THE TREATMENT OF STAMMERING
AN INTERPRETATION ACCORDING TO A
REINFORCEMENT THEORY OF LEARNING

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To the staff of the Christchurch Speech Clinic, particularly to Miss Saunders, Miss Ward, and Mr. Dunne who acted as raters.
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CHAPTER I
INTRODUCTION AND OUTLINE OF THE STUDY

It would be no exaggeration to say that stammerers are some of the most difficult cases that speech therapists have to treat.

Stuttering, perhaps the most dramatic of all the speech disorders, is also the most difficult to describe or treat. Despite years of research the disorder presents many unknowns, and the current arguments and confusions which puzzle the beginning student of speech correction merely reflect our professional ignorance.¹

Treatment is difficult because stammering is not amenable to simple re-educational techniques² as are dyslalia cases, nor can the therapist be confident that a certain programme will generally result in success. The numbers of stammerers treated are probably larger than any other defect with the exception of dyslalia, and their length of treatment is often longer than any other defect with the exception of Hard-of-Hearing or Cerebral Palsy. The absence of easily noticeable signs of improvement, or of progressive stages in therapy by which success can be measured, sometimes has the effect of lowering motivation for child and therapist.

The first year following training, young therapists continually request help and information regarding stammering


children. -- What can we do? School and home life seem satisfactory and yet he still stammers - what shall I do next? He comes in and plays, or has some puppet work, but we don't seem to be getting anywhere! etc. To a certain extent these queries are the normal uncertainty arising from inexperience, but they also reflect the dissatisfaction of many more mature clinicians. Many wonder whether their results are the same, better, or worse, than another therapist, but comparison is made difficult by the lack of agreed criteria and the differences in severity and length of treatment. Others again, wonder if it might not be possible for direct work to be given, and an appropriate scheme of progressions devised.

Therapists in New Zealand, are rather homogeneous in their viewpoint regarding therapy -- mostly because they graduate from the same training centre. Very few therapists have seen a variety of methods, nor heard any discussion on the merits of widely different theories by their proponents. Indeed up to the present, student therapists have been limited from observing many stammering cases because their presence in the room retards treatment. A comparison of two different methods of treatment with discussion of the theories underlying them may contribute towards fulfilling these needs to some small extent.
NECESSITY FOR THE STUDY

There has been a great deal of literature and research on stammering in past decades. The majority of studies have attempted to find a fundamental biochemical, neuro-physical, or psychological cause for stammering. Yet others have been concerned with analysing the stammering behaviour itself. Relatively few attempts have been made to subject therapeutic methods to analysis — such an analysis as would include description of symptomology proper, detailed individual case studies, and careful checking of results in terms of agreed criteria, together with accurate recording of the number of treatment sessions. This omission was pointed out by Wyatt\(^3\) several years ago, but up to the present there have been few attempts to rectify it. There have been many books outlining treatment, but in these there has been little factual evidence presented to support the opinion and clinical judgement of the author. Typically they write from clinical experience, quoting outstanding cases (generally successful ones only) but give no facts such as numbers who have improved or failed to improve.\(^4\) An exception is a study by Fahmy.\(^5\) In it he applied the theory of


'negative practice' or voluntary stammering, to a group of eight stammerers for a stated length of time. The degree of improvement was indicated by differences in frequency of stammering before and after. However, no study has been concerned with the comparison of two methods of treatment. Only in this way can a speech clinician evaluate the relative merits of different procedures.

Moreover, although there has accumulated a collection of facts as a result of actual experimentation, much of the research has been inconclusive, and in consequence, the use of these findings for treatment has often been haphazard.

Confusion is also caused by the divorcing of theory from practice which tends to occur. In part, this is due to the fact that no one theory has been adequate to explain all cases of stammering. As Thompson remarks, "Almost anything seems to cure some cases, but nothing so far discovered cures all cases." This has meant that if a speech therapist adopts a single theory of causation, then it lacks breadth to serve as a framework for all cases. Most often, the clinician uses a combination of methods, derived from various theories. In other words, because of the complexity of the disorder, the speech therapists have felt that rigid adherence to any particular theory would limit their effectiveness to those situations or cases wherein those particular

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theories applied. This would appear to be legitimate under the circumstances, as it can be argued that where the disorder is complex, it is reasonable to assume that methods of therapy may need to be equally complex.  

The end result has been that over the last decade, although therapy reflects the diverse theoretical views of the individual clinician to a certain extent, the trend has been toward a broad all-embracing approach in treatment. Most therapy includes a 'little of everything,' and the mental hygiene aspects provide a common core. Such maxims as 'treat the whole stammering person' in effect often mean 'include every possible aspect in treatment.'

This broad approach has certain disadvantages as well as advantages. Not the least of these is that after a time the therapist may lose a sense of direction in therapy. There are so many aspects to consider that she may feel that she has become somewhat of a dilettante, sampling much, but not carrying a single line of action through to a definite conclusion. An eclectic approach requires a reformulation.

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of the working hypothesis from time to time, on the basis of results that are actually obtained in therapy.

In addition, where the approach is broad, eclectic, and adjusted to suit each individual, it is difficult to ascertain exactly to what methods success may be attributed. Firm knowledge as to the efficacy of the particular components of the treatment proper are therefore lacking. It is suggested that one way of remedying this, is that combination of methods should follow their separate trial in experience.

... where possible, the use of a single therapeutic agent at one time is indicated. This provides for more controlled variation of the experimental factor and facilitates the scientific analysis of data.\textsuperscript{11}

Of late years, speech therapists in New Zealand, in common with many overseas, have based most of their therapy on the theory that stammering is a manifestation of a personality disorder.

Although the general approach may be eclectic for each individual case, and non-psychological metiology neither ignored nor neglected, the emphasis in this country is on the whole stammering person. The symptoms are usually seen as a failure to cope with (or to adequately adjust to) environmental forces impinging on the total personality.\textsuperscript{12}

Accordingly, treatment has aimed at modifying the environment, and where possible, easing the tensions and facilitating better adjustment of the child.

\textsuperscript{11} Thorne, \textit{op. cit.}, p. 60.

Further than this, the implication has been that stammering is a neurotic manifestation and as such, the speech pattern itself is not amenable to treatment. "Treat the stammerer," the authorities say, "not the stammer."\(^{13}\) Direct speech drills have thus been discarded and in general, only indirect attacks have been made on the speech symptom -- for example through puppetry -- whilst actual healing is considered to take place as a result of the relationship between therapist and child, either through the medium of the play situation, or 'counseling' in the case of adolescents. Direct attack is confined to relaxation measures in the main. This policy has followed such authorities as Blanton and Blanton who unequivocally advise that, 

Absolutely no specific re-training of the speech should be done. The entire approach should be from the angle of re-adjustment of the relationship of the child (1) to its parents; (2) to its playmates; (3) to its routine; (4) to its general environment.\(^{14}\)

As a result, direct methods have been introduced very tentatively and even guiltily, particularly when the dangers of such attempts at re-training of the 'symptom' are pointed out:

The all too prevalent practice of directly attacking the stuttering by applying retraining technics is not only unwise, it is harmful.

\(^{13}\) E.J. Boome, H.M.S. Baines, and D.G. Harries, \textit{Abnormal Speech} (London: Methuen and Company Ltd., 1939) p. 45.

Often it increases the child's tensions, thereby adding to his difficulties and many a time it actually operates to aggravate and fix the stuttering. In cases where the stuttering subsides as the result of pressure put upon it, frequently a new symptom will develop in its place.\(^\text{15}\)

Some indication of whether these unpleasant consequences do occur when attention is directed towards an alteration of the speech pattern, would be of value to the speech therapist. Some of the questions that occur are: Does a direct method increase the child's stammer? Do any other 'symptoms' develop? Or are the direct and indirect methods equally effective? How does the child react to a direct method? Can it be used equally well with all children? Are there any observable effects on the personality of the child?

An attempt to answer these questions has become of interest in the light of a number of recent researches, to be discussed later, which have found that, using recognized tests and criteria, there were no significant differences between matched groups of stammerers and non-stammerers. A possible inference is that stammering may not be a symptom of a deep-seated emotional disturbance in a substantial number of cases, and may be amenable to remedial treatment from an educational, rather than a psycho-therapeutic viewpoint.

There is need for a theoretical framework which does not lay the whole burden of explanation for stammering upon

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an extensive disorder of personality. The theory of aetiology is at a stage where the facts and hypothesis need to be re-stated, so that therapists, by 'thinking through' to form a definite opinion, may be in a better position to evaluate treatment procedures and clarify the programme of therapy.

In some suggestions arising from his research, Stroobant\textsuperscript{16} indicated that re-integration of speech habits according to well-established learning principles and through direct speech work should be considered. An indication that the application of learning theory to stammering behaviour may be a fruitful line of approach has been provided by some recent laboratory research by Wischner\textsuperscript{17} and Sheehan.\textsuperscript{18}

Although it has proved effective in a limited situation, it is appropriate that before being recommended generally for the study and treatment of stammering, it should be launched in an experimental clinical situation. Differences between a laboratory situation, which is of shorter duration, and limits the number of variables -- for example uses adults only -- and an actual clinical situation are

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\textsuperscript{16} Stroobant, \textit{op. cit.}, p. 232.


such, that the laboratory situation alone, is an insufficient basis for an immediate introduction into practice. The laboratory situation opens up new fields, suggests appropriate measures, and indicates possible solutions to problems, but in education and therapy, where there are many variables all interacting with one another, results may not be the same. The following statement could well apply to therapy:

... differences between the laboratory situation and the classroom situation are so great as to make the laboratory experiment alone an insufficient guide to educational progress. The attempt at rigid control is certain to make the laboratory a somewhat artificial situation.19

In a different context Bowlby20 has indicated that he considers it important to combine the experimental and the clinical approaches, because each can give indispensable data not provided by the other. He adds further that he considers the combination of clinical and experimental techniques the way to future progress.21 The trend toward combining the clinical and experimental approach can be observed in the field of clinical psychology:

Formerly, clinical technology was mainly empirical, i.e. based on study and "experience" rather than experiment. To a certain degree, therapy must always be empirical since the primary consideration is the welfare of the patient rather than the conduct


21 Ibid., p. 62.
of a scientific experiment. Perhaps the most significant development however, is the increasing application of the experimental approach to the individual case and to the clinician's own "experience."  

This type of study therefore, is a logical step forward in research and has been undertaken to test the hypotheses suggested by the 'learning theory' experiments in a clinical setting, before extensive plans to verify them are elaborated. After summing up the research on stammering, Katharine Cobb, in the *Annual Review of Psychology*, 1953, concludes:

The next step forward will be trial in the clinical situation of techniques suggested by the learning theory experiments.

II CLARIFICATION OF SOME POINTS

**Stuttering and Stammering:** It is generally agreed that stammering and stuttering are equally acceptable terms to describe the condition of non-fluency. In New Zealand the English term of stammering is most often preferred and will be used throughout this thesis, although many of the quotations from American sources will include the term stuttering. They should be considered synonymous, with no difference in meaning.

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22 Thorne, *op. cit.*, p. 50.


Characteristics of Stammering: Stammering can be described as a disorder of the rhythmical flow of speech, which is broken by hesitations, stoppages, repetitions, or prolongations of speech sounds. In other words, fluency is interrupted by abnormalities of phonation and respiration, of such frequency and severity as to attract attention and interfere with communication.

Normal and Abnormal: As with other disorders, it is often difficult to judge where the extreme of normal variability ends, and abnormality begins. The difference between some mild cases of stammering and normal speech is only one of degree. Not only does this cause problems regarding the admission of children, but also concerning discharge. When are the hesitations of a normal-speaking child so pronounced as to be labelled stammering? And conversely, when is a stammerer sufficiently fluent to be considered within the extreme of normal variability? There is no simple answer to these questions. Each case must be judged on its own merits, taking into consideration age, personality characteristics, and environmental factors. However, the tendency seems to be to look for abnormality rather than normality. It has been found that many parents are quick to diagnose


a young child a stammerer and conversely it would seem that this attitude is slow to change, even when the child improves to the point of having but a few hesitations. This reluctance is perhaps justifiable and necessary for the speech therapist, but a clearer conception of what constitutes normal variability would provide standards toward which restoration may be directed and on the attainment of which speech may be considered adequate for ordinary communication.

Severity of Stammering: It has been pointed out, that only when a structural or functional variant is so pronounced that it occasions indisposition or inconvenience can it be considered abnormal. But further than that, in order to be considered defective, the break in rhythm must be conspicuous in its deviation both to the listener and to the speaker. The assessment of the speech as 'not normal' is a function not only of the listener, but of the child himself. Similarly, the degree of severity can not be judged merely by the observations of the listener, but the stammerer's own evaluation must be taken into


29 Loc. cit.

A stammer may not be very obvious, but be severely incapacitating to the child, because he is continually aware of his speech difficulty, and is constantly prepared and vigilant to guard against its revelation.\textsuperscript{31}

This is sometimes called an interiorized\textsuperscript{32} or incipient stammer, and the child often speaks quietly and in monosyllables, and in other ways inhibits all outward signs of stammering as much as possible. In these cases, the severity of the stammer is often underestimated by an observer in a brief contact. Nevertheless the tension aroused by constantly endeavouring to evade detection, and the interference with easy communication which this preparedness causes, is debilitating to the child himself. Thus the degree of severity of a stammer can only be roughly ascertained by the listener.

In stammering an additional factor arises, which makes a judgement of this nature difficult. Not only are there variations in severity between stammerers, but there are periodic fluctuations in one stammerer, often apparently unrelated to circumstances in the child's life.\textsuperscript{33}


\textsuperscript{32} \textit{Loc. cit.}

Therefore a child may be judged as a relatively mild case during a 'good' period, but such a judgement could not be sustained at a later date. The converse also applies. Hence a long term observation of the child is much more satisfactory.

**Comparison of Symptoms:** No two stammerers evidence exactly the same pattern of speech behaviour. In practice, most stammerers combine blocking with repetition, but where blocking predominates it is described as a 'Tonic Stammer,' whereas the repetitive type is termed 'Clonic.' The latter is generally relatively free of tension, and is considered to be less severe than the tonic variety, which develops as a result of struggle and avoidance reactions.\(^\text{34}\) Most, although not all, young children are clonic stammerers, and although in terms of frequency their stammering is severe, it would not be judged as severe as that of an older child who stammered on fewer words, but manifested a tonic block. Although most speech therapists would consider a clonic stammer less severe than the tonic, in cases where the child is fluent for several sentences, before there is a spasm, they would find it difficult to compare the two. This difficulty will be evident in the later discussion concerning the matching of the groups and the rating of the speech by the therapists.

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\(^{34}\) Van Riper, *op. cit.*, p. 281.
Length of Treatment: It is perhaps not generally realized that length of treatment for a stammerer may run into several years, and that even then, complete obliteration of the stammer is seldom achieved. Kingdon-Ward is not exaggerating when she says that the treatment of stammering is often 'extremely difficult' and may take a very long time. Later she is even more emphatic:

There is often a genuine doubt about the possibility of complete eradication of stuttering. For this reason some individuals must be adjusted to being stutterers, especially to the actuality of remaining a potential stutterer. Similarly, another authority points out that no one can guarantee a cure, and that it is dishonest to do so. West concurs with this opinion and goes on to say that the clinician may have to be satisfied merely with reducing the severity of the symptoms. "The aim of the therapy," he says, should be the control of the stuttering by the stutterer rather than the cure of the stuttering by the clinician." A severe case of stammering described by Boome and Richardson required two year's treatment before he showed any definite signs of improvement. At the end

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36 Ibid., p. 391.

37 Blanton and Blanton, op. cit., p. 128.

38 West, Kennedy, and Carr, op. cit., p. 94.
of three and a half years he is described as having made a distinct all-round improvement, with easier speech, loss of all the accompanying spasm, and was able to relax to a fair extent.\textsuperscript{39} Two other cases mentioned, had two and a half, and four years of treatment respectively.

In the present study the children were given nine weeks' treatment of four half-hour sessions a week, which is roughly equivalent to a year's treatment under normal conditions. Therefore it was expected that while some cases would show improvement, and a few of the milder cases might even improve sufficiently to be discharged, there would be some whose condition remained unchanged.

\textbf{Fundamental Aim of Therapy:} In therapy, the major objective is to relieve or cure the patient. Thus the therapist is constantly alert to the effects of her general plan of treatment on the individual case, and adapts it to meet the individual needs. In addition, the patient himself always adapts the general programme by his stated ideas and wishes. This being so, no rigid scheme can be adhered to, even under experimental conditions. The rigour of the laboratory study cannot always be maintained in a clinical situation, where unaccountable and uncontrollable factors are apt to occur. While this has serious disadvantages

from an experimental point of view, it is difficult to avoid. On the other hand, perhaps it is necessary to give up some rigour in order to do research on social and clinical problems.40

III ORGANIZATION OF THE THESIS

This study begins with a preliminary consideration of the place of theory in therapy, followed by a review of some of the relevant theories and researches on stammering of the past few decades. The next section deals with the exposition of the hypothesis regarding stammering and learning, which is further subdivided into a discussion of the major theories of learning as they apply to maladaptive behaviour, consideration of ways in which stammering behaviour could be learnt during the socialization process, and finally, a more detailed consideration of the unlearning of stammering behaviour -- which is the point of departure for this study. The description of the research is followed by an analysis of the results, the summary and conclusion. The case studies and notes from the daily records are contained in the appendix.

CHAPTER II

A REVIEW OF THE THEORIES AND RESEARCH ON STAMMERING

Following a discussion of the place of theory in therapy, there is a brief review of theories of stammering, subdivided into those with a psychological, and those with non-psychological emphasis. Research which is relevant to the theories are included in each section.

I THE PLACE OF THEORY IN THERAPY

A study primarily concerned with therapy must include some consideration of theories of causation, in as much as treatment is based on diagnosis.

Diagnosis involves thinking in terms of causation, of the etiology of the case being studied, of the development of the condition in the past, and traces it, if possible, to its beginnings and fundamental cause. Etiology attempts to answer the question why.\(^1\) Etiology is important in treatment because remedies can best be sought in the light of causes. The most valuable diagnosis therefore, is the one that furnishes the worker with the most direct method of attack on the cause or causes.\(^2\)

Diagnosis is the counterpart of a working hypothesis in science. In the present state of our knowledge of some

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speech defects, the root cause of a disorder is not always established, so that sometimes therapy is applied, and is found to be effective although the cause hasn't been unequivocally established. The same is true in medicine and psychotherapy, and it is with reference to the latter that Shaw\(^3\) points out:

The experimental psychologist sets up hypotheses which are in the nature of predictions and tests them. The clinical psychologist does the same thing in reality when he selects, let us say, one therapeutic procedure rather than another.

Therapy cannot always await knowledge of the fundamental cause of a disorder. In this case a number of theories are postulated, and through research and testing, some are excluded, while the remainder are used as a working basis to be modified as knowledge is increased and techniques are elaborated.

A collection of facts gleaned from research are insufficient for a working hypothesis for treatment — the mere collection and description of facts without theories have no predictive value.\(^4\) A therapist must not be content with an impartial summing up of theories, but must go further, and by thinking through the theories, reformulate them in a systematic fashion as a foundation for action. The necessity

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for this arises from the fact that, although there has been a great deal of research on stammering (for instance, neurological, biochemical, metabolic and dietary studies) it has not been conclusive. The position remains, as Karlin\textsuperscript{5} points out, that there have been no adequate or comprehensive findings regarding the cause or causes of stammering.

This being so, an eclectic approach to the problem is perhaps permissible, but there needs to be an organization of knowledge on which to base treatment and the framing of policy by which it is to be carried out. Any criticism is not directed at eclectic theories as such, but at the tendency toward accepting an aggregation of facets from various theories, rather than a number of theories classified and organized in an order according to their ability to encompass the facts. Therapy in New Zealand has almost reached the stage where a multiplicity of techniques are included without the therapist fully realizing that they are derived from widely different theories. For example reference to the statement on present methods\textsuperscript{6} will show that 'Maori stick games' and 'catharsis through play' are both included. The former is obviously based on the belief that the stammerer has some rhythmic or motor deficiency, the latter that there is some emotional disturbance,
yet the former theory is rarely verbalized.

Without this organization of knowledge, the therapist lacks conviction or assurance, and there is little direction, sequence, or system in therapy. Such a philosophy of therapy can lead to insufficient confidence to achieve a sense of commitment to positive goals. Without this sense of direction, it is unlikely that effective treatment can be given. Much the same viewpoint is expressed by Hahn\(^7\) when he says:

One who is so tolerant of every theory and therapy that he cannot devise a good workable program will lose the respect of the stutterer and consequently lessen the possibilities of clinical success.

While the therapist may not 'lose the respect of' the child yet her programme of therapy may lack direction and purpose, and child and therapist may lose confidence in it.

It may be, that in stammering one should not think in terms of 'specific causes' but a 'multiplicity or synergy of causes'.\(^8\) In many disorders where the personal characteristics and environmental influences are not identical it is often futile to look for a common cause. Treatment should, therefore, be flexible and adapted to suit the individual case. One authority suggests that the three main categories of theories for therapy, (neurological, psychological, and habit) may not be mutually exclusive but operate together in


\(^8\) Halliday, op. cit., p. 40.
any one case, the emphasis varying in each individual. He advocates the use of techniques appropriate to each area. 9

Granted however, that it may be futile to look for common causes, certain general principles are always inferred even though they may be flexible and modified for the individual case. Obviously, each case "presents its own peculiar problems and must be treated individually," 10 but the trying out of one line of attack and then another without any over-all system is not to be commended. There are certain dangers in the dictum that since the origin is not always the same, there cannot be one common treatment for all cases---the danger that no general framework will be constructed at all.

Faced with the evidence that no single line of treatment has been found to be successful in all cases, the clinician has three general possibilities open to him: 11 (1) To subscribe to a wide variety of techniques and adjust them to suit each individual case --- which has already been discussed, (2) To apply a single line of therapy regardless of those who fail to profit by it --- and few would commend this, or (3) Have a general line of treatment which is broad


11 Ainsworth, op. cit., p. 325.
enough to include different modes of approach to individual cases, but is sufficiently 'tied together' to provide a firm basis for action. This approach to the problem seems to have several things in its favour. Besides giving a sense of direction, a firm general framework gives the therapist a certain orientation which provides a basis for the elimination of superficial and harmful techniques, and also prevents the incorporation of incompatible items into therapy. For example, a therapist convinced that the client centred approach is the most effective method of treatment, should be unable to use any authoritarian 'teacher-pupil' methods, and only give direct work at the request of the client. It should be incompatible with her philosophy to direct the patient into set periods for relaxation breathing exercises etc. A combination of various methods would be nullifying much that was good in each. If combinations are found to be desirable, they are not then prescribed arbitrarily, but as a result of planning, and based on a working hypothesis which has the greatest explanatory and predictive power at the moment.

Referring now specifically to this study, it is suggested that the hypothesis that stammering is learned behaviour, is broad enough to be included in approach No. 3 above. If it had to be placed in one category, it would probably be considered a psychological theory. However, by postulating that stammering behaviour is probably learnt during the life experiences of the child, it does not exclude the possibility
that some physical or neurological condition would, in some cases, make the child 'susceptible' to developing such behaviour. Although the stammering may not be 'caused' by a neurological or physical condition,

It may well be, however that a structure or function showing an extreme degree of variation from the mean in health can provide or contribute to certain predispositions to disease or injury.12

In other words, stammering may be a dominant response for a certain child, under certain conditions, but its perpetuation depends on the reactions of the child and others and on other environmental forces.

The hypothesis that stammering behaviour is learnt will be tested in a treatment programme. Although theory, being a way of comprehending phenomena must precede experience to some extent, to be profitable it must also follow experience.13 Theories must be adjusted to fit facts,14 -- the facts which result from their application. Looking back over the process of therapy, such questions can be asked as: 'Why did the treatment have no observable effect?' or 'Why did the child get better when he did?' In a study on treatment etiology and diagnosis are not only concerned with the causes of the onset of the illness, but provide a conceptual framework for


14 Kingdon-Ward, op. cit., p. 36.
understanding the causes of recovery. It is against a background of theory that any findings will need to be related.

THEORIES

Theories about stammering have been classified in many different ways. It is sometimes difficult to allocate these theories to stated categories, for several reasons. Firstly, many of them have facets which permit them to encompass many possibilities. Again, many theories of causation are not always consistent with the hypothesis for therapy -- for example, one authority might feel that the basic condition, if it were neurological or biochemical, could hardly be affected by available therapy, and thus in his working hypothesis deal mainly with emotional re-adjustment or re-training of speech patterns. Another, and final reason is that many theories overlap the usual classification because they are based on a belief in a multiplicity of causation.

An attempt at classification by Van Riper reduces the theories to six main categories: the Educational, Psychoanalytic, Neurological, Neurotic, Imagery and Inhibitory. It will be noticed that there appears to be unnecessary repetition in this classification. The Psychoanalytic and

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15 Halliday, *op. cit.*, p. 34.


Neurotic categories would include the same type of theory. The former, according to Van Riper\textsuperscript{18} include theories which hold that stammering is a result of fixation at certain stages in infantile sexual development, and the latter includes theories which consider stammering to be a symptom of a basic personality problem. Obviously both regard stammering as a manifestation of a personality disorder and could well be placed in the same category. Again, unless a detailed analysis was intended, there would seem to be no need to include the Inhibitory or Imagery categories, as there are few modern exponents of such theories.

Three categories only have been included in Ainsworth's scheme: the Developmental, Dysphemic and Neurotic.\textsuperscript{19} He defined the Developmental theories as those in which it is believed the child learns stammering speech during his development; the Dysphemic theories are those which conceive the stammerer to be somehow different as a result of inheritance from the non-stammerer, -- either along biochemical, neurological or psychological lines; while under neurotic theories are grouped all those in which emotional problems are considered to give rise to the disorder. This latter category, unlike Van Riper's, include both theories in which simple psychological difficulties are assumed to be responsible and those in which stammering is conceived to be a compulsive

\textsuperscript{18} \textit{Ibid.}, p. 267.

condition or anxiety hysteria. There seems no justification for the separation of Developmental and Neurotic theories, — presumably the latter also postulate that stammering arises during the child's development.

Ainsworth also suggests a classification of therapies:20

(1) neurophysiological; those therapies which aim at relieving the underlying physical condition (2) psychological; in which psychological adjustment is emphasized (3) habit-training; those in which the retraining of habitual speech patterns are attempted. Evidently, by and large, these categories were intended to correspond with those of causation. It is interesting to note that those therapies emphasizing habit-training, or direct work on the speech, are separated from those in which psychological adjustment is the predominant feature. This conveys the impression that the former are mechanistic and attend very little to the broader aspects of the disorder. This need not necessarily be so.

For the purposes of this study in which a detailed analysis of the variations in theories are not necessary, it would seem reasonable to make only two broad divisions: (1) Those theories which have a predominantly psychological aetiology, and (2) Those in which the psychological aspects are considered to be only secondary.

20 Ibid., p. 209.
II THEORIES WITH A PREDOMINANTLY PSYCHOLOGICAL ORIENTATION

Theories in which the psychological aspects are considered to be of primary importance in the aetiology of stammering, vary all the way from the psychoanalytic or psychiatric interpretation, to that attributing stammering to 'social sensitivity' or to some cognitive difference.

A frankly psychoanalytic explanation is held by Coriat.\textsuperscript{21} To him stammering is a psycho-neurosis caused by the persistence into later life of early pre-genital oral nursing, oral sadistic, and anal sadistic components. In New Zealand, the psychoanalytic viewpoint is exemplified by Bevan-Brown,\textsuperscript{22} who, while being more moderate in conceding that stammering in early childhood could be due to "transient influences," nevertheless still maintains that when it persists after seven or eight years, it is a symptom of a psychoneurosis arising mainly out of difficulties in the early breast feeding situation.

The psychoanalytic viewpoint regarding stammering has had a far-reaching influence on therapy. Perhaps the most important, is that responsibility for the disorder is placed entirely on the parents.

The disorder is produced by some form of inadequate or faulty nurture on the part of the parents, or of those who have had charge of the individual in infancy.\textsuperscript{23}

\textsuperscript{21} Hahn, op. cit., p. 27.
\textsuperscript{23} Loc. cit.
In particular, the psycho-analysts felt that unwise treatment at the time of birth, inadequate breast-feeding, forced weaning or toilet training were responsible for the development of psycho-neurosis.

In consequence much attention was paid to research on the developmental history of stammering children. A study by Berry in 1938 on five hundred stammering children, with a similar control group of non-stammerers, found no significant difference in birth conditions between the two. Seabrock's results were in the same direction, although of course the numbers used were small. On the other hand, another experimenter found that in a group of 209 stammerers, a significantly large number were delivered with instruments. These results seem completely conflicting. However in the last study norms were used as a basis of comparison rather than a control group and the experimenter 'corrected' his data in the direction of his thesis on the assumption that faulty memory reduced the number of instrumental deliveries reported by mothers. His results may be questionable on this account.


26 J.L. Boland, "Type of Birth as Related to Stuttering," J. of Speech and Hearing Disorders, 16: 42, March, 1951.
Results have been no more conclusive in the studies on breast-feeding with stammerers, and one investigator, far from ascertaining that stammerers were deprived sucking experience, found that they were breast-fed two to five months longer than the controls. The results certainly do not support the view that lack of sucking experience, as emphasized by Travis, is a major cause of stammering.

Evidence from research does not therefore, clearly support the psychoanalytic viewpoint. Critics of the psychoanalytic theory point out that it was formulated under clinical rather than strict research conditions, that it arose from clinical investigations of adults and their reconstructions of infant experience, and that furthermore, much of it has not been subjected to empirical test. Hebb states flatly that we do not have any good basis for being sure how children should be brought up in order to prevent mental ill-health.

It is true that at the present state of research, it is impossible to estimate by objective means the extent to which certain childhood experiences are weighted negatively.

27 Berry, op. cit., p. 311.


or positively in terms of later personality integration. The only conclusive way, as Hebb suggests, would be to bring some children up one way and some in another way, and this is ethically impossible.31

This being so, it would seem to be good reason for not rejecting all psycho-analytic hypotheses regarding human behaviour, much of which, with modifications, may be found to come very near the truth. One would, however, agree with the critic,32 that without taking into consideration the attitude of the particular mother to the particular child, no generalizations can be made regarding such infant disciplines as feeding, weaning, and toilet training. It is more probably the attitude of the parent as a whole, which is significant, and this may be revealed in any of the social training situations.

It could also be argued with some truth that the psycho-analysts place altogether too much blame for such a condition as stammering, on the parents. The impact of the child on the parents, of the possibility that the child may have, for instance, poor motor coordination to which the parents are unprepared to adjust, tends to be overlooked. To be fair however, it must be mentioned that their views were probably couched rather dogmatically to encourage parents to face their responsibility. It is so easy to blame heredity.

31 loc. cit.
32 Orlansky, op. cit., p. 25.
A large number of speech therapists of wide repute have been influenced a great deal by the psycho-analysts. Although not quite so sweeping in their views, they believe stammering to be of "nervous origin." One of these is Blanton,33 who believes that psychological factors are the primary causes of stammering, although he does combine the neurological and psychological aspects in his theory. The fear states of the stammerers, he thinks prevent the cortex from exerting control over the organs of speech. Speech uses muscle groups serving biological functions and under stress these muscles revert to their primeval function. Like Stinchfield34 he stresses most strongly that stammering is merely a symptom and the 'fundamental cause' must be treated. Similarly, both consider psycho-analysis to be the preferred method of treatment.

The opinion that stammering is in all cases a psycho-neurosis has resulted in the persisting belief that there should be no attempt to alter the speech pattern directly. One psycho-analyst has put the matter bluntly by saying that speech therapists "must as far as possible attend to everything else about the patient apart from the stammer."35 An attack on the speech symptom is considered to be useless,

33 Hahn, op. cit., p. 11.


35 Bevan-Brown, op. cit., p. 72.
resulting in temporary improvement or a reappearance of the neurotic symptom in one form or another.\textsuperscript{36} The following opinion is evidently intended to refer to all cases of stammering:

... I doubt, even when it is possible, if it is always in the person's best interests to deprive him of his stuttering until the need for it has diminished or disappeared. To deprive him of his symptoms may be to plunge him into the very danger which he most dreads and which his stuttering was created to avert.\textsuperscript{37}

In 1938 Thorpe wrote:

There appears to be fairly general agreement among psychologists that functional stammering and stuttering are not primarily speech defects, but that they are rather an overt symptom of personality maladjustment of the neurasthenic variety. In short, the stammerer is more or less of a neurotic and cannot logically expect to be free from his hysterical symptoms until such time as his underlying psychological conflicts and tensions are alleviated.\textsuperscript{38}

Stammering thus viewed, is "a dynamically determined symptom of personality difficulty rather than the difficulty itself."\textsuperscript{39}

Once again, the research intended to confirm these theories has yielded conflicting results. In a study based on observations of seventy stammering children, Glasner\textsuperscript{40}

\begin{itemize}
\item \textsuperscript{37} Travis, \textit{op. cit.}, p. 193.
\item \textsuperscript{40} P.J. Glasner and M.F. Dha hl, "Stuttering -- a Prophylactic Programme for its Control," \textit{American Journal of Public Health}, 42: 1114, September, 1952.
\end{itemize}
found the young stammerer to be basically anxious, easily frustrated, apprehensive, sensitive and a poor competitor. Somewhat similarly Despert\(^{41}\) reported a marked degree of anxiety; primarily, not secondarily to the speech defect, and although no specific personality type could be described as typical of the stammerer, specific neurotic trends were found, with obsessive-compulsive traits predominating. The age range of the fifty children whom he examined, extended from six and one half to fifteen years and the examination included a dynamic history, physical examination and motor tests as well as a psychiatric examination. There was however, no control group. Findings suggestive of relatively mild degrees of social maladjustment were the outcome of a study on the social evaluations of stammerers, using ratings of pictures,\(^{42}\) but the study had some serious limitations—the control groups weren't equated in numbers, and the findings could also be interpreted as result, not cause.

A series of studies using the Rorschach test also support the view that stammerers are considerably emotionally disturbed. Krugman,\(^{43}\) who administered the test on the


fifty stammering children mentioned above, used an equal number of problem children as a control, and decided that while both groups were predominantly unstable and neurotic, the stammerers tended more in that direction than the children specifically referred to the Child Guidance Clinic as having personality disturbance. The same number, with a control group were given the Rorschach Test by Meltzer, who concluded that in practically all factors which implicate emotional instability, the score of stammering children exceeded that of the controls:

... many more compensatory adjustments appear in the reactions of stuttering children, also more factors that indicate insecurity and compulsive behaviour to compensate for it.\(^4^4\)

The Rorschach test was also used by Spinley\(^4^5\) who concluded, from the three adults only whom she studied, that stammerers have a basic personality structure, characterized by marked insecurity, inhibition of all emotions and a lack of strong positive identification with the father.

Against this, a comparative investigation by Stroobant\(^4^6\) using the Rorschach and Murray's Thermatic Apperception Test


failed to give confirmation to the view that stammering is a symptom of an hysterical or compulsive condition in so far as underlying psychological conflicts and maladjustments were not common to the stammerers any more than they were to the control subjects, although the Thermatic Apperception Test material did reveal some slight indication of a special sensitivity to personal and intra-familial relationships, not found among the non-stammering children. It can be argued that the stammerers failed to show a personality disturbance because they have established a routine habit to a recurring situation. This explanation however, must take account of the fact that some stammerers do show personality disturbance.

A similar argument, namely that it is possible that stammerers achieve normal personalities by the use of a different mechanism than non-stammerers, e.g. by compensatory processes, could also be used to explain away the findings from a study exploring the self-concepts of stammerers, in which they could not be differentiated by means of that particular scale from non-stammerers. The authors conclude that the data do not support the view that stammering is a serious detriment to normal personality development. Apart from the fact that the numbers used


were small, it is possible that the self-concepts test reflects social stereotypes rather than the personality of the raters.

Added to this however, a personality inventory analysis of stammers, cleft-palates, and cripples, using the Minnesota Multiphasic Personality Inventory, failed to indicate whether stammering was precipitated by personality disturbance.\(^{49}\) And another study of emotional factors in speech disorder by Seabrook,\(^{50}\) in which clinical observation and parental reports were supplemented by results from the Vineland Social Maturity Scale, Gesell Scale, Roger's Personality Inventory and Pressey X-c yielded no significant difference in the number of emotionally disturbed children in the speech disorder groups and control group. Sixty-six percent of the control children as against fifty-seven percent of the speech disordered, had emotional disturbance. As statistical methods failed to show any weighting of the results by the articulatory group, emotional disturbance, where present in the stammers, was considered to be a secondary, not a primary factor.

Evidence of an observational nature has been brought forward regarding the stammers who served under combat.

\(^{49}\) F. Walnut, "A Personality Inventory Item Analysis of Individuals who have Other Handicaps," \(J\). \(S\)peech and \(H\)earing \(D\)isorders, 19: 227, June, 1954.

\(^{50}\) Seabrook, \textit{op. cit.}, p. 134.
Peachar and Harris state that of the forty to fifty-two percent pre-induction stammerers who served under combat "it is our feeling, although no comparative figures can be given here, that these men stood up as well under the duress of war as did non-stutterers." Without comparative figures of course, it could be argued that men with compulsive conditions could equally well stand up to combat conditions, so that this paper is only suggestive.

It can be seen that while many investigators conclude that stammerers as a group are basically seriously emotionally disturbed, still others have had results that allow for a more moderate view -- namely the possibility that emotional disturbance may not be the sole cause of stammering and that all stammerers may not have a far-reaching personality disturbance.

Now another group of theorists do tend to take this position. They believe in a synergy of causes and on the whole, they recognize that the disturbing events to which these children were subjected range from the severe to the relatively mild. Without any discrimination between these two groups of children however, they advise with the psycho-analysts against attempting any form of speech re-training.

The social implication of stammering as a psychological difficulty is stressed by one such, who says, "Stuttering

is a specifically conditioned personality, emotive behavior and speech disorder in the struggle for equilibrium during social speaking." 52 Apart from using many psychological terms this definition adds little to our knowledge of what stammering actually is. Like Solomon, Fletcher 53 emphasizes the inability of stammerers to form normal social relationships, although he places emphasis at the same time on innate predisposing factors, presumably of a temperamental not a physical nature.

Another clinician 54 considers that specific attitudes of the parents to the child are conducive to inducing a 'need' for stammering; although the 'availability' of stammering in the responses of the child (presumably through some motor disability) may be present at the same time. In a working hypothesis based on eight case histories, Rotter states that any factors which produce over-protection and consequent feelings of inadequacy, are likely, when the child no longer finds the same conditions operating outside the home, to cause feelings of inadequacy "which result in emotional breakdown, under certain conditions, and the


53 Hahn, op. cit., p. 33.

consequent inability to control speech." Although he believes that therapy must be aimed at the underlying factors, - the need not the 'availability', - nevertheless Rotter comes nearer to the position maintained in this thesis, by conceding that in some cases it may be necessary and wise to carry on some parallel work on the speech itself.

