The Encouragement of Vocal-articulation and Speech, with Notes

It will be remembered that we must distinguish between the vocalisation and the making of the various speech sounds which form the carrier medium, and the meaning or message which is being carried.

A child learns to understand his surroundings by first exercising his movements for their own sake until they are thoroughly familiar, then exercising them in touching and moving things for the sake of these activities until eventually his experience allows him to exploit combinations of his various skills to bring about important changes in his environment and to solve problems of various kinds.

In the same way a child learns to use his voice to produce a great variety of sounds (ah-ee-oh, etc.) at various degrees of loudness, at differing durations and with a multitude of rhythmic patterns, all for the sake of the pleasure the sensations (haptic and auditory) bring him and not because he has any idea that these sounds will in time form the basis of his main means of communication. Simultaneously he uses his throat, tongue and lips to impose the consonantal and syllabic patterns upon the vocal sounds (dada, mumum, etc.).

In time, and long before he is making and using adult-type words, the child begins to use his vocal-articulatory sounds to attract attention, and this is the beginning of his speech communication.

As we encourage the use of speech it is essential that, at least in the early stages, we constantly keep in mind what we are doing at any particular time - encouraging vocalisation and articulation for its own sake to give the child experience which he can draw upon later, or encouraging a communicative attitude in the use of speech.

Both are essential to spoken language but in the language-delayed child they need to be handled separately until the time and conditions are ripe to bring them together.

Vocalisation and articulation are self-rewarding – they are exercised and enjoyed for their own sake once the child has discovered the activities, and extend in length and variety spontaneously although this may have to be deliberately encouraged to some extent in the anomalously developing child.

Expressive speech is rewarded by its succeeding in its design, by its success in bringing about the appropriate activity or behavioural change in another person.

Both of these activities may be further reinforced or rewarded by unrelated rewards such as sweets, flickering lights, pop-up objects, musical sounds, etc., or socially through 'feedback' (see later) and approval. *These forms of rewarding speech etc. should be used with extreme caution if they are to encourage and not obstruct development.*

Exactly at what age one starts to work to encourage speech in a vulnerable child depends very much of course on his level of development. If he is silent it may be necessary to evoke and then deliberately encourage vocalisation. If his range is small this must be extended in form and variety. If he fails to impose a different variety of consonantal modulations on his vocal sounds these will have to be stimulated. If he does not make certain specific speech sounds these may have to be encouraged as part of a general scheme for fostering expressive speech and if they are still deficient the opinion of an expert speech therapist will be required in due course.

In the same way the child may show no tendency to use expressive communication or he may be limited in his range.

The following notes on the practice of encouraging speech are arranged under six headings:

1) Initiating vocalisation
2) Extending vocalisation
3) Encouraging articulatory activities
4) Extending articulation in expressive speech
5) Initiating expressive speech
6) Extending expressive speech

1) Initiating vocalisation Occasionally a child behaves as if mute or nearly so even though his hearing is considered to be intact. He may be or have been a floppy child, spastic or athetoid, generally rather backward or very remote. Muteness due to damage to the vocal cords or their nerve supply is so improbable that we may disregard its possibility. We may assume that for some reason the vocal sounds which the child did undoubtedly make at an early stage were either inadequate, in amount or in pleasurable accompaniment, to lead on to their further exercise for their own sake.

Our object is to cause the child to re-experience these in sufficient quantity and under conditions which will lead to his producing them spontaneously.

Normally a child makes his earliest vocal sounds in effort as grunts and sighs, and when upset, as in crying. Clearly we do not want to make him cry but a sudden expulsion of breath from the lungs can be effected in a variety of ways.

During active big-movement play – tickling and rough play, or by placing the child face downwards across one's knee followed by bouncing him on the knees together or alternately usually produces vocalisation which is rhythmically modified by the movement. It can further be modified by playful shaking or pretend-punching in the tummy, or with the child over the knees by 'thumping' him on the back.

2) Extending vocalisation If the vocal sounds produced by the child are few and monotonous, as those produced by the methods described above, they will need to be reinforced to increase the amount and to extend the variety.

