many of these films show; but it seems necessary to point out – though we hesitate to state the obvious – that language development is not a process which is essentially accessible to superficial observation. One can no more explain the principles of language acquisition in terms of natural setting plus commentary than one can, say, the principles of flight. To show a plane taking off, accompanied by such comments as 'At this stage the wing flaps are still extended...', takes us nowhere along the road to explanation. And even if explanatory comment were built into the commentary, it could not make good the absence of anything that might be called a visual explanation – and the whole point of making a *film* is thereby lost. As an example of this, it is hardly sufficient, if one's purpose is to show how production lags behind comprehension, to have a child identifying pictures of animals whose names are being called out by an adult. Indeed, the point of the exercise is likely to be missed entirely, especially when (as in *Language*) the child seems to be at a stage of language development well beyond that at which such a test would be appropriate. To achieve any kind of 'explanatory adequacy' in visual terms, such illustrative material needs to be copiously supplemented by diagrammatic and other graphic data – data which are sadly lacking in this film. Linguistics is very amenable to treatment in these terms, and one can imagine such devices being used to good effect in the context of language acquisition – for example, curves of vocabulary growth, syntactic

derivations, the order of phonological development (a topic largely ignored in this film), patterns of intonation. And – to take a much more elementary point – why was there no transcription given for the utterances of the children? There are bound to be major problems of recording quality in making films of this sort, and on the whole we found the sound quality of the naturalistic dialogues poor. We were unable to understand what was being said by the children on a number of occasions, and this was the most vociferous complaint made by the audiences to whom we showed the film. It could have been done quite easily. At the beginning of the film, for instance, there is a sequence in which a Martian child is shown learning some simple nouns and relationships, and his Martian telegraphese is transcribed. We see no reason why humans should not have been accorded comparable privileges!

If natural settings and graphic aids are properly used, the role of the commentary should fall into place – neither redundantly supplying information that is clear from a graph, nor struggling to make good the deficit of irrelevant camera-work, but drawing out the implications of what cannot be done visually. Sometimes this is done very well in these series. We were particularly impressed by the use of split-screen techniques and of image-freezing (while the commentary continued), well used in the films on *Play*, *Vision* and *Cognition*, for instance. But in general we felt that there was room for improvement in this whole area.

In terms of COVERAGE, we were frequently dissatisfied with the emphasis that is laid on certain aspects of a topic, with consequently superficial treatment of the rest. In particular, we noticed the impoverished treatment of language in the films on general development. The comments on babble in *The twelve months examination* are extremely thin and stereotyped, for example; and there is the very minimum of discussion of language structure in *Hearing*. The answer cannot be that there was no room for more material in this area: the repetitive use of certain sequences is a major drawback of the series as a whole, the same situations turning up in a number of films (some of the visual tests, for instance). And in view of the major significance of language at the 12-month stage, as well as in auditory testing, it is a pity that some of this footage was not reduced, and replaced by more material on vocalization. In much the same way, *Developmental aspects of play* and *Cognition* display imbalance, the later stages of development receiving little attention. For example, in the former we are taken from the earliest stage up to the end of the pre-school period, from finger-play to Lego-building; but the later stages suffer by using examples which verge on the trivial. At the middle stages, for instance, we found it appropriate to see a child failing to use the pedals of a tricycle properly; but is it then worth spending time showing the superior ability of a later-stage child in this respect? What is interesting about four-year-olds is not so much that they can pedal tricycles, but that they are developing group-play behaviour and social attitudes – and there is disappointingly little of these aspects in the film. Or again, *Vision* is excellent on

tests involving distance and size, but fails to cover colour, gap-closing or depth perception – regrettable when, as already mentioned, one sees repeated emphasis given to the former.

