

Interviews with Geoffrey Waldon

Geoffrey Waldon talking to Richard Brooks

(Reinforcement, Autism and the "Remote" Child)

If something is being learned, we recognise this by the fact that new behaviours appear in the behavioural repertoire of the learner and these new behaviours represent an enhanced repertoire...

the learner is making observations on the world and these are exteriorised sometimes as behaviours which are observable by other people.

So the understanding is expanding and the repertoire of behaviours is increasing...

Any behaviour once seen is more likely to recur in the future.

From this I postulated that there is a thing that we can call 'reinforcement' which marks behaviours according to their significance.

Q: What gives them significance?

A: The earliest criterion of significance would be frequency or familiarity of behaviour. Any behaviour appearing for the first time must be a variant on a previous behaviour.

If the appearance of a behaviour increases the likelihood of the recurrence of that behaviour, we have to say that there must be some mechanism that marks the appearance of that behaviour as one which should reappear with a greater frequency. One way of doing this is that every behaviour in its production or actualisation activates bodily receptors to produce *receptor activity patterns*. The receptor activity patterns, in their translation through to the central nervous system, induce the positive marker or, in psychologists' terms, a positive reinforcing factor. The amount of reinforcement is directly proportional to the familiarity content of any particular perception. The reinforcement is actually created by the behaviour, it is not something which is consequent of the behaviour in a Skinnerian sense.

There is an exponential explosion in activity which occurs in babies, and you would expect that this would lead to the baby burning itself out, becoming more and more active, until it becomes so active that it just flops in a state of exhaustion, which does not appear to be true. So it does need some sort of regulation or control. At this particular point, one form of regulation is to do with the young child growing rapidly – its total mass is increasing and also the length of its limbs, which means that the load on any effortful movement is increasing enormously. So, in fact, there is a built in regulatory device in that this very rapid increase in bodily activity will, we predict, to some extent be offset by the fact that the load is increasing rapidly as well. But obviously that load only varies to some degree from moment to moment and the baby's total mass is not going to vary at all from moment to moment. The limbs will vary according to whether a limb is flexed or not; you can also see that you can put a

sort of brake on through what we would call fatigue, but that is obviously not going to influence this from moment to moment.

What one really has to do is postulate a secondary reinforcement which is in opposition to the first whose influence is also to modify the future rate of recurrence of behaviour. So if every receptor activity in its passage through the nervous system induces both positive and negative reinforcement and if the amount of positive reinforcement is directly proportional to the amount of familiarity-content of the awareness channel and the negative reinforcement is inversely proportional to that factor, then we get a situation which looks very neat and tidy, but the more familiar you are with a situation, the more readily you will engage with it and vice versa – that seems to be an ideal mechanism which is nice and simple. It doesn't require any sort of conscious decision-making on the part of the baby.

If we imagine that the degree of familiarity in any observation or perception determines how much pleasure and unpleasure we get and what the proportion of those are, then we can see whether we find something enjoyable or not. What happens if the growing child's development is somehow distorted? It becomes inevitable somewhere along the line that the understanding is variably complete on any particular level so quite often the baby is in a state of awareness which is matched by a limited amount of understanding, so the baby tends to be brought towards a state of increasing awareness. Because that awareness has such a low familiarity content, it generates a high degree of unpleasure which can only be diminished by withdrawal from that

situation. So the normal mechanism has now become grossly exaggerated.

Q: The child could also find a way to decrease his awareness considerably.

A: Yes, that's right. Physically, he can withdraw and in future would avoid such situations. He could redirect his observations in such a way that the familiarity is much higher – the obvious way of doing this would be rocking, masturbating etc. He can increase the capacity to withdraw his total amount of observations which are exteriorised – he lives more within himself and while he is rocking or doing whatever he is doing, we would say that he is "banged up within himself". One would expect on the basis of the theory of learning that children with difficulties would be forced into avoiding certain situations, escaping either physically from them or by withdrawing their attention and producing a variety of behaviours which in themselves generate high familiarity content. It seems to me that this explains all the behaviours which I call handicapped or anxiety reducing mechanisms (ARMs). So that's where the regulatory behaviour also has its pathology.