His belief that stammering acts as an attention-getting device is shared by many others, among them Eisenson. However the former puts the matter very well. "None of these cases," he says, "started to stutter without first discovering that interruptions in speech had some very definite effect on the people around them." In other words, he is stressing the speaker's effects on the listener, or to be more specific, the stammerer's effects on the parents. On both sides, the attitudes appear to be important.

There has been quite a number of researches on the attitude of the parents of stammering children; many of them were attempting to find specific attitudes which were conducive to producing stammering. Glasner of St. John's Hopkins Hospital, found no specific emotional or environmental factor produces stammering with any significant


56 Rotter, op. cit., p. 279.
regularity. This is not to say of course, that a variety of psychological factors are not operating, as is the case in peptic ulcer. Specific attitudes were however found to be significant, in another study, in which sixty-two adults and a control group of articulatory defects were administered the Bell Adjustment Inventory. As adults, these stammerers indicated they believed their parents lacked affection for them, treated them as if they were children, and were disappointed in their achievement. While the parents may not have merited these evaluations from an impartial point of view, it is of interest that their children thought they did.

From his observations Glasner believed mothers of stammering children to be rigid, domineering and overprotective. Moncur endeavoured to test this assertion, defining the dominant parent as one who subordinates her child to her desires, depriving him of self-development. Domination, he decided, could be revealed by disciplinary


58 Halliday, op. cit., p. 40.


60 Glasner and Dahlen, op. cit., p. 1114.

action, by holding the child to excessively high standards and in over-protection and parental criticism. He claims that significantly more mothers of stammering children used spanking or threats as means of punishment, over-supervised, and used shame and humiliation as a means of discipline. Correcting or worrying to excess about speech on the part of the parents, he concluded, may be part of a larger pattern of parental domination. The construction of the questionnaire was such, however, that it is difficult to imagine how unbiased answers could be obtained -- for instance, the mothers were asked bluntly whether their standards were too high for the child.

Parental attitudes are the crux of Johnson's semantic theory of stammering, sometimes called the 'diagnosogenic theory' because the main cause is attributed to the parent's diagnosis of 'stammer.'62 Johnson points out the effect of the judgement of 'stammer' by parents on the child's self-evaluation. According to him, the young child during the language learning period has many repetitions -- some children more than others, but these are not universally diagnosed as stammering. In fact, so normal is repetition considered to be in language development, that three and a half years is sometimes called 'The Age of Developmental Stuttering.'63 Once a mother reacts to these hesitations


and evaluates them as stammering, disturbance and tension become centred around them, and stammering proper develops. 64 The issue raised by Johnson is whether any children before they have acquired feelings of self-consciousness or anxiety about the way they speak, exhibit speech hesitancy which is to be sharply differentiated from that of most normal children.

Pre-school therapy for stammerers has been effected a great deal by Johnson’s views. Very rarely indeed is a pre-school child admitted to the speech clinic. Instead, advice is given to the parents with the aim of lowering their anxiety. Recommendations given to parents of younger stammerers are in the direction of pointing out the normal stages of speech development, with its increase in repetitions at two and one half and three and one half years, 65 and the effects of anxiety on the child’s speech. The parents are generally told to ‘ignore the stammer.’

Once again the belief persists that the stammer itself should be left alone. No differentiation is made between those children who, even at four years, have developed obvious tension and secondary symptoms and those whose easy repetition indicates that it would probably disappear with such advice. Whether this is justifiable, could be kept under consideration during the review of research on pre-school stammering which follows.

64 Johnson, op. cit., p. 193.

65 Metraux, op. cit., p. 42.
Parental attitudes regarding speech were investigated by Johnson himself in his study on the onset and development of stammering. He found that in ninety-two percent of the forty-six cases, the first responses that were diagnosed as stammering were effortless repetitions, without any awareness on the part of the child that the repetitions constituted a difficulty or abnormality.

Normal language maturity in sixty-two nursery school children was investigated by Davis, who did find that repetitions were part of the normal pattern of all children, although the children who deviated markedly from the group had a higher incidence of syllable repetition. It is a pity that the number of these deviants were not large enough to reach any definite conclusions. It was also discovered that general language maturity was not an important factor in determining repetitions -- that is to say it was not associated with any particular age level. On the other hand, certain situational factors tended to aggravate it, namely, (1) excitement over the child's own activity, (2) attempting to direct a peer's activity, (3) attempting to gain attention,


and (4) adult direction to change his activity. It appears that under these conditions the child is not sufficiently adept in handling connected discourse, and needs not only word-concept experience, but also a large amount of practice in connected oral expression, in order to become a fluid, rhythmic speaker.

A confirmation that judgements of what constitutes stammering can vary, was made by Bloodstein. Parents having a background of stammering made significantly more diagnosis of stammering of recorded speech samples of stammerers and non-stammerers, than did those with no stammering backgrounds. While this study does show that a difference in attitude does exist between the two, there is no evidence to suggest that they existed prior to the onset of their child’s stammer.

For instance, Glasner believes that the stammerer’s speech pattern is different in kind from the very beginning,


71 Ibid., p. 313.
as Davis' study tended to suggest. These are Glasner's conclusions after undertaking a survey of seventy stammerers under the age of five:

In most cases the repetitions, prolongations, or blocking of sounds were in various ways different from the familiar repetitions and stumblings of children. Their speech was characterized by a change in muscle tonus, pitch, speech and rhythm. As a rule there was an element of tension and compulsion in their speech which distinguished them from other children.72

As a consequence of his study Glasner has questioned the practice of speech therapists of only advising the parents to show no concern and make no comment, without enrolling them in the clinic, on the grounds that in those cases where the damage has already been done the stammer does not disappear, but becomes more intensified unless direct action is taken.73

Glasner's observations do show that there needs to be more research aiming at direct observation of developmental facts and conditions at the time when they occur in the nursery age child.74 Even without this further confirmation however, the evidence does seem to indicate that parental attitudes and situational factors are important, but that more caution is necessary in attributing to all pre-school

72 Glasner, op. cit., p. 135.


children a lack of tension and awareness of the unusual attributes of their speech. These children may merit clinical attention just as much as older children. Kanner states emphatically, "Every stuttering child needs treatment as soon as he has become aware of himself as a stutterer."\(^{75}\) Without objective tests to differentiate between those who merit direct attention and those who do not, much depends on the clinical judgement of the therapist.

It can be seen that most theorists, even when they do not consider stammering to be a result of a deep-seated emotional disturbance, advocate that purely psychological treatment should be given. Some, mentioned earlier, are very definite that psycho-analysis is the preferred method of treatment for all cases. There would seem to be no basis for advocating psycho-analysis as the 'right' method of treatment. It has been pointed out by Hebb\(^{76}\) that it has not been shown that any specialized psycho-therapy, such as psycho-analysis has any special value in the treatment of mental ill-health. Presumably some other form of psychotherapy such as non-directive counseling would be equally permissible.

The point of view taken in this thesis is that it is possible some stammerers only are deeply disturbed and would require psycho-therapy. The remainder may benefit from direct work on their speech in addition to the usual purely


indirect methods.

A few reputable theorists have included direct methods in their treatment. Of these Boome and Richardson\textsuperscript{77} and Bluemel\textsuperscript{78} are the most well known. The former confine themselves mainly to relaxation measures, but the latter used direct methods. Bluemel's hypothesis was that speech was a conditioned response and if it was inhibited by environmental factors before the speech reflex was securely established it could be disturbed, and stammering develop. He advocated arranging conditions so that the stammerer is able to speak normally.

It may be that one of the reasons why direct methods have not been used is that a large number of speech trainers of lesser repute have employed 'drill methods,' breathing exercises,\textsuperscript{79} etc., which in some cases have even been harmful. Nevertheless there are many more theorists to be discussed in the next section, who do use direct methods of one kind or another.

III THEORIES IN WHICH THE PSYCHOLOGICAL ASPECTS ARE CONSIDERED TO BE SECONDARY

Two groups of theorists will be considered. (1) Those who believe a motor disability of one kind or another is


\textsuperscript{78} Hahn, \textit{op. cit.}, p. 16.

fundamental, and (2) those whose theory depends on neurophysiology to explain the condition.

(1) Theories in Which Motor Disability is Basic.

McAllister\textsuperscript{80} believes a synergy of causes is responsible for stammering, among them physical defect, left-handedness and imitation. Her main contention however, is that there is a predisposition towards speech disability either in the organs concerned with speaking, in auditory acuity, or rhythmic sensitivity. This, she believes, offers a convenient focal point for the concentration of emotional disorder. As a result, her therapy includes some speech mechanics.\textsuperscript{81} She feels,

... the practice of speech exercises is futile without psychiatry. Equally, however, psychological treatment of the emotional malaise is not sufficient to give the stammerer easy and automatic control of speech beyond the period during which the influence of the psychiatrist is effective.\textsuperscript{82}

She considers that her case history material includes nothing to suggest that the emotional troubles from which stammerers suffer, differ in kind or in severity from those from which non-stammerers suffer.\textsuperscript{83} Even in those cases, she contends, in which the defect seemed to be the result


\textsuperscript{81} Ibid., pp. 351 - 354.

\textsuperscript{82} Ibid., p. 345.

\textsuperscript{83} Ibid., p. 157.
of definite emotional upset there still remained the problem of explaining the choice of symptom, and this is determined, as has already been mentioned, by a physical weakness.

Similarly, Carot's belief is that "it is the stammering which makes the subject nervous not the nervousness which causes the stammering."\textsuperscript{84} Actually he believes in a multiplicity of causes.

Emotional problems are secondary in the opinion of Hemery, and are effects of physiological malfunction.\textsuperscript{85} He coins the term 'basic error' to refer to a fundamental motor incoordination which is innate and which is the physiological malfunction referred to earlier. The faulty use of the specialized muscular skill becomes so much established by the fifth year that after that it is difficult to eradicate.\textsuperscript{86} His therapy involves re-education of the speech mechanism.

A strong bias towards a neuro-muscular explanation of stammering is taken by West\textsuperscript{87} who goes so far as to say that a neuro-muscular imbalance alone without any discoverable psychic factor may result in what he terms 'dysphemia'. The neuro-muscular imbalance is confined to the muscles of the

\textsuperscript{84} Hahn, \textit{op. cit.}, p. 126.


\textsuperscript{86} \textit{Ibid.}, p. 142.

\textsuperscript{87} West, Kennedy and Carr, \textit{op. cit.}, p. 84.
jaws and face, manifesting itself in slowness of facial diadochokinesis. This hypothesis is linked with metabolic and biochemical studies and the whole is supported by reference to research work. He says:

... we should describe it as a physiological condition of the human organism, which, though not markedly disturbing the basic functions of the muscles of the speech apparatus, seriously interferes with the learned uses of those same muscles, particularly when those uses are emotionally and socially motivated.88

All these theorists place much importance on a lack of motor ability, either generally, or confined specifically to the muscles used in speech. There is little doubt that within our society motor development is a tremendously important factor in the psychological adjustment of children, and that "retardation can make for social handicaps of devastating quality,"89 but what has been the results of actual research on the motor ability of stammerers?

In the five hundred stammering children he examined, Berry90 found a wide scatter in age range for beginning to walk, and decided that stammerers are atypical in motor skills other than speech. On the other hand Despert91 concluded that there was no deviation in psychomotor development in the fifty stammering children he studied, although motor restlessness and a deficiency in finer motor

88 Ibid., p. 95.
89 Thompson, op. cit., p. 282.
90 Berry, op. cit., p. 212.
91 Despert, op. cit., p. 104.
coordinations like writing were discovered. His evidence again contradicts that of Berry with regard to speech development. Despert\textsuperscript{92} considered delayed speech development could be excluded as a significant factor, while Berry\textsuperscript{93} found a reliable difference between the two groups in the beginning and development of speech in favour of the non-stammerers. Obviously results are very conflicting.

In the same series of studies as that of Despert, Carlson\textsuperscript{94} analysed the Binet responses and the data indicated that the stammerers were weaker on the performance side and definitely inferior on the motor coordination items. Interestingly enough they also had somewhat lower percentages on items involving visual perception -- a fact which could be kept in mind during the later discussion on personal tempo.

The same fifty children, whose age range it will be remembered, extended from six and one half to fifteen years, were administered the Oseretzsky Tests by Kopp.\textsuperscript{95} In these tests motor abilities are analysed into 'fundamental elements' as follows: static coordination, dynamic coordination of hands, general dynamic coordination, characteristics of

\textsuperscript{92} Loc. cit.

\textsuperscript{93} Berry, op. cit., p. 214.


simultaneous movements, motor resistance, strength of
movement, precision and rhythm. Findings showed that of
the stammering children, only three showed normal motor
development and one superior, while ten showed motor
deficiency, thirteen cases severe retardation, and fully
twenty-three were classified as motor idiots. An analysis
of the six tests at each age level showed that the two in
which there were the highest degrees of deficiency were
the tests of synkneletic movements and static coordination.
Some individuals whose motor age and chronological age
coincided, nevertheless showed a specific deficiency in
these areas. The results were fairly conclusive and were
in the direction of what common sense would lead one to
expect.

While certain individuals ... do not represent
retardation (their motor age corresponds to their
chronological age), an analysis of their scores
shows a global, uniform deficiency in the maturity
of the extra pyramidal system, as seen in the
failures in tests of synkneletic movements, mimic,
rhythm, and coordination.96

However in spite of the unequivocal nature of the
results, and commenting on the study as a whole, a weakness
does appear to lie in the fact that the Oseretzky norms were
used to evaluate the stammerers' performance rather than a
control group of non-stammerers.

A recent 1954 study by Finkelstein and Weisberger97

96 Ibid., p. 119.

97 P. Finkelstein and S.E. Weisberger, "The Motor
Proficiency of Stutterers," J. of Speech and Hearing
showed both stammerers and normal speakers to fall below the Oseretzky norms, which were standardised on Russian children and adapted for Portuguese and English use. These last investigators used the Doll adaptation of the tests on fifteen stammerers and controls, whose ages ranged from four to ten years. The tests were administered jointly by two examiners and every item fully explained and illustrated before examination so that the child understood the directions clearly. The findings sharply conflict with those of Kopp. The mean motor age for the stammerers was calculated as 91.6 months as against 84.3 months for the controls, and the stammerers surpassed the controls on all sub-tests except simultaneous movements.

In an earlier study Seabrook,98 using exactly the same numbers on a similar age range, found a positive relationship between speech disorder and poor motor ability. The motor ages for the large majority of the speech disordered children were markedly below the normal speakers. No child in the control group scored below his chronological age level and the majority of these children scored at least twelve to twenty-four months above it. It is possible that the discrepancy between the last two studies can be explained by the difference in administration. The stammerers, whose failure experiences make them approach any situation that is ambiguous with anxiety, may have performed the tasks better in the Finkelstein study because they knew exactly what to do.

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98 Seabrook, op. cit., p. 189.
Or again, in this type of test, interpretations for scoring may have allowed wide latitude to the examiner's discretion. However, the contradictory results do show how tentative the conclusions must be, when only small numbers are used. Many studies point to a slowness in perception of rhythmic pattern and the coordination involved, but others again give negative results. McAllister tested seventy-six stammerers, and in fifty-three there were positive indications of deficiency in 'rhythmic sensitivity.'

The simpler rhythms were within control of all equally, but more difficult rhythms had to be learned by the stuttersers. Non-stutterers without exception responded accurately on first presentation, but only eleven of the stuttersers were successful at first response; three and four demonstrations were required to secure accurate response from the rest of the stuttersers, and it is interesting to note that only seven of them failed to learn some of the rhythms. Any weakness then, in rhythmic sensitivity seems to lie in a slowness of perception of rhythmic pattern.

The sequence of rhythm and stress was considered to be important rather than mere speed of muscular movement in an investigation of diadochokinesis. (Diadochokinesis is the maximum speed of movement with which a given reciprocating act such as tapping the finger or protruding the tongue, can be produced.) The rapidity of movement of tongue, jaw,

99 Ibid., p. 156.
100 McAllister, op. cit., p. 201.
lips and finger were tested in this study by Strother and Kriegman with fifteen adult stammerers and a comparable control group. The groups were matched with respect to sex, handedness, and rhythm discrimination, so that when the data revealed that the stammerers, both mild and severe, were slightly superior to the non-stammerers in the rate of movement of all the structures studied, it was postulated that in matching the two groups with respect to rhythmic discrimination the results were weighted in the stammerers' favour. Accordingly, a later study aimed at investigating the "rhythmokinesis" of stammerers and non-stammerers. No differences were found between the two groups.

A possible relationship between stammering and diadochokinesis as revealed in language maturity, attracted interest. Diadochokinesis appears to be bound up with the growth of language ability. It has been shown that the maximum rate increases with age up to eighteen years, and that there is an agreement between diadochokinesis and the developmental order of sounds, (with the exception of (k) and (g), whose slow diadochokinesis is not comparable to their developmental order.)

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103 Ibid., p. 326.


105 Lundeen, op. cit., p. 59.
As boys are slower in language maturity, and as there are many more boys who stammer, a sex difference in diadochokinesis was thought to be the answer to the problem. Although in her study of nine, ten and eleven year olds, Blomquist found no sex difference, another experimenter reported that males do have faster diadochokinesis. This is in agreement with another study in which boys were said to talk at a slightly faster rate than girls. Although at first glance it might appear that this may indeed have a bearing on stammering, it must be remembered that the same sex difference is apparent in other areas. A review of the literature on this by Schuell indicates that besides boys having more disabilities in the area of language, there are more boys who are behaviour problems and delinquents. Infant mortality is also greater for boys than for girls.

However such an hypothesis cannot be completely overlooked, because a recent study suggests that there is likely


107 Lundeen, op. cit.,


to be different natural speeds for different groups of movements. Rimoldi\textsuperscript{110} studied speed of motor activities in addition to reaction time, complex processes such as judgements, recognition of design, expressive movements, etc., and analysed out certain factors. Factor A involved large movements of the limbs or trunk, all of which probably contribute markedly to the gait of the individual as it is apparently related to the spontaneous speed with which large movements are performed.\textsuperscript{111} He states that tests involving small movements, performed mainly by the use of the distal muscles do not show any saturation in this factor. These were represented in Factor B.\textsuperscript{112} The differentiation of these two factors points to the existence of different natural speeds for the two groups of movements. Factor B, it is interesting to note, involves among others, tapping movements, counting and copying -- which are very similar to those used in the diadochokinesis studies.

The relationship between motor ability and perception is also rather suggestive as far as stammering is concerned. Factor C is found in tasks that involve speed of perception. Reading science news for instance, which is presumably fairly difficult reading, although saturated slightly in Factor B,


\textsuperscript{111} Ibid., p. 288.

\textsuperscript{112} Ibid., p. 391.
is more heavily saturated in Factor C. The experimenter maintains that the relationship between tapping speed and speed of reading is of some interest and deserves further consideration.¹¹³ Perhaps a similar saturation of Factor B and C exists in speed of talking which probably involves the same ability tested in tapping speed plus auditory perception. Regarding Factor C, Rimoldi comments:

The spontaneous speed of reaction of individuals to perceptual configurations as such is probably a fundamental factor in explaining many characteristics in the personality and the intellectual fields. It is our impression that it has to do with central activities, whether reducible to a physiological explanation or not.¹¹⁴

The meaning and practical implications of these results regarding personal tempo are undoubtedly of interest to speech pathologists. The existence of fundamental factors of speed of perception, of speed of reaction time, of speed of cognition and of motor speeds have considerable theoretical and practical implications.¹¹⁵ Particularly interesting is the conclusion that it is not possible on the basis of one or two isolated speeds to predict speed in other psychological functions.¹¹⁶ Is it possible that a discrepancy can exist in for instance, speed of perception and motor speed? If so, there may be something in the old idea that a stammer

¹¹³ Ibid., p. 293.
¹¹⁴ Ibid., p. 294.
¹¹⁵ Ibid., p. 298.
¹¹⁶ Ibid., p. 301.
may be caused by a discrepancy between thought and expression. 117

Further speculation is raised as a consequence of the insistence with which Rimoldi points out that the conclusions hold only for spontaneous, not for maximum speed. Spontaneous speed is the condition in which the individual is allowed to go at his own pace. Under these conditions individuals adopt for each activity a particular temporal pattern that is kept constant during the whole performance, "and which seems to be the most economical for the individual, since others externally imposed usually have a detrimental effect." 118 (Italics not in original.)

This can be applied very well to language learning. The external imposition of adult standards in the learning of speech is discussed by West 119 who points out that the child has to follow the cadences of the patterns set by the neuro-muscular tempo of adults, with their own particular speed of muscle movement. It is quite conceivable that this may not be a suitable pattern for the young child to follow, particularly if he had a slow tempo.

This type of research allows one to view the acquisition of speech in much the same way as the acquisition of any


other fine motor skill.

Motor skills are complex in that they involve almost every aspect of the child's psychological status. They are intimately related to perception and intelligence, previous learning and present motivation, emotional stability, social relationships, and that relatively unexplored galaxy of personality dynamics.\textsuperscript{120}

Further investigation will probably elucidate the relationship of motor skills to these areas, and it is very likely that such studies will reveal much that is crucial to the understanding of stammering.

\textit{(2) Theories with a Neurological Basis.}

Aetiology is considered under two headings by Boome and Richardson, \textit{--- Endogenous or constitutional, \textit{-- "a neuropathic tendency with an hereditary proneness to stammering or an inborn liability to nervous disturbance due to instability of the nervous system,"}\textsuperscript{121} and Exogenous or environmental factors which are secondary and never in themselves the cause of the stammer. In other words the above authors subscribe to the view that stammerers can be neurologically differentiated from non-stammerers.

A similar view is taken by Van Riper\textsuperscript{122} who uses the term Dysphemia to refer to an underlying neuromuscular condition, which is reflected peripherally in nervous impulses that are poorly timed in their arrival in the

\begin{flushright}
\textsuperscript{120} Thompson, \textit{op. cit.}, p. 271.
\textsuperscript{121} Boome and Richardson, \textit{op. cit.}, p. 14.
\textsuperscript{122} Van Riper, \textit{op. cit.}, p. 270.
\end{flushright}
paired speech musculatures, and breakdown under emotional stress. In a statement of his position he is forthright in his opinion -- "I believe that the personality problems of the average stutterer are more the result than the cause of his speech disorder."\(^{123}\) Although including measures to improve personality difficulties Van Riper's methods, in common with others in this group of theorists, incorporate attention to the speech defect itself. Apart from training in the performance of rhythmic patterns, voluntary stammering etc., he draws up a programme of daily assignments, a clinical technique for encouraging an objective attitude to the disorder.\(^{124}\)

Karlin's psychosomatic theory is placed in this category because his main emphasis is on the lack of precision and fine coordination, which he attributes to a neurological defect.\(^{125}\) The slower progress of the myelination of the cortical areas concerned with speech, he thinks, coincides with the emotional stress at three and four years of age and provides the basis for stammering.

It is now generally recognized that myelination is not a pre-requisite for the functioning of nerve fibres and that fairly complex activity can be carried out prior

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\(^{123}\) Hahn, op. cit., p. 107.

\(^{124}\) Van Riper, op. cit., p. 347.

to myelination.\textsuperscript{126} Such a theory does not rest on very firm foundations. As he himself says,\textsuperscript{127} the major criticism of the theory is that there is no anatomic proof for it.

Another group of theorists had some influence on the treatment of stammering a few years ago. All of them postulated a relationship between laterality and stammering. Apart from anything else, they had a salutary effect on the methods of dealing with left-handed writers in schools, so that nowadays it is very rarely that change of handedness is thought to have affected speech.

One theory was based on the inference that in consequence of the anatomical proximity of the speech centre and the motor centre a disturbance affecting the hand centre might affect the speech. Several investigators, however, failed to find that a change in handedness invariably precipitated a stammer. For instance Johnson\textsuperscript{128} and Hildreth\textsuperscript{129} both found little evidence to support it, and the latter went so far as to say it should be encouraged, because of the advantages of being right-handed. One authority wrote:

\begin{itemize}
\item \textsuperscript{128} Wendell Johnson et al., The Speech Handicapped School Child (New York: Harper and Brothers, 1948) p. 254.
\end{itemize}
The notion that right-handed training might generate a stammer seems originally to have been derived, not from substantial inquiries or systematic case-study, but from somewhat dubious inferences from anatomical or physiological theory.\textsuperscript{130}

On the other hand, as late as 1950, one writer was reluctant to dismiss the theory entirely, saying that even if there is no clear-cut evidence that cerebral damage does take place when a child's natural handedness is altered, there is little clear-cut evidence that it does not.\textsuperscript{131}

With increasing doubt thrown on the conjecture, other theorists altered their explanation to fit the facts. It was not the change over \textit{per se} that caused the difficulty, they said, but the manner in which it was done. Those cases where it seemed to have been an important factor in the stammering were believed to be the result of the special difficulties to which the left hander was subjected in the attempt to make a difficult adjustment;\textsuperscript{132} or it was believed that only those left-handers who were unstable developed unfortunate symptoms. Seth and Guthrie\textsuperscript{133} go as far as to say that there is evidence (not cited) that left-handedness is more common among temperamentally unstable and nervous children generally. These later modifications, it will


\textsuperscript{132} McAllister, \textit{op. cit.}, p. 342.

be noted, rely heavily on psychological components.

The second theory regarding the relationship between laterality and stammering has excited more attention. It was based on the belief that it is necessary to have a 'dominant gradient' for the smooth and efficient working of the nervous system. In most people, according to the theory, the left cerebral hemisphere is dominant; this leads to right handedness since the left cerebral hemisphere controls the right side of the body. The right hemisphere is considered vestigial in its control over motor preference in most people, although an occasional child has a reversal of this usual state of dominance. It was considered that those who lacked consistent handedness also lacked a dominant gradient, and it was these children who tended to stammer.

Which caused which, was a matter for spirited speculation. Turning to phylogeny to support their explanation, some claimed that speech in man waited on the development of handedness, which in turn presumably was a function of the growth of cerebral dominance. One authority completely reverses this opinion, by maintaining that it was the appearance of the speech centre in the left hemisphere in man that made that the dominant hemisphere and the right hand the dominant hand -- in other words it was the incomplete development of the speech pathways which had left the child without normal hemisphere dominance.\(^{134}\)

\(^{134}\) Russell W. Brain, "Speech and Handedness," The Lancet, 249: 840, December, 1929.
Reading these academic disputes one would tend to agree with Hildreth that,

The neurological evidence in man and that gleaned from the lower animals suggesting the theory of cerebral dominance as cause of handedness rests on very weak foundations. 135

In all these arguments, apparently the only fact that wasn't disputed was that one side of the brain is dominant and plays a major role in perception and action while the other side is minor. "We are forced to believe," says one noted authority, "that some parts of the brain, like the speech area, show very strong one sidedness." 136

As a result of these speculations emphasis became focused on those children who had 'marked motor intergrading,' and any child who was suspected of being a shifted sinistral was encouraged to make the left the dominant hand. 137 Greater unilaterality, it was believed, had the effect of increasing 'the native physiological lead.' 138

Particular interest was shown in the ontogenesis of


137 Hildreth, IV, op. cit., p. 44.

handedness. To Hildreth for instance, cerebral dominance is a developmental characteristic "emerging concomitantly with later ability through childhood."\(^{139}\) It was noted that the development of hand preference and speech development coincided somewhat, the inference being that the fumblings in handedness is accompanied by, or is reflected in fumblings in speech.\(^{140}\) McCarthy for instance, comments that lateral dominance apparently becomes established toward the end of the first year and the beginning of the second, the period when speech is emerging from the infant's early babblings.\(^{141}\) Hildreth in her study of nursery age children, noted that the degree of unilaterality altered with age however, increasing in the three year olds and dropping in the four year olds.\(^{142}\) Evidently shifts of handedness occur in the development of a single child,\(^{143}\) while even for many adults there is no absolute handedness — it is just a question of degree.\(^{144}\) Evidence seems very inconclusive.

\(^{139}\) Hildreth, III, \textit{op. cit.}, p. 259.

\(^{140}\) Seabrook, \textit{op. cit.}, p. 164.


\(^{144}\) Brain, \textit{op. cit.}, p. 837.
Notwithstanding, the whole question cannot be dismissed lightly, as some electroencephalographic studies found sufficient differences to suggest that the stammerers had somewhat less unilaterality than the controls. Moreover a reviewer mentioned that several studies agree in finding that the two cerebral hemispheres function differently in stammerers than they do in normal speakers, not only during actual talking but during silence. Thus there may be a neurological factor in stammering. Where stammering, left-handedness and motor disability occur in the same individual there may be some common deficiency. Whether in the future any or all of these may be found to be a function of biochemical or neurological processes is not outside the realms of possibility. In the meantime the most that can be said is that being left-handed may predispose a person in some degree, to this type of disorder, and a child with such an hereditary background may be more susceptible. These indications suggest that possibly certain precautionary prophylactic measures might be in order for these children.

The final neurophysiological theory to be discussed is the 'vertical dominance' theory. Such theories generally


consider stammering as disruption of "a phylogenetically more recent process and ontogenetically most advanced."147 The control of speech lies in the cortex which synchronizes the nervous discharges, some of which arise at a subcortical level. Certain disturbances interfere with this cortical control over the organs used in speech and they revert to their more primitive functions. For instance, Brain148 states that crying is mainly an affair of subcortical centres and higher centres exert an inhibitory influence on these reactions; when this inhibitory function is disturbed more primitive reactions gain ascendancy.

This theory of vertical dominance is obviously an application of the views concerning the neurophysiology of emotion. Now the exact effect of emotion on the cortex is not known, although E.E.G. may in the near future throw more light on it. It does seem to be the opinion of the most influential writers on this subject that emotion results in a disruption of cortical organization.149 But in any case, any application of the neurophysiology of behaviour which is still in its early stages, would be premature. Moreover the vertical dominance theory does tend to be purely descriptive. Why a person should react to emotional disturbance in such a way as to disrupt cerebral functioning remains unaccounted for.

147 Hahn, op. cit., p. 75.
148 Brain, op. cit., p. 840.
149 Hebb, op. cit., p. 254.
In conclusion then, it would be reasonable to say that neurophysiological theories of stammering must await the time when neurology is developed to the point where more definite knowledge is obtained, and at the moment it would be unwise to base treatment on them, however plausible they may sound.

III HEREDITY AND ENVIRONMENT

Several researches have been carried out to try and trace the hereditary element in stammering by estimating the proportion of stammerers who have a family history of the complaint. McAllister\textsuperscript{150} investigated the family records of seventy-nine cases and found twenty-nine to have speech defect in the family. She concludes that an appreciable proportion of stammerers have a predisposition towards speech weakness, as deduced from family history.

Nelson\textsuperscript{151} compared 204 stammerers with a comparable group of non-stammerers. Almost six times as many stammerers occurred in the immediate and remote ancestors of the stammerers as in the control group. Those with family backgrounds, they found, began to stammer at the age of beginning to speak, while those with no such backgrounds began later. The inference was that those with no background

\textsuperscript{150} McAllister, \textit{op. cit.}, p. 203.

of the complaint required severe precipitating factors.\textsuperscript{152} Her conclusion is in favour of some inheritable factor which might account for a tendency toward this type of speech defect.

An hereditary explanation is not the only possible interpretation, however. \textsuperscript{153} It is possible as Johnson\textsuperscript{153} contends, that the family patterns of evaluation are different for the stammerers. The attitudes of the parents thus precipitate the stammering which they wished to avoid. Johnson tends to discount the possible hereditary factors and emphasize the environmental.

A more moderate view favours the idea of some sort of pre-disposition toward the disorder:

... children vary in nervous stability, in cerebral dominance, in their ability to resist disturbing influences, in their ability to send properly timed impulses down to the paired speech musculatures, in their ability to carry out a pattern of movements in time, and in a great many integrative capacities. Children who possess these abilities and capacities to a high degree and who are not bombarded by a host of disturbing influences seldom show any repetitions, hesitations, or prolongations in their speech. On the other hand, children who inherit or acquire an unstable nervous system, a narrow margin of cerebral dominance, and inferior co-ordinative and integrative abilities will probably have a great many repetitions and prolongations even under slight environmental pressures.\textsuperscript{154}

\textsuperscript{152} Ibid., p. 650.

\textsuperscript{153} Johnson, \textit{op. cit.}, p. 254.

\textsuperscript{154} Van Riper, \textit{op. cit.}, p. 320.
Those who favour an underlying neurological basis are forced to base a large part of their therapy on the more modifiable characteristics, because the basic functions are least susceptible to change by any feasible therapeutic procedure.\footnote{155}{West, Kennedy and Carr, \textit{op. cit.}, p. 95.} Most clinicians tend whenever possible to stress, perhaps to over stress, environmental forces because they are able to be modified. Even when it can be shown that some aspect of behaviour is due to genetic constitutions the fact is of little value in practical control because the condition cannot be manipulated.\footnote{156}{B.F. Skinner, \textit{Science and Human Behavior} (New York: The Macmillan Company, 1953), p. 26.} This is not to say however that it is not recognized that constitution and experience both cooperate and that it is impossible to consider any dividing line between heredity or environment, or any organic and functional ills. It has been pointed out that cause of illness is always twofold, -- certain characteristics of the person and certain factors of the environment combining.\footnote{157}{Halliday, \textit{op. cit.}, p. 26.}

Nevertheless until the time when more definite knowledge is obtained, it is wiser to prefer a behaviouristic viewpoint with the proviso that recognizing that a disorder considered mainly functional and psychogenetic today may in future years be considered organic, the clinician is willing to alter her viewpoint as new data comes forward.
IV CONCLUDING REMARKS

Theories which postulate a neurophysiological, physical, or purely psychological basis to stammering have been reviewed, together with the relevant research. The possibility of a neurophysiological basis to stammering cannot entirely be discounted, and there are indications that many stammerers may have inferior motor ability for tasks requiring the synchronizing of finely executed movements.

Emotional factors are undoubtedly important, and where the disturbance is great psychotherapy should be a prerequisite. On the other hand there is no firm basis for contending that all stammerers should have purely indirect methods of treatment.

The vexed issue is whether persistent stammering is a psychoneurotic symptom based on persisting emotional conflict and requiring psycho-therapy, or whether the speech disorder often outlasts its primary cause and needs mainly symptomatic treatment in the form of speech therapy. Our own attitude is that ... most stammering children can be adequately treated by a speech therapist, supported in the more severe and intransigent cases by an experienced psychiatrist or physician.158

CHAPTER III

AN EXPOSITION OF THE HYPOTHESIS REGARDING STAMMERING AND LEARNING

There are four major assumptions to be considered -- the fourth one is the point of departure for this study. (1) The first is that stammering behaviour is learned. This is not to say that certain factors such as poor motor ability or a weakness of the neuromuscular apparatus may not make such behaviour difficult to avoid, in that optimum learning conditions may be necessary, but it assumes that as speech is learnt, so ways of speaking are also learnt. Stammering, for certain children whose physical apparatus is such that they find it more difficult to learn a complex skill, may be the dominant response and the initial tendency for this to be evoked may make it likely to be readily learnt, but as speech is a product of experience, stammering behaviour must presumably be a product of experience, and therefore learned.

Most speech pathologists would agree that stammering behaviour is historical or developed.¹ The theories already reviewed, present two contrasting views in this respect. Some maintain that it is a result of emotional disturbance, and is probably a form of neurosis, while others believe it

is clumsy speech about which the child becomes emotional largely as a result of the reaction of others. Both these previously antithetical hypotheses can be included under the assumption that stammering behaviour is learnt.

(2) If it is learned, it is likely that it is learned according to already known experimentally verified laws of learning, or according to laws of learning as yet undiscovered. Learning theory should therefore help to explain the learning and unlearning of stammering behaviour.

(3) If stammering behaviour is learned, it is presumably learned during the process of socialization of the child.

(4) If stammering behaviour is learned it should be amenable to unlearning by some combination of the principles by which it was taught.

The assumptions will now be considered in more detail.

I STAMMERING CONSIDERED AS AN HABITUAL REACTION

The usual opinion of those who consider stammering to be a symptom of a personality disorder, is that,

Since stuttering is usually a symptom of emotional maladjustment one should not expect it to be remedied until the underlying conflicts and emotional tensions have been greatly reduced.

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Conversely, the inference is that once the underlying disturbance has been resolved, the symptom disappears. It has been found that this does not always occur. From clinical experience McAllister\(^5\) maintains that she cannot agree that the dissolving of the emotional disturbance results in the abandonment of the faulty speech reaction.

While the method has been temporarily successful in a few cases, with the majority it has brought ease, the elimination of fear and shame, but not necessarily cessation of the speech defect.\(^6\)

Psychological treatment of the emotional 'malaise' is not sufficient in her opinion.

Similar results have been obtained in experiments. Social relationships improve, or emotional problems are alleviated but speech remains about the same. Only negligible correlations were found to exist between changes in social adequacy and changes in speech adequacy by Shames\(^7\) in his investigation of group homogeneity in group speech therapy with twenty-seven adult stammerers who attended individual and group therapy sessions for approximately five hours a day five days a week. The sessions involved specific habit retraining, socialization, group mental hygiene, and individual counseling. An estimate of the speech was obtained by ratings by clinicians, and social


\(^6\) *Loc. cit.*

\(^7\) G.H. Shames, "An Exploration of Group Homogeneity in Group Speech Therapy," *J. of Speech and Hearing Disorders*, 18, 269, September, 1933.
and personality characteristics were evaluated by means of questionnaire and projective techniques.

In another study psychotherapeutic treatment was given, and improvement in personality adjustment as measured by the Rorschach Test, did not coincide with speech or 'symptomatic improvement.'

If these observations and results can be substantiated, one would tend to agree with Douglas and Quarrington who wrote:

To seek an explanation of stuttering in terms of a symptom reflecting an underlying psychical disturbance would appear to be an extremely over-simplified approach to the problem in the light of present knowledge. Such a viewpoint cannot take into account many of the known facts about stuttering. The resistance of stuttering to psychoanalytic attack, the evidence of personality reorganization concomitant with improvement in stuttering with speech therapy, indicates the limitations of this view.

Therefore, any explanation of stammering must take into account the fact that it can persist when the emotional disturbance considered to be basic, has been resolved, or when there is no longer any motor retardation. With Hahn, Van Riper finds that in many cases, before having speech

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11 Ibid., p. 105.
therapy the original precipitating causes of the disorder are no longer significant, and believes that in most adult cases the stammering has become self-perpetuating. A similar opinion is held by Kingdon-Ward:

The factor of habit must never be overlooked as a major element in all stammering, whether it be regarded as simply a habit of stammering speech-action, habit spasm, habitual mental approach to speech, habitual fears, unconscious emotional habit, or cell habit. It is shown strongly in the residual spasm which commonly remains after all emotional complications are cleared off.\(^{12}\)

All of these speech pathologists however, believe that at one time there were 'underlying' disturbances of an extensive nature. The assumption that stammering could have developed in some cases in response to relatively minor difficulties, or as a result of specific concern centering around the semantic environment is not entertained.