As we have seen, the primary reinforcement is the joy taken in the activity itself but the child may have to exercise the vocalisations for some time before the associated pleasures are sufficient to compete with others associated with rocking, walking, manipulation, etc., according to the child's stage of development.

Variation may be produced by the 'thumping' already referred to, by rolling the child over the knees and by the imposition of articulatory sounds which will be described a little later.

During the 'familiarising' stage of teaching vocal-articulation additional rewarding may be helpful and if used with caution will naturally lead on to more mature speech.

We have in fact already used the rewarding effects of rough play and back-thumping (as occurs in normal child-parent play between 6-12 months). Although this takes place in a social context it is not really social reward in the way that 'vocal feedback' might be considered 'social'.

Vocal feedback consists in regularly repeating the child's own vocalisations back to him. As we shall see this may be used in promoting progress in articulation and in a modified way in 'correcting' 'pre-normal' speech patterns. It is only of immediate value when the child has reached a stage at which he can be pleased by another's vocal sounds; however it may be worth using routinely.

Note on the importance of timing in the encouragement of vocal-articulation and speech

a) Thus pleasure-evoking activities which are at first unrelated to vocalisation and speech are used to evoke vocalisation and to impose variation on the vocalisation produced. It will be seen that the pleasure the child finds in the rough play is utilised by the teacher as a painless way of evoking the required responses under conditions satisfactory for learning.

Timing relationship   (1)

|	Time	
Irregular and random	'Thumping'	evoking general pleasure associated with 'rough play'
	Vocalisation elicited	evoking slight pleasure at first – increased by repetition

b) By slightly altering the timing the under-vocal child may come to vocalise in exchange for the pleasure of the 'thumping' etc. to follow. Now vocalisation will appear readily if regularly followed by the reward.

Timing relationship   ①   ②

              Time

Vocalisation first   Vocalisation

             'Thump' (reward) follows
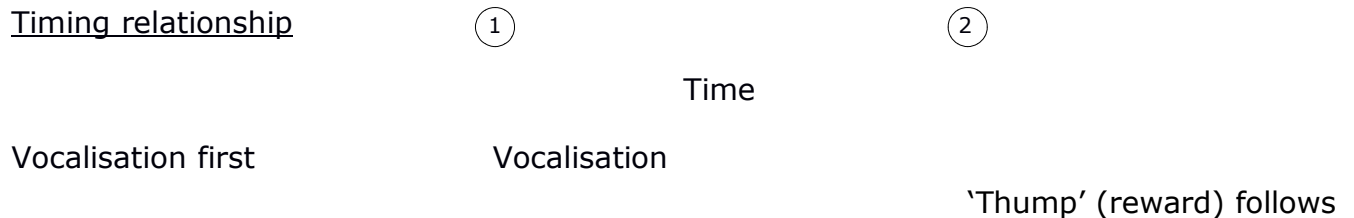
c) A slight change of the timing in the reverse direction may produce the situation already referred to where the child vocalises to a signal, which could be a 'thump' or 'punch' etc., or a vocalisation from the teacher.

Timing relationship   ①   ②

              Time

Vocalisation first.   'Thump'

             Vocalisation follows
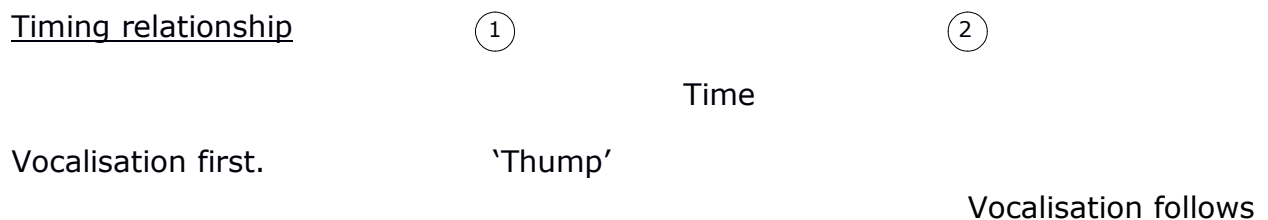
It will be seen that in the first case, whilst the relationship between any pleasurable associations of the initiating stimulus and the vocal-articulation remains random and irregular in its timing, satisfactory conditions for the extension of the child's own vocal-articulatory activities for their own sake obtains. At this stage, of preparing the 'bricks and mortar' (carrier medium) for speech, this is what we want. We reinforce and widen the activity whilst gradually *withdrawing the basically unrelated evoking-activity as soon as possible.*