Q: You don't use the word "autism" but you use "remoteness" instead...

A: Partly because the word is bandied around a great deal, I don't want my views on autism to be associated with someone else's description... I have certain children in my mind - quite a large group which might be bigger than many people's - many of these children are not particularly remote. It

seems to me odd applying the word 'autistic' if you think about the meaning of the word, to children who are not in fact autistic. It would be better to apply a word which has more to do with the mechanism causing it than with a particular sign in the behaviour. If you had a condition which was called Brook's Jaundice, shall we say, it would seem rather absurd to go on referring to the patients as jaundiced when they are no longer yellow. I feel the same applies with autism. To me the actual autistic part, though it is so characteristic in certain stages of the thing, has two different sets of behaviours, both commonly seen in the same children.

Q: What kinds of behaviours?

A: I am talking about the children I think of as being the classical children who would seem to have been very very remote from birth - they have always been in an extremely remote state. They are not children who have suddenly withdrawn. These children themselves may subsequently withdraw. The child who looks through you as if he doesn't find your presence sufficiently interesting to fixate on more than any other object in the room would be the sort of child I think of as being primarily autistic. That same child, if he made progress, may under some conditions find it necessary to withdraw his attention at a later stage. A withdrawn child to me is an entirely different thing. In one case the child has not actually come out of his 'natural' state. But there are children who have gone through their early months perfectly normally and under certain conditions of stress have actually chosen a kind of emotional withdrawal as the most effective way of dealing with their distress.

Q: And that's a much larger group?

A Yes.

Q: The stress may be caused by a wide variety of things?

A: Yes. In many children whom I would not call autistic at all but who have been very withdrawn, including several children who happen to be ataxic, my feeling about them is that when anything sudden happened they went into a state of oscillation. Their appearance would also suggest that they were in a physiological state which is similar to fear, cold sweating, rapid heart and so on. If that happens to a child quite regularly because he is very easily shocked, then such children often find it easier to withdraw from the other children. So you find children at about 3 or 4 years of age, actually staying clear of all other children in the nursery and then clutching onto some object and carrying it about. Often when the structure, due to a teacher, is broken up for a breaktime, this child finds it apparently necessary to go somewhere where he will be safe. Obviously the place to go to is the place where he has been before so he tends to end up always going to the same place and on the way collects the same toy. People say he is terribly obsessional... None of this has anything to do with the kind of condition that I am thinking about (primary autism).

All of us deal with our handicapped states with various kinds of handicapped

behaviours. Some of us become victims of them and some of us are more sensible and deal with them reasonably. Those of us who feel under greater strain may become stuck with certain kinds of behaviour. The bases of our personalities are related to this - the kinds of handicapped behaviours which we developed when we were children. If we were nervous as children and tended to stay away from things, we develop a shy withdrawing personality. If we have to stick very carefully to certain rigid rules, we become an obsessive personality. If we happen to be a person who discovered that it is easier to divert people's attention than to tolerate the stress that is due to their over-attention - we become overt outgoing personalities, and so on.

When I said a wider range, I did not mean just that - that's one dimension where I would not accept that group of children even though that behaviour may well be the sort of secondary behaviour that many of these primary children have. If one were to believe the mechanism of this primary group, then you can imagine that some children would have this problem in a very minor form and this may be so mild that there is never any question of the child looking autistic - in the sense of being withdrawn. I can say that the child would be likely to be not very social or outgoing.

Q: Are you talking about the problem being mild but permanent?

A: Mild and easily overcome but often leading to a lot of problems for the child.

Q: So the initial impediment could be there all the time?