They do imply however, that stammering need not necessarily be parasitic in the sense of being dependent on wider personality difficulties. This is carried a step further by Solomon in a statement he made a few years ago. The implication is that the precipitating factor may have been relatively transient:

The memory of the original exciting cause or causes, if the stutterer ever knew it or them clearly at all (and he frequently, if not generally never did) responsible for the first moment of stuttering may, for all practical purposes, be entirely extinguished, perhaps never again possible of resurrection, but the

conditioned response of speech block and the individual's reaction thereto may recur, centred around the social speaking difficulty. 13

In this case, the stammer is the neurosis, or to put it another way -- stammering is a pattern of maladaptive responses which have become habitual.

In summary, it could be said that many factors may operate to make stammering a dominant response, and if these factors continue to operate, of course the response will be difficult to eradicate. Nevertheless in its persistence it can be considered a pattern of maladaptive responses that has been learned.

II REVIEW OF THE MAJOR THEORIES OF LEARNING

This thesis examines the hypothesis that stammering behaviour is learned and persists as an habitual response -- that is to say it is a way of behaving which has been acquired by the individual during the course of his life. As learning theory represents an attempt to explain the genesis and nature of habits, 14 it should provide a means of elucidating the processes involved in stammering.

What actually occurs during the learning process is, of course unknown. However it has been roughly defined as


"the sequence of events or conditions which results in the acquisition of some new functional relationship between psychological activities." 15 Only the product of learning is observable, and from it theorists have tried to conceptualize the process involved. A neurophysiological theory has possibilities in explaining learning, but as we do not know what actually does take place in the individual when learning occurs, it would be unwise to use any such theory to explain behaviour at present. 16 What is called learning, and what is called stammering behaviour, may be a function of nerve tissue but we are at the moment without sufficient definite knowledge of these processes. An explanation which is valid enough to be useful in the analysis of behaviour, yet capable of being interpreted into neurophysiological terms if need be, would be the logical choice. In the future of course, it may well be that the controversy between 'centralists' and 'peripheralists' may be found to be largely unnecessary, both finding that they are merely approaching the problem from different angles.

At the present time a Behaviouristic theory is more applicable for the purpose of explaining stammering behaviour.


Using such a theory inferences and predictions may be made without the necessity of awaiting the advances in other sciences. 17 No experimental findings however, have clearly indicated the superiority of one or other of these theories in explaining the learning process. Each one has weaknesses and are hard put to it, to encompass all the experimental findings within the one theory:

... it is necessary to recognize the experimental findings which make the complete generality of one or the other theory untenable. 18

No one theory can therefore be considered the 'right' one. As a result, choice of theory depends a great deal on the field to be considered -- in this case the study of stammering behaviour.

This being so, one must firstly take into consideration the necessity of preferring a theory which accepts an historical approach. This is logical if stammering is considered as a pattern of habitual reactions and is furthermore acceptable from a clinical point of view. The clinician is often faced with the entrenchment of such behaviour in spite of the apparent lack of cause for it in the present, and is forced to consider it in terms of the past persisting into the present. Gestalt Psychologists, and Lewin in particular, are insistent that behaviour depends on the


present. Past events, because they do not now exist, cannot have present effects.

While past psychological fields are part of the origin of the present field, their relationship to the present is so indirect that their explanatory value is slight.\textsuperscript{19}

A Gestalt viewpoint would therefore not be so acceptable for present purposes.

Another reason is that a clinician, because she is unable to modify innate forces, tends to attribute as much as possible to the environment and to learning, and from a practical standpoint favours such a theory rather than one, such as the Gestalt theory, which accounts for behaviour in terms of the way in which the organism is made.

In the field of language, speaking fluently could be said to be an adjustment superior to gesture or emotive tones, as it facilitates communication and gratification of needs. Non-fluency can likewise be regarded as a less satisfactory adjustment for the individual and under ordinary learning conditions should gradually be discarded. That it persists in spite of its unserviceability is a fact that an adequate learning theory should attempt to explain. The most important consideration therefore, is the extent to which the major learning theories account for the emergence and persistence of maladaptive responses.

Although Gestalt theory has probably contributed much to the present emphasis of treating the child as a whole,

\textsuperscript{19} Hilgard, \textit{op. cit.}, p. 217.
and the symptom as a sign of difficulty the organism is encountering as it reacts dynamically with its environment, stammering is a malfunctioning of speech, and speech is a skill and as such should be analysable into simpler units. In this respect Associationism, which considers complex habits in terms of their composition should be applicable. This type of theory can roughly be divided into 'Cognitive' and 'Reaction' Theories. A more detailed discussion of these follows.

(1) **Cognitive Theory.**

Tolman, the leading exponent of the cognitive theorists, conceives of learning as the acquisition of information or cognitions about the environment. Learning to him is a process of associating various external and internal stimulus events with each other.\(^{20}\) The resultant cognitions are 'bits' of knowledge that "a given stimulus or sign if reacted to in a given way, will lead to a spatially or temporally more remote stimulus or signifcate."\(^{21}\) Apart from contiguity which is the necessary condition to this process of associating, in addition secondary principles such as recency, emphasis and belongingness facilitate association. Once these cognitive maps of the external situation are built up, the organism

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actively selects the stimuli in terms of them. It is this cognitive map indicating routes and paths and environmental relationships, together with needs and the ability of the individual which finally govern performance. Maladaptive Responses. And it is in the area of perception (or the building up of cognitive maps) that one must look for the source of inappropriate behaviour. Although these cognitive maps may be comprehensive or narrow, yet still lead successfully to the goal, the narrow maps, by limiting the organism when it tries to utilise it in a new problem are not as preferable as the broad maps. The persistence of 'incorrect' responses is thus explained by reference to narrow cognitive maps and the principle of least effort. A certain response may be the easiest path to the goal on an earlier occasion, but when later circumstances make it less appropriate, practice would make it difficult to eradicate.

In sum then, Tolman maintains inadequate responses result from inadequate perception. How does this occur? Narrow strip maps can be induced, according to Tolman, by (a) an inadequate array of environmentally presented cues -- for example in learning to speak, the cues of parental speech may be inappropriate for the child; (b) too many repetitions

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on the originally trained on path (c) too strongly moti-
vating or frustrating conditions, or conflicts between two
or more needs.

... I am supposing that it is conflicts between
two or more needs which are the basal causal deter-
m iners of those kind of behavior which a given
culture will declare to be symptoms of emotional
instability. Those particular irrelevancies and
deviations (such as for example, bed wetting, nail
biting, stammering, flushing, cataleptic trances,
visions, and hallucination) ... result primarily
when two needs conflict with one another.

(italics not in the original)

The crux of the difficulty would therefore apparently lie
in the motivating conditions at the energising or directive
levels. Tolman offers no explanation how one dynamism
rather than another occurs in the learning process --
"neither the Freudians or anybody else can, as yet, give
us adequate answers," he says.

Learning a Skill. Does Tolman's theory elucidate the
process of learning the skill of speech? Tolman's theory
is actually more applicable to problem-solving and spatial

23 E.C. Tolman, Purposive Behavior in Animals and Men

24 E.C. Tolman, "Cognitive Maps in Rats and Men,"

25 Tolman, "A Stimulus-expectancy Need-cathexis
Psychology," op. cit., p. 238.

26 Loc. cit.

27 Monroe, op. cit., p. 672.

28 E.C. Tolman, "A Drive-Conversion Diagram," Collected
Papers in Psychology (Berkeley and Los Angeles: University
learning, because it is concerned with meanings rather than movements.²⁹ Speaking involves movements and learning to speak presumably involves the acquisition of the correct sequence of movements, rather than involving problem-solving behaviour. Speech is largely instrumental, a means of communication, not in itself a goal to be striven for, or a problem to be solved on the basis of hypothesis. It is not until malfunction has developed that speaking becomes a problem. In one article³⁰ Tolman does deal with the acquisition of motor patterns, but adds nothing further beyond agreeing with Guthrie that the conditions under which a motor pattern gets acquired, are those in which the given movement gets the organism away from the stimuli, remaining conditioned to it because no other movement has a chance to occur and displace it.

**Fixation of a Response.** To Tolman, the fixation of a stimulus response connection, takes place through mere contiguity or sequence in experience, provided the satisfactory perceptual conditions are present.³¹ Learning can be acquired independent of motivation, although it is an

²⁹ Hilgard, *op. cit.*, p. 266.


important factor in performance, if not actually necessary in the acquisition of learning. Thus for instance, a stammering response may be learnt if it occurs in relation to certain stimuli. The Reward Theorist on the other hand, believes that the connections between stimulus and response result from the fact that they are followed by need reduction. In this way they explain why certain responses are learnt and others drop out. Motives to them thus have a selective, as well as a directive and energizing function. To Tolman however, the goal object acts only as an 'emphasizer' verifying or refuting hypothesis. Punishment as well as reward acts as an emphasizes. This would certainly explain why a self-punishing response such as stammering would persist: it makes it difficult to explain how a correct response is learnt.

Habit. In what way can Cognitive Learning Theory contribute to knowledge regarding habit? The nearest thing to a simple habit which the sign learning theory accepts, according to Hilgard, is a sign-gestalt expectancy. This expectancy is based on reason and logic rather than affective states.

32 Hilgard, op. cit., p. 276.


34 Monroe, op. cit., p. 672.

35 Hilgard, op. cit., p. 271.
Expectancy has the quality of a prediction made on the basis of probability that certain behaviour should result in the goal-object. Now the stammerer does 'expect' to stammer on many occasions, but this expectancy is not, as far as we can tell, a logical prediction, but more in the nature of an affective state. A reinforcement view of expectancy or preparatory set, as a form of discomfort resulting from tension would appear to be more appropriate. 36 But to be fair, Tolman did allow that an expectancy need not necessarily be a conscious state. He wrote:

These expectancies fundamentally are merely sets in the nervous system aroused by environmental stimuli. In the case of human beings such neurally based expectancies are (as we know) often accompanied by consciousness, but they need not be. 37

Nevertheless in general, Tolman emphasized the acquisition of 'good' habits. And as an opposing theorist remarks:

We learn errors and bad habits as well as success and good habits. Theories of learning that are confined to the prediction of insight, of success, of goal achievement, fail to warn us of such outcomes and offer no help to the teacher interested in imparting skills or information. 38


Extinction. As this thesis is concerned with therapy, or the learning of new responses, it is necessary to ask — In what way does Tolman explain how old responses are extinguished and new responses learnt? One would tend to think that, according to a cognitive theory which emphasizes perception-like or idea-like effects, it should be possible to abandon behaviour such as stammering that presumably does not lead to satisfying after-effects.

Actually Tolman does not have an explicit theory of response elimination, although it is likely his position falls implicitly in line with the counter-learning type of interpretation. According to Spence, Tolman intimated that when the first stimulus-object plus the behaviour no longer leads to the second stimulus-object a new cognition and a new environmental sequence develops. It is presumed that at the beginning the new cognition interferes with the first for a short time. Evidently there is no indication of under what conditions the unconditioned stimulus will cease. It is necessary to know these conditions if a response such as stammering is to be prevented.

Summing up, it could be said that on the whole the cognitive theory raises more questions than it answers as far as maladaptive behaviour is concerned. Inadequate

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perception as a result of difficult discriminating conditions or complex motivating factors are the basis for such responses. Later psychologists have investigated the area of perception as an approach to personality and behaviour, and this source of approach does seem to be fruitful, but like Tolman's theory itself, it has not yet been worked out in sufficient detail to make it easy to apply. On the whole Tolman stresses the essential reasonableness of behaviour and as Hilgard says:

A theory which assumes that behaviour is regulated reasonably is put to it to account for the persistence of habits in situations in which they are no longer adaptive.

(2) **Guthrie's Stimulus-Response Theory.**

Whereas to Tolman learning is a process of associating stimulus events with each other, the second group of association theorists believe the essential sequence in learning is the stimulus-response association. The first to be considered is Guthrie.

**Fixation of Response.** To him, stimuli and responses, other than reflexes, become attached to each other through the process of conditioning, and the strengthening of responses takes place through reinforcement. The concept of

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42 Guthrie, *op. cit.*, p. 23.

reinforcement has become somewhat extended by other theorists, but as Gurthrie used it, it referred simply to the arrangement of following the conditioned stimulus by the unconditioned stimulus, a process of 'strengthening' being considered to take place. The response that becomes attached to the stimuli is the one that follows it immediately, i.e. is contiguous with it. The way a response becomes attached to a stimuli obviously earlier in time is explained in terms of intervening movements, which act as intermediary cues.

Movement-produced stimuli make possible a far-reaching extension of association or conditioning. They make possible remote association ... 44

Movement-produced cues seem to play a large part in stammering, so Guthrie's comments regarding this are particularly pertinent.

Learning a Skill. In Guthrie's view association between stimulus and response takes place straight away and with full associative strength. 45

Any sequences of movements, however caused and directed, thus furnishes stimuli for association with the succeeding response and, provided the general situation does not offer anything new and compelling, there will be a tendency for the resultant serial response to fix itself by internal associations between one movement and the next. The stimulation from each stage is contiguous to the movement of the next. 46

If this is so, how does the improvement which takes place


46 Ibid., p. 37.
with practice occur? Guthrie's answer is that because skilled actions are a combination of many movements, there are many cues which must become assimilated to the movements, and the more cues there are, the more practice is necessary. 47

A major difficulty in learning skills, Guthrie points out, is that the consequences of poor performance do not take place in time to break up the bad habit. 48 If conditioning with full associative strength occurs straight away, the feed-back after a cue has been followed by a movement, or performance has been completed, is too late to prevent the strengthening taking place. To prevent inadequate habits, change must occur at the stage before the cue is followed by movement. In other words, 'prevention is better than cure,' because as Guthrie himself says, "retraining is a long and tedious affair." 49 The outlook for therapy is not very optimistic.

**Extinction and Relearning.** Errors occur because of faulty association -- faulty in the sense that they do not lead to the final product for which they were aimed. What is the remedy for these faulty associations? Ensure that the correct behaviour occurs to the same cue. 50 There needs to be repetition, with a change, of all the series of stimuli

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48 Ibid., p. 176.
49 Ibid., p. 171.
50 Ibid., pp. 69, 138.
responsible for the action in the first place.

In other words extinction involves ensuring the occurrence of an incompatible response. Apply the incompatible response theory to stammering, all that would be necessary to correct the faulty pattern would be to follow the cue (demand for speech) with the desired response (speaking fluently). All inhibitory conditioning, habit breaking, and negative adaptation, involves nothing more than reconditioning, or learning of a new response to the original stimulus to Guthrie.

... we lose fears by being led to act differently in the presence of the fearsome object, to laugh or to be occupied with other affairs.

The weakness with the incompatible response theory of elimination, Spence considers, is that it does not indicate what makes the competing response occur initially, nor how it eventually becomes stronger than the initial response. The crucial thing is how to follow the cue with the fluent response. Guthrie does indicate three ways in which the correct behaviour can be made to follow the stimulus. They all involve manipulation of the stimulus situation.

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51 Ibid., p. 127.


The first method is to present the stimulus when other features in the situation inhibit the undesirable response. For instance, if the child stammers in the presence of adults, the therapist, by being uncritical, friendly and permissive arranges the situation so that little stammering occurs. The second method is to repeat the signal until the original response is fatigued and then continue it to the point where a new response can be introduced. The adaptation effect will be discussed in more detail later on -- it can be used to reduce stammering. The third method is to introduce the stimulus in such faint degree that it will not call out the response.55 The so-called 'guided introduction' to reading which Bluemel56 uses, utilizes this principle. He reads with the child and very gradually relinquishes support, so that the stimulus at no time arouses anxiety.

It is interesting to note that Guthrie comments on Dunlap's theory of negative practice or voluntary stammering, and postulates that the reason why it is effective is that it makes the cues for stammering obvious, so that it is possible for other responses to be attached to the cues.57

Motivation. Motivation in Guthrie's schema does not have a very important place. It enters learning only because


it determines the presence of vigour of movements and ensures that the response to be conditioned will occur. The function of drive states is "that of 'forcer' of the response rather than that of 'reinforcer' of a connection." Rewards do not have any strengthening effect, but coming as they do at the end of a sequence, remove the organism from the stimuli. The movement thus remains intact because no other movements occur and displace it. The effect of reward is to preserve it from disintegration. In contrast to Tolman, Guthrie believes that although action may be determined by a goal, it is only because of previous association with a action. The goal as a future event does not initially influence the action.

Guthrie's position on reward and punishment has been criticized by Hilgard because he neglects to consider any difference between the two situations. In this respect the same criticism as applied to Tolman can be restated. To do what one last did is alright if one is rewarded, but if the same procedure occurs when one is punished "the subject is in for more punishment."

60 Hilgard, op. cit., p. 61.
62 Hilgard, op. cit., p. 62.
In defence of Guthrie, he does state that punishment works only if the last response to the punished situation is incompatible with the response that brought on the punishment. In other words, it only works if the subject is forced to do something different. Punishing a child for stammering, for instance, would not be effective, in breaking the habit, if the punishment only caused more stammering. It is not the punishment itself that influences learning, says Guthrie, but what it makes the subject do that counts. Furthermore he also points out that punishment is effective only in the presence of cues for the bad habit, and certainly not when it leads only to emotional excitement. In this case it only stereotypes the bad habit.

Maladaptive Behaviour. The stereotyping of behaviour is thus explained as a function of strong emotion. Emotion may be produced by intense stimulation of any sort, the accumulated effects of a series of stimuli, or through interference with ongoing activity (i.e. frustration). Stammering, in terms of this hypothesis, could be fixated as a result of heightened emotionality, because the disorganization of behaviour attendant on emotion, according to Guthrie, is in itself subject to conditioning.

63 Guthrie, The Psychology of Learning, op. cit., p. 158.
64 Ibid., pp. 160 - 161.
65 Ibid., p. 104.
The perpetuation of maladaptive behaviour is evidently based on the proposition that the reason why it does not extinguish is that the person avoids the stimuli "in the presence of which extinction might take place." 68

In summary, it will be apparent that the practical inferences drawn from Guthrie's theory are very similar to that of the Reinforcement Theorists -- for example the suggestion to insert the correct response following the cue, and the emphasis given to movement-produced cues.

It has also been suggested that both Tolman and Guthrie, by admitting that emotion determines the fixation of certain acts, approach very closely to their rival group of theorists. "If strong emotion can be shown to have motivating properties, then in these instances motivation determines the fixation of acts and is not just concerned with the utilization of prior learning experience." 69

Of late years, it is said, former conflicts of theoretical opinion have been greatly reduced, so that the distinction is now largely one of emphasis. 70 These observations do seem to confirm it. It is particularly noticeable in the recent exposition by former Reinforcement

68 Hilgard, op. cit., p. 293.

69 Monroe, op. cit., p. 673.

Theorists of a Two Factor Theory of Learning. Hull himself concludes,

In spite of certain sharp differences between the primary assumptions of Professor Guthrie's chapter and this one, the two systems have a strong kinship; if practical morals were to be drawn from the present system they would agree almost in detail with those put forward by Professor Guthrie.\(^{71}\)

In the final analysis it would not be surprising if practical results in a study of this nature, make it difficult to conclude that reinforcement rather than contiguity was the decisive factor in learning.

(3) **Reinforcement Theorists.** The crucial question to be answered, is what makes a response such as stammering persist when it apparently results in continued punishment? As one experimenter points out, "It is this phenomenon of persistence of response in the absence of any apparent reward (goal) which seems most contrary to Learning Theory."\(^{72}\) Whatever the answer, it is more likely to lie in an explanation which stresses a direct unconscious effect rather than an intelligent selection of responses.\(^{73}\) Thus the reinforcement viewpoint is particularly applicable to stammering behaviour.

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\(^{72}\) I.E. Farber, "Response Fixation Under Anxiety and Non-Anxiety Conditions," *J. of Exp. Psych.,* 38: 126, April, 1949;

\(^{73}\) Dollard and Miller, *op. cit.* p. 44.
Fixation of a Response. The Reinforcement Theorists believe motivation to be of central importance in the question of why some responses are learned and how fixation occurs. To them, as to Guthrie, the product of learning is a connection between a stimulus and a response. This connection is formed however, not by mere contiguity but as a result of the S-R in close temporal proximity to the relief of motivating conditions. When the motive is again activated, it tends to elicit that act which relieved it formerly, because it was involved in the "stimulus complex." In his principle of reinforcement, Hull states:

Postulate III. Primary Reinforcement.

_Whenever an effector activity (R) is closely associated with a stimulus afferent impulse or trace (S) and the conjunction is closely associated with the rapid diminution in the motivational stimulus (S₁ or S₂), there will result an increment (∆) to a tendency for that stimulus to evoke that response._

The exact nature of the reinforcing agency can only be speculated. Thorndike believed it to be direct and in addition Hull believed it to be automatic. Skinner

74 Monroe, op. cit., p. 672.


on the other hand believes that no backward strengthening effect occurs, but what is strengthened is the probability that the same response will occur again. However, a discussion of this is beyond the scope of this thesis. There is also little agreement among the theorists regarding the exact definition of reinforcement, although the general opinion would probably be that a reinforcing state of affairs occurs when an organism's current need is met or partially reduced. 79

Like Tolman, 80 the Reinforcement Theorists account for the fact that man is motivated when no primary drive is apparently instigating him by postulating that secondary drives, acquired on the basis of the primary drives, are operating. 81 The concept of secondary drives and secondary reinforcement is important because by it, the Reinforcement Theorists explain the persistence of responses in the absence of primary reinforcement. In the case of stammering behaviour it is likely that the secondary drive of anxiety is operating. According to a reinforcement hypothesis, it is possible therefore, that a response such as stammering could be learnt by a reduction in the intensity of the response-produced stimuli which constitute a secondary drive. A corollary to Hull's third postulate states the secondary

80 Tolman, "A Drive Conversion Diagram," op. cit., p. 325.
reinforcement hypothesis:

Corollary ii Secondary Reinforcement.

A neutral receptor impulse which occurs repeatedly and consistently in conjunction with a reinforcing state of affairs, whether primary or secondary, will itself acquire the power of acting as a reinforcing agent.\(^{82}\)

Maladaptive Behaviour. How is the perpetuation of a response such as stammering explained? In the case of stammering it is not difficult to explain why the response should occur initially. Stopping vocal behaviour is found to be high in the hierarchy of dominant responses to the drive of fear,\(^ {83}\) so it is likely that stammering is also a dominant response. It is much more difficult however, to explain why the response should continue when the original fearful situation has apparently passed.

As has already been pointed out, the contention by most reinforcement theorists is that there is a reduction of drive coincident with such a response. It must be noted that need reduction in the Hullian theory explains not only the reinforcing effects of reward, but also punishment.\(^ {84}\) Escape from punishment can act as a reinforcing agent, and it is sometimes called a negative reinforcer.\(^ {85}\) And it is likely

\(^{82}\) Hull, op. cit., p. 6.

\(^{83}\) Dollard and Miller, op. cit., pp. 203, 77.

\(^{84}\) Monroe, op. cit., p. 673.

\(^{85}\) Skinner, op. cit., p. 72.
that it is escape from punishment (anxiety) that provides the reinforcement in the case of maladaptive behaviour.

It would seem more likely that a person would be stammering at a point coincident with the onset of fear than at its termination and it is interesting that recent experiments have indicated that secondary reinforcement need not necessarily occur at the termination of the noxious stimulation. It can evidently take place when an initially neutral stimulus is paired with the onset of a noxious stimulus, and not necessarily with its termination.\(^{86}\) The explanation for this differs -- Mowrer\(^ {87}\) considers there is a lowering of tension and anxiety because the expectation of punishment is fulfilled; Miller\(^ {88}\) postulates that there is a reduction in stimulation after the sudden onset. It would appear that a partial reduction in drive may be sufficient for reinforcement to occur.

A second explanation for the learning of maladaptive responses is possible according to those Reinforcement Theorists who postulate a Two Factor Theory of Learning.

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They believe that the conditioning of autonomic responses (which are involved in emotional conditioning) are governed by contiguity, although responses involving skeletal muscle activity are mediated by drive termination.\textsuperscript{89} According to Deese,\textsuperscript{90} it does appear possible that emotional conditioning can be established by contiguity alone, and it is fairly certain that disturbance of 'operant behaviour' as a result of emotional conditioned stimulus is mediated by autonomic activity. It seem even more possible when it is reported that on the basis of experiments,\textsuperscript{91} autonomic responses have been shown to be easier to condition than skeletal responses. If this is so, autonomic activity could be conditioned first and act as cues for a skeletal response such as stammering. Dollard and Miller admit that a drive may have a cue value:

If our hypothesis that drives are strong stimuli is correct, we would expect fear to have the other properties of a stimulus and thus be able to function as a cue.\textsuperscript{92}

What prevents the extinction of maladaptive behaviour, when it causes such inconvenience and punishment? Mowrer's explanation is based on his experiments with animals. From his experimental findings he concludes:

\textsuperscript{89} Mowrer, \textit{op. cit.}, p. 286.

\textsuperscript{90} Deese, \textit{op. cit.}, p. 305.

\textsuperscript{91} \textit{loc. cit.}

\textsuperscript{92} Dollard and Miller, \textit{op. cit.}, p. 74.
... if a given response is followed by two consequences, one rewarding and one punishing, persistent nonintegrative behaviour may result. If the rewarding sequence is smaller than the punishing one but occurs considerably earlier in time, behaviour may be perpetuated despite its being more punishing than rewarding.93

An act therefore, may have two consequences, one rewarding and the other punishing and the effect on later performances depends on the order in which they occur and the temporal pattern. In a situation where punishment is unavoidable, the sense of helplessness would have the effect of increasing the fear and make the subject less able to deal with the problem. In this case, Mowrer contends, a 'painful' response could yet bring 'relief' in the lowering of tension, because it fulfills an expectation.94

Dollard and Miller,95 on the basis of clinical experience and animal experiments, believe that with maladaptive responses, the immediate effect of a moderate reduction in drive may be stronger than those of a much greater increase in pain that occurs long afterwards. The supposition in all these cases in which habits seem to develop and persist without benefit of reward is that they are simply habits in which the reward is subtly self-administered. The hypothesis has been applied

93 Mowrer, op. cit., p. 8.
94 Ibid., p. 475.
95 Dollard and Miller, op. cit., p. 137.
to stammering behaviour by Wischner:

It is assumed that a feared word arouses a state of expectancy (anxiety) and that the act of stuttering on the word is reinforced by the tension reduction accompanying the completion of the word on which difficulty is experienced. 96

The persistence of maladaptive behaviour has also been explained by reference to the avoidance-training experiments. The maladaptive behaviour continues, it is said, because it acts as avoidance responses which are reinforced by escape from fear. They thus often keep the subject out of the frightening situation, so that the end result is that extinction does not occur and responses that are appropriate cannot be reinforced. 97 The subject would therefore continue responding for a long time until by some means he failed to respond, and found the primary instigator no longer operating. Dollard and Miller 98 applied the avoidance training phenomena to the therapeutic situation. They say that if the patient can be induced to try making a response while afraid and if he finds that he is not punished, extinction will do its work. This is of course, only applicable where the original punishing situation is not operating. The first requirement is to find out what a non-punishing situation constitutes. In his animal experiments Farber 99 found that feeding at


97 Miller, op. cit., p. 452.

98 Dollard and Miller, op. cit., p. 390.

99 Farber, op. cit., p. 128.
the locus of the choice point reduced the fixated behaviour of the rats. In this sense feeding could be considered therapeutic! The implication for therapy is suggested by Skinner\textsuperscript{100} when he points out that the therapist may reduce or eliminate the fixated behaviour in so far as he constitutes a non-punishing audience. The next difficulty is, of course, to get the patient to make the desired response.

How has this been applied to stammering behaviour? If stammering is regarded as a pattern of avoidance responses, what is the stammerer trying to avoid? Wischner’s hypothesis is that the original instigators were parental disapproval of ordinary non-fluent speech, and the stammerer ‘avoids’ this normal pattern because it had "served initially" to initiate the anxiety-producing sequence of events.\textsuperscript{101} The weakness with this theory is that it would be difficult to demonstrate that all stammering children were subjected to this disapproval. If a satisfactory explanation can be given for this, the hypothesis may be fruitful. However Dollard and Miller’s\textsuperscript{102} suggestion for therapy was acted on by Sheehan\textsuperscript{103} who devised a technique which, although operating in the presence of

\begin{itemize}
\item \textsuperscript{100} Skinner, \textit{op. cit.}, p. 376.
\item \textsuperscript{101} Wischner, \textit{op. cit.}, p. 329.
\item \textsuperscript{102} Dollard and Miller, \textit{op. cit.}, p. 390.
\end{itemize}
anxiety-producing cues, yet enabled the stammerer to elicit a normal speech attempt. It was postulated that the normal speech attempt would be reinforced by anxiety-reduction in the same way as the stammer.

Extinction. Of what significance are the findings on experimental extinction for the treatment of stammering?

The first finding of importance is that by Humphreys\textsuperscript{104} that fifty per cent reinforcement is equally effective for learning and more resistant to extinction than a hundred percent reinforcement. This result is of course, contrary to the Hullian theory which maintains that there is "specific increments of excitatory strength for each reinforcement and decrements of excitatory strength for each non-reinforcement."\textsuperscript{105} Explanations for this differ -- Humphreys himself postulates an 'expectancy theory';\textsuperscript{106} while on the basis of a further experiment another investigator gave an explanation in terms of secondary reinforcement;\textsuperscript{107} yet another interpretation accounts for the resistance to extinction by the principle of generalization.\textsuperscript{108}


\textsuperscript{105} \textit{Ibid.}, p. 149.

\textsuperscript{106} \textit{Ibid.}, p. 151.


Whatever the explanation of intermittent reinforcement, the facts remain, and they are particularly pertinent because intermittent reinforcement approximates more the conditions in everyday life than does a hundred percent reinforcement. Deese\textsuperscript{109} applies it to child training methods, by suggesting that when parents attempt to eliminate undesirable behaviour they fail to realize that even an occasional reward can preserve and maintain the behaviour as effectively as continuous reinforcement. It is likely that similar conditions prevail during the learning of stammering, so that resistance to therapy could be expected. Resistance should also be increased by the fact that fear has been demonstrated to extinguish very slowly:

\begin{quote}
Fear is so resistant to extinction that it is sometimes difficult to determine whether the curve of extinction will eventually reach zero or flatten off at some constant level above zero. Sometimes it is even more difficult to be certain that any extinction at all is taking place.\textsuperscript{110}
\end{quote}

The Hullian theory of extinction is a two-factor theory, unlike Guthrie’s, which in spite of its weaknesses has the virtue of simplicity. Hull’s theory starts with the assumption that whenever an organism makes a response, it also generates some inhibition to that response.\textsuperscript{111} Reactive inhibition is present in conditioning as well as extinction

\begin{itemize}
\item \textsuperscript{109} Deese, \textit{op. cit.}, p. 55.
\item \textsuperscript{110} Dollard and Miller, \textit{op. cit.}, pp. 72-3.
\item \textsuperscript{111} Deese, \textit{op. cit.}, p. 56.
\end{itemize}
because it occurs with every response. This accounts for
the faster learning with spaced trials — distributed
practice aids conditioning because longer intervals between
trials provide more time for dissipation of inhibition.
More important for therapy, it also explains why the massing
of extinction trials produces faster extinction. Presumably
the inhibition has little time to dissipate. 112 This being
so, more frequent treatment periods — at least in the
beginning — should produce faster results.

The second part of Hull's theory is in reality an
interference or incompatible response theory. Hull
assumes that reactive inhibition acts as a primary
negative motivational state (need for rest). 113
Ceasing to make the response acts as an alleviation of this
motivational state and is therefore, as Spence points out,
a reinforcing state of affairs that leads to its conditioning
to the stimulus complex. Mowrer 114 considers that there is
evidence that there is a kind of response-induced inhibition —
a kind of negative feedback from responses. Effortful
responses will tend to extinguish more quickly than effortless
ones, he considers. One would thus tend to think that the


113 loc. cit.

114 Mowrer, op. cit., p. 152.
extinction of stammering should be speeded up, because it appears to require more effort on the part of the speaker. However Deese,\textsuperscript{115} in his experiments, found that the animals that were shown only the empty goal box, extinguished more rapidly than the controls who were exposed to the 'effort' of running the whole maze. All of the factors responsible for extinction may thus not have been isolated.

The findings regarding spontaneous recovery are also suggestive. It has been found that extinction does not permanently and fully abolish the conditioned response for after a period, learned responses may recover somewhat.\textsuperscript{116} Continued extinction can be expected to eliminate the response. It is maintained that the function of extinction in the last analysis, is to force the individual to make new responses but it is only the competition of the new rewarded responses which permanently eliminate the old habit.\textsuperscript{117} If therefore, a new response is learnt and rewarded, recovery of the old response is less likely.\textsuperscript{118} It suggests further that once a response such as stammering is strengthened by reinforcement, it is easier to re-learn that response at a later date, should environmental conditions be unfavourable;\textsuperscript{119}

\textsuperscript{115} Deese, \textit{op. cit.}, pp. 61-2.
\textsuperscript{116} \textit{Ibid.}, p. 47.
\textsuperscript{117} Dollard and Miller, \textit{op. cit.}, p. 51.
\textsuperscript{118} \textit{Loc. cit.}
\textsuperscript{119} \textit{Ibid.}, p. 197.
and lastly, that there may be a possibility that improvement may not be uniform, and relapses after vacations, illnesses, etc., are likely to occur.

In summing up the Reinforcement position, it is necessary to point out that the drive reduction hypothesis has been heavily criticized. For instance, it has been stated that it is very difficult to obtain many direct tests of the assumption of the need reduction theory, and that no direct evidence is available that reinforced responses actually do serve to reduce needs.¹²⁰ One experimenter states unequivocally:

The drive reduction hypothesis would seem to be empirically false, neurologically implausible as the cause of learning, and operationally inconsistent.¹²¹ This being so, it is hazardous, these psychologists suggest, to apply the principle of need-reduction to every-day life when it has not been demonstrated without question to well-controlled events in the laboratory.¹²²

On the other hand, it can be said that because the Reinforcement Theorists have made an energetic effort to apply their deductions to social psychology and clinical psychology, and have clarified and extended the concepts

¹²⁰ Deese, op. cit., p. 30.


¹²² Deese, op. cit., p. 354.
derived from Freudian theory, they seem to provide the most fruitful way of thinking about such maladaptive responses as stammering.

III THE SOCIALIZATION PROCESS

How is learning defined? Gates et al.,\textsuperscript{123} define learning as the modification of behaviour through experience and training. A similar broad definition is given by Allport. "Taken broadly the field of learning includes every form of the acquisition and modification that occurs in the course of growth," he says.\textsuperscript{124} This being so, the language process is likely to be amenable to study as a function of learning.

What is the inference regarding behaviour difficulties? Again speaking broadly, Allport\textsuperscript{125} claims it is reasonable to equate the problem of the development of personality with the problem of learning. Theoretically then, principles evolved from learning theory should elucidate difficulties encountered in personality development. In other words, within a learning framework, personality difficulties are explicable in terms of faulty learning. In the same way language difficulties such as stammering may be considered as faulty learning.


\textsuperscript{125} Loc. cit.
Where are these behaviour difficulties learned? As the required social conditions for learning exist within the family, it is reasonable to suppose that they are learnt within that situation.\textsuperscript{126}

An examination of the possibilities for the learning of such behaviour during the socialization process follows. It must be noted that these are only possibilities, not to be considered as firm knowledge. There are so many gaps in our knowledge of the socialization process,\textsuperscript{127} that it is necessary to utilize those tools which are available. Freudian Psychology has become so much a part of our thinking that it provides the foundation for any hypothesis regarding social development.\textsuperscript{128} However, in order to be consistent socialization will be described in learning theory concepts as much as possible, although it is realized that the complete description of social behaviour in learning theory terms is still a matter for the future.\textsuperscript{129}

It will be remembered that the hypothesis already outlined stated that stammering is likely to be learnt either:

(1) As a consequence of strong anxiety, being part of a learned anxiety-system or neurosis -- a neurosis being

\textsuperscript{126} Dollard and Miller, \textit{op. cit.}, p. 92.

\textsuperscript{127} Thompson, \textit{op. cit.}, p. 447.


\textsuperscript{129} Dollard and Miller, \textit{op. cit.}, p. 128.
defined as "an anxiety response that generalizes to all sorts of behaviour and stimulus situations," or (2) as a consequence of anxiety arising specific to the speech area alone leaving the rest of the personality relatively free from anxiety mechanisms (although obviously some generalization would probably occur.)

These will be considered separately.

**Class (1)**

How does this anxiety arise in the socialization process? Learning theorists have suggested, on the basis of their experiments that anxiety is a learned drive through past association with the primary drive of pain.\(^{131}\) It is logical to reason then, that if the baby experiences occasions when the primary drive of pain reaches unbearable heights anxiety will be readily learnt during the crucial months. It has been tellingly brought home by Bowlby\(^{132}\) that up to six months of age the baby is in the course of establishing a relation with his mother. This means that if the baby is not continuously cared for and protected, the secondary motives on which social development depends, will be seriously interfered with.\(^{133}\) Through the satisfaction

\(^{131}\) Miller, op. cit., p. 436.


and deprivation of physical needs for which the baby is
dependent upon adults, it is considered that the parents
acquire secondary drive and secondary reinforcing properties.134
In other words,

... the related human motives of socialability, dependence,
need to receive and show affection, and desire for
approval from others are learned.135

Parental love, it is therefore suggested, is an acquired drive
which is "one of the best allies which parents have later in
inducing their children to make renunciations and to acquire
skills."136 If for any reason the mother is unable to give
the unnecessary loving care, the child is likely to be unable
to relate to others normally. Deprivation for the child
occurs not only when the mother actually dies, but when the
mother though still living, is unable to give the necessary
devotion -- for example if she was physically or mentally
unwell.137 Actual neglect or rejection is considered to
be primarily responsible for causing anti-social behaviour
in later years.

... the child who becomes prematurely independent
i.e. gives up "protection" too soon -- is likely to
remain unsocialized, which is equivalent to saying
that he will become anti-social or at least asocial.138

Infantile indulgence is therefore of primary importance.

134 Dollard and Miller, op. cit., p. 91.
135 Ibid., p. 92.
137 Bowlby, op. cit., p. 11.
But although it is essential in the first place, infantile indulgence alone will not make a secure personality. To learn to become a responsible adult the baby must learn to be less and less at the mercy of the immediate environment and more and more able to pursue his own goals and to select and control his own environment. The baby must gradually learn to tolerate a certain amount of delay in gratification and to make renunciations. It is at this stage of the child's development that parents deliberately try to create anxiety in their children in order to accelerate and facilitate social learning, and it is at this stage that so much anxiety is sometimes aroused that the child is unable to cope with it.

In what way is this done? Anxiety is aroused, according to Miller and Dollard, by parental disapproval through its association with deprivation in the past:

... approval has been repeatedly associated with the gratification of many different primary drives, while disapproval has been associated with the mounting of pain, hunger, and other forms of drive discomfort.