In the second case it is clear that the relationship between the child's vocalisation and the rewarding activity on the part of the teacher is that to be found in expressive speech and this very situation will be deliberately set up when we are ready to initiate expressive speech; however it is best postponed until a reasonable range of vocal-articulation is readily forthcoming on demand.

In the third case the relationship is that of child responding (in this case vocally) to a signal from the teacher and is entirely analogous in form to linguistic understanding. This too is deliberately exploited in a rather more satisfactory form as described elsewhere (see 'Activity Exercises with Speech') and should not be encouraged as part of extending vocal-articulation.

3) Encouraging Articulatory Activities Strictly speaking starting and stopping vocalisation and changing from one sound to another is articulation. Our object

is to encourage a range of lip, tongue, palate and throat movements to form the basis of the 'b', 'd', 'g', 'v' and 'z' sounds etc. which are necessary for readily comprehensible speech. Our business is not to teach specific sounds to the child but to encourage him to discover a sufficiently wide range of experience from which he can select the necessary sounds at will, so we shall content ourselves with a few general groups of movements producing a few general groups of sounds.

If the child has not reached the social stage where he enjoys attempting to imitate movements and expressions it will be necessary to cause him to make the sounds. For example during the production of vocalic sounds (vocalisation) a hand may be placed for a few seconds over the child's mouth, *leaving his nose clear of course*. If he now continues to vocalise a different quality will be imparted to the continuous sound itself and each time a sound is produced it will begin with an 'n' or 'ng' consonant. The child may resist having his mouth covered but whether he does or not the hand pressure should be relaxed suddenly from time to time during vocalisation or to release a few seconds of pent up breath. From this manoeuvre the range of sounds which include 'p', 'b' and 'm' will be formed as the first part of a syllable, such as 'bah' or 'mer' or the first sound may be emitted as a silent 'p'. Gently pinching the lips together and releasing will produce a similar effect.

Touching the child's lips in play tends to encourage their movements, the pouting movement, as in kissing, will tend to alter vowel qualities, whilst flipping the lower lip modifies the following vowel sound to produce a sort of 'w' (e.g. wah wah wah). By a similar manoeuvre but one which pushes the lower lip gently up under the front upper teeth before flipping it down, a 'v' or 'f' sound can be produced.

General tongue movements may be stimulated in play with a finger or blunt toothbrush handle in much the same way as the 'wiping' (haptic overture technique) described elsewhere, to initiate and encourage handling. Gentle pressure of the tongue in any direction will rapidly be resisted in an automatic way so that releasing the pressure will be followed by a slight overshooting of the tongue in the opposite direction.

If the child has begun to enjoy imitating movements he can begin to reproduce those we want, in association with the vocalisation, in a social situation *once he has sufficient underlying experience of the movement sensations*; it should be noted that he cannot use vision to imitate a movement or sound he has no previous experience of producing himself.

At an appropriate stage a variety of rather more sophisticated 'tricks' can if necessary be used to refine the articulatory patterns, such as blowing bubbles or paper, licking, etc., but by this stage of vocal-articulatory development we should be coupling the sounds with 'meaning' and rewarding their emission with understanding (see 'Initiating and Encouraging Expressive Speech').

<u>4) Extending Articulation in Expressive Speech</u> Once the child has the capacity for producing the necessary basic sounds and sound combinations at his disposal, having previously practised them for the pleasurable feel of the movements and subsequently for the enjoyment of the sound themselves, he must learn to produce particular combinations at will and to use these to effect specific changes in the behaviour of others.