A: The same initial impediment as the other one disappears and then the child is left with a milder effect. This particular kind of child will in fact recover entirely if left sufficiently alone but he is brought to doctors as "not talking". He does not produce any typical autistic behaviour, but the mechanism would lead to the child getting to the stage where someone says "needs speech therapy" which is the worst possible thing. If the paediatrician actually said "what we need is someone who knows something about language just to play with the child in certain kinds of ways", then it would be different. But quite often there is a pressure put on the speech therapist by parents and teachers and so on to get the child to omit sounds. So the child actually presents not talking but with the behaviour that most of us would tend to call stubborn.

So this group I would see as part of the overall pattern but certainly no psychiatrist is going to include such a child in the category of autistic. But if you categorised the problem under the mechanism which I think brings it about, then this child would come under that heading too. If you actually see it as something that we would predict from the theory of learning, then you look at it rather differently.

Q: What about the more seriously remote ones - the ones you see as suffering severely from that problem?

A: First of all perhaps I should say that I first met with a remote child when I was not particularly interested in this group of children which was quite useful from my point of view because I saw quite a number of children and I had to deal with them as a doctor - they were patients in the hospital. A lot of the children I saw were children who had been categorised by a number of psychiatrists who would have been considered to know a lot about autism... The word 'autism' is used so much by so many different people - so unless you know the kind of child I am talking about, it is difficult to know whether my explanation is going to fit. In this particular group, the sort of child who comes to light in the second year at around 15 months or so suddenly begins to regress; quite often this is associated with a new birth in the family, Uncle Charlie has just died - all sorts of things happen which could appear to people to have triggered off this regression. The child actually comes to the doctor probably some months after that and would get to me probably about two years at the earliest.

What one has really got is a child who was perfectly normal up to a certain age when something occurred which caused the child's behaviour to deteriorate, since when he can't do all the things that he did do previously. When you look at it you find that people agree that the child developed normally but when it comes to the deterioration, it is not quite so clear-cut. Previously he was nice and good, now he is irritable. He is alright if you leave him alone but he is irritable when you interfere. If you question carefully, you find that people did not interfere with him until the stage at which he began to be irritable. It is much more likely that the irritability was brought out by the interference.

Q: Do you feel that people generally leave that child to his own devices for the first 15 months?

A: Yes, I don't mean they neglect him of course - they look after him perfectly well but they would simply go along with everything that the child wanted to do...the usual story is that the child was very content, no problem at all.

Q: So why interfere in the second year?

A: People expect children to talk - they expect in the second year quite suddenly - Nature made children in such a way that they open up little windows at different stages and at a certain stage they start to talk, so there is expectation, so there are attempts to get the child to do things. Sometimes the child will be putting things on top of one another and other times, as far as external objects are concerned, they are still at the 6 or 7 months level.

Q: Why would the child's relationships with objects stay at that level?

A: In my view, the problem arises at the very beginning because the child has tended to show less interest in movement than the average child.

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... by the time they are 8 or 9, the difficult behaviours are much more likely to be like normal children's behaviours - some rebelling and so on...(example of Robert)... I used to read him a story at the end of each session but in order to do this I would put the book somewhere and write down where the book is, translate it into code into segments which could be put together like a jigsaw and then distribute the segments about the house and then give him a series of instructions on how to find the parts. "There's a part under the plate beside the kettle in the kitchen" - that kind of sentence. So we ended up by getting all the parts together and then he would find the book and we would have the story... I introduced Peter to some paper folding... and the last time he came to see me, he was inventing new origami things and writing detailed instructions for other people... Their mothers put a tremendous amount of work in those very early stages and then eased off, which was good because they put it in when it was really needed - the basic, very simple stuff. I had to keep reassuring them that things were going the right way. If his needs were related to his inadequacy, then it was much more important that we continued working with the inadequacy rather than trying to stop behaviour like bouncing on the bed.

Q: What if the behaviour was retardational - would you seek to intervene?

