

Speech therapy: the linguistic foundation

David Crystal

Honorary Professor of Linguistics
University College of North Wales, Bangor

In 1972 the British government's report into speech therapy services in the UK made an important summarising statement about the scope of the subject of speech therapy:

the would-be practitioner of therapy, whether of speech or hearing, of reading or of writing, must in future regard language as the central core of his basic discipline. ... the development of his particular skills ought to be along the lines of movement outward from the central core rather than occasional ad hoc excursions inward...

The surprising thing about this statement is that, in the 1970s, it had to be made at all. And what is even more surprising is that, as we approach the 1990s, it still needs to be said.

For it has to be admitted that, as we survey the way in which pathologies of speech, listening, reading, writing and signing are analysed throughout the world, specialised knowledge about the basic properties of language varies enormously, and is often patchily present. It is still quite common, for example, to find people, often with only limited formal training in the subject, who are less than confident about their ability to transcribe the intonation of speech, or who are unhappy about carrying out a detailed grammatical analysis, or who are unaware of the work that has taken place in the study of vocabulary or language use (semantics and pragmatics, respectively). And yet these are basic dimensions of language analysis, of undisputed relevance to the field of speech pathology. To take just one of these areas: we have to deal with many kinds of patient, both adult and child, who suffer from a handicap in grammatical expression or comprehension. But how can we offer them a proper service, if, for example, we are uncertain about basic matters of sentence analysis? How can we maintain a professional demeanour, if the knowledge, which is the foundation of anyone's professionalism, is lacking? Let me give you an analogy. How would you rate a doctor to whom you went with a sore arm, and who began to probe your arm thinking aloud, 'Now, is this the scapula? No, it's the humerus... I think... Or is it...? I suppose it could be the scapula. It's definitely not the ulna... at least I doubt it...'? I suspect you would not stay long in that doctor's surgery if you felt he was so uncertain about the fundamentals of human anatomy. But how often do we, as practitioners who need to know about the anatomy of language, think similar thoughts? Let us take a sentence: He played with a car. 'With? Now, is that an adverb? No, it's a preposition... I think... Or is it? I suppose it could be an adverb. It's definitely not a conjunction... at least I doubt it...'. This is not the behaviour we should expect of a professional practitioner of language.

To say that speech therapy must have a linguistic foundation is to recognise the unprofessionalism of such behaviour, and to move towards its eradication. Linguistics, as the science of language, is the subject which has most to offer in this particular respect, and I personally am ashamed that it

took my subject so long to recognise the needs of speech therapists and to do something about it. But times are changing. Not only is linguistics now part of the training of speech therapists in several countries, the link between the professions has produced several specialised studies and journals - most recently, the journal 'Child Language Teaching and Therapy', which first appeared in 1985, and now, hot off the press, the first issue of 'Clinical Linguistics & Phonetics' (I have a copy here if anyone would like to examine these journals more closely later). As a consequence, it is now becoming clear what linguistics can do to help, and what are the limitations of this subject (itself hardly 75 years old).

The primary role of the subject, in our present stage of development, is to search behind the clinical labels handed down to us from on high, by medical tradition, and determine the linguistic symptoms that define the handicaps with which speech therapists have to deal. We are the inheritors of a few dozen labels (such as aphasia and dyspraxia, with their various sub-divisions) which we awkwardly apply to thousands of patients, whose most noticeable common factor is, ironically, that they are individually different. It is commonplace to read two sets of medical case notes which seem to describe identical patients (two language delayed children, both age 4, for example), but when we observe them communicating, we see immediately how different they are. We need, as a matter of routine, to supplement (note, I do not say replace) the medical, social, psychological, and educational histories of patients with a full linguistic history. At the very least, this means a detailed description of the patient's current linguistic signs and symptoms - phonological, grammatical, semantic, pragmatic. If possible, it should include data on previous linguistic development - though this is often unavailable, or only vaguely present, given the poor memory for language detail of a parent or spouse. The description should have an objective counterpart in the form of an accompanying audio or video tape-recording, which should be kept on file for comparative purposes later. It should be routine to build the costs of such equipment into a speech therapy department's budget. It is hardly ever done.