The punishing properties of disapproval are therefore very potent and anxiety-raising, while approval has the relaxing effect of escape from punishment. One could almost say that fundamentally a child's habit formation is governed by punishment and reward, if a reward is defined as "an

139 Bowlby, op. cit., p. 52.
140 Miller and Dollard, op. cit., p. 17.
141 Gibson, op. cit., p. 153.
object or situation, or sensory consequence, which satisfies and relieves the prevailing motivating condition," and a punishment is defined as "an object, or situation, or sensory consequence which fails to satisfy the prevailing motivating condition or activates an aversion which overrides the prevailing motivating condition." 142

The situations in which this anxiety is aroused are various. Dollard and Miller 143 give four critical training situations, which are in fact reducible to three -- the feeding situation, toilet and early sex-training. While these authors specifically mentioned these situations only, it would seem probable that other situations in which parents require their children to attempt to reach another stage of social maturity, could be equally critical. Among these would be language learning. Language learning is included in those experiences which Murphy considers important:

Manipulation, locomotion, and language are then three obvious developmental experiences which, because of what they stimulate the child to do, and how they are treated in the child's family and broader culture-group, acquire valences and meanings which become deeply embedded in the child's personality. 144

In all these situations the child can meet too much punishment in the form of disapproval, criticism, rejection and correction.

142 Monroe, op. cit., p. 672.
143 Dollard and Miller, op. cit., p. 132.
without sufficient approval for positive achievement. Heightened anxiety and anger is likely to result,\textsuperscript{145} because he has no clear sense of direction:

So long as parents merely punish behavior which they dislike and do not reward behavior they like, the child's path of development is left largely undefined for him except in the negative sense.\textsuperscript{146}

It can be seen that the part parents play in the social development of children is continually emphasized. Thompson maintains it would be difficult to overestimate the effects of parental behaviour on children's social growth and behaviour.\textsuperscript{147} It tends to be forgotten that punishment and reward is given by other adults and particularly by the peer group. It may not be until this stage that the effects of parental attitudes and behaviour are obvious. An only child, for instance, could be given much gratification and not meet the punishing properties of disapproval until he entered the wider circle of kindergarten or school. It is the opinion of Murphy that,

Experiences of the five years after infancy may go far toward counter-balancing the ill effects of an unsatisfactory infancy, or to undermine the first security that has resulted from satisfying experiences.\textsuperscript{148}

Many of the usual tasks of growing up -- giving up privileges on the arrival of brothers and sisters, and being forced to

\textsuperscript{145} Dollard and Miller, \textit{op. cit.}, p. 148.

\textsuperscript{146} Mowrer and Kluckohn, \textit{op. cit.}, p. 91.

\textsuperscript{147} Thompson, \textit{op. cit.}, p. 504.

\textsuperscript{148} Murphy, \textit{op. cit.}, p. 655.
try out new responses, can also produce anger and anxiety in the child,\footnote{149} so that these too, must not be underestimated.

One of the main difficulties in this problem of punishment and reward lies in the fact that in human socialization rewards and punishments are personally administered, so that children consider the adults, who presumably are only in the last analysis, mediators of the culture, as personally responsible for the frustrations they have to endure.\footnote{150} (It is not forgotten of course that parents may actually impose standards and restrictions from unconscious projections arising from their own emotional disturbance.)

As Dollard and Miller point out,

\textit{Infliction of punishment may also arouse anger toward the inflicting agent,\ldots Thus, an anger-anxiety conflict is learned.}\footnote{151}

Clinical observation suggests that the more the child can see that it is the necessity of/situation that enforces the limitation, the less anger toward the adult is created. When however, perhaps through parental mismanagement, incipient anger outweighs the positive attitudes, future learning will be seriously retarded. Mowrer\footnote{152} and Ribble\footnote{153} both say that for the child to copy, imitate or identify himself with

\begin{itemize}
  \item \textit{Dollard and Miller, \textit{op. cit.}, p. 150.}
  \item \textit{Mowrer and Kluckohn, \textit{op. cit.}, p. 106.}
  \item \textit{Dollard and Miller, \textit{op. cit.}, p. 139.}
  \item \textit{Mowrer, \textit{Learning Theory and Personality Dynamics, op. cit.}, p. 390.}
  \item \textit{Ribble, \textit{op. cit.}, p. 642.}
\end{itemize}
the adult, warm affectional ties are necessary. Not only is it important for learning positive attitudes toward other people, but for learning a skill:

A further principle of the theory of learning is that an individual cannot learn a skill unless he has a friendly feeling towards his teacher, and is ready to identify himself with her and to incorporate her (or some part of her) into himself. 154

Resentment could therefore seriously interfere with such a skill as learning to speak. It is likely that instead of copying the parent, in extreme cases such as rejection, the child would adopt attitudes exactly opposite to the adult. It is for this reason probably that the Social-imitation Theory of social development does not always apply. Thompson maintains that the Social-imitation Theory falls considerably short of a comprehensive theory of social growth because "it fails to explain the psycho-analytic reaction-formation in which the child responds in a way diametrically opposite to the behaviour patterns of his associates." 155 It can only apply evidently, in cases where normal positive attitudes are given opportunity to outweigh the aggressive.

'Identification' is also considered to be the crucial mechanism in the growth of self-discipline, and is associated with morality and good adjustment. 156 Very few psychologists

154 Bowlby, op. cit., p. 56.
155 Thompson, op. cit., p. 447.
would disagree with Stoke when he says that,

Delinquency frequently arises where there is little or no affection and consequently no identification with an accompanying lack of an ego-ideal and super-ego. In such instances children have nothing to lose by the violation of parental codes, and physical punishment alone proves an inadequate deterrent.\textsuperscript{157}

All social learning may be inevitably moral in an elementary use of the term.\textsuperscript{158} The capacity for self-punishment and self-approbation seems to depend on adequate identification. This capacity is described rather aptly by Gibson as the mechanism for 'internal reinforcement.'\textsuperscript{159} Social rewards and punishments are internalized as adaptive forms of anxiety, which act as an instigation to strive for the appropriate behaviour or to restrain unrewarded or punished behaviour.\textsuperscript{160} It may be, that in a broad sense neurotics as well as delinquents are in some ways morally deficient. Mowrer\textsuperscript{161} for instance, believes that the neurotic is immature and resists the socializing forces which endeavour to make him 'grow up.' His anxiety results from his perceived sense of inadequately measuring up to the social norms.

It is apparent that some socially approved anxiety is


\textsuperscript{158} Gibson, \textit{op. cit.}, p. 155.

\textsuperscript{159} \textit{Ibid.}, p. 164.


\textsuperscript{161} Mowrer, \textit{op. cit.}, p. 525.
necessary; it is both socially permissible and individually essential for personality development. It is only when the anxiety is heightened to such an extent that it is debilitating to the individual that it becomes unadaptive. Very few would deny that in order to have effective social participation social training is necessary. It is the use of too many negative methods, of unreasonable and inconsistent demands, of high standards imposed without opportunity for experience to match precept, of a lengthened period of gratification followed inevitably by a sudden onset of prohibitions, that create undesirable learning situations. To put this another way,

Punishment is certainly an unsure and awkward way to control behavior. Furthermore, we do not know enough about its consequences to be sure that it might not get out of hand and cause serious behavioral maladjustments. It is most obvious, however, that it would be well-nigh impossible, not to say foolish, to attempt to rear children in our world totally without punishment. Since society, in the last analysis, is to a large extent a punishing and anxiety producing agent for the control of behavior, children should learn to accept the discerning use of punishment.162

However, rewarding for the desired behaviour, rather than some negative means of emphasizing undesired behaviour is more likely to keep the emotional climate more reassuring.163

Punishment by its attention-getting properties may result in the learning of the undesired behaviour. This has in fact been postulated with regard to stammering behaviour.164

The gist of the viewpoints just expressed, could be

162 Deese, op. cit., p. 123.
163 Mowrer and Kluckohn, op. cit., p. 106.
summed up in this statement by Mowrer and Kluckohn:

... one commonly discovers that the educative process — broadly conceived as the total preparation of the individual for responsible adult membership in his social group — has been pushed too fast and too far, with the result that such individuals require special reeducation if they are to be put back on the path of normal development and function. Unwise teaching thus creates, or at least importantly contributes to the need for therapy.... 165

Class (2).

Weiss describes language as a "form of behavior through which the individual adjusts himself to the social environment. 166 The process is in reality to-way — language is both learnt and expressed in a social setting.

In the reality of life and development, it is the mother (or mother substitute) who first brings the language of her social group before her child, serving as a temporary interpreter for a permanent medium. Thus the learning of (the mother's) speech is a deeply emotional experience for the young child, and, as is all emotional learning, it is achieved through the process of unconscious identification. 167

Learning to speak, therefore, like other social learning, will be very much influenced by the child's relationship to the parents, particularly the mother. "Speech," says Van Riper, "is created out of personal and intimate attention." 168

165 Mowrer and Kluckohn, op. cit., p. 35.


The baby learns to talk as part of a response to the love and approval given it by its parents. As a result of the association of its parents with basic satisfaction, the presence of the parents provides pleasure and satisfaction, for the child, and the parents' voices a welcome and reassuring sound. That is to say, in terms of learning theory, the parents' voices have acquired secondary reinforcing properties.169

The learning of language is thus in a large part bound up with the need of the baby to gain the attention and the favourable response of its hearer. When the child is ready and able to learn language, the parents' approval rewards the child to strive for the appropriate speech behaviour. It is probable that in early babbling, sound combinations occur by chance that approximate to the sounds his parents use, and child is rewarded by the parents for these particular sound combinations. The child later attempts to reinstate the satisfaction again. It can be seen that present opinion is that it is through the intervention of the adult into the child's activity of babbling that language is learnt. Thus by means of the approval of the adult, and the satisfaction that it brings, the child begins to 'value' the sound combinations it hears.170


The child begins to be aware that specific words whether spoken or heard, are followed by specific sequels, so that he can secure satisfaction by speaking a given word in given circumstances, or, on the other hand, by behaving in a given way in response to a given word.171 (Italics not in original)

That the rewarding conditions of learning to speak are vital is illustrated in those cases where a child of three or so uses gestures or emotive tones because he is able to obtain all he wants and indicate his needs without making the extra effort required. Later too, he probably gains extra attention because of his non-speaking. Usually the more a child responds with speech the more praise and affection he gets and the more interested he becomes in the activity which has such pleasant consequences.172

While it is agreed that society makes learning to talk 'supremely worthwhile' the contention by Miller and Dollard that learning to talk is a 'relatively effortless response'173 does not agree with what is known of the muscular skill involved in talking. The factors requisite for speech, in addition to adequate mental capacity, are muscular coordination, the building up of auditory, kinesthetic, and tactile images, and the synthesizing of all in the intricate sequences needed. Knowledge of how these various aspects of speech are integrated is incomplete. In addition, of course language corresponds with, and is dependent on, a developing

171 Ibid., p. 90.
172 Van Riper, Teaching Your Child to Talk, op. cit., p. 45.
173 Miller and Dollard, op. cit., p. 69.
facility for abstraction. Learning to speak is not an easy task, and the benefits gained must outweigh the disadvantages, and in this respect parents play a crucial part.

The active tuitional roles played by parents and adults in speech development is emphasized by Mowerer who points out that educators have taken little interest in the learning and teaching of language which goes on in the home. Efficient teaching is purposeful, directed toward specific goals that the child is able to attain, and geared to the child's ability and level of performance. Children who are less equipped to master the skills involved are, of course, more likely to encounter trouble:

Parental handling and attitudes cannot be completely separated from the question of individual differences in the original values of locomotion, manipulation, and language to the child himself.

As Murphy says elsewhere, there is always a two-way interaction between child and parent, and one must be aware that the child's resources affect his response to the parent as well as being aware of the parent's influence on the child. Nevertheless, "they set the standards," according to Van Riper, "by their approvals and rejections." They set the standards too, by their own speech, which may not provide

176 Murphy, op. cit., p. 659.
177 Ibid., p. 622.
178 Van Riper, Teaching Your Child to Talk, op. cit., p. 75.
appropriate models for the stage of ability that the child has reached.\textsuperscript{179} The child may be therefore forced unintentionally, in the direction of a goal which he cannot attain because of lack of ability,\textsuperscript{180} and is likely to become anxious about his speech.

Experimenters have found some evidence which leads them to believe that emotional stress induced early in the learning process before skills have been well organized produce a detrimental effect upon learning.\textsuperscript{181} There could be no better example than language learning. At a time when the child is mastering grammatical forms, phrasing and vocabulary building, he is often faced not only with parental correction, but interruption, anticipation of wants, and inattentiveness which are all liable to cause distress and aggravate any non-fluency. Parents tend to combat this with negative forms of teaching such as disapproval.

It has been suggested that the child whose parents fail to reinforce the correctly expressed word, may be the child who becomes an habitual stammerer.\textsuperscript{182} Negative means


\textsuperscript{182} Sheehan, "The Modification of Stuttering Through Non-Reinforcement," \textit{op. cit.}, p. 62.
of teaching may have the effect of emphasizing the undesired behaviour because the child is without clear direction of how to alter his speech to meet the requirements and approval of his parents.\textsuperscript{183} It thus tends to become fixated rather than eliminated,\textsuperscript{184} and the conflict situation serves only to heighten the anxiety.

Once the child's non-fluencies become so frequent that they are labelled by others as abnormal, that is as stammering, then the child perceives that his performance is not equal to the social norms. If the judgemental frame of reference of the parents is high, due perhaps to stammering being in the family, the labelling is of course, likely to occur sooner.\textsuperscript{185} At this stage frequent disapproval, in the sense of adverse listener reactions, would be found not only in parents but in the widening circle of significant adults, and in the peer group,\textsuperscript{186} although from the gradient of generalization, one would expect the stammerer initially, to have less difficulty in the presence of other children or other adults who are less like the original punishing

\textsuperscript{184} Dollard and Miller, \textit{op. cit.}, p. 76.  
agents.\textsuperscript{187} This does seem to be so.

It would be admissible to deduce that continuous failure in the area of speech could produce insecurity and anxiety with respect to that area.\textsuperscript{188} The goal of fluent speech would thus be likely to be feared and become the basis of a conflict situation. Sheehan has speculated at length about such a possibility, ascribing it to a different reason.\textsuperscript{189} He describes it as an approach-avoidance conflict. A similar view is held by Skinner who, however, has an hypothesis similar to the one already presented, namely that the difficulty results from intermittent punishment.\textsuperscript{190} Continuous failure over a period of time would tend to result, one would think, in an 'expectation' by the individual that he will stammer.

There have been several researches which support the belief that stammering is a function of an anxiety process. One experiment by Goss\textsuperscript{191} was based on the assumption that stammering is an index of anxiety, in so far as an increase in stammering was presumed to indicate an increase in anxiety.

\textsuperscript{187} Dollard and Miller, \textit{op. cit.}, p. 161.

\textsuperscript{188} P.S. Sears, "Levels of Aspiration in Academically Successful and Unsuccessful School Children," \textit{J. of Abn. and Soc. Psych.}, 35: 532, 1940.

\textsuperscript{189} Sheehan, \textit{op. cit.}, p. 68.

\textsuperscript{190} Skinner, \textit{op. cit.}, p. 188.

The aim of the experiment was to determine the relationship between anxiety and the duration of a stimulus (a word). The time intervals between exposure of the stimulus words and the occurrence of signals to say the words were varied—the time intervals being 0, 2, 5, and 10 seconds. Results indicated a downward upward relationship between stammering frequency and the time interval conditions. The curve resembled very closely that of Mowrer's for reaction times at expected and unexpected intervals. Goss' findings suggest there is an anxiety gradient in stammering behaviour. The longer the time interval between the presentation of the word and the signal to speak, presumably the greater the anxiety, and therefore the greater the probability that the word itself would be stuttered.

It has been found that stammerers can predict the words on which they will block and the severity of their blocks, and that these expectations need not operate on a highly conscious level. The results of another study in the same series, in which the subjects deleted all words they

192 Mowrer, op. cit., p. 36.

193 Wischner, op. cit., p. 326.


expected to stammer on, indicated that the expectation of stammering is precipitated to a significant degree by cues of past stammering.\textsuperscript{196} They conclude:

It appears, therefore, that stuttering, considered psychologically, is essentially and to a significant degree self-perpetuating. Stuttering is quite as important as a stimulus as it is as a response.\textsuperscript{197}

Wischner followed on from here, by testing the hypothesis that a feared word arouses a state of anxiety or expectation, which is reduced when the word is completed.\textsuperscript{198} Stammerers were requested to portray graphically their representations of the moment of difficulty, before, during and after stammering. These drawings revealed a cycle of events that was commensurate with the hypothesis that anxiety reduction acted as reinforcement in maladaptive behavior.

Stammering, in other words, may be perpetuated in large measure because, having already stammered, the child anticipates a recurrence in the future, becomes anxious, and


precipitates the response he feared. This type of situation is expressed by Anderson in different terminology --

... it seems clear that competent and successful meeting of situations increases the likelihood of so meeting subsequent situations, while failure increases the likelihood of subsequent failure.199

Skinner translates 'success' and 'failure' into Reinforcement Theory terms by saying,

... we do not give a man a sense of achievement, we reinforce a particular action. To become discouraged is simply to fail to respond because reinforcement has not been forthcoming.200

However, because other psychologists express the same idea in different terminology, one should in no way make their findings invalid. Many of these findings are essentially the same as far as practical application is concerned. For instance, the level of aspiration studies are particularly relevant because they are concerned with the effects of failure experiences.

On the basis of her experimental evidence Sears concludes that differences in success influence the individual's anticipation of future gratification in the further performance of certain tasks.201 This conclusion, it will be noted is practically identical with that expressed by Anderson.


200 Skinner, op. cit., p. 72.

201 Sears, op. cit., p. 500.
An individual who becomes unable to view his performance in a favourable light relative to that of others, or ceases to receive regular reinforcement will behave in a trial and error fashion, or adopt a response which provides some gratification of a substitute order.\textsuperscript{202} The conjecture that this substitute gratification could, in the case of stammering, be its attention getting properties, may not be too far fetched.

The lack of confidence of stammerers is continually being stressed. Yet there have been few researches on level of aspiration with stammerers. Some studies on level of aspiration have confirmed the opinion that goal directed behaviour is influenced by confidence (or otherwise) in socially adequate achievement. For instance Cohen found a reliable relationship between feelings of adequacy and goal setting, using Rorschach protocols and the Rotter aspiration board.\textsuperscript{203} Both very high and very low goal setting were significantly related to a high degree of self-rejection. Level of aspiration thus functions as protector of the ego, and is employed differently by different individuals.\textsuperscript{204}

The only study using stammerers as subjects yielded

\textsuperscript{202} \textit{Ibid.}, p. 530.


\textsuperscript{204} Sears, \textit{op. cit.}, p. 520.
results that suggested that stammerers do tend significantly to avoid threat of failure. Compared to normal controls, stammerers set less exacting goals for themselves, predicted more modest performance, and showed in general a lower level of aspiration. Like the negative discrepancy group in Sear's study, their aim was always to be on the safe side — although in contrast to the high discrepancy group their goal setting was realistic.

The crucial question, is of course, whether this lack of confidence or fear of failure, always results from a general anxiety system, or has generalized from anxiety over speech performance only. That expectation of failure could be confined to the speech area is suggested by Sear's study. She says that although there are cases in which an attitude of confidence (or no confidence) seems a pervasive generalized attribute of the personality, for the majority it is more appropriate to speak of self confidences for relatively specific situations. In other words anxiety over performance can remain specific to a particular area such as language ability.

If this is so, it could be expected that improvement in speech would have a noticeable effect on stammerers!


206 Sears, op. cit., p. 524.

207 Ibid., p. 532.

208 Ibid., p. 538.
'confidence', so that instead of anticipating failure they will view their own performance more optimistically. As a result they should be more willing to try tasks which formerly they avoided because of threat of failure.

Another finding can be applied to stammering therapy. It was demonstrated that gratification through praise influences the level of aspiration in the direction of approaching a more normal adjutive reaction.\textsuperscript{209} One could, on the basis of this finding, assume that if the therapist praised fluent responses, the 'induced success' should help the stammerer to attempt his speech re-training more objectively.

A study on anxiety and learning by Mandler and Sarason\textsuperscript{210} is also applicable to stammering therapy. Their findings supported their assumption that when improvement in each trial is an easily noticeable cue, more responses which are relevant and goal directed, take place. This evidence supports the clinical observation that when success is observable to the patient, behaviour is more goal-directed. Specifically, such factors as frequent attendance, graded stages, and objective means of demonstrating progress make it possible for the stammerer to appreciate that some change is taking place in his speech.

\textsuperscript{209} \textit{Ibid.}, p. 632.

In sum, stammering thus considered, is not a 'symptom' but the result of a complex set of variables, chief of which may be insufficient reward for desirable behaviour.

The important point to note is that stuttering, whether it be "initial" or developed evolves along normal lines of learning; either type is the fruit of a natural tendency nourished and matured by the effect of rewards.211 Therapy would therefore consist in making good the deficit.

Therapy does not consist of releasing a trouble-making impulse but of introducing variables which compensate for or correct a history which has produced objectionable behavior. Pent-up emotion is not the cause of disordered behavior; it is part of it ... 212

The behaviour itself is therefore the subject matter of therapy. This does not mean that there is an attempt to treat the behaviour without treating the cause, but what it does propose is that of accounting for the stammering behaviour in terms of a personal history and altering or supplementing it as a form of therapy.

IV THE UNLEARNING OF STAMMERING BEHAVIOUR

The sample principles can be derived from the development of the therapeutic situation, Cameron considers, as are derived from the development of normal personality.213


Similarly, Dollard and Miller\(^{214}\) assume that therapeutic reconstruction, as well as ways of behaving and functioning all derive from a common set of principles, and they study both in the same terms -- learning. In this thesis the hypothesis suggested is that if stammering behaviour is learned, it should be amenable to unlearning by some combination of the principles by which it was taught.\(^{215}\)

In a general way then, therapy is considered a learning process. Speaking broadly, in therapy the child learns new ways of behaving, new ways of relating to others. Frederick Thorne writes:

> Since human behavior is regarded as being largely learned or acquired through experience, therapy seeks to reeducate and teach new modes of adjustment.\(^{216}\)

Alexander and French\(^{217}\) define psychotherapy as the re-exposure of the patient under favourable condition of learning to emotional situations with which he was unable to deal in the past; both Cameron\(^{218}\) and Shoben\(^{219}\) believe the therapeutic situation is an active learning situation for the patient. But exactly how this learning takes place, or what is the

\(^{214}\) Dollard and Miller, *op. cit.*, vii.


\(^{218}\) Cameron, *op. cit.*, p. 577.

essential process of personality readjustment is not really known. Any patient-therapist situation is an active relationship between therapist and patient and therapy then is likely to be a kind of social learning.\textsuperscript{220}

Much of the knowledge of what takes place in psychotherapy should be useful in defining what takes place and is needed in stammering therapy. For those children whose stammering behaviour is part of a generalized anxiety system, psychotherapy would of course be necessary, but even for the remainder stammering therapy is not a matter of speech mechanics alone.

All forms of 'personality' therapy depend on the making explicit of 'repressed material' -- the labelling and bringing into consciousness of denied material. Describing the therapeutic process, Watson says that emotional aberation, intellectual understanding and the conscious awareness of formerly repressed memories is taking place.\textsuperscript{221} Initially all therapies attempt to reduce anxiety.\textsuperscript{222} Not all consider this is accomplished simply by 'talking out' or 'playing out.' Shoben\textsuperscript{223} for example, proposes that anxiety is diminished in


\textsuperscript{222} Shoben, \textit{op. cit.}, p. 374.

\textsuperscript{223} \textit{Ibid.}, p. 384.
the therapeutic situation by counter conditioning — presumable in the security of the permissive relationship — but maintains in addition that psychotherapy occurs in the process of re-education or the formulation of rational goals. 224

All therapies employ the technique of the non-punishing audience — an absence of criticism, moralizing or condemnation:

... there are some common elements in what child psychiatrists usually do in attempting to establish a relationship with a patient. They are friendly and keenly sensitive to the child's moods, actions and words... They are very careful to be non-judgemental, neither condemning nor praising but receiving all information in an accepting manner and permitting a free expression of feeling opinion even if the accompanying behavior is forbidden ... 225

But as Shoben suggested, this lowering of anxiety which is brought about by the permissive situation may not be enough to effect a cure. Until the patient decides on a new way of acting based on new perceptions, tries it out, and has it socially reinforced in a normal life situation, one would think that therapy cannot be complete. Attitudes engendered in the therapeutic situation between therapist and patient may generalize to outside relationships as has been suggested, 226 but these attitudes must be 'rewarded' and 'strengthened.' Dollard and Miller 227 stress that only part of the work of

224 Ibid., p. 388.
227 Dollard and Miller, op. cit., pp. 10, 331, 333.
getting well is done in the clinical situation -- it is a transitory learning situation only. The new responses must be rewarded in the real world and strong habits that compete with anxiety built up. Although expressed differently, Shaw\textsuperscript{228} has the same viewpoint. It is, he feels, participation, or getting the patient to make new responses that is important.

There is general agreement then that the desired responses should be rewarded outside of the therapeutic situation. However opinion would be divided whether the therapist himself should also deliberately reinforce the desired behaviour. It is considered by some that this would be construed by the patient as pressure to change. Axline for example, says, "Non-directive therapy grants the individual the permissiveness to be himself; it accepts that self completely, without evaluation or pressure to change."\textsuperscript{229} From her verbatim accounts, it seems that Axline is inclined to follow exactly what the child says, so cautious is she not to direct the child in any way. In later 'play therapy' publications a more positive approach seems to be developing -- still leaving freedom for choice and self-expression to the child, but emphasizing that it is the feelings or attitudes the therapist conveys that are important, rather than what she says.

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The author himself remarks,

Unfortunately, too much stress in "non-directive" writings has been given to the skill in responding, skill in what to say. Actually, reflection of feelings, the major client-centred "technique" may easily be perceived as a repetitious unsympathetic static response."230 (Italics not in original)

The inference could be that complete neutrality does not help the child to move forward to make new responses. The warmth and affection which is conveyed in Moustakas records may be the rewarding conditions the child needs. He himself however, remains firmly convinced that a feeling of acceptance is threatened if the therapist in any way rewards or approves.231

Speaking about forms of aggressive behaviour, Hilgard232 observes that they are not eliminated until they can be brought to free expression — that is to say the response is evoked without any reinforcement, and extinction occurs. Presumably this is what the non-directive approach brings about. However, Hilgard goes on to say that the behaviour can be redirected by positively reinforcing some behaviour incompatible with the desired behaviour. This advice goes a step further and appears to complete the learning process which the non-directive psychotherapists leave largely to chance.


Applying this hypothesis to stammering, one could say that non-criticism and comment should lower the stammerer's anxiety so he can, under these conditions, make a fluent response, but that approval circumspectly applied, should help 'strengthen' these responses. In other words, while permissiveness may be necessary early in therapy to enable the child to free himself from anxiety and to establish a warm relationship with the therapist, beyond that point it may be that permissiveness becomes disserviceable because it provides no rewards or cues for the new learning which must follow.

The above discussions also centre around the question of direction or non-direction in therapy. Direction is not necessarily authoritarianism, as is sometimes implied. It must also be remembered that neither direction or non-direction can be prescribed without reference to the age level of the child. Slavson maintains,

Authority has to be related to the age of the children. ...very young children under six or seven years of age, need external restraint especially when they are over-aggressive or destructive. Because of their age they have not developed inner controls.233

The non-directive therapist points out with truth that the individual does not need telling what he ought to do -- he already knows what he should do. His problem is that he

does not wish to, or is not able to do it.\textsuperscript{234} It is not
direction that he needs therefore, but an atmosphere that
is consistently accepting enough to allow him to go into
action gradually at his own pace. What he knows he ought
to do is beyond his capabilities. Without being completely
non-directive however, a therapist should be perceptive
enough to permit the child to attempt new responses gradually.

In the initial stages a permissive accepting attitude
allows trust in, or something like identification with the
therapist, to take place. The most common use of the term
'identification', according to Sopchak,\textsuperscript{235} is the modelling
of oneself in thought, feeling and action after another
person. When someone has found a solution to a problem,
says Allport,\textsuperscript{236} it is often adopted, together with the
qualities of personality that make the solution possible.
If the child has positive attitudes towards the adult he
willingly patterns himself after her, and will accept direction
(which often includes restraining him) because of these
positive attitudes toward the person who imposes them.\textsuperscript{237}
It is the parent who thus ordinarily reinforces the set for
acceptable behaviour,\textsuperscript{238} and the therapist who acts in \textit{loco
parentis}, presumably does the same. Bowlby says quite

\begin{footnotes}
\item[234] W.U. Snyder, "Dr. Thorne's Critique of Non-Directive
Psychotherapy," R.I. Watson, editor, \textit{Readings in the Clinical
\item[235] Sopchak, \textit{op. cit.}, p. 159.
\item[236] Allport, \textit{op. cit.}, p. 158.
\item[237] Slavson, \textit{op. cit.}, p. 219.
\item[238] Gibson, \textit{op. cit.}, p. 163.
\end{footnotes}
definitely that the child would probably never learn a skill if left to himself, and cannot do so unless he has a friendly feeling towards his teacher, and is in a position to identify himself with her. 239

Mowrer 240 contends that a great many instances of constipation, eating idiosyncracies, backwardness in speech, so-called reading disabilities and other similar problems can be fully understood only when viewed as disguised hostility which was engendered during the socialization process. The possibility cannot be ignored that there may be hostile connotations in stammering. In two of the thirty neurotic children he studied, Mowrer found that their behaviour had an obvious aggressive connotation. An element of hostility was noticed in several others.

Like Bowlby, Mowrer considers,

In such cases, it is obviously essential that the child's attitude toward parents or parent substitutes be changed from one of ambivalence in which negative feelings predominate to one in which positive feelings are stronger. Then and then only can specific educational procedures be expected to produce permanently satisfactory results. 241

With the stammering children who are aggressive, direct re-training may have to be delayed until more positive attitudes develop.

239 Bowlby, op. cit., p. 56.
240 Mowrer, op. cit., p. 400.
241 Ibid., p. 401.
When positive attitudes have become firmly established the therapist may be able to reward the child for correct responses by giving some confirming reaction. Deese,\textsuperscript{242} in assessing many experiments on praise and blame says that the general conclusion is undisputed, namely that motivated behaviour should be rewarded. It has to be remembered that whatever praise is given, is given by a person, and characteristics of this person undoubtedly have a good deal to do with the results. A recent study has shown that the type of individual giving an incentive may be even more important than the nature of the incentive.\textsuperscript{243} It is hardly disputed that the relationship between child and therapist is extremely important and is stressed by all therapies. The basis of therapy, Witmer\textsuperscript{244} contends, finally lies in the therapist himself and his personality development, insight, and self-discipline. To withstand equably the aggressive, the spiteful, the inhibited behaviour of children, the therapist needs to be personally secure. Rogers is of the opinion that this security may come partly from "having thought through some of the basic questions regarding human life and having formulated tentative but personally meaningful answers."\textsuperscript{245} Among a long list of characteristics a therapist should possess were a regard for the integrity of other people.

\textsuperscript{242} Deese, \textit{op. cit.}, p. 102.


\textsuperscript{244} Witmer, \textit{op. cit.}, p. 41.

\textsuperscript{245} Rogers, \textit{op. cit.}, p. 437.
insight into his own personality characteristics, tolerance, integrity, self-control, stability and a sense of humour!

It would appear plausible that as therapy proceeds, there would come a stage when the reinforcement process need no longer be initiated by another person. As already mentioned this process has been called 'internal reinforcement.' It is through this that the new responses are likely to be incorporated into the life outside the clinic. Only if this 'symbolic' reinforcement takes place will the response become part of the habit system of the individual. In applying Hullian theory to social learning it is obvious that the main gap lies in the realm of accounting for these ideas and other unobservable subjective psychological activities more precisely. And it is likely that these are of crucial importance in therapy.

The viewpoint presented here that the non-directive or completely permissive attitude could give way to a more positive rewarding of the desired responses at an appropriate stage in therapy, is a rapprochement between two viewpoints which often conflict -- the psychiatric and the educative. With Mowrer, it could be said,

The issue here involved is, in reality, a focal point of the perennial variance between clinician and educator (parent, teacher, or clergyman). The specialist who is engaged exclusively in therapeutic work sees mainly the bad effects of education and is

246 Gibson, op. cit., p. 164.
247 Hilgard, op. cit., p. 80.
likely to reach the conclusion that education in general is mainly bad. The educator, on the other hand, seeing his position as the authorised agent for perpetuating the accepted values and traditional ways of the culture, is inclined to keep close to the traditionally prescribed line, letting the chips, in the form of distorted, broken personalities fall as they may.248

The clinician deals in the main with unlearning. However he is also responsible for re-learning and in this phase of treatment his position becomes more nearly that of a teacher.

**The Relearning of Fluent Speech.**

An attempt to apply the reinforcement hypothesis to modify stammering behaviour was made by Sheehan249 in a limited laboratory experiment. The present study follows on from this, utilizes the concept of non-reinforcement as a method of therapy, adapts and modifies the technique, and attempts to test it in a clinical situation.

Following on from Wischner,250 Sheehan postulated that the point of reinforcement of the stammering was the finally produced instrumental act (stammering) which terminated the anxiety.251 From this he postulated that if, by some means the stammerer could make a fluent response in the presence

248 Mowrer, _op. cit._, p. 415.


251 Sheehan, _op. cit._, p. 53.
of anxiety, normal speech would be reinforced. His own words are:

Here there is no reinforcement of the stuttering response, but the introduction of a set which operates in the presence of anxiety producing cues to elicit a normal speech attempt. This is the kind of training that can reduce stuttering on a permanent basis. Older forms of treatment failed to achieve this because they merely tried to increase the number of normal speech attempts by preventing anxiety through confidence measures but gave the stutterer nothing to help him deal with anxiety when it was elicited.252

This is very similar to Dunlap's opinion expressed years previously -- "The stutterer cannot be told to stop stuttering. He must be given a technique."253

Sheehan's hypothesis was to insert in the sequence -- a sequence being a stimulus (word) an intervening variable (anxiety) and a response (stammering) -- by means of his experimental set, a normal speaking of the word at a point between the stimulus and the termination of the sequence. To do this Sheehan requested his S's to repeat each stammered word in a certain passage until he had said the word once successfully, before going on to the next. Twenty adult stammers participated. They served as their own controls and read the passage through in a normal manner. The result was that the experimental situation showed a greater decrease of stammering: (a) throughout the successive readings;

252 *Log. cit.*

(b) on the particular words, and (c) the reduction of stammering frequency was more lasting than with the control situation.

The most significant omission in Sheehan's study was an indication of the type of stammer these subjects manifested. This is an important omission because the findings in two studies on negative practice (voluntary stammering) were in agreement that while improvement was achieved for those of the repetitive type, the method tended to aggravate the symptoms in the pure tonic cases. In the Fahmy\textsuperscript{254} study, of the eight cases, four clonic stammerers improved, while the others worsened. Similarly, in the other study, the three cases characterized by repetition of a syllable or words showed definite improvement while those with speech blockage showed a definite increase in stammering.\textsuperscript{255} The experimenter's conclusion was that speech blockage is not a habit and must be accounted for by some other explanation; clonic stammering on the contrary, was a habit and might be eliminated by the application of the proper laws of learning. In the absence of any indication as to what type of stammerers Sheehan used, we must presume that among the twenty there was a mixture of varieties and that the method affected all in the same way. This would make his findings of great interest.


The first of the negative practice studies tested the technique in a clinical programme. The similarity to Sheehan's method will be obvious. The stammerer was asked to repeat his error each time he heard the command 'again' and then to the command 'right' to attempt to say the word correctly.\textsuperscript{256} In attributing success to the repetition of the stammer, the significance of the fact that the stammerer, more often than not, finally said the word correctly was not perhaps realized, although the quoted extract from Dunlap did tend to indicate that he may have realized that it was not the voluntary stammer \textit{per se} that was the important factor. Dunlap is quoted as saying that repetition in itself has no effect but is important merely because through it, certain elements of thought and feeling (dissatisfaction with the incorrect response and satisfaction in the correct response) have a chance to operate.\textsuperscript{257} Guthrie\textsuperscript{258} suggested that the reason why negative practice is successful in certain cases is that the stammerer becomes conscious of the cues which elicit stammering, of which he was unaware before, and can thus make a deliberate attempt to alter the response. The problem of exactly what the cues are that precipitate stammering is certainly important, and this explanation may be suggestive. Miller and Dollard point out that the dynamics

\begin{itemize}
\item \textsuperscript{256} Fahmy, \textit{op. cit.}, p. 25.
\item \textsuperscript{257} \textit{Ibid.}, p. 24.
\item \textsuperscript{258} Guthrie, \textit{The Psychology of Learning, op. cit.}, p. 144.
\end{itemize}
of stimulus-producing responses is only beginning to be thoroughly investigated, but it is likely that the cues which touch off the anticipatory response in stammering are proprioceptive ones. The aim of therapy, one would think, should be to arrange the situation so that the specific cues which generally precede stammering become associated with fluent speech. In the present study this has been attempted.

In spite of the fact that Sheehan maintains his method gives the child a technique of control in the presence of anxiety, it does not seem to do so. The stammerer keeps on stammering until by chance he makes a fluent response. Each repetition acts as its own stimulus. One would think that this would not result in the cues becoming associated with fluent speech as rapidly as if, by some means, the initial stammering could be eliminated. In the following extract Hill points out that it is difficult to stop stammering once it has started:

> Often times becoming aware that a block has started is sufficient distraction to instigate a retrial on a violitional level and the word is spoken normally. More often the stutterer finds himself in an obnoxious type of perseveration. From experience he knows it is difficult to stop this kind of interruption and continue to talk. He knows that he can stop the speech attempt entirely and thus end the perseveration, but if he wished to talk he must go through it some way for it usually recurs if he makes a retrial. (Italics not in original)

In the Sheehan study, the fluent response that finally occurs probably results from a special case of the adaptation effect.

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259 Miller and Dollard, op. cit., p. 46.

260 Hill, op. cit., p. 306.
The adaptation effect (the progressive reduction of stammering behaviour under certain conditions) has been demonstrated in successive readings of the same material, and continuous readings of different passages, in repetition of single words, and in conversation on specified topics. Generaly opinion has always been that stammering is a progressive disorder and leads to further stammering in these situations however there is a reduction of stammering as measured by frequency. In Sheehan's study both word and situational variables were controlled; in real life both are continually altering so that from the experimental evidence (which indicates that when both are altered there is a progressive increment in the percentage of words stammered) it is likely that the technique may not be quite so effective.

The hypothesis is put forward that an experimental set similar to that of Mowrer's treatment of enuretic children might eliminate the initial repetition of incorrect


263 Goss, op. cit., p. 41.


responses. His method was to provide an arrangement (a bell attached to a pad under the child which short circuits when wet) so that the sleeping child is awakened just after onset of urination. He estimated that an increasingly strong functional connection would develop between stimulation arising from the distention and the response of awakening and contracting the bladder. On the basis of findings regarding stimulus generalization, the awakening response, he believed, would gradually come forward in time, and finally occur in advance of urination. This hypothesis was borne out by the results. All the thirty children ceased bed-wetting in approximately four to eight weeks without any unfavourable effects on personality such as symptom substitution.