A: I don't see anything immediately useful about bouncing on the bed but my attitude always is that if the child is bouncing there is a reason for it other than simply bouncing at that moment. So the first thing to do is to think in terms of undermining any need for

bouncing. Then I would see it as very reasonable to actually interrupt the bouncing from time to time to do something, but I would want to look at it that way round. I don't want the mother to feel that every time he is bouncing on the bed that she has got to rush up and give him a lesson.

Q: (Pat Evans) I think it is important to clarify the issue of retardation and handicap because I would not see that as a retardation behaviour myself.

A: I think the point is that you could look at these things in several different lights. Behaviour like spinning and bouncing and so on, I consider to be analogous to the handicapped behaviours in that they are self delighting behaviours which might be generated to fill up the gap of nothing coming in or "I'm feeling terribly upset therefore I must generate some pleasure to compensate for my upset" or by generating some pleasure in this particular way "it helps me to switch off from all these demands". Once you have actually got hooked on that behaviour, the behaviour is triggered off by some particular sign. Though in the early stages that sign may have indicated being in difficulty or being handicapped, subsequently the sign would not be that way. If one has got used to avoiding a certain place because it is a place where one gets into trouble regularly, one avoids the place subsequently not by sampling it, but by using some signal associated with it. So one doesn't actually say "this is the place where they hit you on the head, I better poke my head in and see if I get hit - yes, I did get hit, better avoid this". One uses an association with it as a

signal to remind you to avoid that particular situation. Of course, that signal may appear at other times or after the original problem had disappeared so you still go on avoiding the place as a result of the signal, even though there is no longer any reason to do so. So the child with a handicapped behaviour only develops the handicapped behaviour under handicapped conditions and will also go on producing it when there is a signal associated with the handicapped state and it becomes a habitual behaviour. Of course, a handicapped behaviour can be a way of reducing the total amount of effort you would expect. With spinning behaviour, you appear to have a combination of both because the spinning behaviour is one from which you get a great deal of delight when you need it, so it is used in a handicapped way.

Any way of developing pleasure by maximising pleasure while minimising effort can be seen as a retardation behaviour. So even if that behaviour is not one which short circuits some other activity, we can see that if a child was moving 20 objects from one place to the other and is putting them all in a bag and moving them across, one could see that as a retardation behaviour because the bag reduces the total effort to approximately one twentieth of the possibilities. Since it reduces the journeys to one twentieth, it also reduces the learning possibilities to one twentieth. Of course you could say that if the child was going to enjoy spinning something, but he actually had to wind it round the whole time at the same rate his hand went round, the child would get a lot of pleasure from the plate going round, but he would have to work for every bit of it. When he can set it spinning and just delight himself with no effort, we can see this as a retardation behaviour.

However, it is obvious that many of these behaviours function in both categories.

Q: As I understand it you are saying that some children, probably from birth, have a problem with receptors, maybe for large areas of the body, but most particularly for parts that give back pleasure or information like the movements of the small facial muscles, small throat muscles. And the lack of response causes them to move those muscles less and less and that means they have a smaller range of sounds or facial expressions than other children would produce, and that leads to them not only being unable to *make* smiles but also being unable to *understand* smiles or sounds.

A: On the whole, mothers and babies interact with one another from the very earliest moments after birth and each is influenced by the other so as to build up a kind of interpersonal communicational system, but generally speaking the mother has certain needs in regard to the child's bodily movements which when they are produced causes mother to react in certain ways. In the case of all babies the baby gradually learns to respond more and more as a result of its own expressional movements - especially the very small movements of the face - and it is certainly easy for us to recognise that these small movements can have an effect on the mother. It is also fairly easy to understand that if the baby does not produce these facial movements, this will also fail to encourage the mother to produce those behaviours we would call responsive behaviours. What perhaps is not quite so obvious is that the same expressional movements also are the key to the child's capacity to understand the mother's facial expressions. The point being that all of us

learn ultimately only from our own bodily behaviours. So no amount of looking at other things will allow us to learn unless those things are interpretable in terms of what we have already learned about our own bodily functioning. So with the small baby, the baby's facial movements not only stimulate or cause the mother to respond, they are also the source of the baby's capacity to interpret the mother's facial expressions. So the impassive faced baby not only fails to elicit responses from the mother, it also is much less likely to be able to interpret these behaviours, even at the simplest level.