As far as PRESENTATION is concerned, the shortcomings mainly arise out of the underlying question of level. It is impossible to say with any certainty what degree of specialist knowledge or professional involvement is assumed in the audience by the producers. In *Language*, for instance, we begin with some excellent animation in the Martian learning sequence, which could be useful for almost anyone, as a means of getting the feel of an alien language discovery situation. But some of the animation elsewhere is much cruder (e.g. the head-scratching cartoon in *Cognition*, while memory-problems are encountered), and argues for a popular audience. The commentary is also at various levels, sometimes precise and specialized, sometimes melodramatic and casual. *Language*, for example, talks of 'the wonder of language learning', 'unpeeling a series of layers' in language, and oversimplifies regularly (e.g. holophrasis is said to express 'wish, demand, or strong emotion', two-word utterances 'usually refer to concrete objects and actions').<sup>1</sup> We recognize, of course, that some simplification is inevitable in a short film; but the emphasis of these examples sits oddly with the repeated reference to the view that there is no simple theory of language acquisition, and that theories of imitation and reward just will not do (this is insisted upon four times in the film), suggesting that an audience of dyed-in-the-wool behaviourists is being assumed. In *Cognition*, a remark such as 'obviously, recall is a much more sensitive assessment of the child's ability' (in the context of a very well illustrated discussion of the different types of memory, and of the processes of recall and recognition) hardly squares with the banal 'Now we can talk Piaget' (as the film turns to deal, superficially, with the later stages of cognitive development). Likewise, it is no good being archly unsophisticated at one point – for example, using the quaint term 'syntactical' (in *Language*); offering a simple-minded, but debatable view on the beneficial effect of television on language; or (in *Cognition*) giving a thumbnail history of psychology – if the film is going to proceed to technicality elsewhere – for instance, referring to the role of the central nervous system in language learning situations. And after presenting a perfectly straightforward non-technical account of the development of play (a laudable achievement), there is little to be gained, and much to be lost, by then claiming, quite unjustifiably, that what has been presented is an index of physical, emotional and intellectual development. A student will be quite aware

[1] In the notes to the instructor, the milestone of the first word is said not usually to occur until about 18 months of age – which is some six months later than the well-founded, generally recognized norm. (On the basis of which, incidentally, the boy in the Bruner film reviewed below would seem to be somewhat slow in his speech development!)

that the film has not provided this: what is dangerous is the possibility that he may conclude that the study of play itself cannot provide it.

There are further problems of presentation, even if a specialist audience is assumed, when we consider the actual content. For example, it is fair enough that *The twelve months examination* should be about equally concerned with the techniques that may be employed for assessing development as with the course of development itself, and it is good to see, in *Language*, many of the tests cited in the literature (e.g. the *wugs* item in the Berko morphology test) being done. But we expected to see, for a professional student audience, far more discussion of the problems and pitfalls that occur in applying these tests and techniques. To take a few problem cases that struck us as we watched. Why wasn't attention drawn to the problem of satisfactory masking in the auditory testing sequences (in *Hearing*), where the eyebrow movement of the presenter was at times clearly visible to the child, and where the regular interval between stimuli might have promoted an expectancy effect? In demonstrating short-term memory in *Cognition*, was not intonation pre-chunking the string of digits being presented? Why wasn't the issue of distinguishing colour from form raised in *The twelve month examination*? And why was the clear instance of pre-responding by the child in *Language* who was asked to act out 'the elephant was hit by the dinosaur' passed over in silence? – after all, it is more than merely comforting to see this happening to the Harvard group (like watching Jack Nicklaus miss a two-foot putt): our success in this field is crucially dependent upon our awareness of methodological problems of this kind.

There is little to say at the TECHNICAL level, except to report our impression that the standards of vision and sound production did not match. The colour photography we, as laymen, felt to be generally excellent; but the sound quality was often inadequate. The children's speech, as already mentioned, was generally difficult to understand. And in *Cognition*, at one point, there seemed to be a discrepancy in speed between the tape recorder that was used in making the film and that used to build up the sound track – either that, or the participants had serious, undetected voice disorders! At times, too, we felt that some of the shots were too short for the viewer to be able to digest the message – but this was uncommon. And lastly, we felt it would have helped had the introductory credits given some indication of the place of the film in its series. Apart from anything else, this might warn the audience not to expect anything more than a passing reference to topics that form the main subject of some other film in the series. Short films on complex subjects cannot be made in the spirit of each one being complete in itself: if one is making a series, then one might as well utilize the strengths of this idea fully, by appropriate cross-reference.

We have shown these films to a university audience, and the *Language* film to various groups of professional language specialists. Their main value, we found, was in rapidly stimulating discussion of fundamental issues. Educated lay

audiences who saw these films generally came away fairly confused, but all felt that they had 'learned something'. We are therefore prepared to recommend these films for use with students, who can learn both from their strengths and their weaknesses. But any teacher who intends to introduce this material into his curriculum must leave plenty of time for discussion afterwards; for without judicious preparation, these films could cause him more problems than they solve.