In attempting to apply such a method to stammering the first difficulty to note is that in enuresis the response would occur only a few times in the night. The stammering response is much more frequent. It is therefore impossible to control the learning situation except for brief clinical periods. Again, with the signal of the bell and the child's awakening the response of bed wetting is immediately inhibited. Once a tonic block has begun however, inhibition appears to be difficult. As Solomon says,

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266 Mowrer, op. cit., pp. 408-409.
If the individual stopped all further attempts at speaking, there would be no further stuttering. But the stutterer persists in continuing, after stopping first or without stopping at all.267

The aim is to insert a normal speaking of the word after the stimulus of anxiety before the usual response of stammering can operate. In discussing reasoning and planning Dollard and Miller call attention to necessary conditions which have to be met before planning can produce adaptative behaviour in a difficult situation.268 Firstly they emphasize that the direct instrumental response to the internal drive and external cues must be inhibited in order to give the cue-producing responses time to occur. Before rushing precipitately into action the subject must stop. Secondly the proper thoughts must occur. There are two reasons why these can fail to occur — either because the individual has not them in his repertory of learned responses, or else other thoughts inhibit them. The third step is for thoughts to be carried over into action. This means fundamentally, that the cue-producing sequence must be stronger than the direct response to internal drives and external cues. A fourth step would be the rewarding of the desired behaviour. With reward, the correct response should occur more regularly to the specific cue under mild anxiety conditions whereas previously it is probable that its occurrence at just that time and place may be exceedingly infrequent.269

268 Dollard and Miller, op. cit., p. 115.
269 Ibid., op. cit.
It can be seen that for steps one and four the therapist may be able to manipulate the environment to aid the learner. She can effect a reduction in anxiety to a social situation by being non-critical and accepting herself, and a reduction in anxiety to words by utilizing the adaptation phenomenon (or relaxation). By using labels and words she should be able to lower anxiety and give reassurance -- for example, the cue of the verbal response 'rest' when the child is reading should elicit a response that is incompatible with tension. 270 She could also help to reinforce the fluent speech response once obtained, with some comment such as 'that's it' etc. to bridge the gap between the time when the child first succeeds and the time when the desired responses become so frequent that speaking fluently becomes less effortful and a satisfaction in itself. Symbolic stimuli are often used, so Dollard and Miller claim to bridge the gap between performance and delayed reward. 271

However, for steps two and three the therapist can only give a minimum of help. In the last analysis the fixation of the adequate response depends on the learner. 272 Bluemel, 273 it is interesting to note, endeavoured to aid the stammerer's anticipatory responses by directing him to speak

270 Ibid., p. 107.
271 Ibid., p. 56.
272 Monroe, op. cit., p. 675.
273 Bluemel, op. cit., p. 59.
silently -- he termed it 'phantom speaking'. Its efficacy probably lay in the fact that it made sure that the correct cue-producing responses occurred.

The aim of therapy can be represented diagramatically thus:  

**Demand for Speech**  
Stimulation Produced by Word and/or Situation  

![Diagram](image)

It is to be expected that from the principle of the gradient of reward and generalization that the response near the point of reward should gradually occur before the original time in the response series -- that is to say it should become anticipatory.  

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CHAPTER IV
A COMPARATIVE INVESTIGATION OF THE TREATMENT OF STAMMERING

I PROCEDURE

One of the aims in conducting this research on the treatment of stammering was to collect evidence on the degree of improvement to be expected between direct and indirect methods of treatment. Accordingly, at an early stage it had been considered that some figures could be collected on the outcome of treatment in cases of stammering discharged from the Christchurch Speech Clinics over the last ten years, by sorting the record cards into appropriate categories. This was quickly abandoned for the following reasons:

1. There was no agreed criteria by which improvement could be measured.

2. There was not always a description of the speech on entrance or discharge, which could have given some indication of the extent of improvement. In stammering, treatment is not based on an analysis of the defect as it is with articulatory difficulties so that many cards had only 'stammer' beside the appropriate heading.

3. The number of sessions the child had been given varied, and these were not indicated on the card. A two year span of treatment could not be compared, as attendance might have been once a week or several times a week and absences may have intervened.

4. Treatment had been discontinued sometimes, through the
parents no cooperating or illness, and the therapist was unable to, or failed to, make a final report on the speech.

In the meantime, with the Senior Inspector's approval, a questionnaire had been sent out to all primary schools. The purpose of this questionnaire was to obtain some figures on the incidence of stammering in Christchurch and to locate untreated stammerers. In it was a section in which the teachers were asked to comment on the outcome of treatment for those children who had attended the Speech Clinic. This section proved useless when it was realized that information could not be obtained from the clinic record cards.

As has been already mentioned, the primary purpose of the questionnaire was to locate those children who had no treatment for stammering. In order to differentiate the children who would be likely to need treatment from those who would not, two sections were provided, one for definite stammerers, and one for children having slight hesitancies. By this means it was thought that minor defects and mild stammerers would be excluded from Section I. This was more necessary in the case of private schools than for public schools because the latter are surveyed annually by the therapists who could check that the children named were definitely stammerers. As the lists came to hand, the therapist concerned with that school was consulted regarding those cases suitable for treatment.
Questionnaire for Headmaster

The Head Teacher,

_____ School.

For purposes of Research regarding the incidence of stammering (stuttering) in Christchurch Schools some information is required. A large number of children are handicapped in this way and they present a problem to the community and the teacher. Any assistance therefore which you are able to give would contribute by helping to solve some of these difficulties. It is hoped that it will not take up too much of your time.

The following data is needed:

1. The number of definite stammerers (stutterers) in your school.
   No. ........

2. The number of children having slight hesitancies in speech analogous to stammering (stuttering).
   No. ........

3. In order that some follow-up can be made in certain cases we would be grateful if you could supply the name, address, age and class of these children.

   It would be of great value to know if these children have had treatment and with what results. (e.g. attended elocution - stammer somewhat reduced). We realise this is rather more difficult to obtain but leave it to your discretion.

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Birth</th>
<th>Class</th>
<th>Remarks (Treatment if any and with what results)</th>
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<tbody>
<tr>
<td>Group 1.</td>
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<tr>
<td>Group 2.</td>
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<td></td>
</tr>
</tbody>
</table>
It was hoped that there would be enough cases to enable selection to be confined to those children who had had no previous treatment, since previous therapy usually decreases probability of success.\footnote{J.G. Sheehan, "Rorschach Prognosis in Psychotherapy and Speech Therapy," \textit{J. of Speech and Hearing Disorders}, 19: 219, June, 1954.} Within a short time it was obvious that numbers were not sufficient. Finally nine children were included who either had had previous treatment or who were having treatment and had to be transferred. Five of these were allocated to the control, and four to the experimental group.

A total of fifty stammering children were interviewed at their respective schools, together with a large number of children with other speech defects for whom the teachers in the private schools were anxious to have advice. Of these fifty, thirty-four were given an intelligence test. Twenty-nine of these were given the Wechsler Intelligence Scale for Children, and five the children's form of the Raven Progressive Matrices.

Twenty children were thus selected, and matched with respect to sex, age and intelligence quotient. Because it is not possible to match symptoms exactly, this was not attempted except in the case of A.9, who was matched with another child having an accompanying (s) defect. The sex-ratio in each group was nine boys to one girl. Overseas figures give the sex-ratio of stammerers in the general
population as from two to ten males to one female. The ratio of males to females undergoing treatment in the Christchurch Speech Clinics is four to one. There is a total of forty-three stammerers being treated, thirty-four of whom are boys and nine girls.

The ages of the children in the control group ranged from 6.9 years to 13.10 years, and those in the experimental group from 6.4 years to 13.10 years — extending roughly over the primary school age level. Five year olds were not included because of the difficulties involved in attending four times a week. The mean age was 10.5 years for each group while the mean I.Q. was 104 for the children in the control group, and 103 for the experimental group. The children were matched with respect to I.Q. to within ten points of each other, with the exception of No. 9, where it was considered more important to match the symptom. The child with the higher I.Q. was allocated to the control group so that any weighting of the results would be against the experimental situation. (Table I)

Table I represents the final form of the grouping. Originally different children were selected for A.3., A.6., and B.2. They were replaced for a variety of reasons. The parents of A.3. and B.2. were not agreeable for their child to have treatment, and A.6. only attended once, being too fearful to make the bus trip alone.

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### TABLE I

**COMPARISON OF THE TWO GROUPS WITH RESPECT TO SEX, AGE, I.Q., AND SPEECH**

<table>
<thead>
<tr>
<th>Case</th>
<th>Sex</th>
<th>Age</th>
<th>I.Q.</th>
<th>Speech</th>
<th>Case</th>
<th>Sex</th>
<th>Age</th>
<th>I.Q.</th>
<th>Speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1.</td>
<td>M</td>
<td>6.9</td>
<td>118</td>
<td>mild clonic</td>
<td>B.1.</td>
<td>M</td>
<td>6.4</td>
<td>113</td>
<td>mild tonic</td>
</tr>
<tr>
<td>A.2.</td>
<td>M</td>
<td>7.5</td>
<td>105</td>
<td>severe tonic</td>
<td>B.2.</td>
<td>M</td>
<td>7.11</td>
<td>103</td>
<td>moderate clonic</td>
</tr>
<tr>
<td>A.3.</td>
<td>M</td>
<td>7.8</td>
<td>115</td>
<td>severe tonic</td>
<td>B.3.</td>
<td>M</td>
<td>8.1</td>
<td>120</td>
<td>severe tonic</td>
</tr>
<tr>
<td>A.5.</td>
<td>M</td>
<td>10.1</td>
<td>111</td>
<td>moderate clonic</td>
<td>B.5.</td>
<td>M</td>
<td>10.0</td>
<td>113</td>
<td>mild clonic</td>
</tr>
<tr>
<td>A.7.</td>
<td>M</td>
<td>12.6</td>
<td>77</td>
<td>severe tomo-clonus</td>
<td>B.7.</td>
<td>M</td>
<td>12.7</td>
<td>71</td>
<td>severe tonic</td>
</tr>
</tbody>
</table>
It was necessary to gain the support of the Headmasters of the respective schools, as treatment entailed attendance four times per week. The problem was discussed with the Senior Inspector and it was agreed that it would be wiser not to mention that treatment of an experimental nature was being carried out, in case the teachers and parents gained the impression that unorthodox methods were being used. Accordingly a letter was sent out from the Senior Inspector's office to the effect that opportunity had arisen at the Speech Clinic to provide intensive treatment for a limited number of pupils handicapped by stammering. The names of the children were then listed, together with the time that they would commence treatment. The headteachers were then informed that the selected pupils were to undergo daily treatment\(^3\) over a period of nine weeks, and finally, their cooperation was requested both in securing the release of the children from ordinary studies, and should the occasion arise, to point out to the parents concerned, the probability that such concentrated assistance would certainly be worthwhile, and should in the long run result in fewer attendances at the clinic.

Before treatment could begin, parental approval had to be obtained. An individual letter was sent to each parent, the exact wording varying with the circumstances. For example

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\(^3\) It was impossible to arrange daily treatment; the children finally attended four times per week.
if one child was already attending another clinic, the letter would be different from that sent to a parent who had no previous contact with the Speech Clinic. The tone of the letter was felt to be important -- it was considered that parental approval would be more likely obtained if they had the impression that their children were favoured, rather than if they thought they were doing the experimenter a favour. The following represents a typical letter to a parent:

LETTER TO PARENT

Dear Mrs. ____________:

While at ____________ school yesterday, I spoke to ____________ for some time, and feel that he would benefit from some attention to his speech.

The opportunity has arisen for a selected number of children to be given a special intensive period of Speech Therapy, involving four attendances a week, twice in school time and twice after school is dismissed. In this way it is considered that total length of attendance will be cut down. I would like to include ____________ in this group, and feel sure you will welcome this opportunity.

Could you phone me at the speech clinic before this coming Friday regarding the matter? I will reserve a place for ____________ in anticipation of your contacting me.

I remain,
Yours sincerely,

Of the twenty parents, only two declined to send their children. One declined because the child would be missing his school-work, and might find the travelling tiring, and the second phoned to say that the child’s stammer had gone! As the two groups were taken consecutively, these withdrawals only affected the control group as they commenced their
treatment first. Several children in this group began later and several children were ill during that winter term. Consequently three children had to continue their treatment at the same time as the experimental group.

The children attended four times per week. In order to minimize absence from school, particularly for the older ones, two periods only were arranged in school time, the other two being out of school hours. Each group received nine weeks' treatment, which, with absences, averaged out at about eight weeks' treatment. It was believed that this would approximate a year's treatment if appointments were on the usual weekly basis. The average attendance for the control group was actually 32.3 sessions and for the experimental, 31.7. The slightly lower average for the experimental group was caused by the unavoidable withdrawal of one child. Half-hour appointments were made, but not always rigidly adhered to.

Teachers' judgements regarding improvement were considered to be a valuable supplement to the therapists' quantitative ratings. In order to draw the teacher's attention to the speech of the particular child, a preliminary letter was sent out, during the child's first week of treatment.

**LETTER TO TEACHER**

Dear ____________

As you know, ____________ is one of a number of stammering children who has been given the opportunity of special intensive speech therapy, to see whether total length of treatment can be cut down in this way. The results of any such work should carry over to
the classroom and we feel you are in a favourable position
to comment on it from your point of view.
To would be grateful if, at the end of the nine weeks' period, you could send us comment on _________'s speech
and suggest that in the meantime it would be helpful if you
could make a note of how often, and in what particular
situations, he stammers.
This is in the nature of an advance notice; we will
send you a further notice later on in the term.

Thanking you,
Yours,

The speech therapists who rated the stammerers were all
experienced. Two were formerly senior therapists of city
clinics, while one was a member of the training-centre staff.
A copy of the rating scale was presented to each rater several
days prior to the first rating, so that they would be familiar
with it. The headings on which the qualitative description
was based, were derived from the description of symptoms by
Van Riper\textsuperscript{4} and were not intended to be an exhaustive coverage,
but merely pointers to ensure some standard basis of comparison
between the raters. A five-point scale for rating was drawn
up. It seemed very difficult to differentiate between the
categories if any finer discrimination was attempted. However,
it had one deficiency which was shown by the results, and
which will be discussed later. It would have been better if
it had had a category for: 'very slight stammering' – 'rarely
stammers.' The rating scale by Johnson\textsuperscript{5} does include such a

\textsuperscript{4} C. Van Riper, \textit{Speech Correction: Principles and
p. 394.

\textsuperscript{5} W. Johnson, F.L. Darley and D.C. Spriesterbach,
and Brothers, 1953), p. 131.
category but has the disadvantage of basing the categories on frequency of stammering -- which is not very practicable in a subjective evaluation.6

THE JOHNSON RATING SCALE

Rating of Severity of Stuttering

1. No stuttering.
2. Very mild: stuttering on 2 percent of words or less; tension almost imperceptible; very few, if any, blocks last as long as a full second; pattern of stuttering very simple; no conspicuous associated movements of body, arms, or legs.
3. Mild: stuttering on about 2 to 5 percent of words; tension noticeable but not very distracting; most blocks do not last longer than a full second; pattern of stuttering generally simple; no distracting associated movements.
4. Average: stuttering on about 5 to 8 percent of words; tension occasionally distracting; blocks average about one second; stuttering pattern characterized by an occasional complicating sound or facial grimace; and occasional distracting associated movement.
5. Moderately severe: stuttering on about 8 to 12 percent of words; consistently noticeable tension; blocks average about 2 seconds; a few distracting associated movements.
6. Severe: stuttering on about 12 to 25 percent of words; conspicuous tension; blocks average 3 to 4 seconds; conspicuous distracting sounds and facial grimaces; conspicuous distracting associated movements of body, arms, or legs.
7. Very severe: stuttering on more than 25 percent of words; very conspicuous tension; blocks average more than 4 seconds; very conspicuous distracting associated movements of body, arms, or legs.

Description of speech sample and situation in which rating was made:

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6 This was received after the first rating had taken place.
Lewis and Sherman indicate possible aspects of the measurement of stammering: (1) the kind of stammering (2) the number of stammering manifestations per unit of time, and (3) the degree of difficulty at the moment. It can be seen that the rating scale used in this study included (1) and (3) but not the second. Measuring the frequency of stammering would have involved standardizing passages of reading material for practically every age range. Moreover, frequency of stammering is not a sufficient index of severity, because intensity must also be considered.

**RATING SCALE**

An evaluation of the speech in terms of:

I. **A Five Point Rating Scale** - Judging the severity of the stammer during:
   (1) Conversing
      i. innocuous material, e.g. description of picture
      ii. emotionally loaded, e.g. about their speech
   (2) Reading
   (3) Answering Questions
   and taking into consideration any variation in the above situations giving:
   (4) The over-all impression or general estimate.

For your guidance, it is suggested that the rating represent the following broad categories:

4. Very severe stammer - appears to block on nearly every word.
3. Severe stammer - has some fluent phrases, but stammer interferes seriously with expression.
2. Marked and noticeable stammer - stammer obvious, but does not prevent easy communication.
1. Slight and occasional stammer - stumbles or trips some what, but is more often fluent than not.
0. No stammer.

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II. A Qualitative Description - Considering the speech under these headings where applicable:

(1) Type of stammer - tonic, clonic, etc.
(2) Any accompanying bodily movements - e.g. facial twitches, head jerks, hand clenching etc.
(3) Any other associated defect - e.g. stigmatisim or lisp.
(4) Where in the word, phrase, or sentence, the stammer occurs.
(5) Use of expectancy devices,
   (a) avoidance, e.g. circumlocution
   (b) postponement, e.g. "oh well - oh well - I - oh well"
   (c) starters, e.g. "ohs," "ums," sudden gestures or eye blinks.
(6) Use of release devices: those used to complete a word after the block occurs, or perhaps the child stops speaking and attempts a retrial.
(7) Any breathing abnormalities.
(8) There may be improvement as the child gets used to the situation and this should be noted.
(9) Any additional points that may help you to evaluate the speech.

Certain situations were introduced so that variations in the stammering could be taken into consideration. The child described a picture depicting some exciting occurrence, answered some questions regarding his speech, read a short paragraph from a graded reader, and answered some miscellaneous questions. Severity often varies under different conditions\(^8\) -- A.5. for example could read perfectly fluently but had a rapid clonic stammer in conversation. If the child had only been rated during reading, an entirely erroneous picture of his speech would have been obtained.

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\(^8\) O. Bloodstein, "Hypothetical Conditions under which Stuttering is Reduced or Absent," *J. of Speech and Hearing Disorders*, 15: 142, June, 1950.
The raters were actually present in the room and the degree of severity was judged on observable signs in addition to the vocal behaviour, because it was felt that while rating from the recording would have been far more convenient for the raters, severity can not be guaged from vocal behaviour alone. A large part of the child's stammer is often not merely vocal, but consists of secondary symptoms such as facial tension, opening mouth, movement of hands etc.

An audience of four is a severe test for stammering children, but as the post-rating was done under similar conditions it should not have influenced the results.

RATING SCALE FORM

<table>
<thead>
<tr>
<th>Child: A.l.</th>
<th>First Rating</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conversing</td>
<td>i innocuous material</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii emotionally loaded</td>
<td></td>
</tr>
<tr>
<td>2. Reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Answering Questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. General Estimate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Qualitative Description Below

These forms were handed out immediately prior to the rating and collected immediately afterwards, so that the rating was completely independent.
The order of presenting the material was varied, sometimes the child was asked to read first, sometimes to describe a picture, according to which was easiest for the child, and the whole was presented as naturally as possible. Although some of them were conscious of the raters throughout, many attended quite easily to what they were doing. None of the children were warned beforehand.

At the same time a tape-recording was made. The purpose of this was two-fold. One was to use the recording should one of the raters be absent, and the other was to enable the therapists to make evaluations afterwards which could be compared with the teachers' evaluations.

Every effort was made to prevent the children from realizing they were being recorded, and as far as could be seen, this was successful. A rectangular hood of light cardboard and paper was prepared for the microphone, and this stood on the table for the whole nine weeks period. It never occasioned any comment from any of the children and they seemed to accept it as part of the furniture. For the first rating session the machine was hidden and operated by one of the raters. This meant that a longer recording was made of each child, because it was more difficult to manipulate. For the others a foot control was used and this enabled a much shorter recording to be made.

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9 One rater did in fact have to use the recording for the first rating of B,3.
To supplement the judgement of the raters, which was based on a shorter acquaintance, the opinion of the teachers was requested by means of a short rating form. In the Sheehan\textsuperscript{10} study on prognosis, therapists rated according to a four-step scale: (1) great improvement (2) substantial improvement (3) slight improvement (4) none or worse.\textsuperscript{11} It will be noticed that if the first step is omitted, the scale is practically identical with the one used in the present study and that discrimination between great and substantial improvement would be rather difficult.

Johnson\textsuperscript{12} also has a four step scale, but the extra category is at the bottom, not the top: (1) worse (2) no improvement (3) fair improvement (4) outstanding improvement. The category of 'worse' is a realistic but somewhat pessimistic addition!

RATING FORM FOR TEACHERS

Dear \underline{\hspace{10cm}}, as you know has been one of a group of children having intensive speech therapy. In order to evaluate its usefulness we would be grateful if you would indicate any change you have noticed at school.

Much improvement \underline{\hspace{2.5cm}}

Some improvement \underline{\hspace{2.5cm}}

No change \underline{\hspace{2.5cm}}

\textsuperscript{10}Sheehan, \textit{op. cit.}, p. 218.

\textsuperscript{11} This was received after the present scale had been in use.

\textsuperscript{12} Johnson, \textit{op. cit.}, p. 207.
RATING FORM FOR TEACHERS (Contd.)

Together with any additional comments:

.................................................................
(six lines)

Could you please return this before the end of the week?

Thank you for your help.

Yours,

A stamped addressed envelope was included.

Following the termination of treatment, the therapists used the same rating scale to evaluate the results of treatment from the recordings as they were played consecutively. This is similar to an investigation by Shames\textsuperscript{13} in which the judges were asked to indicate whether the second rating was better, the same, or worse than the speech on the first recording. In practice the recordings in the present study were not very satisfactory as extraneous noises such as rain beating on the roof, or another child playing in an adjoining room marred their clarity. Sometimes too, the child turned away from the microphone or spoke extremely quietly. However much of the stammering was recorded, although the recording was not sensitive enough to indicate the lisps of No. 9. in each group.\textsuperscript{14}


\textsuperscript{14} Two children were re-recorded several days later under the same audience conditions. They were B.3. and B.8.
II METHOD

The Case Study. As soon as possible, one or both parents were interviewed. With the exception of one case, the mother generally came because the father was at work. In every case a visit to the home was made so that the therapist could meet the father. The importance attached to collecting a life-history varies with different therapists but it would be true to say that it is the attitudes conveyed, as much as the information collected that is valuable. Collecting information is only valuable to indicate avenues which the therapist can investigate, or to elucidate unaccountable behaviour. The danger with case history material is that it can remain history, instead of a guide to action. The opinion of one authority\textsuperscript{15} that it is of comparatively little use to undertake treatment of a stammerer without finding out as much as possible about the family history is a little extreme. Non-directive therapists, in another field, have demonstrated that effective therapy can be done without an extensive preliminary investigation. In the present study one child in the control group who was in an institution was given eight weeks' treatment before an interview with the mother could be obtained, yet treatment did not seem to be retarded.

In some cases follow-up interviews were given. Generally this is done only in cases where the attitudes of the parents are obviously impeding therapy, or if there are specific matters that need to be discussed. How much, and what advice is given naturally varies, but the rather sweeping statement by Blanton that "parents must face the fact that stuttering is psychological and caused by an emotional difficulty," gives the impression that information must be forced on the parents willy-nilly. Most often this method results in a rejection of the advice, whereas informal discussion groups or a series of less directive interviews result in the acceptance of part of the recommendations. Scheull has written emphasizing the importance of working with the parents and advises that initially, there should be a series of interviews -- about four, spaced over a month. The first, to gather information, another to find out the parents' misconceptions about stammering, and to give appropriate assignments, the third to discuss changes in parental policy, and the last to report progress. Such a programme is commendable but would require a large staff and very small roll numbers, or alternatively, a psychiatric social worker concerned exclusively with this aspect.

The number of parental interviews given with respect to the children in the control group were sixteen. The number

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of interviews with professional workers, such as teachers, doctor, psychologist, etc. numbered fifteen, although the majority of these were telephoned. For the experimental group nineteen parental interviews were conducted, with an additional seven with other professional people.

The case-history form\(^{18}\) was that in interim use in most speech clinics in New Zealand. The case studies have been organized under different sections to make a connected account and reduce headings.\(^{19}\) The case-history form outlined by Johnson\(^{20}\) has sections dividing the material into: Complaint, History of Speech Defect, Developmental History, Medical History, School History, Social History, and Family History. In the Case Studies presented in Appendix A, the material was organized under the following headings: Description of Disorder, History of Speech Disorder, Family History of Disorder, Developmental History of Child, Family History and Home Conditions, and School History. Following on from this are the Therapist's Interpretations and Observations. This gives a connected account of the information collected, together with the results of diagnostic tests. The Case Study is completed by suggestions for treatment.

Precise description of the stammering behaviour was needed and a description drawn up by Johnson\(^{21}\) was shortened

\(^{18}\) Cf. post Appendix C.  
\(^{19}\) Cf. post Appendix A.  
\(^{20}\) Johnson, op. cit., p. 20.  
\(^{21}\) Ibid., pp. 117 - 119.
and used. In addition to the Weschler Intelligence Scale, each child was given the children's form of the Raven Progressive Matrices and all but B.L. were given the Vineland Social Maturity Scale and Rosenzweig Picture Frustration Test. In addition eight children were given the Word Reaction Test and A.L. was administered the Burt Vocabulary Test.

Although it would have been an advantage to have used more diagnostic tests, the time required for administering them would have limited that available for treatment.

**Grouping of Cases.** It is considered that judicious grouping of stammering children is useful both diagnostically and therapeutically. By observing a child playing with another in undirected activities it is possible to note his usual modes of social interaction. Beasley writes,

... the therapist obtains much valuable information as she observes him interacting with his peers: his patterns of aggression and withdrawal, dominance-submission, adaptability, adjusting techniques, speech usage, etc. ... The knowledge gained about an individual during such a period is invaluable in contributing to diagnostic evaluation, in guiding plans for therapy, since the way a child behaves with his peers often indicates the extent to which he is having difficulty in adapting to society, the extent to which he shows readiness and need for speech training.

The first step in grouping children is of course, to determine their specific needs. Appointments following on one another

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22 Cf. post Appendix C.

were given children who appeared to benefit from a relationship with each other, for example A.5. and A.9., A.2. and A.3., A.7. and A.8., and B.6. and B.7. The first and last of these pairs comprised one child who was outgoing and the other more withdrawn. The second pair were both lacking in outgoingness when alone, but together showed much more initiative. Toward the end of the period B.3. and B.8. seemed to be gaining mutual benefit from each other's company in spite of the wide difference in ages and intelligence. This pairing of children seemed to have therapeutic properties in itself. Obviously there are dangers in grouping children, if there is not adequate assessment of the personality characteristics of the children but clinical observation supports the view that the careful grouping of children can have wholesome effects.24

Treatment. The following is an account of the method used with both the control and the experimental groups, although the latter was also given direct treatment for the stammering behaviour, according to the theory outlined.25

This statement of the method of treating stammering was supplied by the staff of the Christchurch Speech Clinic. It can be compared with the treatment given to the control group as shown by the daily record sheets. The statement was in

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the form of notes, and the following represents a connected account of this:

Eclectic Method

Relaxation, Catharsis, Suggestion and Rhythm are considered the four fundamental means of alleviating stammering, but even more important is the personal relationship established with the child, and improving personal adjustment through work with teachers and parents. Treatment varies with the age level. Up to seven years there is generally no direct approach of any sort, but therapy takes the form of improving environmental conditions by advice to parents, and of encouraging catharsis through play. In the seven to nine year old group the stammer is discussed with the child if he indicates in any way that he wishes to do so, and relaxation, both direct and indirect is introduced. From nine to thirteen is considered the period of less favourable cooperation, but at adolescence direct discussion is used and personal and social adjustment requires closer attention. Up to adolescence, group activities are considered important and material such as puppets, clay, painting, talking games, rhythmical games such as the Maori stick game, are important for promoting catharsis, relaxation and rhythm. Direct work is confined mainly to promoting confidence through reading.

A general method such as outlined above is always adapted not only to suit each individual child, but also in terms of the particular therapist. For example Maori stick games would not be used for every child, nor by all therapists. Similarly, direct relaxation is seldom used by some therapists while others base most of their treatment on it. In the present case, direct relaxation on a couch is used sparingly because of a personal conviction that such methods, divorced as they often are from ordinary speaking situations are not particularly effective. Direct relaxation was given only to A.4. and A.6. although it was used indirectly for most of the others in the reading situation.
Treatment for the Experimental Group. In addition to the general method outlined above which the Control and Experimental Groups had in common, the latter was given direct re-training of the stammering behaviour in accordance with the theory already presented. Discussion of the practical details follows:

Before any given response to a specific cue can be rewarded and learned, this response must occur. A good part of the trick of animal training, clinical therapy, and school teaching is to arrange the situation so that the learner will somehow make the correct response. 26

There are six ways, according to Ryan 27 in which the first occurrence of a response pattern can be effected: by chance, by the response being dominant to the stimulus or previously learned to some element of the situation, by reasoning or problem solving, through guidance or tuition, and by imitation. Of these, only the last two alternatives seem to apply to the present problem. Various means have been used to obtain fluency in certain limited situations -- for example bodily relaxation, positive suggestion, and hypnosis. Although Hahn 28 points out that the major concept upon which clinical procedures are based is that it is possible for the stammerer to speak without stammering, it has not been frequently emphasized that it is important to start from the

28 E.F. Hahn, "Stuttering, Significant Theories and Tests,

situations in which the stammerer can speak fluently, and to ensure that the fluent response is in the repertoire.

In this study a method utilizing the adaptation effect is used. In this situation stammering can be completely eliminated. The material used was the Echo or Repetitive Games already employed in the Speech Clinics for correcting articulatory defects. These echo games involve the repetition of a phrase. For example mixed pairs of picture cards are placed face downwards and the players pick them up in turn, saying a phrase such as "I see a --- (ball)," "I see a --- (doll)," until a pair is found. The efficacy of these games for producing a decrement in stammering has been realized but attributed to distraction effects. There would appear to be other reasons for the fluent speech in this situation. Firstly the language is simple and involves little communicative responsibility. It has been demonstrated that this occurs typically where the material has 'low propositional content,' and the stammerer does not need to form his own ideas. Then again they involve simple rhythm -- Is it a (b) ? Is it a (c) ? Rhythmic responses are easier to tie together, and as Johnson and Rosen have found, the greatest reduction in stammering is caused by alteration of the speech pattern in accordance with some very definite rhythm.

Thirdly these echo games offer

29 Bloodstein, loc. cit.

opportunity for the child to imitate the therapist's fluent speech. Kingdon-Ward\textsuperscript{31} advises that it is essential that the therapist provides an easy and smooth pattern for imitation, and one can note in this particular instance that if the therapist emphasizes the rhythm and speaks slowly and easily the child follows suit. In his study Bloodstein\textsuperscript{32} found that most subjects had little difficulty when imitating another person so that the reduction in stammering during imitation has been confirmed experimentally. However, the most important factor in the reduction of stammering during these repetitive games is likely to be that the constant repetition of the material produces a decrement in the response, that is to say, an adaptation effect.

According to the hypothesis already outlined, the next step is to insert the normal fluent response after the stimulus of anxiety before the usual response of stammering can operate. The stammerer must thus inhibit the stammering response and from the cue of a normal speech pattern, respond with fluent speech. To do this he may, at the beginning, need to imitate the fluent speech pattern of a model. The reinforcement schema of imitation based on Miller and Dollard\textsuperscript{33} would be: (1) the child is motivated to action by an internal drive (to communicate), (2) he hears the therapist communicating


\textsuperscript{32} Bloodstein, \textit{op. cit.}, p. 147.

by a certain pattern of speech behaviour. This pattern is the cue for an imitative response, (3) the child attempts to respond in accordance with this cue and (4) if he reaches the goal which satisfies his drive through imitation he is rewarded. When this same drive to communicate is present on subsequent occasions, according to the Reinforcement hypothesis, the child will have a tendency to repeat the response which he previously imitated from the therapist's behaviour.  

Later the cue may be the anticipatory fluent responses of the subject.

There may need to be correction of a stammered phrase as the direct response of stammering is likely to be faster than the verbally mediated responses for some time, the former short circuiting or anticipating the latter frequently during the practice periods. The child may make an immediate response of stammering, and may need to retrace what he has previously stammered. Some stammerers can do this quite fluently, while others usually stammer again on a retrial and may need assistance such as the therapist giving the pattern. It is interesting to note that Kingdon-Ward comments,


35 Dollard and Miller, op. cit., p. 98.

36 Bloodstein, op. cit., p. 144.

The mere stopping of a stammering child and making him realise his speech condition is obviously not correction. It is essential that when he is stopped or made to notice his speech, a definite pattern should be given him. .... 38

and later from practical experience, she advises,

Merely to tell a child to speak in such and such a way is useless. Whoever corrects him must do so in a calm, quiet way, and get him to "say it like this" — repeating the child's words or the gist of them. 39

Initially the method will be introduced in reading because the therapist is aware of what the child wants to say. Reading is also better because the thoughts are already formulated for the child and his communicative responsibility is reduced. 40 With Hahn 41 it is agreed that a basic concept in the treatment of stammerers should be that of proceeding from success in a simple speech situation to success in a complex speech situation. Moreover easy reading material will be used, in line with Eisenson's 42 findings that as meanings and the responsibility for communicating meanings increases, stammering increases, and words that are evaluated as conspicuous, prominent or unusual are likely to be the loci for stammering. 43 From there it should

39 Ibid., pp. 252-3.
40 This was found to be almost identical with Bluemel's contention. C.S. Bluemel, Mental Aspects of Stammering (Baltimore: The Williams and Wilkins Company, 1930), p. 59.
41 Hahn, op. cit., p. 160.
be possible to proceed to descriptions of pictures and speech situations that approach more nearly ordinary conversation. The progression will, of course, be determined separately for each child. 44

III RESULTS AND DISCUSSION

1. The Incidence of Stammering

The study began with a survey of the number of stammerers in Christchurch primary schools. The intention was to locate stammerers who had had no previous treatment, and to provide a pool of stammerers out of which the groups could be selected. Incidentally however, it gave an estimate of the percentage of children who stammer in the primary schools.

It will be seen (Table II) that fewer than one in every hundred children in Christchurch primary schools are stammerers. There are no New Zealand figures with which to compare these results, but overseas authorities concur in estimating that one in every hundred children stammer. 45, 46 There are two possible explanations for the lower figures obtained in this study. The first is that the service of speech therapy is more generous for the number in the population than overseas

44 Cf post Appendix A.


and the number of stammerers in the schools is thus reduced. Or again the explanation may lie in the fact that the overseas figures include not only adults, but preschool children also. However, West, Kennedy and Carr\(^47\) point out that the incidence of stammering is highest from the ages of six to ten, so that according to this, the New Zealand figures should be larger. Another more likely explanation lies in the fact that the overseas figures probably include those who have slight stammers or hesitations, whereas those in Table II are confined to definite stammerers -- that is those who are likely to require treatment.

**TABLE II**

The Incidence of Stammering in Christchurch Primary Schools in Percentages

<table>
<thead>
<tr>
<th>No. of Schools</th>
<th>Roll Nos.</th>
<th>No. Stammerers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>46</td>
<td>23616</td>
<td>136</td>
</tr>
<tr>
<td>Private</td>
<td>25</td>
<td>4026</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>27642</td>
<td>155</td>
</tr>
</tbody>
</table>

2. **Degree of Improvement Estimated from Therapists' Ratings. Control Group.**

According to the results detailed in Table III, five children in the control group improved, presumably as a result of therapy, and for an equal number the speech remained unchanged. There was complete agreement among the three raters regarding improvement or otherwise, in eight of the ten cases, while in the other two cases, (A.4. and A.5.)

---

where one therapist's rating did not coincide with the others, the majority decision was taken as the correct estimate.

Case A.1. The three therapists agreed in the pre-rating that the child had a marked and noticeable stammer (2), and that at the time of the post-rating he had only a slight and occasional stammer (1). The following is the result of the analysis of the sub-sections of conversing, reading, and answering questions:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seven ratings of 2</td>
<td>One rating of 2</td>
</tr>
<tr>
<td>Five ratings of 1</td>
<td>Six ratings of 1</td>
</tr>
<tr>
<td></td>
<td>Five ratings of 0</td>
</tr>
</tbody>
</table>

Little comment is necessary beyond the fact that the ratings in the sub-sections were consistent with the general estimate and showed that there were fewer situations where there was marked and noticeable stammering.

Case A.2. There was not complete agreement in the first instance whether this child had a marked and noticeable stammer (2) or a severe stammer (3) — probably because the child spoke so quietly. However the majority opinion was that it was severe (3). In the post-rating all agreed that the child had a marked and noticeable stammer only, so that over the period the stammer had improved. The following were the number of ratings of the different categories in the sub-sections:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eight ratings of 3</td>
<td>Ten ratings of 2</td>
</tr>
<tr>
<td>Two ratings of 2</td>
<td>Two ratings of 1</td>
</tr>
<tr>
<td>Two ratings of 1</td>
<td></td>
</tr>
</tbody>
</table>
It would appear from this analysis, that on some occasions the child stammered only mildly. In actual fact the ratings of 1, were given by the one therapist who was sitting furthest away from the child. The other therapists indicated that the child's stammer did not fluctuate much in the various situations.

Case A.3. Once again there was a difference of opinion among the therapists regarding the severity of this child's stammer. In the general estimate Mr. Dunne and Miss Ward agreed that A.3. had a severe stammer (3). However throughout the sub-sections Miss Ward considered the child had only a marked and noticeable stammer (2). The explanation of the discrepancy is that originally Miss Ward had been undecided, and had given a general estimate of 2 - 3. When the recording was played back she was asked to make a firm decision, which was that the stammer was severer than she had formerly believed. She changed the general estimate but left the ratings in the sub-sections as they were.

In the post-rating the majority considered A.3. to have a slight and occasional stammer (1) so that apparently the child's speech had improved. The number of ratings in the different categories in the sub-sections were:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three ratings of 3</td>
<td>Four ratings of 2</td>
</tr>
<tr>
<td>Nine ratings of 2</td>
<td>Eight ratings of 1</td>
</tr>
</tbody>
</table>

The raters considered that A.3. stammered more when answering questions during the post-rating.
Case A.4. It was the general opinion of the raters that, at the time of the pre-rating this child had a severe stammer (3), and at the time of the post-rating the majority considered he still had a severe stammer (3) although Miss Saunders believed his stammer was then only marked and noticeable (2). The majority opinion was accepted however. Although the general estimate is that there was no change, a study of the number of categories in the sub-sections shows that there may have been a very slight improvement.