Naturally he will come to be able to use some sounds earlier than others. He will at first also find it easier to produce a sound in a particular position in a word, usually the first sound or 'initial' position, as in 'bo', 'ta', 'gu' or 'lie', but of course some syllables beginning and ending with the same consonant will have been learned as complete sounds from an early age as a result of the repetitive nature of babble, e.g. 'dadad', 'mumum' etc. Sometimes longer words will seem easier for the child than shorter ones but it is usually their syllabic form which accounts for this and the sounds produced by two or more consonants clustered together will always be achieved more slowly during the development of speech. For example the cluster at the beginning of the word 'grannie' may be first pronounced as in 'ga-nee', later as 'goo-anee' (gwannie), before the child finally produces the grown-up form of the word.

It will be seen that the beginning of the word 'string' should present an even greater problem at first; however the child will not notice the hard work he has to put in to learning 'to speak properly' unless we make him aware of it by interpreting his earlier attempts as failures to produce adult speech sounds instead of successful productions of simplified pre-adult speech.

A further point to bear in mind is the tendency shown quite naturally by children to hang on to the earliest acquired and hence more firmly established habits in association with early acquired speech forms even when similar words learned later take on the more mature form. For example a child might continue for a while to say 'likkle' (likl) for 'little' or to say 'hospickle' for a while even after he has learned to say 'hospital' accurately.

The main reward for real speech is being understood. As the child increases the number of 'opinions' he needs to express, so he needs a wider range of speech variations with which to express them. He must come to discriminate in his own speech more and more between one group of sounds and another, and the number of word or phrase sound-patterns he must store up in his memory, with which to guide his speech, increases steadily.

He can be aided in his accurate selection of sound patterns by frequently hearing the 'correct' speech form said back to him, *in addition to* having clear evidence of his being understood. 'I want <u>marmade</u>' says the child. 'Here's the <u>marmalade</u>' replies mother as she passes the required preserve. This kind of feedback does not over-encourage empty repetition, for it is 'covered' by the real active response to the child's speech, whilst it does feed back the pattern the child needs without engendering a feeling within the child of anything less

than complete success. This supportive and reinforcing behaviour is quite different from the 'No. Say it like this.' approach, which however gentle and well-intentioned, introduces the inevitability of the child's speech attempts sometimes achieving less than the maximal parental approval. This together with the associated anxiety may obstruct progress and induce a variety of compensatory behaviours of which 'shyness' and 'laziness' are likely to be the most prominent.

The advice to 'not give it to him until he says the words properly' is rarely if ever good advice and is likely to lead to or increase an emotional disturbance. True, he must make an effort but this effort must regularly be crowned with being understood.

Learning nursery rhymes and jingles said together with mother/father/teacher can be helpful in extending articulation. Once a sufficient number of repetitions has been made, words or phrases can be delayed and later left out for the child to supply:

'ba ba black...... sheep'

'have you any....... wool', etc.

In a similar way simple stories with repetitive refrains ('I'll blow and I'll blow.... and I'll......blow your house......down') may be used to foster a more advanced stage of articulation at the same time as the speech itself is being encouraged, for the child will continue to say new words and phrases just for the sheer pleasure of it long after he is using speech in a fully communicative way. This pleasure in realising the use of a new and exciting word is rather like the sensual pleasures the child may evidence in sampling a rare and succulent fruit. 'It was.... gigantic.....gigantic....'

5) Initiating Expressive Speech This cannot be done by linking a sound made by the child directly to an idea for although a child may come to emit a specific sound in response to his seeing an object, etc., no specific response is evoked in another person, and no need related to the particular speech form is satisfied. A child may produce the word 'orange' on seeing such a fruit if he is rewarded by a smile of social approval, or even a cherry, but he can be rewarded in an identical way when he says 'spoon' or 'dog' when the appropriate object is indicated. Thus it is the pleasure the child takes in seeing the social smile or enjoying the cherry which is associated with saying 'apple', 'spoon' and 'dog'.