Q: As I understand it, in spasticity it can be a failure of receptor muscles which cause an inability to use limbs and the limbs can become completely chaotic. Why is it that facial muscles of a child don't become chaotic without receptors? Doesn't an impassive face imply muscular control?

A: There are several ways that the face can be impassive. One could be due to actual muscular paralysis so the muscles could be wasted or it could be due to...? With the remote child, the impassiveness goes along with an otherwise normal appearance so the failure to elicit responses from the mother means that the child's opportunities for interpreting are grossly diminished... On the other hand, the child with a movement disorder, though the face is impassive - this would be seen as part of the total helplessness, so that in this case usually the mother is acutely aware of there being something amiss with the baby so there is much more attention given to the baby so that the baby gets more stimulation from the mother even though it is not demanding it with its own active behaviour. So the baby becomes able to manipulate and interpret

the mother's overall behaviour but will have difficulty in interpreting her facial expression.

Q: What kind of factors would cause the early failure of those receptor muscles? Is there any evidence of it being caused by infection etc?

A: In the case of babies with movement disorders of various kinds, the problem will be that there is damage to the brain which has interfered with the movement in the facial muscles and the muscles will be looser than they ought to be. In the case of the spastic they will be tighter than usual and there will be less room for movement. In the case of the child we are talking about, we have a rather different situation. There is nothing wrong with the muscles, the supply to the muscles or the receptors. Where there is something wrong is that the reinforcement is diminished. The receptor activity patterns are the cause of reinforcement induction and the amount will be related to the number of receptors involved. You can see that if you were to waggle your little finger you would clearly involve quite a lot of receptors in the muscles and tendons. If you were to waggle your arm, you would involve a great many more. So we can say that a small bodily movement, other things being equal, will awaken a lot less reinforcement than the large bodily movement. Just as a small amplitude of any movement will induce less reinforcement than a large amplitude movement, a movement occurring over a longer duration will induce more reinforcement than one over a shorter period.

If you imagine what would happen if the mechanism which actually produced the

reinforcement for such a system were depressed in some way so that every receptor activity produced relatively less than would be usual, it would mean that the larger amplitude movements would be less but they would be more effective in inducing reinforcement than small movements. If you were to have a situation where there was a depression of the power of the body to induce positive reinforcement for a certain limited period of time - hours, days, weeks, possibly even months - after which there would be a tendency to return to normal, then you would expect that the total amount of bodily movement would be diminished, because increase in bodily movement is a result of it being reinforced by its effects. If there are fewer bodily movements, then you would expect the rate of increase in the number of bodily movements to be also diminished and you would expect there to be a bias in favour of those movements which produce the largest amount of reinforcement. So there would be considerable asymmetry - movements which would be produced would be relatively large and relatively large amplitude, and there would be a neglect of small movements and small amplitudes...

Looking at the movements using the analogy of a growing tree, you would expect the trunk of the tree to be reasonably unaffected; we would expect the bigger branches to be relatively less affected, but as we get further away from the trunk, we would expect there to be an increasing paucity in the branches. With a baby, it would look like the bigger movements were being made as normal. The smaller movements, which we tend to respond to pre-consciously or unconsciously and are expressional, would be fewer... The tendency is for all of those movements to be neglected which means that the baby is

making sounds which are also neglected, so that the baby would tend to be a relatively quiet baby. It would not entirely exclude crying because crying is one of the built-in types of behaviours, though I think the baby would be less inclined to cry - the crying as a learnt behaviour would be much less. Such a baby may have perfectly good or even relatively advanced control.