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three ratings of 4</td>
<td>Five ratings of 3</td>
</tr>
<tr>
<td>Two ratings of 3</td>
<td>Six ratings of 2</td>
</tr>
<tr>
<td>Four ratings of 2</td>
<td>One rating of 1</td>
</tr>
<tr>
<td>Three ratings of 1</td>
<td></td>
</tr>
</tbody>
</table>

Evidently during the post-rating there was no stammering that was very severe (4). At the same time there were fewer occasions when the child had a slight and occasional stammer (1). However, it should be noticed that three estimates of 1 in the pre-rating were made when the child was answering questions about his speech and replied in monosyllables.

In the pre-rating it would appear that the child was stammering worse in ordinary conversation, but there is not enough agreement in the other sub-sections to be able to comment about the variations in severity in the different situations.

Case A.5. Two raters agreed that A.5. had a marked and noticeable stammer (2) at the time of pre-rating and all
were of the opinion that later he had a slight and occasional stammer (1). The majority judgement was that there had been an improvement in the speech over that period.

Against this, it can be seen that Miss Saunders's general estimate remained the same. On the other hand a glance at the sub-sections reveals that whereas she considered the child had a marked and noticeable stammer (2) in the first two situations, on the later occasion in those same situations she believed he had only a slight and occasional stammer (1). Her general estimate therefore, does not reflect the more particular judgements. The reason for this would seem to lie in the fact that on the first occasion she under-estimated the severity of the stammering in her over-all impression. Furthermore it will be noticed that Miss Saunders was the only one who gave a rating of 1, in the reading sub-section of the post-rating. She must have thought she detected a tendency to stammer, or a slight stumble. In actual fact reading is perfectly fluent. All these factors have worked together to lessen any difference between the pre- and post-ratings.

A study of the number of ratings of the categories in the sub-sections confirms that there was a difference in the speech at the time of the first and second ratings:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eight ratings of 2</td>
<td>Eight ratings of 1</td>
</tr>
<tr>
<td>One rating of 1</td>
<td>Four ratings of 0</td>
</tr>
<tr>
<td>Three ratings of 0</td>
<td></td>
</tr>
</tbody>
</table>
With one exception already mentioned, all three therapists agreed that the stammer varied in the different situations— in reading the child spoke fluently, whereas in conversation including answering questions, he stammered slightly.

**Case A.6.** The three raters agreed on both occasions that the child had a severe stammer (3). In other words, there had been no change in the speech over that period. Once again although the general estimate remains unchanged, there may have been a very slight change for the better as a glance at the judgements in the sub-sections show:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two ratings of 4</td>
<td>Six ratings of 3</td>
</tr>
<tr>
<td>Seven ratings of 3</td>
<td>Four ratings of 2</td>
</tr>
<tr>
<td>Three ratings of 2</td>
<td>Two ratings of 1</td>
</tr>
</tbody>
</table>

At the second rating evidently, there were no occasions when the raters considered the child stammered very severely (4) and one situation when they even believed he stammered only slightly (1). Interestingly enough this was the reading situation— the only area where direct work had been attempted. However, the total difference is so slight that it would be unwise to attach importance to these indications of change.

**Case A.7.** On the occasion of the pre-rating this child was rated as having a marked and noticeable stammer (2) and this judgement was not altered by the time of the post-rating. The following are the judgements in the sub-sections:
As can be seen, there were fewer ratings of a marked and noticeable stammer and reciprocally more ratings indicating the child stammered slightly. However, chance factors could have been operating to favour improved speech on the second occasion, and too much weight cannot be given to the more particular judgements.

The data does not indicate whether there is any variation in the speech in the different situations.

**Case A.8.** Once again, the judgement of a severe stammer (2) on the first occasion was sustained at the time of the post-rating. This is confirmed by an analysis of the judgements in the sub-sections:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eleven ratings of 2</td>
<td>Seven ratings of 2</td>
</tr>
<tr>
<td>One rating of 1</td>
<td>Five ratings of 1</td>
</tr>
</tbody>
</table>

From the data it would seem that this child's speech did not vary in severity in different situations.

**Case A.9.** The ratings indicate that there was no change in the stammer over the period (although the (s) defect had been corrected). Both before and after, the child had only a mild and occasional stammer (1). An analysis of the sub-sections shows that he might have stammered slightly more in the second rating, but the difference is so slight that it is likely to have been caused by some chance factors.
<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eight ratings of 1</td>
<td>Nine ratings of 1</td>
</tr>
<tr>
<td>Four ratings of 0</td>
<td>Three ratings of 0</td>
</tr>
</tbody>
</table>

There is no indication from the data that the child stammers more in one situation rather than another.

**Case A.10.** The three raters agreed in the general estimate that at the time of the first rating this child had a marked and noticeable stammer (2), whereas the second time she had only a slight and occasional stammer (1). The number of judgements in the different categories were:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four ratings of 2</td>
<td>Nine ratings of 1</td>
</tr>
<tr>
<td>Seven ratings of 1</td>
<td>Three ratings of 0</td>
</tr>
<tr>
<td>One rating of 1</td>
<td></td>
</tr>
</tbody>
</table>

It can be seen that the judgements in the sub-sections confirm the general estimate.

From the data it would appear that there is no variation in the severity of the stammering in the different situations, excepting that in answering questions about her speech she answered briefly, so that there was little opportunity to stammer.

**Experimental Group**

In the estimation of the raters (Table IV) three children improved in their speech, presumably as a result of the treatment given to them, while in six there was no change. One child (B.1.) could not have the final rating but for purposes of comparison his speech will be presumed to have remained the same, although as the comments of the parents indicated, this estimation is likely to be conservative.
### TABLE III

**QUANTITATIVE RATINGS FOR THE CONTROL GROUP**

<table>
<thead>
<tr>
<th>Child</th>
<th>Section</th>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dunne Saunders Ward</td>
<td>Dunne Saunders Ward</td>
<td></td>
</tr>
<tr>
<td>A.1.</td>
<td>1. Conv 1</td>
<td>2 1 2</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 3 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 1 2</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 1 1</td>
<td>0 2 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>2 2 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Imp.</td>
</tr>
<tr>
<td>A.2.</td>
<td>1. Conv 1</td>
<td>3 1 3</td>
<td>2 1 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 2 3</td>
<td>2 1 2</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>3 1 3</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>3 2 3</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>3 2 3</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Imp.</td>
</tr>
<tr>
<td>A.3.</td>
<td>1. Conv 1</td>
<td>3 2 2</td>
<td>2 1 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 2 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>3 2 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>3 2 2</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>3 2 3</td>
<td>2 1 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Imp.</td>
</tr>
<tr>
<td>A.4.</td>
<td>1. Conv 1</td>
<td>3 4 4</td>
<td>3 1 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 1 1</td>
<td>2 3 3</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>2 2 4</td>
<td>2 2 3</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 1 3</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>3 3 3</td>
<td>3 2 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No C.</td>
</tr>
<tr>
<td>A.5.</td>
<td>1. Conv 1</td>
<td>2 2 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 2 2</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>0 0 0</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 1 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>2 1 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Imp.</td>
</tr>
<tr>
<td>A.6.</td>
<td>1. Conv 1</td>
<td>3 2 2</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 4 3</td>
<td>3 3 3</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>3 4 3</td>
<td>1 2 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 3 3</td>
<td>3 3 3</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>3 3 3</td>
<td>3 3 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No C.</td>
</tr>
<tr>
<td>A.7.</td>
<td>1. Conv 1</td>
<td>2 2 2</td>
<td>2 1 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 2 2</td>
<td>1 2 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 2 2</td>
<td>1 1 2</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 2 2</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>2 2 2</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No C.</td>
</tr>
</tbody>
</table>
TABLE III (Contd.)

QUANTITATIVE RATINGS FOR THE CONTROL GROUP

<table>
<thead>
<tr>
<th>Child</th>
<th>Section</th>
<th>Pre-Rating Dunne Saunders Ward</th>
<th>Post-Rating Dunne Saunders Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.8.</td>
<td>1. Conv 11</td>
<td>2 1 2</td>
<td>2 1 2</td>
</tr>
<tr>
<td></td>
<td>2. Read 11</td>
<td>2 2 2</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>3. Ques 11</td>
<td>1 1 2</td>
<td>2 1 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen 11</td>
<td>2 2 2</td>
<td>2 2 2 No C.</td>
</tr>
<tr>
<td>A.9.</td>
<td>1. Conv 11</td>
<td>1 1 1</td>
<td>1 1 0</td>
</tr>
<tr>
<td></td>
<td>2. Read 11</td>
<td>0 1 0</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques 11</td>
<td>0 1 0</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td>4. Gen 11</td>
<td>1 1 1</td>
<td>1 1 1 No C.</td>
</tr>
<tr>
<td>A.10</td>
<td>1. Conv 11</td>
<td>2 1 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read 11</td>
<td>1 0 1</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td>3. Ques 11</td>
<td>2 1 2</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen 11</td>
<td>1 1 1</td>
<td>0 1 1</td>
</tr>
</tbody>
</table>

Abbreviations
Conv = Conversation
Read = Reading
Ques = Answering Questions
Gen = General Estimate
Imp. = Improved
No C. = No Change.

A glance at the general estimates for the first and second ratings will show that there was much less agreement among the raters regarding the classification of the speech into the different categories, and consequently less agreement regarding improvement or otherwise than for the control group. Only for B.6. and B.9. did they agree completely in their
general estimates. The explanation for this may be that several of the children had tonic stammers which were difficult to rate.

**Case B.1.** No post-rating was given this child as he left Christchurch. On the first occasion he was considered to have a mild stammer (1).

**Case B.2.** The raters were in complete agreement on the first occasion that this child had a mild and occasional stammer (1). In the second rating two therapists considered his stammer remained mild, while one considered that on that occasion he manifested no stammer (0). Taking the majority as the correct estimate there was no change in the speech over that period. This is not confirmed if the judgements in the sub-sections are analysed:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten ratings of 1</td>
<td>Six ratings of 1</td>
</tr>
<tr>
<td>Two ratings of 0</td>
<td>Six ratings of 0</td>
</tr>
</tbody>
</table>

There were four more ratings of 'no stammer' in the post-rating than there were in the pre-rating, while the ratings of 'mild and occasional stammer' were reciprocally lowered. The explanation of why this difference was not reflected in the general estimate would seem likely to be that the raters were more cautious in giving a judgement of 'no stammer' in the general estimate than they were in the sub-sections. It would seem probable that if there had been an extra category between 'a slight and occasional stammer' and 'no stammer' the improvement would have been indicated in the
general estimate. For example, if 'rarely stammers' had been inserted between the last two categories this would have covered the need for a category indicating when the child stammered only once or twice.

That there was improvement is confirmed by the therapists' ratings from the recordings -- two rated the child as much improved, and the third as some improvement. It is unlikely that the therapists would have rated so highly unless improvement had been very noticeable.

Case B.3. None of the therapists agreed in their initial estimation of the severity of this child's stammer -- one therapist thought that the child's stammering was severe, while another thought it was slight. The reason for this discrepancy in judgements probably lies in the fact that for long periods the child was fluent, but occasionally had a severe spasm. Nevertheless the fact remains that from their ratings one therapist estimated that the child had improved, one inferred that there was no change, while the third by her judgements indicated that the condition had become worse. It would be reasonable to assume that there had been no change. An analysis of the sub-sections reveals:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two ratings of 3</td>
<td>Eight ratings of 2</td>
</tr>
<tr>
<td>Five ratings of 2</td>
<td>Four ratings of 1</td>
</tr>
<tr>
<td>Three ratings of 1</td>
<td></td>
</tr>
<tr>
<td>Two ratings of 0</td>
<td></td>
</tr>
</tbody>
</table>

This reflects the divergence of opinion among the therapists
rather than any variations of the stammer in the different situations.

**Case B.4.** The majority estimate was that on the first occasion the child had a marked and noticeable stammer (2) which had not changed by the second rating. However, Mr. Dunne considered that the child had a slight and occasional stammer (1) on the first occasion which, by the time of the second rating had become severe (3). The explanation of this is likely to be the same as occurred in the case of A.2. when Miss Saunders was sitting furthest away and the speech was almost inaudible. In both cases the raters under-estimated the severity of the stammer in the initial ratings. Nevertheless the ratings are consistent in showing that there was no improvement.

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six ratings of 2</td>
<td>Two ratings of 3</td>
</tr>
<tr>
<td>Five ratings of 1</td>
<td>Seven ratings of 2</td>
</tr>
<tr>
<td>One rating of 0</td>
<td>Three ratings of 1</td>
</tr>
</tbody>
</table>

**Case B.5.** A similar situation seems to have occurred as that in the case of B.2. On the first occasion the therapists agreed that the child had a slight and occasional stammer (1). At the time of the second rating two raters considered the child still had a 'slight stammer' and one believed he had 'no stammer.' The majority opinion therefore infers that there had been no change. A glance at the subsections however, will show that this had not been the case.
Miss Ward gave four ratings of 1. in the sub-sections of the pre-rating and only one similar rating on the second occasion, and although she had actually given three judgements of 'no stammer' in the sub-sections of the post-rating her over-all estimate remained at 'slight stammer' (1). Once again the reluctance to judge the child as having 'no stammer' influenced the general estimate.

A confirmation that there had been improvement can be seen by a glance at the number of judgements in the sub-sections:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eleven ratings of 1</td>
<td>Three ratings of 1</td>
</tr>
<tr>
<td>One rating of 0</td>
<td>Eight ratings of 0</td>
</tr>
</tbody>
</table>

On the second occasion the number of judgements of 'no stammer' had risen from one to eight, with a consequent lowering of the ratings of 1.

In the post-rating, two therapists agreed that the only signs of stammering were in the reading situation, while one therapist evidently thought he detected a stammer when the child was talking about his speech.

On the whole therefore, it seems likely that there had been some improvement in the speech over that period.

**Case 86.** In this case, there was on the contrary, complete agreement that at the time of the first rating the child had a marked and noticeable stammer (2) whereas on the last occasion he stammered only slightly (1). The judgements throughout the various situations support the over-all estimate:
In the second rating there were presumably fewer instances where the child had a marked and noticeable stammer. However, although there were two ratings of 'no stammer' again these were in the situation where the child was asked about his speech and the reply brief. Too much importance therefore, should not be attached to the ratings of 'no stammer.'

**Case B.7.** On the first occasion the majority opinion was that the child had a marked and noticeable stammer, although Mr. Dunne believed B.7. had only a slight and occasional stammer. On the last occasion all three raters agreed that the child should be rated 1. A glance at the judgements throughout the sub-sections reveals that the amount of change is not very great, although no severe stammering spasms occurred at the time of the second rating. The wide range in judgements from severe to no stammer was caused by the type of stammer. For some time the child was fluent, but once a block occurred it was severe.

**Pre-Rating**
- Two ratings of 3
- One rating of 2
- Six ratings of 1
- One rating of 0

**Post-Rating**
- Two ratings of 2
- Eight ratings of 1
- Two ratings of 0

**Case B.8.** Although all three raters agreed in the pre-rating that the child had a marked and noticeable stammer, on the second occasion two rated the child as still having
a marked noticeable stammer (2) while one therapist thought it was severe (3). In effect, one rater believed that there had been a change for the worse.

The judgements in the sub-sections were:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten ratings of 2</td>
<td>Two ratings of 3</td>
</tr>
<tr>
<td>Two ratings of 1</td>
<td>Eight ratings of 2</td>
</tr>
<tr>
<td></td>
<td>Two ratings of 1</td>
</tr>
</tbody>
</table>

The data does not indicate whether there was any variation in the different situations.

Case B.9. On both occasions there was full agreement among the three raters that this child had a slight and occasional stammer (1). Notice the judgements in the various sub-sections:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eleven ratings of 1</td>
<td>Eight ratings of 1</td>
</tr>
<tr>
<td>One rating of 0</td>
<td>Four ratings of 0</td>
</tr>
</tbody>
</table>

The ratings of 'no stammer' were made mainly in the reading situation.

Case B.10. Two therapists indicated that there had been a change for the better at the time of the second rating, while one, Miss Saunders, rated the speech the same on both occasions. Similarly, there was not complete agreement regarding the severity of the stammer. Miss Ward thought at the time of the pre-rating the child had a severe stammer. On the other hand, Mr. Dunne concluded that whereas at first she had had a marked and noticeable stammer (2) the second time he thought it slight and occasional (1), which would
seem to be hardly correct. It is evident that the therapists found this type of stammer difficult to rate. In the sub-sections the judgements were extremely varied:

<table>
<thead>
<tr>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two ratings of 4</td>
<td>Two ratings of 3</td>
</tr>
<tr>
<td>Three ratings of 3</td>
<td>Three ratings of 2</td>
</tr>
<tr>
<td>One rating of 2</td>
<td>Three ratings of 1</td>
</tr>
<tr>
<td>Six ratings of 1</td>
<td>Four ratings of 0</td>
</tr>
</tbody>
</table>

A glance at the sub-sections will show that the stammering during reading was very severe (4) in the pre-rating, and yet on some occasions, mainly in conversation, the stammer was reduced. Evidently, on the second occasion, the therapists thought there was no very severe stammering, but this may have been a result of a chance factor and too much importance should not be attached to it.

Summary. In the control group, A.1., A.2., A.3., and A.10. evidently had improved in their speech at the end of the nine-weeks period. In the experimental group B.6., B.7., B.10., and probably B.2., and B.5. stammered less severely at the conclusion of their treatment. An equal number in both groups appeared to improve. Nevertheless it should be pointed out that in the experimental group there was a suspicion that some of the children were affected adversely. B.8. and B.4. had ratings in the sub-sections indicating that they had severer spasms on the second occasion. The only child in the control group who was thought to be slightly worse was A.9. It is likely that chance factors, such as a longer period of conversation may have operated to influence the scoring in the latter case. Similarly it is unlikely
<table>
<thead>
<tr>
<th>Child</th>
<th>Section</th>
<th>Pre-Rating</th>
<th>Post-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Dunne Saunders Ward</td>
<td>Dunne Saunders Ward</td>
</tr>
<tr>
<td>B.1.</td>
<td>1. Conv</td>
<td>0 1 0</td>
<td>- - -</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 1 0</td>
<td>- - -</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>0 1 1</td>
<td>- - -</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>1 1 1</td>
<td>- - -</td>
</tr>
<tr>
<td>B.2.</td>
<td>1. Conv</td>
<td>1 1 1</td>
<td>0 1 0</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 1 1</td>
<td>0 1 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>1 1 1</td>
<td>0 1 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>1 1 1</td>
<td>0 1 1 No C.</td>
</tr>
<tr>
<td>B.3.</td>
<td>1. Conv</td>
<td>3 1 0</td>
<td>2 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>3 2 0</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>3 2 1</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>3 2 1</td>
<td>2 2 2 No C.</td>
</tr>
<tr>
<td>B.4.</td>
<td>1. Conv</td>
<td>1 3 2</td>
<td>3 3 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 2 0</td>
<td>2 1 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>1 2 2</td>
<td>2 2 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>1 2 2</td>
<td>2 2 2 No C.</td>
</tr>
<tr>
<td>B.5.</td>
<td>1. Conv</td>
<td>1 1 1</td>
<td>0 0 0</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 1 1</td>
<td>1 0 0</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>1 1 1</td>
<td>0 0 0</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>1 1 1</td>
<td>1 0 1 No C.</td>
</tr>
<tr>
<td>B.6.</td>
<td>1. Conv</td>
<td>2 1 2</td>
<td>2 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 1 1</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 2 3</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>2 2 2</td>
<td>1 1 1 Imp.</td>
</tr>
<tr>
<td>B.7.</td>
<td>1. Conv</td>
<td>1 2 1</td>
<td>0 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>1 3 1</td>
<td>1 2 1</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>1 1 1</td>
<td>1 1 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>1 2 2</td>
<td>1 1 1 Imp.</td>
</tr>
</tbody>
</table>
TABLE IV (Contd.)

QUANTITATIVE RATINGS FOR THE EXPERIMENTAL GROUP

<table>
<thead>
<tr>
<th>Child</th>
<th>Section</th>
<th>Pre-Rating Dunne Saunders Ward</th>
<th>Post-Rating Dunne Saunders Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.8.</td>
<td>1. Conv 1</td>
<td>1 2 2 2</td>
<td>3 2 2 2</td>
</tr>
<tr>
<td></td>
<td>ii</td>
<td>1 2 2 2</td>
<td>2 2 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>2 2 2 2</td>
<td>2 2 2 2</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>2 2 2 2</td>
<td>3 1 1 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>2 2 2 2</td>
<td>3 2 2 2</td>
</tr>
<tr>
<td>B.9.</td>
<td>1. Conv 1</td>
<td>1 1 1 1</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td></td>
<td>ii</td>
<td>1 1 1 1</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>0 1 1 1</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>1 1 1 1</td>
<td>1 0 1 1</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>1 1 1 1</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td>B.10.</td>
<td>1. Conv 1</td>
<td>1 1 3 1</td>
<td>1 2 1 1</td>
</tr>
<tr>
<td></td>
<td>ii</td>
<td>1 1 1 1</td>
<td>0 1 0 1</td>
</tr>
<tr>
<td></td>
<td>2. Read</td>
<td>4 3 4 4</td>
<td>3 2 3 3</td>
</tr>
<tr>
<td></td>
<td>3. Ques</td>
<td>1 2 3 3</td>
<td>0 0 0 2</td>
</tr>
<tr>
<td></td>
<td>4. Gen</td>
<td>2 2 3 3</td>
<td>1 2 2 2</td>
</tr>
</tbody>
</table>

No C.

that there was any change for the worse in B.8's speech, as is substantiated by the therapists' evaluations from the recordings and the teacher's opinion. In the case of B.4, it is likely that the ratings reflect an actual change for the worse. The reason for this will be discussed later, the only comment at this stage being that as no correction was able to be attempted, the reason for the failure was not specifically due to the experimental method.
3. **Therapists' Evaluations from the Recordings.**

Following the play-back of the recordings the therapists were asked to judge whether there had been much improvement, some improvement, or no improvement, without referring to their other ratings. As can be seen (Tables V and VI) these evaluations confirm that there was essentially no difference between the two groups. In the control group there were:

- Four ratings of much improvement
- Twenty ratings of some improvement
- Six ratings of no change.

And in the experimental group there were:

- Six ratings of much improvement
- Eighteen ratings of some improvement
- Six ratings of no change

Those judgements did not altogether agree with the quantitative ratings. For the control group Mr. Dunne and Miss Saunders had seven evaluations in the same direction as the quantitative ratings, but only six of Miss Ward's coincided. It was even more marked in the case of the experimental group. Six of Miss Saunders' evaluations from the recordings were in the same direction as her quantitative judgements but both Miss Ward and Mr. Dunne had only five. Possibly the cause of the discrepancy lies partly in the fact that for the child to be classified in another category in the quantitative ratings a larger degree of improvement is necessary.

4. **Teachers' Evaluations.**

For the children in the control group, all but one teacher considered that there had been some improvement in the child's
speech. The exception was A.7’s teacher who indicated that he believed that there had been much improvement. (Table V) However, his rating form was not returned until two months after the nine weeks period had ended. This means that his opinion was not about the speech as it then was, but as it was after a further period of consolidation.

By contrast, there was much more variation of opinion by the teachers of the children in the experimental group (Table VI). Three considered there had been no change, 48 two thought there had been some improvement, while five decided that there had been much improvement.

While the teachers have the disadvantage of not having wide experience with stammering children, there is the advantage of being in a position to observe their speech over a longer period of time, and in many different situations. However it is likely that they would notice the children’s speech more during reading and formal work, rather than in ordinary conversation in the playground.

This may have been why five of the teachers of the children in the experimental group considered there had been much improvement. They would attached more importance to fluent reading, or not notice that while reading had improved conversation remained about the same. On the other hand, the experimental group were given most of their correction during reading and this would be likely to be the first area to show much improvement.

48 B.L. is included in those with no change in their speech.
By and large however no group gained over the other, according to the teachers' evaluations. Where the experimental group gained from having some children with much improvement, it also lost because it had three children who evidenced no change.49

**TABLE V**

Evaluation of Improvement of the Control Group by Therapists and Teachers

<table>
<thead>
<tr>
<th>Therapist</th>
<th>A.1</th>
<th>A.2</th>
<th>A.3</th>
<th>A.4</th>
<th>A.5</th>
<th>A.6</th>
<th>A.7</th>
<th>A.8</th>
<th>A.9</th>
<th>A.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Dunne</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Miss Saunders</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Miss Ward</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Teacher</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**TABLE VI**

Evaluation of Improvement of the Experimental Group by Therapists and Teachers

<table>
<thead>
<tr>
<th>Therapist</th>
<th>B.1</th>
<th>B.2</th>
<th>B.3</th>
<th>B.4</th>
<th>B.5</th>
<th>B.6</th>
<th>B.7</th>
<th>B.8</th>
<th>B.9</th>
<th>B.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Dunne</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Miss Saunders</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Miss Ward</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Teacher</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Key:**
- Much Improvement = 1
- Some Improvement = 2
- No Improvement = 3

---

49 B.1 is included in these three.
5. Comparison of All the Ratings.

Control Group

Case A.1. In this case there was complete agreement among all the ratings that there was some improvement (Table VII).

TABLE VII

Result of Treatment for A.1, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>yes (2--1)</td>
<td>some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>yes (2--1)</td>
<td>some improve.</td>
<td>some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>yes (2--1)</td>
<td></td>
<td>some improve.</td>
</tr>
</tbody>
</table>

Case A.2. There is not full agreement that this child has improved (Table VIII). In the general estimate of the quantitative ratings Miss Saunders' judgements suggest there was no change, although in her evaluation from the recording she considered there was some improvement. On the other hand, Miss Ward thought there was no change after listening to the recordings, although from her judgements in the quantitative ratings there is improvement. The complete reversal of opinion in these two instances requires some explanation, although it is only a partial answer. As already indicated, Miss Saunders was sitting furthest away from the child, and probably underestimated the severity of the stammer because the child spoke so quietly. A.2. speaks
very quietly, and although he has a severe breathing abnormality it is in the nature of quick, almost inaudible gasps, which can go undetected from a distance. However in the recording the breathing abnormality is more noticeable, as is indicated by Miss Ward's comment after hearing the recording, "Breathiness very pronounced in all speech."

In spite of these contrary indications, on the whole the judgements are in favour of a change for the better in the speech over that period.

**TABLE VIII**

Result of Treatment for A,2, on the Basis of all the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>yes (3--2)</td>
<td>some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>no (2--2)</td>
<td>some improve.</td>
<td>some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>yes (3--2)</td>
<td>some improve.</td>
<td></td>
</tr>
</tbody>
</table>

**Case A.3.** With one exception all the indications are that this child has improved (Table IX). This exception (Miss Ward's judgement from the recordings) is even more unusual, because her quantitative ratings result in a difference of two points in favour of improvement. As already mentioned, Miss Ward altered her initial rating to make it 'a severe stammer'. Her comment after the recording explains the decision to make the 2--3 rating definitely 3. "Feel not
rated as severe as should be." However it does not explain why on the second occasion both she and Miss Saunders thought the child had a 'slight and occasional stammer.' Her evaluation from the recordings certainly contradicts this, because she rated the speech as not having changed.

This contradiction could imply that improvement was doubtful, but from the comments of the teacher and the parents it is not likely. The parents thought A.3. did not "stay on a sound so long," and were satisfied that there was improvement.

**TABLE IX**

Result of Treatment for A.3. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>yes (3--2)</td>
<td>some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>yes (2--1)</td>
<td>some improve.</td>
<td>some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>yes (3--1)</td>
<td>no change</td>
<td></td>
</tr>
</tbody>
</table>

**Case A.4.** On the whole, the over-all estimate is that there was no change in speech over the nine weeks' period. Miss Saunders judgements are the only exceptions, although as already mentioned, there is a reduction of ratings of 'very severe' stammering in the sub-sections. Miss Saunders may have detected the beginnings of a change for the better because Miss Ward felt that there may have been a slight improvement since she commented at the time of the second
rating: "Although a severe stammer, perhaps there is a longer space of fluent speech;" and Mr. Dunne wavered between an estimate of 2 or 3. However it would be unwise to press this point too much, especially as the parents had noticed no change. The final assessment remains therefore, that there was no definite improvement.

**TABLE X**

*Result of Treatment for A.4. on the Basis of All the Ratings*

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (3--3)</td>
<td>No change</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>Yes (3--2)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (3--3)</td>
<td>No change</td>
<td></td>
</tr>
</tbody>
</table>

*Case A.5.* With the exception of Miss Saunders' quantitative rating, all the judgements point to the fact that this child's speech was better at the time of the second rating. The reason for the two ratings of 1. by Miss Saunders has already been discussed, and her evaluation from the recording supports this explanation. There seems little doubt that some improvement had occurred in the treatment period -- an opinion which is shared by the parents.
### TABLE XI

Result of Treatment for A.5, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>Yes (2--1)</td>
<td>Much improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>

**Case A.6.** The raters agreed not only regarding the severity of the stammer but that it remained the same from one rating to the next. It will be remembered that there was some slight indication in the sub-sections that the stammer was perhaps not quite so severe the second time. Two therapists' evaluations from the recordings, together with the teacher's evaluation, support this inference. However, any such indications were so slight that they could have been a result of some chance factor and the combined judgement that there was no change still stands.

### TABLE XII

Result of Treatment for A.6, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (3--3)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (3--3)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (3--3)</td>
<td>No change</td>
<td></td>
</tr>
</tbody>
</table>
Case A.7. There is not much doubt that this child's speech remained essentially the same, although two therapists in the evaluations from the recordings thought there might have been some improvement. It will be remembered from the analysis of the judgements in the sub-sections that these judgements also tended to show a change for the better. Taking all the ratings into consideration however, it is more likely that there was no marked improvement.

TABLE XIII

Result of Treatment for A.7. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (2--2)</td>
<td>No change</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (2--2)</td>
<td>Some improve.</td>
<td>Much improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (2--2)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>

Case A.8. Although two therapists in their evaluations from the play-back of the recordings thought that there may have been some improvement, and the teacher was of the same opinion, yet taking everything into consideration, the judgements in the quantitative rating must be taken as being more accurate. The final assessment therefore was that there was no change.
TABLE XIV

Result of Treatment for A.8, on the Basis of
All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (2--2)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (2--2)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (2--2)</td>
<td>No change</td>
<td></td>
</tr>
</tbody>
</table>

Case A.9. Somewhat similarly, in this case the two therapists' evaluations from the recordings, and the teacher's evaluation suggested that there may have been some improvement. However, the quantitative ratings agree so well that it is more likely that there was no definite improvement in the stammer, although of course, the (s) defect was corrected. The parents also commented that they had noticed no change, supporting the other judgements of 'no change.'

TABLE XV

Result of Treatment for A.9, on the Basis of
All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (1--1)</td>
<td>No change</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>

Case A.10. As can be seen from Table XVI, there was complete agreement among all the ratings that this child's
speech had changed for the better.

**TABLE XVI**

Result of Treatment for A.10 on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>Yes (2--1)</td>
<td>Much improve.</td>
<td></td>
</tr>
</tbody>
</table>

**Experimental Group.**

**Case B.1.** As has been already mentioned, B.1. was not given any final assessment, as he left Christchurch after he had been given twenty treatment sessions. To facilitate comparison between the groups the assumption is made that the speech remained the same although this is likely to be a conservative estimate in view of the fact that the father commented that he thought that the child 'was better' and his wife thought he was 'a lot better.' The teacher felt she was unable to add anything further.

**Case B.2.** This is the case where the general estimate of the quantitative ratings gave a judgement of no change, whereas an analysis of the sub-sections showed that there had been a decrease in the number of ratings of 'slight stammer' (1) and a consequent increase in the judgements of 'no stammer' (0). The reason for this has already been
discussed, namely that the therapists were unable to rate 'no stammer' in the general estimate although the child's stammer had decreased. Even Mr. Dunne had written a comment across the general estimate, "no stammer heard," rather than rate a '0'. Faced with the same dilemma the other therapists had rated the child '1' once more. Miss Ward, it will be remembered, had given three '0' ratings in the sub-sections, with only one rating of 'slight stammer.' A glance at Table XVII. will show that her evaluation from the recording of 'much improvement' does not tally with her quantitative rating. These are her actual comments written below her quantitative rating: "only one very slight indication of hanging on to initial consonant of speech -- rest of speech fluent." Similarly Miss Saunders had commented: "Hardly perceptible, no noticeable repetition, no tension, aggression much to the fore." There would seem to be little doubt that the child's speech had changed for the better, in spite of the teacher's evaluation of 'no change' other than in reading. B.2's stammer began on school entrance, so it is likely that this is the last place where improvement would take place. The parents report that at home there is now rarely any stammer.

On the whole therefore, it would appear that this child's speech had improved over the nine weeks period.
TABLE XVII
Result of Treatment for B.2. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>Yes ((1--0))</td>
<td>Much improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No ((1--1))</td>
<td>Some improve.</td>
<td>No change</td>
</tr>
<tr>
<td>Ward</td>
<td>No ((1--1))</td>
<td>Much improve.</td>
<td></td>
</tr>
</tbody>
</table>

Case B.3. The majority estimate from the quantitative ratings is in favour of 'no change.' It will be noticed (Table XVIII) that from the recordings the therapists agreed that they thought there had been some improvement, and the teacher thought that during the last few weeks of the period there had been much improvement. Mr. Dunne had signified by placing a plus sign after the 'some improvement' that he thought there may have been even more improvement than he had stated.

However, in this case it would seem wiser to err on the conservative side and with the general estimate of the quantitative ratings consider that there was no change.

TABLE XVIII
Result of Treatment for B.3. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>Yes ((3--2))</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No ((2--2))</td>
<td>Some improve.</td>
<td>Much improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No ((1--2))</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>
Case B.4. By contrast, in this case there is complete agreement that there was no change (Table XIX).

**TABLE XIX**

Result of Treatment for B.4. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (1--3)</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Saunders</td>
<td>No (2--2)</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Ward</td>
<td>No (2--2)</td>
<td>No change</td>
<td></td>
</tr>
</tbody>
</table>

Case B.5. This is a similar case to that of B.2., where the absence of an extra category between 'slight and occasional stammer' and 'no stammer' has worked toward indicating that there was no change in the speech in the quantitative ratings. As already indicated, Mr. Dunne had given two ratings of 'no stammer' (0) in the sub-sections, while Miss Ward had given three ratings of 0. In her comments underneath the quantitative rating she says: "Reading slow, other speech satisfactory," in contrast to her comments at the first rating which were: "Soft voice with occasional repetition on initial letter of word; also occasional block." This indicates strikingly the extent of the change, which, because of the natural reluctance to give an over-all estimate of 'no stammer' (0) has not been indicated.

Similarly, Mr. Dunne had noted on the first occasion the following words had been stammered: "h-high, l-like,
g-go, j-jump, fa-family, t-trolley," and had written during the second rating the following comment: "very slight block heard on (s), nothing else noted." Both times the child had been rated 1. On the other hand, Miss Saunders had rated 1 in the first rating when the child had, in her own words, "a slight repetition and hesitation," and was able to rate 0 on the second because, as she said, there was "no noticeable stammer, slight eye-blink."

There seems little doubt that there was definite improvement over the nine weeks period, as the parent's opinion confirms.

**TABLE XX**

Result of Treatment for B.5. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>Yes (1--1)</td>
<td>Some improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>

**Case B.6.** In this case there is complete agreement among all the ratings (Table XXI). All agree that there was a change for the better and with one exception, the evaluations tend to indicate that improvement was marked.
TABLE XXI

Result of Treatment for B.6, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>Yes (2--1)</td>
<td>Much improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td>Much improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>Yes (2--1)</td>
<td>Much improve.</td>
<td></td>
</tr>
</tbody>
</table>

Case B.7. In the quantitative ratings all therapists indicated that there had been improvement with the exception of Mr. Dunne. It will be noticed (Table XXII) that by contrast Mr. Dunne's evaluation from the recordings was that there was much improvement. Once again the discrepancy is the result of an initial under-estimation of severity which forced the therapist to make the same rating the second time. Mr. Dunne evidently realized this because he had written "Better than one," underneath his quantitative rating.

However this does not affect the total assessment, that there was definitely some improvement in the speech over that period.

TABLE XXII

Result of Treatment for B.7, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (1--1)</td>
<td>Much improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td>Much improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>
Case B.8. A conspicuous feature of these ratings (Table XXIII) is that the qualitative evaluations and the quantitative ratings contradict one another. The former are in favour of improvement, the latter infer no change. The explanation could be that although there may have been a slight improvement, it was not sufficient to rate the speech into another category in the quantitative scale.

Notwithstanding, the assessment from the quantitative ratings still stands and the final judgement is of no change.

TABLE XXIII

Result of Treatment for B.8. on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (2--3)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (2--2)</td>
<td>Some improve.</td>
<td>Much improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (2--2)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>

Case B.9. As was the case with B.7., the quantitative ratings infer there was no change while the evaluations from the recordings agree that there was an improvement (Table XXIV). However it must be remembered that facial expression and muscular tension is not observable over a recording, so that the final assessment must remain at 'no change.'
### TABLE XXIV

Result of Treatment for B.9, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (1--1)</td>
<td>Much improve.</td>
<td>Much improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>No (1--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>

**Case B.10.** With one exception all the ratings point to the conclusion that there was a change for the better in this case. The exception is the estimate from Miss Saunders' quantitative ratings. It will be noticed (Table XXV) that this contrasts with her evaluation from the recordings in which she judged that the child had shown much improvement. It also contrasts with her comments beneath the quantitative rating where she had written "Very much improved."

### TABLE XXV

Result of Treatment for B.10, on the Basis of All the Ratings

<table>
<thead>
<tr>
<th>Therapist</th>
<th>Estimate of Improvement from Quantitative Ratings</th>
<th>Therapists' Evaluations</th>
<th>Teacher's Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunne</td>
<td>Yes (2--1)</td>
<td>Some improve.</td>
<td></td>
</tr>
<tr>
<td>Saunders</td>
<td>No (2--2)</td>
<td>Much improve.</td>
<td>Some improve.</td>
</tr>
<tr>
<td>Ward</td>
<td>Yes (3--2)</td>
<td>Some improve.</td>
<td></td>
</tr>
</tbody>
</table>
6. **Additional Comments from Teachers.**

Some of the teachers' remarks are of interest not only because they specifically mention other details about the child's speech but because they reveal certain changes in the child's behaviour which appeared to accompany the changes in speech. For this reason they are quoted in full.

**Control Group**

**Case A.1.** Rating: Some Improvement

[A.1.] appears to have gained more interest and confidence in his work, but still appears to lack complete muscular control, especially in (p) and (l) in reading. He lacks concentration and I have had a great deal of trouble with his printing owing to his lefthandedness.

The teacher has made five comments that are of interest clinically.

1. The child is finding it difficult to meet the teacher's standards regarding printing.
2. The teacher has noticed certain secondary symptoms, i.e. he is beginning to stammer on words which begin with particular consonants.
3. These symptoms are associated with reading, in which he is failing.
4. The teacher has remarked about certain personality characteristics, namely, that the child does not concentrate for long.
5. And lastly, she attributes a gain in interest and confidence in his work, to the effects of therapy.
The first point was worth noting, because the therapist had not realized that the child was meeting difficulty in printing. The next three points confirm the clinical observations, while the last point which will be discussed later, does add something to the assessment of the effects of treatment.