Real speech tends to elicit activity in another person and either satisfies the speaker's desire to enjoy observing that activity, to be noticed ('attention seeking'), to procure something he wants etc. Speech is only one form of expressive communication (others being mediated through touch, emotional expression and visuo-manual gesture, writing – a more permanent form of the latter etc.), hence our efforts and need first to be directed towards awakening a communicative attitude in the child and secondly to bringing about his using

vocal-articulatory (speech) sounds as the most efficient and versatile medium through which to express this attitude.

Our object then is to create a social need in the child and then to engineer his initiating a satisfying response through his own vocalisation. This can be done whilst we are attempting to establish early social interaction with an undersocial child but it is not to be recommended, for clear understanding of speech needs to be established *before it is safe to encourage speech in the anomalously developing child.* (See 'Importance of Timing', Notes on 'Encouraging Linguistic Function' etc.)

A situation may be readily set up in which the child needs your intervention to complete each cycle of a repetitive game. An example of this sort of game has been described elsewhere ('Activity Exercise and Speech') which makes use of interlocking plastic bricks. The child enjoys pulling these apart at a time when his experience and skill are insufficient for putting them together again. By slightly altering the timing described for the encouragement of understanding of speech it can be adapted for initiating expression. Setting the game going rhythmically until the child is deeply absorbed one begins to slightly delay either taking the bricks from him, in putting them together or in handing them back, awakening an impatience in him so that he makes some sort of gesture of demand usually accompanied by vocalisation or grunt. By 'interpreting' this as 'More' etc., such a word or phrase may be repeated back to the child as or just before the 'demand' is satisfied. This operation is entirely analogous to a mother's interpreting her ten months old child's 'dadadad' as 'daddy' and thus imposing this meaning on the sounds.

Another simple game which may be used with a very young child or one with a severe movement disorder is the 'handkerchief game' which can also be used to encourage early understanding. Putting a handkerchief over the child's head and allowing it to flap down in front of his face one pulls the hanky off suddenly with an accompanying Boo! or Peep bo! etc. Assuming that the child finds this game pleasurable the situation is arranged by very slight delays so that the child vocalises in his impatience and this is 'interpreted' and given specific meaning.

In any of these simple games it is important that delays are brief and that the game is kept going. It would be wrong to spend more than a second or two waiting for the signal. We must remember that *the child will not or should not be consciously aware of the connection between his vocalisation and the response until long after he is using simple speech appropriately!*

Exactly the same principle may be used together with more sophisticated games according to the child's general abilities; but do not disdain the simple games, for the older child will continue to enjoy them especially as they tend to be associated with simple crude excitement *and no emotional strain.*

<u>6) Extending expressive speech</u> We shall continue to encourage the child's vocal efforts to cause activity responses in our behaviour which satisfy needs which we may have deliberately engendered in him; however, from this stage (understanding of speech roughly that of a two-and-a-half years old child) we can begin to induce or encourage his production of speech-like sounds through imitation. It is most important now that the enjoyment the child naturally finds in 'talking', which we have deliberately encouraged up to this stage, is superseded as far as possible *not by social approval* but by the specific effect that the speech pattern appears to induce in the listener. The great value of social approval lies in its capacity for helping to create a satisfactory learning 'atmosphere' and, by the careful regulation of its intensity, for encouraging the child's active and positive co-operation.

There are innumerable ways of crowning the child's speech with success as an inducer of action in others, ranging from the almost casual following of a segment of nursery rhyme, in which the child is joining with an appropriate response, through the use of leading questions to the provoking of complex explanations and historical reports.

<u>Incidental action 'response'</u>, as in part of a jingle or nursery rhyme etc. Child joins in with 'All fall down' or 'Open/shut them', etc. which instruction is obeyed by the parent, teacher etc., the action being deliberately delayed until the child has made his attempt at the words.

<u>Simple repetition rewarded with success</u> by interpreting it as a request. Having a box of objects into which the child cannot quite see you ask, 'What shall we have..........a horse?' The child repeats 'a horse' or something a little like it which you reinforce with 'Yes, that's right <u>a horse</u>' and produce the object from your box. 'Here's the <u>horse</u>....you put it on the table' etc.