As this number of the Journal goes to press, we note the appearance of a third series of films produced by Jerome Bruner and his associates while at Harvard University's Center for Cognitive Studies, and published by Wiley in 1972 and 1973. Under the general heading of *Origins of competence: studies in early cognitive development*, four films have been made. *The intention to take: the infancy of object capture* (14 min., black and white, £40), by Bruner and Allegra May, depicts aspects of early development and the nature of early skills, showing in particular how the child constructs appropriate actions into a sequence to achieve an objective (e.g. lifting the arm, clenching the fist, working the mouth, fixating the eyes, and moving the hands outward). *Cup to lip: the origins of instrumental action* (14 min., black and white, £40), also by Bruner and May, studies the child's mastery of his environment, particularly of tools and implements that help him achieve his objectives. It illustrates a 7-month-old girl reaching bilaterally for a cup, her initial inability to bring the opening of the cup to the mouth, and what happens when the cup is assimilated into the exploration of play. Details were not available at the time of writing of a third film, *One, two, many: dealing with multiple objects* (15 min., colour), by Bruner, May, and Karlen Lyons; but we were given the opportunity to view the fourth film in the series, *Early words* (21 min., colour, £85), by Bruner, May, and Patricia Greenfield.

This film is sub-titled *Action and the structure of language*. It is a study of a selection of utterances of a 22-month-old boy, initially holophrastic, later telegraphic. The film aims to show how the boy's speech is often accompanied by the action of voluntary enterprise, words appearing at crucial points in his action (e.g. initiation, maintenance towards the goal, completion). The thesis expounded in the commentary is that out of an initial world of actions there is a stage during which actions are used jointly with words (the latter being used only when absolutely necessary), until ultimately words can take the place of actions. It is argued that language must be an outgrowth of action, for otherwise the child would never have moved so smoothly from the one to the other.

We felt that this film displayed many of the weaknesses already discussed in relation to the above series. Its strong points are its focus on a specific, well-defined topic, so that one feels that the period in question has been fairly represented; and the commentary, which seems to be aimed at a non-specialist but educated audience, is generally consistent (though with occasional slips, e.g. at

one point 'the triad of Agent-Object-Action' is introduced without gloss). For the language specialist who has lived for too long in disregard of context, the film neatly captures a number of situations which illustrate well the role of gesture, and the interaction between context and language. But the film is seriously marred by inadequacies of presentation and technique. The producers have chosen to structure the film as a set of situation-commentary sequences. We are given a sequence filmed in the home, and then the screen freezes while Bruner gives a commentary on the salient features of what has just been seen. This commentary at times is quite lengthy, and as a result, a considerable proportion of the film's expensive footage contains only a soundtrack - which is hardly the best way of using the medium. In terms of relevance, we could have done without the lengthy lyrical sequence showing the child going to bed, accompanied by a gentle folk-song! And we felt there was room for major improvements in technique. The sound quality is on the whole good, and the child's utterances are given in an orthographic transcription, which helps (but the mother's are not, and she is occasionally difficult to follow). The photography however leaves a great deal to be desired. Lighting must have been a major problem for the director, but the problem has not been solved: the film has badly fluctuating colour at times, and blurred images. A hand-held camera seems to have been used for most of the film, and this produces some extremely jerky sequences - just like the home movies we have ourselves made (but which we do not charge other people to see)!

We also felt that more information could have been provided concerning the conditions in which the film was made. The child's activities certainly seemed very spontaneous - itself an extremely difficult result to engineer - but how natural was the persistent questioning of the mother? Also, we were unhappy about many of the identifications and interpretations placed upon the utterances by the authors. At times they do say that an interpretation is unclear or unascertainable (e.g. in discussing the meaning of the sentence *outside*), but on the whole we felt that they were reading more into the child's utterances than we ourselves would like to do, on the basis of the evidence provided. For example, the item (at this stage NOT a sequence of words) *round and round* is said to appear early in the film, and it is transcribed in this way. But we could hear no clear segmental identity for the *and*. A little later, the child makes a fairly indeterminate vocalization; the mother says, querying, *Round and round?*; and the child says *yes*. On the basis of this, the authors have transcribed the child's utterance as *round and round*. But we feel that this is a dubious procedure, and would wish to make the general comment that far too much trust is currently being placed on the interpretations of parents as a justification for linguistic analyses. Likewise, we were dissatisfied with the transcription of one utterance as *mine*, which to us sounded more like *my*. And again, when *big* was referred to as a 'modifier', at one point, we feel there was little justification for this analysis from the

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utterance, which on prosodic grounds seemed to have little syntactic unity. We may be wrong in each case, but the fact that we had these reactions suggests that the problems involved in the identification and analysis of utterances could have been given a more explicit discussion than the authors have chosen to do.

We remain believers in the importance of naturalistic observation but, as already mentioned, we think it can be over-used, and in any case cannot provide a basis for understanding the process of language acquisition without additional material which is carefully structured. We feel that it has been over-used in this case, and that too much reliance has been placed upon it. Our final impression of the film was confused: we remembered isolated events and words, but were unable to construct a systematic idea of a process of development from the evidence. We did not in fact feel that a 'smooth' transition had been demonstrated between actions and words, and the Bruner hypothesis for us, on the basis of this film, therefore remains an open question.

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