**Case A.2. Rating: Some Improvement**

I think[A.2.] has improved. He is now able to answer a question in class without too much embarrassment. He still hesitates to begin a sentence.

From this it would appear that the teacher's rating was based not so much on any changes in the actual symptom, but on the child's attitude to his speech, which had apparently improved.

**Case A.3. Rating: Some Improvement**

[A.3.] seems to use certain consonants to get out certain sounds — but not always the same consonants. In a group other children's voices help him and he speaks quite clearly and without any voice constriction. He seems to "blow" out some sounds, or words. He has gained quite a lot of confidence since he has been attending Speech Clinic.

Apart from describing the stammer, the teacher added that the child had gained more assurance. It would have been more helpful if she had indicated in just what way he appeared more confident, however it does suggest that once again the teacher's rating was based not entirely on a change in the speech symptoms, but on a wider personality change.
Case A.4.  Rating: Some Improvement

If [A.4.] is pinpointed for an answer or explanation, I find that he stammers very badly, but if given plenty of time or is volunteering an answer his speech is usually quite good. He has recently been taking an active part in play reading and has been making a good job of it.

The first part of this statement describes the situations in which the child stammers, but the last part suggests, although it does not say explicitly, that the child's attitude to speaking is better.

Case A.5.  Rating: Some Improvement

[A.5's] stammer occurs mainly when placed in a difficult position, otherwise it is not very noticeable.

This comment is not so helpful as the other, because it merely describes the situations where the child stammers, without indicating whether it applies generally, or to the end of the treatment period.

Case A.6.  Rating: Some Improvement

[A.6.], with, as I have already advised a continued lack of parental guidance, still retains a fear complex although I am sure he has made some improvement in his speech. I have also noticed that when not compelled to speak out loud, he will whisper quite fluently. I have tried to make his time at school as contented as possible for when he is this way his speech shows marked improvement. In the playground among other children his speech is quite good with little, if any, hesitation.

The following points have clinical relevance.

1. The teacher describes situations in which the stammer is reduced.
2. He has noted that the stammer is better when the child
is speaking to other children. This suggests that the
difficulty may lie in the adult-child relationship.
3. The teacher is sure that the child has made some
improvement.

**Case A.7.** Rating: Much Improvement

This rating was not received for several months after treat-
ment had ended; nevertheless, taking this into consideration,
the comments are interesting.

I have noted a great improvement in [A.7.]'s speech.
However, he still seems to have difficulty when he
tends to become excited. Also, during table work
when quick answers are required, he is inclined to
stammer. When he is told to take his time, and not
to hurry he is much better. Incidentally his reading
in the end-of-year survey was very fluent, rather
surprising the Head.

Clinically, the following points are worth noting:
1. Certain situations, such as when given direct imperative
questions aggravate the child's stammer.
2. By his remarks the teacher shows how he treats the stammer.
3. Direct work on reading seems to have carried over to the
classroom.
4. The improvement following therapy, has been maintained.

**Case A.8.** Rating: Some Improvement

[A.8.] now has more confidence in answering
questions in class, and seems more willing to take
his turn in his reading group. We are most grateful
for the time and effort you are giving him.

In these remarks the teacher shows that an improved attitude
to speaking has taken place in two situations. Apparently
this preceded any observable change in the speech symptom itself as the conclusion from the ratings was that there was no change.

**Case A.9. Rating: Some Improvement**

The situation is the same as when we discussed it over the telephone. Quite often speech is quite normal but when [A.2] becomes very interested about something or excited, the old trouble reappears, sometimes more pronounced than at other times.

The teacher's remarks confirm the clinical observation regarding the situations in which the stammer is aggravated.

**Case A.10. Rating: Some Improvement**

[A.10] has been very, very interested in her course, and has gained more confidence in herself.

Once more this teacher has mentioned a change in personality which has apparently resulted from therapy.

**Experimental Group**

**Case B.1.** This teacher was unable to rate whether there had been any improvement or not. Her remarks were confined to describing the stammer as she found it.

It is difficult to pick up the occasions of [B.1]'s stammer as he reads beautifully and it's only occasionally that he answers a question and has difficulty with a word. As far as I can make out he doesn't seem to be able to leave off the second sound of a word i. e. don't and ready. He holds them for quite a while longer than necessary.

**Case B.2. Rating: No Change**

I do not feel that [B.2] has shown any marked improvement except perhaps a slight improvement in his reading. Apart from that I have not really observed any change in his speech.
This teacher has made a considered judgement, which is of interest, particularly as she mentions that the child had improved in reading, in which direct work had been given.

**Case B.3. Rating : Much Improvement these last few weeks**

[B.3.] seems to have lost a nervous attitude he has had to his work and is altogether more confident. Consequently his school work has improved tremendously. If left to take his time he makes an effort to control his tendency to stammer and mostly succeeds.

From these remarks it would seem that:

1. The teacher attempts to help the child by telling him to take his time.

2. There have been changes in his personality which the teacher attributes to therapy.

3. As a consequence of this, there has been an improvement in his school work.

**Case B.4. Rating : No Change**

Seems to have become more conscious of his defect and in his reading (oral) he has lowered his voice to a whisper nearly. In conversation with his friends I notice there is little or no hesitation in getting the first words out.

There are two points worth noting:

1. The child has become conscious of his defect in reading.

2. The stammer is worse in the presence of adults rather than children.

**Case B.5. Rating : Some Improvement**

[B.5.] seems to have gained in assurance and shows no sign of stammering when taking part in an oral lesson. Even when I have on purpose popped a question at him he shows no more than the normal hesitation.
required to think of the answer, and gives it clearly. When reading aloud however, the hesitation is due, I feel, to difficulties in word recognition. He felt that his reading was weak and this feeling still seems to be present. He is doing regular oral reading of easy material to younger members of the family, and this seems to be helping him. It would be difficult, I feel, for a visitor to the class to pick up any speech defect during normal periods.

Several items are of interest:

1. The stammer has ceased in all situations other than reading.

2. An attempt to rectify the reading difficulty is being made.

3. There has been a gain in assurance, and a better attitude toward speaking.

Case B.6. Rating: Much Improvement

[B.6.] is much more fluent in giving talks to the class or his group. I noticed that[B.6.] is now very keen to take a part in play-reading and reads quite well if he has a small part. Last story written was improved and[B.6.] used better vocabulary.

1. The teacher attributes an improvement in written expression to Speech Therapy. However as this opinion seems to be based on one composition only it may be a little premature.

2. In addition, he considers that the child has a better attitude toward oral expression.

Case B.7. Rating: Much Improvement

[B.7.] has improved considerably in oral reading and his school speech is much better. [B.7.] seems keener to learn new processes in Arithmetic, Language and Social Studies. His group and class talks are more frequent.
It will be remembered that this is the child who is below average in intelligence.

1. It is suggested that the child feels able to face some of his academic difficulties. This implies some change in personality characteristics.

2. He has a better attitude to speech.

**Case B.8. Rating: Much Improved**

Improvement particularly in oral reading. This used to be rather an ordeal -- but he actually read today without or practically without hesitation. There doesn't seem to be quite the same result in oral answering of questions, however I think there has been some improvement. This may be due to the fact that he's not so sure of his actual work.

1. B.8. is of dull average intelligence, so that where the material is not structured for him he is still unsure of himself, as the teacher's comment suggests.

2. The teacher considers there has been much improvement in oral reading.

**Case B.9. Rating: Much improvement in a testing situation, but not in general classroom situation.**

Much improved in oral reading, having become more deliberate, unhurried and calm, but in general work requiring spontaneous answering etc. without having any time to prepare himself [B.9]'s difficulty has increased slightly. Similarly, he is not as accurate in his arithmetic and spelling as he was. I suspect some slight nervous disability accentuated in some degree recently. I consider that there has been immediate improvement in speech as such in the clinical sense, and would hope that this improvement will, eventually, be fully carried over to general class-room work.

According to this teacher:

1. There is less accuracy in arithmetic and spelling than
there was formerly.

2. In quick oral answering the stammer seems worse, while reading is much improved.

B.9. is the only child who had an (s) defect. The first two points are therefore of interest because they suggest that the child was under a slight strain when attempting to establish the correct sound in conversation.

Case B.10. Rating: Some Improvement

[B.10] seems less nervous and has an easier manner. Evidently the teacher's rating has been based on a wider personality change rather than a change in the speech symptoms.

The teachers' ratings appear to differ from the therapists' ratings in one important respect. Whereas the therapists rated the child according to improvement in speech alone, the teachers' ratings take into consideration a wider aspect of behaviour. This is not to say that the therapists were not aware of such changes -- in fact they several times made verbal comments regarding the child's changed attitude -- but they were obliged by the form of the rating scale to confine their comments mainly to the speech symptoms. If a section had been provided for their observations on the child's attitude they would undoubtedly have had something to contribute in this respect.

Summing up the teachers' observations it can be seen that:
1. An increase in assurance was noted in three children of the control group, namely, A.1., A.3. and A.10. Five children in the experimental group have been observed to have a more confident manner -- B.3., B.5., B.6., B.7. and B.10. There is not enough difference between the two groups to make any generalizations however.

2. Specific mention of a changed attitude to speaking was made in the case of A.2., A.4., A.8., and B.5., B.6. and B.7. The numbers are identical in both groups.

3. Improvement in reading was particularly mentioned only once for the children in the control group whereas five of the experimental group were specifically mentioned in this respect. It may be that the result of the experimental technique, which was mainly confined to the reading situation had made more impression in this area. However it would be unwise to base any conclusions on such a slender difference.

7. Experimenter's Comments on the Result of Treatment

Case A.1. This child has ceased to stammer and six months later there has still been no recurrence. In attempting to answer the question why, it is necessary to look back over the process of therapy.

Treatment was aimed primarily in remedying the reading failure. For this reason remedial lessons were given under the advice of the Remedial Reading Teacher. However A.1. was only beginning his third pre-primer reader, when the
nine weeks period ended. The stammer had almost disappeared although the reading defect had not been remedied. The improvement in speech could not therefore be attributed solely to the remedying of the reading difficulty.

It is always possible that the stammer disappeared without benefit of treatment and that had no speech therapy been given, the speech would still have improved. However excluding this possibility, the disappearance of stammering may perhaps, be attributed to the absence of criticism, and the attention, interest, and even praise that the child received, not only from the therapist but from his mother.

The ratings (Tables IV, V, and VII) did reflect accurately the outcome of treatment, although consolidation has since occurred. It must be pointed out that the stammer was an easy repetition without any accompanying tension, that it was not of very long duration, and that it had probably been treated at the most favourable time.

Case A.2. The experimenter would consider that this child’s stammer was severe, in agreement with Mr. Dunne and Miss Ward (Table III). As the programme outlined would be slow in taking effect, it was expected that any improvement was likely to be small. Although reading did seem to improve, the rating of over-all improvement (Tables III, V, and VIII) seems a generous estimation. The parents were satisfied that there was a change for the better, and
the child's attitude to speaking did seem slightly better, so that with double the length of treatment a more noticeable change would probably have taken place. Improvement might have been marked if more parental consultations had been given.

**Case A.3.** The daily record sheets disclose that A.3. waited for adult direction before initiating any activities, in spite of the fact that the therapist was careful to give him as much freedom of choice as possible. By the end of the treatment he had relaxed sufficiently to play with sand and other malleable materials, and was showing more initiative. After the attempt to correct the (r) had met with resistance, direct work was confined to reading.

Once again although reading seemed to improve, the experimenter believed that there was no marked change in the speech, and that the rating of 'slight stammer' (1) was not true to the facts. It will be noticed that from the recording (Table V and X) Miss Ward considered there was no change, and with this view the experimenter is inclined to agree. However an improvement in the child's attitude to speaking did seem to take place, and if treatment had been longer it may have been more noticeable in speech.

**Case A.4.** In accordance with the programme for treatment as much time as possible was given to play therapy. Reference to the daily records for June 22 indicate that A.4. may have some conflict between a need for dependency and the
pressure to grow up, and between masculine and feminine roles. Some relaxation was given and a little oral reading.

Nine weeks treatment, notwithstanding its intensive nature, was not sufficient to make any significant difference to the stammer, although perhaps improvement had just begun to take place. On the whole the results of treatment were very much as the ratings indicated. (Table X)

Case A.5. It will be remembered that this child was somewhat over-protected, and that the programme for therapy was to encourage independence, and opportunity given for the release of resentment. During the treatment period aggression was released in acceptable ways (July 2, 13, 14, Sept. 13 and 17) and on Aug. 5 his mother mentioned that she and her husband were rather troubled by the child's 'cheekiness.' It appeared that the child was attempting to be permitted more self-autonomy. (August 9) Some personality changes seemed to be taking place.

At the end of the nine weeks period the experimenter considered that there had been some improvement in speech, although it was not quite as extensive as the ratings (Table III, V and XI) would indicate. The child had reached the stage where he could inhibit his stammering, and he tended to 'put on a good performance' for observers. Nevertheless as the ratings infer, there seemed to be definite improvement. Although there were four interviews with the mother, treatment might have been further speeded
up had more been given.

**Case A.G.** With his disturbed background, it was likely that this child would have much to express during the treatment sessions. The rejection of the test in the Intelligence scale indicated the presence of anxiety and the refusal to continue the word-reaction test may have been similarly motivated.

Although the child was given every opportunity to use the materials available he tended to sit and read or wait until he could have some direct work with the therapist. From August 9 on he began to show hostility and negativism. He was late for appointments and he would forget them; he objected to direct work on reading (Sept. 15) in spite of the fact that it was obvious he was improving; furthermore he expressed hostility toward the therapist.

It appeared very much as though the child was not able to tolerate the reduction in his stammering and needed some type of psycho-therapy. Confirmation of the child's resistance, if confirmation is necessary, was given in a remark by one of the raters, "Attitude during testing was not cooperative and became progressively worse, resistant and resentful."

The experimenter's opinion was that there was no significant difference in the speech, although treatment could not be considered a failure by any means. The ratings
(Tables III, V, and XII) express the result of treatment accurately, although the additional comments of the teacher suggest that in spite of the negative attitude, some little improvement may have been accomplished.

Case A.7. The bored, disinterested, lethargic attitude that the child showed, tended to come and go (July 12 and 14) and although improvement in speech occurred in reading, general conversation remained about the same. The frequent absences retarded the therapy, which was spread over a longer period than the other children in the group. Nevertheless the child had a positive attitude and progress should have been quite good from this point of view.

There was a slight over-all improvement as Table V shows, and a marked improvement in reading, which undoubtedly influenced the teacher's evaluation to a large extent. The improvement was not sufficient however, to be outstanding (Table III) and the experimenter would agree by and large with the findings expressed in the combined ratings (Table XIII).

Case A.8. Because A.8. lived in an orphanage he was sent by the school and it was probable that his attitude was rather negative, at first. For instance he was very late arriving on several occasions (June 23 and 29) and there were a series of unaccountable absences as recorded on July 8 and 28. However, from Aug. 9 when he spoke to the therapist about his delinquencies, progress seemed to be
made, although much credit for his improved attitude must be
given to the opportune arrival of his mother in Christchurch.
So that although the findings (Table III and XIV) do indicate
the extent of the improvement in speech up to that time,
from other points of view treatment was successful.

Case A.9. As A.9. was intelligent he was able to correct
his lisp very quickly, and by Aug. 9 the (s) was largely
established, except when the child was excited. The stammer
worsened during the strain of establishing the (s) in con-
versation, but became easier as the correct (s) became an
automatic reaction.

In the course of therapy it was noticed (Aug. 17) that
A.9. was rather suggestible and if another child with a
severer stammer was present A.9. tended to stammer also,
although normally he would go for whole periods without
any signs of stammering.

In sum, the result of treatment as indicated by the
ratings (Table III and XV) agree with the opinion of the
experimenter.

Case A.10. A.10's manner became easier and her stammer
a little less frequent, but the experimenter felt that the
improvement was only temporary, and considered that the
estimate of the raters (Tables III, V, and XVI) was over-
generous.
Case B.1. Reference to the outline for treatment will show that a casual, permissive atmosphere might help this child. The daily records show that while at first he was inhibited in the use of finger paints, dough, and other malleable materials (Sept. 16) by Sept. 22 he was beginning to become less inhibited. On Sept. 27 he had become emboldened enough to express aggression against another child. On Sept. 30 the mother commented she had noticed B.1. had become a little 'cheeky.'

He was given much praise and attention for his fluent speech and had improved sufficiently by Oct. 13 to begin re-patterning of stammered phrases. There seemed to be no adverse effects, and the child rarely stammered in the clinic.

Although the child was unable to be given a post-rating, the parents' opinion confirmed that the child's stammer had improved.

Case B.2. B.2's stammer was not of long duration and was an easy repetitive type so that prognosis was considered to be quite good. At the time when he began treatment the stammer was not very frequent, and because the child settled in easily direct work was begun on Sept. 24. It was found that he stammered more in reading, and from then on the stammer seemed to increase gradually.

On Oct. 10 there is a record that when he was asked to repeat a stammered phrase and managed to do this fluently,
there seemed to be an increase in stammering immediately afterwards. However reading was continued on succeeding days, and the child was praised for any observable improvement in reading. On Oct. 15 the re-patterning of a stammered phrase was again introduced with no ill-effects. By Oct. 22 reading seemed definitely better, and on Nov. 1 he refused to do any direct work. From then on the play period was increased and direct work confined to description of pictures. There is a record on Nov. 10 of the child stammering during the description of a picture and being asked to repeat the phrase. He repeated it fluently, and there was no stammering afterwards.

The child began to express aggression early on but from Nov. 1 it became very marked, so much so that during the rating one therapist commented, "aggression much to the fore."

By the end of the period the stammer had almost disappeared, but there is doubt that the child responded well to correction. On the other hand, positive 'reward' for fluent speech seemed to work very well. The experimenter considers that therapy was successful in this case, although the results in Table IV do not indicate this very clearly. However Table VI does. The reason for the discrepancy between the two has already been discussed (Table XVII).

Case B.3. At the beginning of treatment the stammer was not as severe in the clinic as it was at the initial
interview, although according to the teacher, he was stammering severely at school. It increased for a time over the nine weeks period and decreased again toward the end.

During the course of therapy it was noted that B.3. completely dominated the situation when playing with younger children (Sept. 17). From Oct. 8 on, he began to express aggression in the clinic.

On Oct. 26 there is a record of the child being required to retrace a stammered phrase and the effects were doubtful, but on another occasion (Oct. 28) when the therapist asked him to repeat a stammered phrase during reading he made a threatening gesture. Correction was discontinued for a while. By Nov. 4 repeating the stammered phrases had been re-introduced and there were no ill-effects. Reading improved.

Once more the effects of correction are not altogether favourable and at times the child appeared to resent it. The experimenter has no disagreement with the results of the ratings. (Tables IV and XVIII)

Case B.4. It was expected that B.4. would have much aggression to express against adults as a result of his early handling. However the extent of this aggression was not realized. At first B.4. was quite withdrawn and attempted to disguise his stammer as much as possible, but from Oct. 5 onwards he became progressively more negativistic
and aggressive. Moreover his difficult behaviour on Oct. 13 and Nov. 9 seemed to be directly associated with jealousy of another child in the clinic. On Oct. 15 he refused to do direct work, so it was discontinued until Nov. 5 when the therapist attempted to reintroduce some reading. There was an aggressive tantrum which was so bad that the therapist quite expected the child not to return because of guilt feelings. However from then on some progress seemed to be made and direct work was able to be continued around a centre of interest, although at no time was correction attempted. Instead of interiorizing the stammer, the child appeared to be letting himself stammer, and expressed himself more freely.

The experimenter would agree with the raters that there was no improvement in the speech (Tables IV, VI, and XIX) but the failure cannot be attributed to the experimental method because the child was no negativistic it could not be attempted. More parental therapy could have been given in this case.

Case B.5. As this child was rather shy and somewhat insecure, it was felt that a calm permissive atmosphere would be necessary in the clinic. The child was given every opportunity to use the clay, paints, dough, sand and other malleable material. In spite of this, he rarely made use of them, and preferred some game at the table with the therapist.

Correction was introduced cautiously, and if the child was interested in the meaning of the material, no correction at all was given (Nov. 9) B.5. became less sedate, more at ease, and the parents reported he had begun to assert himself
at home. The experimenter considers with the parents, that there was definite improvement in contradiction to the general estimate in Table IV and in agreement with the other evaluations. (Tables VI and XX)

**Case B.6.** It was felt that this child needed a firm, consistent atmosphere. Reference to the daily records shows he sometimes 'played the wag' from school and tends to stammer worse afterwards. Nevertheless he had a positive attitude toward therapy, enjoyed his sessions, and used all the materials in a constructive, imaginative way.

Direct work began with reading, in which he was fluent, but rather erratic, and he was given much praise for his good reading. Reference to the daily records shows that on Oct. 1 the therapist began requesting him to repeat stammered phrases during reading. On Oct. 8 there is a report that after he retraced a stammered phrase fluently during oral expression, there seemed to be a recurrence of stammering a short while after. On the other hand on Oct. 12, although he was several times reminded to repeat stammered phrases, there did not seem to be any ill effects.

Although in reading and in a testing situation this child's stammer improved, the improvement may not have been extensive, so that the ratings (Tables IV, VI, and XXI) may have been over-generous.

**Case B.7.** Much of B.7's problem centred around his intellectual retardation. The parents refused permission
for the child to enter a special class, so that treatment aimed at giving him as much sense of achievement as possible within the clinical situation, and encouraging more self-reliance and independence.

In company with B.6., the child excused himself from school on various occasions. It is unlikely however, that he would have done so by himself, as he was frightened to come into town on his own.

He was given a great deal of praise for any improvement in reading (Sept. 28, Oct. 5). From Oct. 7 onwards the child was requested to repeat any phrases he stammered on during a short period of oral expression, with no adverse effects. Nevertheless reference to the daily records for Nov. 4 and Nov. 15 shows that he was stammering badly on those particular days and the re-patterning of stammered phrases appeared to do nothing toward reducing it.

It is difficult to judge improvement in a case such as this, where the child normally speaks for some time before having a stammering spasm. It seemed as though the fluent periods had increased, but the experimenter felt that his speech during the post-rating was more than usually better. (Tables IV and VI) Nevertheless some improvement probably did take place.

Case B.8. Although on short acquaintance this child's stammer did not appear to be very severe, after clinical observation it was apparent that it was very persistent,
even in situations such as unison reading and repetitive games where most stammerers are fluent. Secondary avoidance reactions such as tongue protrusion on labio-dentals and alteration of vowels, together with the dysphonia caused by the tension, also suggested that it was severe. Mr. Dunne's rating of (1) in the sub-sections in Table IV under-estimates the severity of the stammer and was probably caused through sitting slightly behind the child.

It will be noted that by Oct. 1 there was improvement during unison reading. On the same day it was found that as a result of the adaptation effect a simple phrase was always said fluently, so that from then on, by varying the one word in the phrase, the work could be graded until longer phrases and sentences could be said fluently. If the child happened to stammer while doing this, the phrase was re-said fluently. The method seemed to work extremely well for this child.

By Oct. 14 reading had improved to the extent that he could read a few sentences alone without stammering. He was given much praise for his achievement and reference to the record for Oct. 19 shows how much this meant to him. On Oct. 15 and Nov. 5 there is a note to the effect that the child himself had begun to correct a stammered phrase without any request from the therapist.

In material where B.8. had the responsibility of formulating the ideas, he continued to stammer a good deal, as his teacher noted, but it is likely that had the treatment period continued longer, the improvement would have been
noticeable in those situations also. The experimenter feels that, for reasons already discussed (Table XXIII) the quantitative results (Table IV) do not indicate this improvement which is however shown in Table VI. For this particular child there is no doubt that the method worked well.

**Child B,9.** It is possible that more encouragement could have been given to the child to express his fears associated with hospitalization and feelings regarding his deformed hand, but beyond giving the child every opportunity to use the materials in the clinic and creating an atmosphere conducive to permitting expression of feelings no direct probing was attempted.

Correction of the (s) was begun first, and it was not until Oct. 27 that any direct work was given for the stammer. From this date on, stammered phrases were said in unison with the child. As was the case with A,9., a certain amount of strain accompanied the attempt to establish the (s) in conversation. This child took longer to establish the (s) than did A,9., probably because of his lower intelligence, and by the end of the period the (s) was not firmly established. Because the correction of the (s) had to precede any direct work on the stammer the period was not sufficiently long enough to observe the effects of the experimental method on this child. The experimenter would thus agree with the findings expressed in the ratings (Tables IV, VI, and XXIV) that there was no change in the stammer.
Case B.10. The possibility that the mother's shock at the death of her son may have affected her attitude to B.10. was taken into account and every opportunity during treatment was offered to the child to express her feelings, through the attention and understanding given her. That the child was sensitive to any suggestion of rejection was shown by the care with which the therapist had to indicate that the child's time was up. Other she would make some remark to the effect that the therapist was 'trying to get rid of her.'

The stammer was extremely severe when it occurred, although she could converse for a few minutes without stammering. The extent of its severity was obvious in reading which was painful to listen to.

Direct work was centred around fashions as was the case for A.10., the only difference in treatment being the experimental method which was begun on Oct. 6. The child's speech in reading improved but as a result of failure in the school examinations there was a relapse for a while (Nov. 10 and 11).

On Nov. 17 there is a record that while at one period she repeated a stammered phrase fluently with no subsequent stammering, on another occasion she repeated a stammered phrase fluently but had several stammering spasms following the correction.

The experimenter considers that there was not a great deal of improvement in her stammer except in reading, although her attitude seemed better. The estimate of the ratings (Tables IV, VI, and XXV) may have been over-generous.
Concluding Remarks.

About an equal number of children in each group appeared to improve during the nine weeks period. However the experimental method seemed to affect children differently. Some children responded quite well while others seemed to react adversely toward it. This applies only to that part of the method which required a correction after the child had already stammered.

During the course of therapy many of the children appeared to become rather aggressive. Two of these were from the control and seven from the experimental group. Three children could be described as extremely aggressive. To supplement and confirm the clinical observation regarding their aggressive reactions, the Rosenzweig Picture Frustration Test was administered.\footnote{Seventeen of the stammerers manifested an extrapunitive reaction and only two were considered to be intropunitive. These two children were in the control group, but such a small difference between the groups cannot be considered of significance. Both groups were equally aggressive and showed much the same type of reactions. The pattern of aggression was predominantly at an ego-defensive level with very few reactions at the need-persistence level. It appeared that most of the stammerers make few attempts to persist in the face of any difficulty. The results were interesting because they were in contradiction to a study in which the same test.}

\footnote{Interpretations are only tentative as the experimenter was not very familiar with the test.}
had been administered to a group of twenty-five stammerers and non-stammerers.52

The comparison of stammerers and non-stammerers by Madison and Norman resulted in the finding that stammerers had a significantly higher mean score in introjectiveness and in need-persistence than the controls. They concluded that their findings corresponded to the belief that stammering is essentially compulsive in nature, with a turning inward of aggression.53

There are several possible explanations for the difference in the findings. There may have been an actual difference in type of reaction between the two groups of stammerers, because the numbers used were not large. Or differences in scoring and interpretation may account for it. Then again the age range for the two studies were different --- adolescents and adults acted as subjects for the Madison study. They may react differently to children who stammer.

A third explanation is tentatively suggested. The difference may lie in the fact that in the present study the children were administered the test toward the end of treatment. It may be that the effect of the treatment situation had been to permit them to express their aggression openly. The only way to test this would be to administer such a test at the beginning and conclusion of treatment, or at a stage where


53 Ibid., p. 182.
speech improvement becomes noticeable. Personality measurement at appropriate stages during therapy could be an area for future research.
CHAPTER V

SUMMARY AND CONCLUSIONS

Two groups of ten children, matched with respect to age, sex, and Intelligence Quotient were treated for stammering over a nine weeks period. The age range for the control group was 6.9 to 13.10 years and for the experimental 6.4 to 13.10 years. The number of boys to girls was within the usual ratio for stammerers according to over-seas figures. One group received treatment according to methods generally used in speech clinics in New Zealand while the other group received in addition direct re-training of the speech behaviour according to an interpretation based on a Reinforcement Theory of Learning. Three speech therapists rated the speech at the beginning and end of treatment, using a five point rating scale; they also gave their opinions following a play-back of the recordings of the children's speech in order to facilitate comparison with the teachers' evaluation. According to the quantitative ratings the speech of five children in the control group and three children in the experimental group improved over the treatment period. Taking all the ratings into consideration it is likely however, that about an equal number in each group improved. Nine of the teachers of the children in the control group thought there had been some improvement with only one giving a rating of
much improvement, while three teachers of those in the experimental group thought there had been no change,¹ two believed there had been some improvement and five decided there had been much improvement. Some children in the experimental group evidently responded very well and others not at all.

The following qualifications and limitations must be kept in mind during the presentation of the conclusions:
1. The numbers in the groups were small and any conclusions must be made tentatively. Small numbers were of course unavoidable. As it was, forty treatment sessions were given per week, so that unless a team of workers was involved, numbers could hardly have been larger.
2. The matching of the children with respect to age, sex, and Intelligence Quotient was reasonably satisfactory with the exception of No. 9. in each group. In this case some sacrifice with respect to matching intelligence was made in order to permit the matching of a stammer associated with a lisp.
3. It was not possible to match symptomology because no child evidences exactly the same type of stammer as another. It was hoped that a chance allotment of the stammerers would result in about the same number of mild and severe stammerers in each group. In actual fact the experimental group had more slight stammers and the kind of tonic

¹ B.1. is included in these three.
stammers in which severe spasms are followed by periods of relative fluency. This caused subsequent difficulty in rating.

4. No attempt was made to match the children with respect to background. In each group however, there were some children with an early history that suggested that the child might have developed a general anxiety system (A.4., A.6., and A.8. in the control group and B.3., B.4., and B.10. in the experimental group).

5. Some of the children had had previous treatment or were transferred from another clinic. About an equal number were placed in each group.

6. It was not possible to give each child exactly the same treatment, as any technique has to be individually applied. B.4., for example, could not be given the experimental method because of his extreme aggressiveness, and B.9. required attention to his lisp before direct work could be attempted.

7. The method used for the control group probably incorporated more direct treatment for the speech difficulty than is customary, because the children attended so frequently that parents expected some attention to the speech.

8. A longer period of treatment may have highlighted some differences between the groups, although the nine weeks period is as long as previous treatment studies.
9. It is not possible to compare the results of a normal year's treatment with those of the control group because the increased attendance per week may have speeded up results.

10. Comparison is unwise on different grounds. Any technique is presented through the medium of a particular therapist. There is no guarantee that even with the same children and applying the same technique another therapist would obtain identical results.

11. The estimate of improvement was based solely on changes in speech. More weight was attached to the therapists' ratings not only because they had had wider experience with stammerers, but because their judgements were based on changes in the stammer itself without reference to changes in attitudes or personality characteristics.

12. If success in treatment viewed broadly, had been the criterion of comparison, then in addition, some kind of personality test would have had to be administered before and after treatment.

13. The results showed that the rating scale was deficient in not having an extra category between 'slight and occasional stammer' and 'no stammer'. Those children who were initially rated as slight stammers, even though they had improved, were seldom given a rating of 'no stammer' in the general estimate. The extra category would have met the need for indicating those children who subsequently stammered only once or twice during the rating. This affected the experimental group more than the control group so that in actual fact another
two children in the experimental group did improve, making an equal number in each group whose speech had changed for the better.

14. Results of treatment were based on judgements immediately following the termination of the sessions. There is no firm basis for concluding that the child's speech would maintain that level without a follow-up interview to confirm it.

15. It is always possible that a certain number of children might improve without benefit of treatment. If numbers had permitted, the ideal procedure would have been to include as a control group children who received no treatment at all.

With the above qualifications and cautions, the following conclusions are made:

As the experimental method was used in addition to the usual methods of treatment, and as there was no increase in the numbers who improved in the experimental group, the conclusion must be that this technique adds nothing to the method used with the control group. There are suggestions that the experimental method affects children differently. If this is due to the type of stammer manifested, as was found in the negative practice studies, it was not brought out clearly on this occasion -- B.6., B.7., and B.10. all improved although they had tonic stammers. Neither was lack of improvement confined to those children who were severely emotionally disturbed, as B.10 was among those children who improved.
A different explanation is tentatively offered to account for the varied effects of the experimental method. It may be that the attitude of the child to correction is important. In the Sheehan study\(^2\) the adult stammerers who were requested to repeat a stammered word, accepted the instructions objectively as part of the experimental situation. A clinical situation is somewhat different— it is more personal. The suggestion to repeat a stammered phrase may not be accepted as an objective instruction but as a personal request. Correction may be considered to be criticism, and therefore strongly resented. This did in fact seem to occur as, although the experimenter was careful to make the request as impersonal and indirect as possible, some children still appeared to resent it. On the other hand in those cases where the children accepted it and initiated the correction themselves, there seemed to be no adverse effects. The results also suggest that it is the aggressive and negative children who do not accept direct instruction at all well. Positive feelings toward the therapist seem to be necessary before the child will accept guidance in learning. On the whole therefore, the use of such a method in clinical practice by all therapists could not be recommended, as much seems to depend on how and by whom it is presented. Thus, there are characteristics of such a method which are only apparent in a clinical setting, not in an experimental laboratory situation such as Sheehan's.

Although correction, or repeating stammered speech fluently, may not lead to improvement, it may be that 'rewarding' for fluent speech is effective. In other words, the attitude of speech therapists of completely accepting the stammer with no comment or adverse listener reactions is probably in the right direction, but the suggestion is made that later on in therapy positive approval for fluency may be possible. The explanation of its efficacy is only a matter of conjecture but it would seem possible that anxiety may be reduced by the attention given by adults to a particular type of speech behaviour, and it is in this way reinforced. Originally attention was probably directed toward the stammer, but the clinical procedure attempts to reverse the process with reward for fluency.

Certain changes in personality characteristics seemed to occur during the course of therapy in many children -- these changes were mentioned by the teachers particularly, and applied to both groups. Many children were noticed to have increased assurance and poise. It is not clear whether this preceded improvement in speech or followed on from it. Future research on the treatment of stammering may elucidate this by applying personality tests at appropriate intervals during the course of treatment.

Increased attendance per week seems very valuable. In these cases it speeded up therapy considerably so that improvement was sometimes noticeable within nine weeks.
Four attendances a week may be too tiring for young children, particularly if there is some distance to travel, but two or three appointments, particularly at the beginning of treatment, is likely to have good results. Contrary to expectation, in the majority of cases, absence from regular school work did not affect it adversely. Many teachers commented that the child had improved not only in such subjects as morning talks and play-reading, but composition and social studies. While this may have been a result of an increased interest in reading, some teachers believed that the children had a better attitude towards attempting new processes in such subjects as arithmetic, and one child whose appointments had all to be made in school time was thought to have improved tremendously in his school work. The teachers' comments were of great assistance, and it is suggested that a periodic report in a similar form to that used in this study may be a useful addition to clinic procedure.

Treatment may be shortened by more consultations with parents. To do this rolls may need to be lighter to allow more time for interviews, or alternatively, although not so desirable, some other worker solely engaged in parental interviewing could be employed. This alternative has the disadvantage of a different person working with the child than the one who interviews the parents. This is not satisfactory, particularly to the parents who prefer to consult the therapist who treats their child. The question concerning the visiting of homes by speech therapists is
not easy to answer. It is sometimes pointed out that this destroys the professional distance necessary in therapy. On the other hand it is most important that the father’s attitudes and opinion be expressed, and he is generally not free to come to the speech clinic for an interview during the usual hours. Furthermore the attitude of the parents to the child and to the child’s speech is not always apparent in a clinic interview. In this study the home interviews were most illuminating and the parents appeared to appreciate the interest taken.
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APPENDIX A.

CASE STUDY - A.1.

Child: A.1.  
Birth: 4.9.47

Occupation Father: Electrical engineer  Class: P.3.

Description of Speech Disorder:

By Parents: He has a stammer and can't pronounce th and br.

By Therapist: A.1. has an easy clonic stammer, the repetition being confined to the initial consonant; occasionally the repetition is slightly prolonged. There is no accompanying tension. In addition (th) is generally pronounced as (f) and (ch) as (sh). An occasional (r) combination is also incorrect.

History of Speech Disorder:

He has only stammered since attending school, (1953) and has therefore not been stammering very long. Before Christmas 1953 he could hardly speak two words without stammering, according to the mother. Since then it has lessened somewhat.

Family History of Speech Disorder

Father stammered when he was a child and even now speech tends to be stilted and rather difficult to listen to without careful attention. A.1.'s older brother used to stammer, grew out of it, but has begun to stammer again lately.

Developmental History of Child

Normal birth, but there were some early feeding difficulties. There were no serious illnesses beyond measles and chicken-pox. Present health is good, although he is slightly faddy about foods. A.1. is left-handed. His mother described him as having a rather nice temperament, but is inclined to "dream". His attitude to people she described as friendly and he has no fears or worries, beyond being rather reluctant to venture out in the dark.

Family History and Conditions

Three boys in the family; the eldest is deaf and attends the School for the Deaf. He is aged sixteen, the middle one eight, and A.1. six. The mother is placid and equable; the father is inclined to be tense.

School History

A.1. commenced school at five, spent a term in P.1., a year in P.2., and all 1954 in P.3. He is in the top group for
numbers, but is slow at reading. His mother used to help him at home but he 'just learnt it by heart'.

**Therapist's Interpretations and Observations**

It would appear likely that there is no deep-seated emotional disturbance in this case. The stammer has only begun since the difficulties at school and there is no history of fears, worries, accidents or illnesses. The relations between parents appear good. It is likely that the failure experiences in reading precipitated the difficulties.

**Results of Tests**

The *Wechsler Intelligence Scale for Children* resulted in a verbal score of 109, a performance score of 125 and a full score of 118. The *Raven Progressive Matrices* confirmed that A.L. has superior ability in material of a non-verbal nature as he achieved a score of 95 percentile, (Grade 1). A.L. is therefore intellectually superior in tests of this type. In view of the fact that he had adequate intellectual capacity, the *Burt Vocabulary Test* was administered to obtain an indication of the discrepancy between his mental age and his reading age. It showed that his sight vocabulary was less than that expected of a five year old.

The *Vineland Social Maturity Scale* gave an age equivalent of 6.8 and a social quotient of 94. From the *Rosenzweig Picture Frustration Test* it appears that A.L. reacts to frustration in a conventional fashion as he has a Group Conformity Score of 58 per cent against the expected 60. There was a high extrapoluntive score with some indication that continued frustration is rather over-whelming and results in relinquishing of his own attempts at solution of the problem. Any aggression tends to be expressed openly.

**Concluding Remarks**

A.L. has an intelligence quotient indicative of adequate ability to learn to read, in which he is retarded about two years. It also appears that he may tend to give up rather easily in the face of any difficulty and be uninterested in the usual reading material.