What is the value of a meticulous linguistic description of a patient's symptomatology? I would suggest the value is twofold. First, it provides the objective evidence for a patient's level of linguistic achievement against which subsequent progress can be measured. Probably the most worrying question which clinicians have to answer (whether asked by others, or by themselves) is 'Am I doing the best that can be done for my patient?' From those in authority, anxious to cut costs in these cost-conscious days, the question is likely to be more abrupt, less sympathetic: 'Are you doing any good at all?', 'Would not the

patient have improved anyway, without your therapy?' I believe firmly in the efficacy of good speech therapy, as you do. But the problem which faces us all is: how to prove it? So how do we establish the efficacy of speech therapy? This is the most urgent question to face us in the 1990s, and we must surely answer it by the turn of the century (not an exceptional period of time to wait for an answer, when you consider the many decades medicine had to wait to prove to us all that its procedures were better than those of the witch-doctor). It can be answered, but only if we are disciplined and systematic in our linguistic record-keeping. For once we have a detailed description of a patient at Time A, and a further description of that patient at Time B, and a further description of the nature of the therapy given to that patient in the intervening time, then it can soon be shown whether progress in that patient is plausibly attributable to the therapy or not. If a patient has no prepositions, and we work on prepositions, and then he has prepositions, we can state our case with confidence. But we must be able to prove that he had no prepositions at first, and prove that he now has them, and show in detail what we did in the interim. And for this we need linguistic descriptions.

There is a second reason for having descriptions. A linguistic description which is properly graded can provide us with an answer to the second most important question we all have to answer: what shall we teach next, and why? When we all go back to work next week (if we can tear ourselves away from the seaside) we each of us have to answer this question for each patient. We can all guess an answer to the first - by choosing randomly some topic that we vaguely feel is relevant to the patient's condition, or by choosing a topic simply because we have some materials to hand - but impressionism is not science, and does not lead to confident professionalism. We ought to have a reason for everything we teach. (And we must remember, in this respect, that we can only teach specifics. We cannot teach 'consonants', or even 'plosives': we have to teach a specific plosive contrast in a specific position in a specific set of words in a specific set of sentences.) In my own work, some of the best reasons for choosing a teaching strategy come from considering the way sounds, words, and structures emerge in the course of normal child language acquisition. A normal acquisitional perspective is an essential first step, in my view, which can simultaneously inform us about a patient's assessment (by showing where patients are in relation to where they ought to be) and therapy (by suggesting which features would, in the expected course of events, be next acquired). But again, no such forward thinking is possible without a description of a

linguistic sample which can be compared with acquisition norms (themselves, of course, the result of previous linguistic descriptions).

As we consider further the nature of language handicap, and of the therapeutic situation, other aspects of our descriptive task arise. Language handicap is, first and foremost, an interactive phenomenon - by which I mean that we need to consider the language of the patient's interlocutor before we truly identify the nature of the condition. The way we talk to the patient can itself be a handicapping factor - especially if we talk in too difficult a way (or, at times, in too easy a way). Language handicap is unique among handicapping conditions in this respect. It is often considered the invisible handicap - and indeed the only way we can be sure that people are linguistically handicapped is, not by standing back and observing, but by coming forward and talking to them. We must therefore include in our description aspects of the language of the interlocutor. This is especially important when the patient is saying very little, or is suffering from a receptive handicap. The camera then points clearly at us.

A second feature of language handicap is that it is longitudinal - by which I mean that time is itself part of the definition of the handicap. It is never enough to take a linguistic snapshot of a patient at a particular point in time, describe the symptoms that we see there, and then conclude that we have captured the essence of the handicap. We have not. The rate at which someone learns (or relearns) language is an essential, defining feature of the condition - just as, in medicine, the rate at which someone develops a disease, or recovers from one, helps to define the nature of that disease. Imagine two children, both at identical linguistic stages of development, but one child takes 6 months to learn a linguistic feature, and the other takes a year to learn the same feature. We would have to conclude that, all else being equal, there was a difference in the nature of their handicaps - in their language learning abilities. It is therefore essential that we begin to plot the 'learning curves' of different linguistic features in our patients, so that we can begin to make judgements of this kind. How long does it take for a patient to learn feature X, given Y amount of input? To answer this we need to make repeated linguistic descriptions over time.