Neurologically, there is a particular kind of illness which would be likely to produce this very thing and that is the kind we call encephalitis of which there are many kinds - most of them are virus diseases, some acute lasting over a matter of months, some chronic lasting over very long periods, some quite minor where there are not lasting effects. The kind which can be very vicious in producing the effects we are talking about without necessarily producing any other problems at all and very rarely showing any signs of real illness is rubella. Rubella where the foetus catches the rubella after the mother has had the disease. The intra-uterine foetus becomes affected with rubella and has a dose of it - it is particularly prone to encephalitis at that stage so this will be quite likely. In the very early stages the infected embryo is liable to suffer an embryopathy - the embryo is affected and its development is distorted. The situation I am talking about it is when the baby gets the encephalitis at a later stage but it is a good, robust baby.

You can also have the same sort of damage due to an autoimmune reaction. The classic thing here is the reaction to whooping cough vaccination - this produces a sort of encephalitis and other things could do the same thing. It is quite likely that something happens with some viral diseases where the brain reacts in a similar way. Theoretically

other kinds of damage like bleeding in the same region, possibly the effects of excessive jaundice, certainly the effects of phenylketonuria - seem to create classically remote children. Other conditions where the damage could be almost anywhere as in tuberous sclerosis... The interesting thing is that these viruses commonly don't show any signs like cerebral palsy and since they occur probably before the baby is born, you don't see anything... So I would say that the children I am talking about are invariably quite seriously damaged neurologically, but the sort of damage I am talking about can be quite temporary. It's almost as if the brain is hit and then there is a period when it recovers and it eventually recovers completely. During that recovery period, it's growing, and all that is disturbed.

With the children I am thinking about the real problem occurs very very early and thereafter it is simply that the child has set off on the wrong pathway. Once you are on the wrong pathway, it just goes on getting further and further apart - from the moment you have got the child's understanding out of tune with the body and you have got the various organisations of the body out of tune with one another.

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If the child has not brought itself into a full organism because of disturbances in the first six months, has not got itself into a complete symmetric organism capable of varying the depth and angle of its focus of interest and being able to scan around the whole region of its space, then you are going to have a lot of problems later on. That's the sort of thing that happens in the

second six months. If anything is interfered with in the baby's development of continuant behaviour, that is going to cause problems. It is likely to shut down at the 12 months level and become a spinning baby. Many of these children do stop around that stage. Because they are 'good' babies we don't quite know what to do with them - they reject us apparently when we try to do things with them. We sort of fiddle with the situation and eventually we get put off by the baby's resistance and the feeling that he doesn't want to do it. This leaves the baby in a kind of limbo and once he gradually creeps to another 12 months level, two and a half or three, it is spending all its time in self-delighting behaviour.

Q: Breaking that cycle could be a relatively simple affair...

A: The earlier you do it, the simpler it is - simpler in the sense of physically simpler, you don't have to think too much about it but you do have to think a lot about it in recognising what you are doing and why you are doing it. If it's true, as I believe it is, that the whole thing is really to do with delay, distortion and imbalance in the system, then one's real business is to encourage the motivation and adjust the harmonies of the various parts under the most appropriate conditions that one can devise. All of these are specified in one's study of development.

Q: You have spoken about stimulating those muscles presumably so that reinforcement is produced and there are some markers.

A: In practice that still would be the least important. The important thing is to get the baby moving in such a way that a great deal of variety occurs and by causing the baby to move more and more, it makes it more likely that it will move spontaneously more and more. The more the overall effect happens, the more likely these facial things will be influenced as part of the whole business...The most important thing is taking the baby, wriggling it about, turning it, making sure that it doesn't get left to its own devices too much, making sure that it is awake for a reasonable amount of time during the day. After the first few months the baby does not need to sleep more than 12 hours a day and the other 12 hours one really needs the baby to be working. The best way to do this is to keep putting the baby in positions from which it will have a tendency to work. It is very easy to do but you have to do it in a thinking way. It is possible to give recipes like putting the baby on its tummy on a hard table and hold it in the middle and wriggle it fairly vigorously, turn it over, making sure that you involve most of the baby's body movements during the turning over, and then put it on its back for a period of time and so on. I do this with a number of babies.