<u>Simple repetition interpreted as a simple meaningful phrase</u> Using a doll, teddy bear or puppets. One of the animals can give something to the child: 'Say thank you to teddy' or 'Say goodbye to baby' etc. 'Tell monkey to pick up the hammer'. 'That's right, pick up the hammer'. 'Pick up the hammer monkey'. 'Tell him to eat up his dinner'..... 'throw the ball' etc.

<u>Simple question requiring a 'yes' or 'no' response</u> Hunting for an object previously put into, behind or under something, perhaps during a language game......'Where is the car?'. 'Is it in the bowl?' (lifting the bowl to look)......'Yes (with nodding head) there it is', or 'No it isn't there' (with shaken head), either word very slightly delayed and said long drawn out, 'yees' or 'no o o' to encourage joining in. At the right stage of linguistic understanding, that is to say understanding speech at at least two-and-a-half years level, this kind of inducement to speak can safely be introduced into games primarily intended to consolidate and extend understanding of speech.

<u>Questions requiring simple naming response</u> 'Who is being naughty?' 'Is it....Teddy?' 'Yes it's .....Teddy.' Delays to encourage 'naming'. 'Who is that?....is it your daddy?'

<u>Questions requiring selection between alternatives</u> Objects out of a child's reach but can be seen in a box. Perhaps farmyard animals or a 'family' set with furniture etc.

'Which one do you want (next)?....the chair....or the table?....the chair? (delay to allow repetition)....all right here's the chair. You put it down there.' 'Now which one do you want to sit in the chair?....the daddy....or the mummy?....all right here's the mummy. You make her sit in the chair' etc. then perhaps: 'Here's the boy. Where shall we put him?....in the big bed....or the little bed?....the little bed?....all right you put him in the little bed', etc.

<u>Questions requiring simple explanatory responses</u> 'What is he doing?....He's eating the grass....he's eating the grass? ...and what is he doing?....he's sitting....on the book'. 'What are you doing?....You're drawing....drawing a picture'.

<u>Questions encouraging report on past or future activities</u> 'Where is Mary?....she's gone to school....she's at school.' 'What did you do this morning?....you went to....granny's....And what did you have for dinner?....ice cream?....yes ice cream and jelly....' etc. 'Where are you going tomorrow?' ' Where are we going for our holiday?', etc.

Geoffrey Waldon 1966

Some notes on language and speech with special reference to 'The Encouragement of Vocal-Articulation and Speech'

The notes on the evocation of vocal, articulatory and speech sounds involve engendering these utterances in ways entirely analogous to those for inducing other bodily movements. Occasionally you will note the flagrant use of behaviour modification techniques. As anyone who has studied my approach to education will know I do not despise behaviour modification. It is just that I believe that it plays a very minor role, if any, in generating novel experience or in the development of original general understanding. Furthermore, when it is applied to appropriate kinds of learning inappropriate reinforcement* is often used and inappropriate occasions * chosen for its application.

Timing   Timing in the encouragement ('teaching') of conventional language and speech is of paramount importance. It is also very easy to understand and to learn to use by anyone sensible of the mechanics of conventional language development and use, and alert to the signs of learning difficulty.

For the most part parents and teachers of normally developing children do not need to be aware of this timing since by definition the normal child will unconsciously choose the most appropriate occasions for effective interchange when his general understanding is ripe and he is adequately secure. The excesses, superfluities, irrelevancies and inappropriatenesses of or in the adult's behaviour are filtered out and ignored and the deficiencies made up by the child who, noticing and interpreting only that which he is prepared for as yet, supplies that which is missing.

When a child's development is delayed and distorted and his emotional equilibrium disturbed, similar (unconscious) mechanisms reject the inappropriate or mistimed, and occupy the child in other matters.

Geoffrey Waldon March 1984

* See Learning, Reinforcement, Motivation and Control, section 4