None of this is in principle any different from the approach of the doctor to a disease. It is routine there to take repeated blood samples from a patient, in order to follow the course of a condition. But there are, of course, two essential differences between the doctor's situation and that of the

speech therapist. First, there are far fewer variables of significance in blood than in language - our job is more complicated, in this respect. And secondly, doctors do not have to analyse their samples themselves; they send them to the hospital pathological laboratory, where the job is done by specialist technicians. The poor speech therapists, on the other hand, do have to analyse their own pathological samples. Doctors who look down on speech therapists would do well to bear this point in mind, and to reflect on how much they would be able to do, how many patients they would be able to see if, tomorrow, all path labs were to disappear. Would they be able to do their job satisfactorily? Would they be happy with their waiting lists? And ought not they to be sympathetic, therefore, to the complaints of speech therapists that they have insufficient time to give patients the treatment they deserve?

I had a dream, once, in which the government had set up a national centre for the analysis of speech samples - a linguistic pathological laboratory. Therapists who wished to avail themselves of the service would send in audio or video tapes, with background case notes, and the language on the tapes would be analysed from the required linguistic points of view, and profiles returned to the therapist. A copy of the taped material would then remain in the centre as part of an archive for future consultation. I found this such a powerful dream that I proposed it for consideration by our Department of Health, but as it would cost more than £31.50p the proposal received little sympathy. Perhaps France would see more merit in the idea? Certainly, on a small scale, this kind of thing is already done. In the assessment clinic I used to run at the University of Reading, we offered (and my former colleagues there still do offer) a service of specialised linguistic analysis to speech therapists and others who wish to refer patients there. And at the University of Madison, Wisconsin, Professor Jon Miller informs me that a service scheme of this kind is available using student clinicians, who find it more amenable to earn some money through this kind of work than by serving in a cafe or bar. So it is not entirely a dream.

However it is done, the need for descriptive case studies of individual patients is as critical today as it ever was. But these are case studies, it should be noted, of a rather different kind than is traditionally encountered in the pages of a speech therapy journal. I am not talking here about case studies of diagnosis or assessment, but of therapeutic case studies - in other words, studies which focus attention on how exactly the therapist teaches the patient. They are studies of intervention. They show what happened when a particular

therapist decided to teach, say, the /p/ vs /b/ contrast, or the preposition in, or words for 'fruit'. They give details of the teaching goals, the language used by both patient and therapist, the methods and materials employed, and the effect on the patient. They show, in short, whether the teaching worked. We need thousands of such studies, for one main reason.

The reason is this: such studies are the only way to provide our subject with a predictive foundation. Imagine, if we had a dozen studies of the way different patients were taught in vs on, we would begin to sense which techniques were the most useful, and which were less so, and also develop a sense of how long it typically takes to make progress in acquiring this contrast. And when we next came to teach this contrast, would we not be much assisted by having the accumulated wisdom of other therapists to rely on? And would this not save us a great deal of time? Instead of having to work out for ourselves which techniques to use, and how to go about it, we would be able to use documented procedures. It would no longer be necessary to 're-invent the wheel', as each of us does every day when we teach. How much time must be wasted, by individual therapists working out for themselves the best way to teach a particular linguistic feature? And how much time could be saved, if only there were a centralised body of data on methods of therapeutic intervention - of the kind that case studies can provide.