Q: How many really young remote babies have you met?

A: Very few.

Q: Because they are just not recognised?

A: The parents don't recognise them and don't bring them. How you would teach

people to look for them I am not sure unless you did courses like we do here... I think it would be reasonable to say that if people looked at the whole business of examining children very differently - people look for milestones and the moment you do that, you are really lost. I think it is something that people could come to recognise.

Q: RB talking about possibility of videoing babies and then coming back to the children 5 years later to see whether the babies with suspected symptoms had developed remoteness.

A: You would have to prescribe the way the baby was handled during the filming to make sure you brought out certain things. I think one could do it with some thought. Somewhere I do have a tape I hope of a baby where the mother said that it had very strange behaviours - she was worried about some sort of spasm. When I saw the baby I don't think I ever saw this spasm, but the first thing that struck me was the baby looking like what I imagined a remote baby would be like. Obviously I could not wait around and see if it became one which might have been the scientific thing to have done. I actually gave the mother the exercises which I decided would be right - she brought the baby back and we worked through the things. I did in fact take a number of video pictures - I've never actually looked at them since. About 12 months or so they stopped coming. They came back once some time after that - the mother said the baby had done very well. The baby came back when a child of two or three and it was certainly not behaving in a particularly autistic manner but I was disappointed to see how socially dependent the child was. If the baby did have the problem which I thought it had, we did the

trick. Over a period of time the baby's responses were in keeping with expectations.

Previously I had seen one or two babies at about a year - one I remember particularly being referred by a colleague who asked the mother whether the baby smiled and the mother demonstrated by thrusting her fingers almost right into the baby's face and getting the baby to produce a grimace. This would suggest that the mother had spent a lot of time trying to get the child to respond and having got him to respond this way, she accepted that this was the baby's smile. This baby I am sure was in the category of the remote baby.

Q: In a sense, that is the kind of activity that you would be asking parents to put in - making the children move those muscles.

A: In her case, presumably she had done this till she was able to get some sort of response and that was all - the baby was just lying passively. I did see the baby on a number of occasions over a period of time but I don't know what actually happened. These babies are often suspected of being deaf or blind - it is very often the audiologists who get concerned and that might be one way of finding such children but the quality of screening would have to improve a great deal. When I was involved health visitors did this job and on the whole did the job reasonably well. What was wrong was that their training was not very good. Instead of being told "If you find a baby that doesn't respond, then by all means two weeks later do another test, but then if the baby does not respond, you then refer the child immediately", there is a sort

of ideal that the object of the exercise is to get the baby to respond. A lot of people go on testing and testing with the idea of doing the baby a service by eventually getting it to respond.

The other thing is that when a baby does not respond, the assumption tends to be that there must be something wrong with the hearing, rather than it might be something to do with responsiveness. So when the babies fail, they are sent to a clinic where the people know very little about babies in general. They are highly specialised in testing hearing so they concentrate their attention on that. If they manage to demonstrate that the baby can hear after all, they throw him back in the ocean. The fact of why he did not respond in the first place should be investigated but is often ignored. I am talking from 7 years experience in an audiology department and having spent a lot of time working with health visitors, giving people standard training... People were given too much leeway in the way they conducted the tests when this is very important. So I think lots of children are picked up and thrown back.

Later on someone comes and says "this child has problems of a certain kind" and mother says that he has had his hearing tested and that they were very worried about it for a while, but then they managed to get the child to respond so it was alright and all that has taken place maybe two or more years earlier. I did in fact devise a modification of the distraction hearing test as a general screening to do the same thing but get more information.

A colleague helped me to do some trial runs on the pure mechanics of it and we found that it took less time to do the whole screening than it took to do an ordinary hearing test by itself. The reason simply being that the whole thing was tightened up ... (explanation of normal hearing test) ... If babies are done at a similar age, the health visitors get more familiar with what they are looking for and any irregularities.