But it is not just a question of time. It is also a question of satisfaction - of knowing that our course of action is the best currently available. We need to get into a position where we can predict what is likely to happen, when we intervene. This, after all, is the question most in the mind of the patient, or the parent. Is it not the most difficult question of all, when a parent asks, 'What will happen?', 'What will his language be like when he grows up?' And is it not embarrassing to have to reply that we do not know? To obtain this knowledge, we must once again develop a case study mentality - and moreover maintain this mentality longitudinally, even after the patient has left our care. We need, in other words, to become routinely involved in follow-up studies. What happened to our language-handicapped child when he went to secondary school, and left school? What job did he get? How is he doing now? Does he still show any symptoms of his handicap at age 20, 30, 40? A few studies of this kind suggest that some symptoms do indeed disappear, and the patient becomes 'normal' in these respects; but at the same time, others do not disappear, and instead the patient learns to compensate for them. I once met a young man who had been a patient of ours some ten years before. He was somewhat

reserved, and spoke very little, but what he did say sounded perfectly normal. His parents, afterwards, told me that this was typical, but that, on stressful occasions, or when he was tired, the boy still became non-fluent, and showed signs of the tangled speech he had demonstrated when he first arrived at the clinic. If only we had fuller and more systematic information of this kind. But so often, we have no information at all of the success or failure of our therapy. It would not take a massive reorganisation to arrange for this 'downward' transfer of information to take place, especially between secondary school and primary school, or between one locality and another. Just as we send case notes forwards with a child as he moves between schools and localities, so it could be routine to send notes back, so that the originating centre would learn something of what happened, and whether any areas of weakness were detected that earlier intervention could have helped to eliminate. I have never come across this being done, even on a small scale, and would very much like to be informed if you know of any such procedures in operation.

I firmly believe that the future of our subject rests on our writing up our interventions with our patients, in the form of individual therapy case studies. Please note I say 'we' - or, to be specific, 'you'. This is not the kind of research that can be done only in university departments. It must be done in our clinics and schools, by people who teach routinely. The data is already available, for you have to teach, each week, and keep records of what you do. All I am saying is that, from time to time, you select a particular teaching task with a particular patient, and write it up rather more fully than usual, and make it available to others.

How is it to be made available? One really needs a centralised body to publish and disseminate such information. At present, for child data, we have only the journal 'Child Language Teaching and Therapy', which is committed to the publication of case studies of this kind. When it was set up, in 1985, it asked for such studies to be submitted, and it has done so again in this month's issue. (I have ~~copies~~ of the summary of how this journal recommends such studies should be written, if anyone would like one.) But the sad fact of the matter is that, in the three years of publication, only a handful of such studies have been submitted. Everywhere I go these days, I ask therapists why they do not send in accounts of this type. The problem, it seems, is not always lack of time - for it does not take long to write up an account of how one taught a particular point, as long as one's sessions have been recorded. It is lack of self-confidence. 'Who would want to know how I taught prepositions?'

said one therapist. 'I don't feel I could', said another, and when asked why, she replied that 'I'm not sure whether I'm using an accepted method'. I asked her whether the method was successful, and she said it was. So why was she so reluctant to share her knowledge? Where did she get the idea from that there are 'acceptable' and 'unacceptable' linguistic techniques? The only unacceptable techniques are those which never work, and at this point in time, we have no idea what these are. There is no one who can dare criticise another, in this domain, given our universal ignorance of the specific effects of our interventions.

There is nothing new about this kind of study, when you look at what happens in other fields. In the field of foreign language teaching, for example, there are several journals devoted to the principles and practice of classroom teaching - papers on how to teach the future tense, or the definite article, and the like. Why not in our field? Or again, the analogy with medicine thrusts itself forward. How did medical science come to be a science? How did it come to its present state, where it can make predictive claims about medical intervention with such confidence? A doctor will now tell us that if we take such-and-such a medicine, or act in such-and-such a way, we will find such-and-such happening to our bodies, and in such-and-such a time the disease will have run its course. This kind of thing did not happen overnight. It is the result of 200 years of painstaking research, in which case studies have been the foundation - studies, carefully written up, of what happened when a particular treatment was used on a particular patient. It takes a long time to build up such a body of knowledge on which predictions can be based. We who work in the field of language pathology are at the beginning of a long road, therefore. It is a road that must be travelled. And it is our responsibility to start travelling along it.