**Suggestions for Treatment**

A.L.'s stammer was precipitated apparently, by his reading difficulty. Of course there is no certainty of exactly why he should experience trouble in learning to read, but looking over the case-history, daily-record sheets and teacher's observations, it is apparent that the following factors may have contributed toward it:
1. A high non-verbal ability, and presumably a lack of interest in the verbal material.

2. Some personality characteristics which may have hindered any initial effort required to master learning to read. It must be noted that these characteristics - a lack of persistence on one activity, and a short span of interest, could have arisen as a result of the reading failure rather than have caused it. However they were also observable in games and in play, as reference to the daily record sheets will show, and it is unlikely that the symptoms would spread so quickly in the space of a relatively short time if they had been only a result.

3. It has not been possible to gauge the father's attitude to the child in the one home interview. There is a suspicion that more investigation is necessary here. The treatment programme should include some Play Therapy and Remedial Reading.
CASE STUDY - A.2.

Child: A.2.  
Birth: 2.1.47

Occupation Father: Factory worker  
Class: Std. 1.

Description of Speech Disorder:

By Parents: Stammers.

By Therapist: A Tono-clonic stammer, the repetition being in  
the form of repeating the initial consonant.  
The characteristic feature is the disturbed inhalation, and  
there is a slight glottal spasm. A.2. tends to speak very  
quietly so that is is easy to underestimate the severity of  
the stammer.

History of Speech Disorder

Mother says she noticed it when the child was about 3 years,  
and attributes some of the difficulty to A.2.'s association with  
a boy next door. (This however, is likely to have had little  
fluence.)

Family History of Disorder

The father used to stammer but grew out of it by about  
ten or twelve. There is an older brother aged ten who doesn't  
stammer.

Developmental History of Child

A rather difficult birth, as the baby was 10 lbs. He was  
breast fed and did quite well, but teething was unusually diffic-  
cult. His other developmental stages were normal, and he has  
had no other illnesses apart from measles. His present health  
is satisfactory, although he is rather thin. He is right-hand-  
ed. His mother described A.2. as bright and cheerful, although  
he gets bad-tempered very quickly. His attitude to people,  
i.e., to strangers is different - then he is very shy - for ex-  
ample he wouldn't speak to his grandfather until after he was  
3 years old. The teacher says he is diffident about a lot of  
things and if he is corrected he "blushes like a girl".  
Questioned about fears and worries, his mother replied that he  
gets 'worked up' and complains of being sick, although he soon  
gets over it. He also tends to panic, e.g. whether he will be  
able to do his reading or not. The teacher thinks he plays  
well with other children and will stand up for himself with them.  
She also added that he liked all kinds of sport.

Family History and Home Conditions

There are five children in the family, three girls aged 22,  
17 and 1½ years, and then two boys, 10 years and 7 years. A.2.
is the youngest. The mother commented that the father tends to "get into a temper", and describes herself as the even-tempered one of the family. It is an average home.

School History

A.2. was very difficult about going to school, he used to be very upset. He didn't attend any pre-school play group. Now he attends a convent school. The teacher reports that A.2. is not up to Standard I work in Reading, but he does beautiful printing. His attainment was fair, but not as good as she would like.

Therapist's Interpretation and Observation

A.2. may have been somewhat over-protected. There may be some insecurity and hostility as he is both diffident and aggressive. Any interpretation has been made very tentatively in this case however.

Results of Tests

Wechsler Intelligence Scale for Children

Verbal scale I.Q. 97
Performance scale I.Q. 113
Full Scale I.Q. 105

A.2. appears to have more ability in tests of a non-verbal nature. This is confirmed by the Raven Progressive Matrices in which with a score of 75 per centile he was rated as definitely above average in intellectual ability.

Vineland Maturity Scale. A total score of 71 and an age equivalent of 8.1 gives a social quotient of 104. His social maturity therefore corresponds with his age.

Rosenzieg Picture Frustration. There is an indication of a slight inability to meet stressful situations in a conventional fashion. A.2. has a Group Conformity Rating of 50 per cent as against an expected mean of 60. There is also a very high extrapunitive reaction mainly at the ego-defensive level. The need persistance category is lowered as a result.

Concluding Remarks

Little further knowledge is added to the clinical observations by the tests. A.2. appears reticent and obedient towards adults, but is probably inhibiting some hostility. It may be necessary to provide plenty of opportunity to release this in acceptable ways.

Suggestions for Treatment

It is difficult to uncover the environmental factors that
could have been conducive to perpetuating a stammer in this case, and probably there are some that have not been noted. Nevertheless, from the case-history material and the clinical observations there appear to be some attitudes that need remedying:

1. The adult-child relationship does not seem very satisfactory. A.2. is diffident and aggressive toward adults by turns. It seems likely that the child has not been given enough autonomy.

2. The child seems unwilling to enter new situations and presumably needs to have a grading of new experiences with no adult forcing.

3. It appears that he is sensitive to criticism and would be likely to benefit from arranging speaking situations to that he can enjoy self-expression without any negative listener reactions.

Accordingly, treatment should be aimed at allowing the child every opportunity to decide things for himself, adult supervision of activities reduced to a minimum, and a casual, rather than an anxious attitude maintained by the therapist. The child should be prepared for any changes that occur, and another child about his own age should be grouped with him to encourage A.2.'s spontaneity.
CASE STUDY - A.3.

Child: A.3. Birth: 15.11.46
Occupation Father: Warehouseman Class: Std. 1.

Description of Speech Disorder:
By Parents: They say that A.3. drags out a sound before getting words out.

By Therapist: A severe stammer involving both prolongation and repetition, although the former is more common. There is disturbed inhalation and tension in the throat. A glottal sound, something like clearing the throat and a fricative (s) are interjected as starters. These extraneous sounds make the speech difficult to listen to. There is an accompanying (r) and (th) defect.

History of Speech Disorder:
Parents became aware of it about 3½ years old, and of late years it has not shown any improvement. The teacher reports that is alters day by day, and that words beginning with p seem most difficult. In general he is worse in conversation than reading. A.3. was transferred from another clinic, in which he had had fourteen sessions.

Family History of Disorder
Father used to stammer badly, smacking his hand against his side to get the word out. He had ceased stammering, he said, by just deciding not to stammer any more and within a few weeks it had gone. A slight spasm of the chin is all that remains.

A.3.'s twelve year old brother used to stammer badly when he started school, but is quite over it now. A cousin also stammers.

Developmental History of Child
Normal birth although he was a small baby (5 lbs. 6 ozs.) and used to cry frequently. He was very late in beginning to talk and couldn't make himself understood by 3½ years. Then he used to say the first syllable and make himself understood by pointing. Toilet training may have been an area where the child-training techniques were too rigid. Mother says he has "always been very clean". He was toilet trained by 18 months and since then has always been particular about his person. Apart from measles and mumps, there is a suspicion of a tendency toward epilepsy. According to his mother he 'took a turn' when he was 3 years old and was unconscious for 14 hours. He was taken to hospital; there has been no repetition of it, and his present health is good. A.3. is right-handed. His mother
describes A.3. as well behaved around the house, not mischievous, and friendly. He can always be relied upon and has always been an independent lad, e.g. he used to go to kindergarten by himself on the tram. His attitude to people is friendly, not shy, according to his mother — an observation which is confirmed by the teacher who comments that he is friendly, not belligerent, but he sticks up for himself. A rather significant comment was that 'he never comes in covered with mud as the others do'. His mother also pointed out that A.3. always dislikes taking the next step — he didn't want to leave the kindergarten teacher, then he didn't want to leave the Infant Mistress to go up to Standard 1, etc. As far as his interests are concerned, she said, he likes anything mechanical.

Family History and Home Conditions

Besides father and mother there are four boys, the eldest 15, and the rest 13½, 12 years and 7 years. A.3. is the youngest. It is an average comfortable home. The mother appears to be sensible and good-natured, while the father is fond of the boy.

School History

A.3. attended kindergarten from 3½ years and entered school at the usual age. His teacher says A.3. is average at school work, Arithmetic being better than Reading.

Therapist's Interpretations and Observations

A.3. appears to be lacking in initiative and rather too 'sensible' for his age. There is a suggestion that he has rather rigid cleanliness standards, and that he has tended to resist taking the next developmental step.

Results of Tests

The Wechsler Intelligence Scale for Children resulted in an I.Q. of 115 for the full scale — a result which is confirmed by the Raven Progressive Matrices which gave a score of 75 (Grade II). A.3. is therefore definitely above average in ability.

Vineland Social Maturity Scale: The total score 72.5 was converted into an age equivalent of 8.6 giving a social quotient of 107.

Rosenzweig Picture Frustration Test. A.3. seems to be able to tolerate frustration in a normal fashion. His Group Conformity Rating is 62 per cent, whereas the mean for his age is 60. The balance of extrapunitiveness, impunitiveness and intrapunitiveness approximates the normal, although he is slightly below the mean in extrapunitiveness, and this takes the form of aggressive denial, or defence, rather than initiating the
aggression himself.

\[ (E = 21\%) \quad \text{Total Pattern } E > (E = e). \]

**Concluding Remarks**

The test results do not contradict the impression gained from the case-history material, that there is a suggestion only that

(a) A.J. may be too sensible, and socially mature for his age.

(b) That he is lacking a little in spontaneous expression of feeling.

(c) That he is somewhat insecure in new situations.

(d) That this child has not found the next developmental stage attractive enough to make the necessary effort. For example, he was late in talking and pointed to the objects he wanted, so that his needs were met without resort to speech.

**Suggestions for Treatment**

To counteract these attitudes, treatment should be aimed at increasing spontaneity by minimizing adult direction, encouraging as much free play as possible, and helping the child make easy transitions to new situations by grading the transition period.
CASE STUDY - A.4.

Birth: 31.12.44.  
Occupation Father: Minister  
Class: Std. 3.

Description of Speech Disorder:

By Parents: They described it as a stammer without any further elaboration.

By Therapist: A severe Ton-clonic stammer with repetition, prolongation and marked disturbance of breathing during spasms. The general effect is like stugging, e.g. wh-uh-en (prolongation on en). No occasionally uses a starter, e.g. oh-ah-ahwell, ahwell, ahwell, and an interjection 'n', and accompanying the spasm is eye-enlargement and a twisting of the head to one side. There are often long fluent periods, but once a spasm is precipitated it is very disturbing.

History of Speech Disorder

A.4. has always stammered, both in Dutch and English although his mother thinks it is worse since being in New Zealand. The teacher has noted that A.4. speaks quite easily to other children, so that the difficulty seems mainly in relation to adults. Often direct questions precipitate a stammer, particularly if he is flustered.

Family History of Disorder

Father stammered until he was six, then outgrew it. The older brother tends to repeat things over and over when excited.

Developmental History of Child

A.4. was born about the time when the town in which the parents were living was liberated. The town was almost completely destroyed. His mother died when A.4. was young, but he had already begun to stammer. Many people looked after him and he had a great deal of attention. He is very long sighted and it was a great effort for A.4. to focus. The defect wasn't discovered until he was 5 years old. His present health is good although he suffers badly from chilblains. He is right-handed. His step-mother describes him as going his own way, and as tending to worry. Coming out on the boat, A.4. wouldn't leave her side, even to the extent of waiting on the stairs outside the adults' dining-room for her. It would seem likely that he felt insecure. He tends to play with children either younger than himself or girls, she says, and doesn't care for football or any such games. This is corroborated by the teacher, who said A.4. will stay near the class-room and the girls if the boys go out on the football field. Another comment by the teacher was that he tends to worry about little things and
is forgetful and absent-minded. Additional remarks by the step-mother are also significant. Describing A.4, as "not using his brains" she said he would be sent to get something from the shop, and although he had the requirements explained carefully, would return as many as four times for further explanation, finally purchasing the articles on the fifth attempt.

Family History and Home Conditions

Apart from his father and step-mother, A.4 has an older brother who speaks for, and dominates him somewhat. The family came to New Zealand in 1951, having lived as refugees in Belgium while the father was chaplain to a Dutch unit in the Canadian Army. They first lived in the North Island where they did not have a mastery of English and both boys felt the strain. There are several Dutch boarders living in the house and being a manse, there are many visitors. The mother describes herself as not being very patient.

School History

The teacher regards A.4 as 'bright'. He is in the top group of the class and is particularly good at writing and written expression. He would have better marks in the examinations if he didn't take so long getting started - he worries if he will be able to finish it in the time etc., and doesn't settle down straight away. He is sometimes slow getting an idea, the teacher considers, but once he realizes what is involved does very well.

Therapist's Interpretations and Observations

From the family history it is likely that A.4, has some insecurity and anxiety. Moreover he appears to be somewhat dependent. His anxiety is shown by a tendency to become rather frantic when hurried, or when instructions are rather ambiguous. Clinical observation supports the view that he often gets 'disorganized', leaving behind his coat, lunch, etc. His slender physique and visual defect has probably contributed to his tendency to prefer more feminine activities.

Test Results

The Wechsler Intelligence Scale for Children

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<tr>
<th>Scale</th>
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<tr>
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<tr>
<td>Performance Scale</td>
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<tr>
<td>Full Scale</td>
<td>99</td>
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With the language difficulty and poor testing conditions this is likely to be a conservative estimate, an opinion which is confirmed by the Raven Progressive Matrices in which, with just
under 90 per centile he is shown to have definitely above average intellectual capacity for non-verbal material.

**Vineland Social Maturity Scale**

With a total score of 76\(\frac{3}{4}\) points and an age equivalent of 9.8 years, A.4. has a social quotient of exactly 100.

**Rosenzweig Picture Frustration Test**

This test confirms the clinical observation that there is some inability to meet stressful social situations in a conventional fashion, as there is a low Group Conformity Rating. It would appear that under stress A.4. leaves the solution of his problems to others.

**Word-Reaction Test**

The following words had a significantly long reaction time: fight - lie, 4 secs; doctor - car, 8 secs; sister - girl, 6 secs; fright - go away, 14 secs; brute - mad, 5 secs; dark - black, 8 secs; sickness - nothing to do, 9 secs; strike - pet, 14 secs; play - outside, 6 secs; clever - write, 5 secs; punish - rude, 6 secs; naked - body, 17 secs; love - girl, 3 secs; policeman - boss, 12 secs; teacher - lesson, 7 secs; dead - unable to move, 5 secs; cheat - naughty, 6 secs.

**Concluding Remarks**

A.4. appears to have a high level of anxiety, to be somewhat more orientated toward femininity than is usual and is being prevented somewhat from developing self-sufficiency by his brother.

A.4. may feel the need for play with dolls etc., and should be left to spend as much time as possible in undirected play.

**Suggestions for Treatment**

Because there are indications from the case history of a rather widespread emotional disturbance, as much time as possible should be given to play-therapy. An attitude of calm to counteract this child's anxiety and disorganization under stress should be deliberately maintained. It is hoped that the degree of autonomy and self-reliance he has to find in order to travel by bus into town, will in itself be of benefit.

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CASE STUDY - A.5.


Occupation Father: Clerk in Railways Class: Std. 3A.

Description of Speech Disorder:

By Parents: A.5. has a stammer. His language seems to lag behind his thoughts and he can't seem to get his thoughts out quick enough. The doctor says it's just nerves.

By Therapist: A clonic stammer on the first consonant—generally one repetition only, but sometimes two. There is an absence of tension and it interferes little with oral expression. There is always plenty of conversation, almost tending toward verbosity at times. Reading is not affected; it is clear, rapid and good.

History of Speech Disorder

A.5. spoke beautifully until about 2 years nine months, when the younger sister was born. Mother said that he can stop stammering if he is told to "take it quietly". His teacher said he stammers more when he is reprimanded for his untidy work or finds himself "in a spot". He has never attended a Speech Clinic before but has had elocution lessons.

Family History of Speech Disorder

An uncle stammers, and father used to stammer also.

Developmental History of Child

The birth was induced as the mother had kidney trouble. Weight normal, but the baby remained in Karitane Hospital until it was five weeks old and there were some feeding difficulties. Developmental steps were normal. Began speaking at an early age and spoke beautifully. He has had no illnesses or accidents, just heavy colds and his present health is good. He is mostly right-handed but can use his left for some things. Mother describes A.5. as being 'very wilful' and 'highly strung'. His attitude to people is friendly although he gets envious of other children and is jealous of his younger sister, although to quote mother, she "favours neither of them". She said that although A.5. may argue with her, he obeys his father. Mother baths the child herself during the week but allows him to do it himself on Friday and Saturday when it doesn't matter if it's not done properly. He gargles every night, and mother cleans his teeth. The play activities he likes are swimming and skating and he now plays football. He is always reading, mother said.

Family History and Home Conditions

A.5. was born when the father was overseas and the mother
lived with the maternal grandmother during the war. Mother herself considers that A.5. was 'spoilt' by always having someone to attend to him. For example someone always stayed in the room until he went to sleep for peace sake until he was 18 months old. When the father came home and they moved to the Coast he "came to earth with a bump". The family have always had other people in the house and the maternal grandmother still lives with them. Mother becomes physically sick when A.5. is ill or upset, whereas the daughter doesn't upset her in the same way.

Therapist's Interpretations and Observations

Mother is over-solicitous and over-protective. She is dominating by reason of her anxious supervision. As a result the child attempts to assert his independence, and is labelled as 'cheeky'. The attention-getting properties of a stammer should not be over-looked in this case.

Wechsler Intelligence Scale for Children

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<td>Performance Scale</td>
<td>101</td>
</tr>
<tr>
<td>Full Scale</td>
<td>111</td>
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He did most poorly on the object assembly, and his spatial perception seemed weak. This was confirmed by the Raven Progressive Matrices in which he was rated Grade III or intellectually average. In material of a verbal nature therefore, A.5. is above average, but only average in tests of a non-verbal nature.

Vineland Social Maturity Scale

A score of 77 points yielded an age equivalent of 10.0 years and a social quotient of 96 so that his social maturity is about average for his age.

Rosenzweig Picture Frustration

The results obtained indicate that A.5. reacts to stressful social situations in a conventional fashion. The high extrapunitive percentage, (71 as compared with the expected mean of 43) and the reciprocally lowered intropunitive (12 as compared with 32) and impunitive score (17 as compared with 29) indicate he tends to express most of his aggression outwards. Under continued stress A.5. appears to relinquish attempts at solution in favour of unintelligent reactions toward the obstacle.

Concluding Remarks

A.5. has ability of a verbal nature, is outgoing, and slightly socially immature.
Suggestions for Treatment

It seems clear that in this case A.5's growth toward independence is being thwarted by the mother's solicitude. The therapist accordingly will leave the child to his own resources as much as possible, for example, to depart in time to catch his own bus etc. Opportunity for any release of resentment against adults will be given and some direct work on speech. He would probably benefit from group therapy and parental therapy should also be carried out.

Birth: 7.2.44

Occupation Father: Radio Salesman  
Class: Std. 3.

Description of Speech Disorder:

By Parent: Described it simply as a stammer.

By Therapist: A very severe Tono-clonic stammer with marked disturbance of breathing. This takes the form of attempting to speak on the residual breath, so that talking continues when audibility has practically ceased. The repetition varies, sometimes on the initial consonant alone, e.g. "f-f-four", or on consonant and vowel, e.g. "ha-ha-has".

History of Speech Disorder

A.6. has stammered since he was three years old. The parents had attempted some correction by asking him to 'stop' but of late years there has been no change in his condition. They report that while it never abates, it seems better when he is excited. The teacher adds that some days in reading he can hardly say a word fluently. The child was admitted in Term I, 1954, by another Therapist and transferred to the control group in the second term.

Family History of Speech Disorder

No history of stammering, but a history of 'nervous disorders' in the mother's family, e.g. her mother had 'nervous' cramps.

Developmental History of Child

The baby was a week premature, the birth was instrumental and the child was jaundiced for a little while. Developmental steps, for sitting up etc. are normal. Mother reports A.6. had a tendency to be left-handed but she encouraged him to be right-handed by giving him things in this hand. There was no forcing. There is a history of severe illnesses. At one year he had diphtheria, then immediately he had recovered he developed whooping cough which turned into pneumonia. He was two years old by this time and spent five weeks in hospital. Later he was in hospital for two months with a T.B. spot on his lungs. Present health is good, although he is over-fat, and the father said that A.6. is not completely formed genitally and is under a doctor. While A.6. was in hospital he was not well-treated. The hospital was in Danzig and at that time conditions were bad—there was overcrowding and the hospital was understaffed. There were not enough nurses to give individual care and attention and the children had to be tied to their cots. He was in hospital three times altogether; the last time because the mother
was ill and the father unable to care for him. There is some indication that A.6. was rejected by the German children with whom he associated when the family was displaced. In New Zealand, A.6. has quickly become part of the usual New Zealand child's play group - he attends pictures every Saturday, has joined the Y.M.C.A. and is a regular attender at the 'baths'. The teacher says he gets on well with other boys and is popular with them.

Family History and Home Conditions

The father and mother are Estonians and were displaced people. They fled into Germany as the Russians advanced, taking A.6. out of hospital before he had completely recovered from pneumonia. The mother's present husband is not A.6.'s father, but has been his step-father since he was one year old. The family have been out in New Zealand only a few years and are striving hard to make enough money to buy a home of their own. It is obvious that this means security to them. Mother owns a little dress shop and neither parent is home before six at night, so that A.6. is left alone a lot. Comments from the teacher are to the effect that the child often plays, or roams around until nine at night. It was difficult to gauge the methods of discipline in the home, but it appeared that the mother tends to shield A.6., to exonerate him from blame and she expressed the opinion that her husband was a little hard.

School History

A.6. is in Std. 3, but the teacher considers his attainment level is about a fairly good Std. 2, and doesn't match his ability. Arithmetic is very weak but he is better at English.

Therapist's Interpretation and Observations

The family history is such that there is likely to be a severe emotional disturbance in this child quite apart from the child's reaction to his physical deficit.

Results of Tests

Wechsler Intelligence Scale for Children

<table>
<thead>
<tr>
<th>Scale</th>
<th>I.Q.</th>
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<tbody>
<tr>
<td>Verbal Scale</td>
<td>109</td>
</tr>
<tr>
<td>Performance Scale</td>
<td>104</td>
</tr>
<tr>
<td>Full Scale</td>
<td>107</td>
</tr>
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As the performance scale and verbal scale have resulted in almost identical scores, it would seem that it would be a fairly reliable estimate, although cultural factors may operate in the direction of depressing the score. Nevertheless the results
from the Raven Progressive Matrices which were nearly 75 percentile, indicate a Grade III+ i.e. a good average. During the administration of the Wechsler Scale A.6 refused to finish the object assembly test with which the test was begun. The picture completion was substituted and E. praised him as much as possible. Finally A.6 asked to complete the unfinished test. It seemed evident he was highly anxious.

Vineland Social Maturity Test

With a total score of 79\frac{1}{2}, giving an age equivalent of 10.6, A.6's social quotient was 100. His social maturity thus corresponds with his age. Although A.6 is left to look after himself, in some ways he is treated as a much younger child, e.g. he is still assisted with bathing at 10 years of age. This agrees with the mother's comment that because he has been so ill she has perhaps fussed over him too much.

Word-Reaction Test

Although A.6 was given careful instructions he avoided free association by giving names of objects. The instructions were explained again and the test continued, but A.6 became extremely negativistic and aggressive, finally refusing to do any more. Only thirty-four had been given; of these the following had the longest reaction time: sister, man, sickness, strike, speak, thief, punish, name. The indications were that A.6 is very disturbed.

Rosenzweig Picture Frustration Test

The results indicate that he reacts to frustration in a conventional fashion. His extravulsive score is average for his age, but indications are that aggression is evaded by belittling the frustration rather than expressed openly, until the frustration is increased to a point when this reaction can no longer be sustained.

Concluding Remarks

A.6 appears to have a general emotional disturbance and will probably need to be eventually referred for some type of psychiatric treatment.

Suggestions for Treatment

Every opportunity will be given for play therapy and extra interviews with the parents will be necessary. Some direct relaxation may be helpful to combat the breathing disturbance.
CASE STUDY - A.7.

Child: A.7.  
Birth: 19.12.41  
Occupation Father: Bushman  
Class: Std. 4.

Description of Speech Disorder:

By Parents: Stammer.

By Therapist: A clonic stammer, although the repetition varies. Sometimes it is on the first vowel, e.g. Fluh-uh-ower, Flower; or the initial consonant and vowel, pa-pa-paper. In blends it is sometimes on the second consonant al-allowed. There is an accompanying disturbance of inhalation.

History of Speech Disorder

Began stammering, mother said, since he started school. It is only bad at times, e.g. if he is excited or upset. There is some stammering on most days but it is worse periodically. The stammer is better when A.7. is talking to his mother than with his father. The teacher adds that he can be quite fluent when talking about football and in reading until he comes to a word he doesn't know. A.7. attended the Speech Clinic in 1949-50.

Family History of Speech Disorder

Father stammered a little as a child. The oldest girl also stammered until she was about 8 years old when it seemed to leave her quite suddenly.

Developmental History of Child

Pregnancy and birth normal. The baby was small, 5½ lbs., but all the babies have been small. He was breast-fed 6 months and there was some difficulty in feeding. Toilet-training was rather quick, he was held out from 6 months and clean by 12 months. Developmental steps - teething and walking normal, and he was speaking earlier than most children. The illnesses have not been very serious. He has had mumps and pleurisy. He used to have earache a lot when younger but his present health is good although he gets many colds. Mother considers A.7. is easily managed. He doesn't get on very well with his older brother and has a bad temper - it flares up but it's over quickly. He has no fears. The teacher described A.7. as "a retiring kind of a lad until he gets used to you". His play activities extend to both cricket and football at which he is very good.

Family History and Home Conditions

There are five children in the family; a girl of 20 years,
a boy of 15 years, the patient 12 years, a girl 9½ years and a boy 3 years. The home conditions are average. They are not well-off but they appear comfortable, well-fed and cared for.

School History

A.7. had moved from another school to his present one, and this is the reason given by the mother for repeating a year. He is 12 years in Standard 4. His teacher describes him as a 'great trier' and as being most conscientious but backward in reading.

Therapist's Interpretation and Observations

It is difficult to find any specific factors in the home background that could be said to have caused anxiety in the child. Sibling rivalry and school retardation seem to be the only obvious ones, although there are likely to be attitudes that cannot be gauged in one or two interviews, e.g. the father has changed occupation quite a lot so there may be some insecurity.

Results of Tests

Wechsler Intelligence Scale for Children

<table>
<thead>
<tr>
<th>Scale</th>
<th>I.Q.</th>
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<tbody>
<tr>
<td>Verbal Scale</td>
<td>82</td>
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<tr>
<td>Performance Scale</td>
<td>76</td>
</tr>
<tr>
<td>Full Scale</td>
<td>77</td>
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</table>

A.7. gave up very easily in some of the performance tests and he is likely to be somewhat depressed. In the Raven Progressive Matrices his score was classed as Grade III-, but still mentally average, so the Wechsler score is likely to be somewhat conservative.

The Vineland Social Maturity Scale

A total score of 37.5 gives an age equivalent of 14.1 and a social quotient of 110. A.7. is thus well above his C.A. in social maturity.

Rosenzweig Picture Frustration

A.7. has a very low Group Conformity Rating (46 as against an expected mean of 60) indicating he does not react to frustration in a conventional manner. There is almost completely no attempt at solution - rather he would appear to evade or minimize the frustration(M) and when it continues, he tends to become overwhelmed, as indicated by the swing to obstacle-dominance. Evasion and minimizing the difficulty itself is resorted to in the main.
A Hearing Test from the Hearing Aid Clinic, Christchurch Hospital showed that A.7. had a slight loss in the high frequencies in the right ear, but it is not enough to cause difficulty in hearing normal spoken speech.

Concluding Remarks

It may be that A.7. had difficulties that are not easily ascertained on short acquaintance, but the tendency to give up when conditions are particularly trying should be noted, and a hostility toward peers may be inhibited.

Suggestions for Treatment

As there seems to be some hostility toward peers in this case, the child may possibly feel neglected or that he lacks sufficient attention. If this is so the increased attention and interest in the child shown during the sessions may have a beneficial effect. Careful grouping of the child with another about his own age and intelligence may be of benefit. He may respond to psycho-drama through puppetry and some direct work on reading.
CASE STUDY - A.8.


Occupation Father: Labourer Class: Std. 5.

Description of Speech Disorder:

By Parent: Stutter

By Therapist: A tonic-clonic stammer characterized by both repetitions and prolongations, which give a staccato effect to the speech. Occasionally a slight head jerk accompanies the prolongations, which are not of very long duration. Short remarks are free from stammering but otherwise there are few periods of fluency.

History of Speech Disorder

The mother's information is likely to be unreliable, but she maintained that the child did not stammer in early childhood before entering the orphanage. There is no other information available regarding the development of the stammer. It does not vary much in different situations apparently, excepting that the teacher reports that it increases when the child is excited. There had been no previous treatment.

Family History of Speech Disorder

According to the mother the father's brother stammers, and one of A.8's older brothers also stammers she thinks.

Developmental History of Child

Birth conditions were normal. Mother was unable to remember norms for sitting up, walking etc., but after repeated questioning said A.8. spoke earlier than the other children in the family. There was a history of several accidents. At two and a half years A.8. was nearly drowned and was not pronounced out of danger for three weeks. At five years he was knocked over by a car and had delayed concussion. He also had a serious illness at five years, and was ill for thirteen weeks with diphtheria. He is right-handed. Mother describes A.8. as being quiet and not easily upset; she considered he was more fond of his father than of her. The Director of the Orphanage found A.8. to be amenable but mentioned that there was a note of the child stealing some stamps from another boy, during the previous year. There had been no further incidences of stealing as far as they knew.

Family History and Home Conditions

There are seventeen children in the family but the home has been broken up. The mother is a white New Zealander and
the father half-caste Maori. A.B. lives in an orphanage for older boys which is under the direction of Dutch Brothers. The Record Card gave the reason for the child entering the institution as 'lack of a decent home'. From what the child says it is likely that the father drank too heavily. He is living in Wellington and the mother is at present working as a domestic in Christchurch. The mother when she was interviewed said that the father intended making a home in Christchurch after February 1955. The children will not be removed from the orphanage however. The Director of the orphanage was interviewed and it seems that the boys are allowed much more freedom than is usual in that type of institution. They attended the pictures and football matches when they wish to and are permitted to stay with friends in the week-end. A family in Lyttelton have been taking an interest in A.B. and he stays there occasionally. The Director considers this has had a good influence on the boy.

School History

A.B. attends a private school and is in a B. stream of StC. 5. He has repeated a year, but is now eighth in a class of forty-five. The teacher thought he was either average or just below average in intellectual capacity, and says he is a neat worker. Last year the teacher found him inclined to be disobedient but this has now improved and he considers him a diligent pupil.

Therapist's Interpretations and Observations

It is quite likely that A.B. stammered from a very early age, in spite of the mother's information to the contrary. He probably lacked adequate care when young and the illnesses and accidents would probably have contributed to the child's disturbance. The mother herself seems to be the kind of woman who would be indulgent and neglectful by turns.

Results of Tests

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 80
Performance Scale: I.Q. 67
Full Scale: I.Q. 82

The verbal score is probably somewhat depressed. For example he had a low score in the sub-test 'Information' - perhaps partly as a result of the restricted environment of the orphanage. However, the dull average score is supported by the results of the Raven Progressive Matrices in which he gained a score equivalent to Grade IV, definitely below average.
Vineland Social Maturity Scale

A score of 88.5 gave an age equivalent of 14.7 and a social quotient of 111. This supports the clinical observation that the child is more self-reliant and mature than most children his age.

Rosenweig Picture Frustration Test

The results suggest that A.S. reacts to frustration in a conventional fashion, mainly at an ego-defensive level. The aggressive extrapunitive reaction is not particularly high, but it may not be expressed openly.

Word Reaction Test

The following words either had a long reaction time or the child was unable to give an answer: fault - obedience, 2½ secs; lazy - helpful, 4½ secs; fall (refused); brute - punch, 5 secs; name - sir, 6 secs; learn - dunce, 2 secs; man - girl, 2 secs; sickness - healthy, 2 secs; strike (refused); home - house, 5 secs; speak - stutter, 2 secs; thief - obedience, 6 secs; church - steeple, 5 secs; punish - obedient, 5½ secs; money - foreign, 7 secs; blood - red, 5 secs; naked - (refused); dress - blue, 4½ secs; love (refused); policeman - officer, 5 secs; school - bell, 5 secs; lie - obedient, 6 secs; angry - fierce, 4 secs; cheat - crier, 6 secs. It will be noticed that for quite a few words he has been unable to give an answer, and that many of the longer reaction times are associated, e.g. home thief, school lie. The stereotyped reply of 'obedience' is rather suggestive.

Concluding Remarks

A.S. has a background that suggests severe emotional disturbance. This is expressed in a tendency toward delinquency - there have probably been more thefts than are suspected by the Director of the orphanage. The child is self-reliant and mature, and co-operative and compliant - at least on the surface. As he has been academically below the average it is likely that he has had few areas in which to gain any ego satisfaction.

Suggestions for Treatment

Since this child had been in an institution from an early age, and since his home circumstances have been very bad it is likely that A.S.'s disturbance is extensive, and that improvement will be slow. No major adjustment of environment is possible so that treatment will have to be confined to the clinical situation. There appear to be delinquent tendencies associated with the stammer. Heely and Bronner² consider that delinquent

children have been deprived ego and affectional satisfactions. They specifically mention the desire for feeling secure in family and other social relations, for feeling accepted by some person or group, for recognition as having some personal worth and for feeling adequate somehow or somewhere.

Accordingly treatment will be aimed at trying to supply some of these needs. Consistent attention and interest, praise for improvement and effort, and freedom for choice in small things may counteract the adverse treatment to some slight extent. Every consideration should be given this child and the opportunity to express his feelings through the creative materials.

Birth: 23.1.42

Occupation Father: Storeman, State Hydro  Class: Std. 5.

Description of Speech Disorder:

By Parent: A slight stammer and a lisp.

By Therapist: A slight clonic stammer, with a very occasional prolongation and an Intertdental (s).

History of Speech Disorder

The stammer developed in 1948 according to mother. A.9. would then have been six years. It wasn't very noticeable at home and almost disappeared over the holidays. It started with a hesitation and developed into a repetition of the initial consonant. The stammer is worse when he is tired, or nervous, or when he is trying to say something he can't quite express, especially if it is important to him. He previously attended the Speech Clinic in 1948.

Family History of Speech Disorder

The mother stammered as a child and again for a short period during adolescence; father thinks he stammered as a child.

Developmental History of Child

Birth normal but difficulty in feeding. He was in Karitane for three weeks, where he contracted a skin infection about the third day. He screamed every day until he was seven months old. The only illness was mumps at one year but at three years he had an accident and he burnt his feet in the copper. His present health is very good. His muscular co-ordination is very poor according to his mother, especially in rhythm or writing. She describes him as being friendly but of a 'nervous' disposition. He is a real bookworm but has taken up football.

Family History and Home Conditions

There are three boys and one girl in the family. A.9. is the eldest with a brother 2 years younger than he. The first child died. The parents lived in the country when A.9. was small; there were no close neighbours and A.9. had to rely on his mother for company. They came to town when he was 3 years old. The father is much older than the mother, and married fairly late in life. He is very well spoken and the therapist gained the impression that his occupation was not on a par with his ability. Mother took the lead and did most of the talking. There seems to be a permissive atmosphere in
the home. The mother wondered if they have allowed the children to be too individualistic and that is why they don't like school. The house is average but the financial position is not particularly good.

School History

He went to Nursery Play Centre, but in spite of this A.9. was very loathe to go to school. For some time afterwards he disliked it and would use any excuse to stay away. Now he has settled into the school regime better but comes only 12th or 13th in the class in spite of his superior ability. He finds writing difficult and as this is given a lot of emphasis in the school, he tends to be corrected frequently.

Therapist's Interpretations and Observations

There are only a few suggestive facts in the case history. With the first child dying, it may have caused the mother to be over-anxious with A.9. and as a consequence he may have been over-protected. However, evidence is so slender that this cannot be given too much emphasis. Obviously school was a hurdle from a social and emotional point of view. A.9. was a student case-study in 1948 and the tests given indicated that his attainment was over a year behind his mental ability.

Revised Stanford Binet: I.Q. 138  M.A. 9 years 8 months
Burt Graded Vocabulary Test:  E.A. 8 years
Schonell's Graded Vocabulary Test:  E.A. 8 years
Metropolitan Reading Scale:
  Mechanical    E.A. 8 years
  Comprehension E.A. 7 years 9 months
Schonell's Mental Test in Arithmetic:  E.A. 8 years
Schonell's Spelling Vocabulary Test:  E.A. 8 years

Test Results 1954

The Wechsler Intelligence Scale for Children

  Verbal Scale:          I.Q. 131
  Performance Scale:     I.Q. 122
  Full Scale:            I.Q. 130

A.9. is therefore of superior intelligence, verbal ability being better than that of a non-verbal nature although it is still definitely above average.

The Raven Progressive Matrices was in line with this result.
With a per centile of about 82 he was rated as Grade II definitely above average.

The Vineland Maturity Scale

A total score of 85 points yielded an age equivalent of 12.6 and a social quotient of 98.

The Rosenzweig Picture Frustration Test

Results obtained indicated that A.9. had adequate ability to meet frustrations in a conventional manner (58 per cent as compared with the expected mean of 60). The direction of aggression was generally outwards but it wasn't excessively high. He reacts almost entirely at the ego-defence level with little indication of persistence toward the solution of a difficulty.

Concluding Remarks

A.9. has superior intelligence, but he isn't exerting himself, particularly at school. He is not particularly aggressive, and not precocious socially. He is an informed, somewhat verbose, but a perceptive child.

Suggestions for Treatment

This child's stammer has only begun since school entrance, and is not very severe. From the case history and clinical observations, it appears that A.9. was somewhat ill-equipped by over-protection, to meet the inflexible school regime, and the more socially precocious children.

It is hoped that the more flexible and permissive atmosphere in the clinic may counteract this to some extent, and speech therapy will be confined to remedying the lisp.
CASE STUDY - A.10.

Child: A.10  
Birth: 25.7.40

Occupation Father: Council Worker  
Class: Std. 6.

Description of Speech Disorder:

By Parent: Stammer

By Therapist: A clonic stammer, but with some accompanying tension. The repetition is mainly on the initial consonant, but in blends it is often on the second consonant, e.g. Sk-kirt. She exhales breath and forces on hw, w and most labials. A.10. has poor word attack when reading and seems to have difficulty with the stress and emphasis of long words, even after several repetitions.

History of Speech Disorder

A.10 has always stammered but it has seemed to have worsened of late years. It tends to be noticeable at meal times and when there are strangers. She speaks better when she is excited, and she can sing without stammering. She herself says it is worst when she has to answer questions in school and when she 'thinks' of a word, sometimes she 'just can't say it'.

Family History of Speech Disorder

The grandfather and one uncle stammer - the grandfather quite badly. Mother has a slight (s) defect and one uncle leaves off letters on words if he speaks too rapidly.

Developmental History of Child

Early history appears normal. She was putting words together at eighteen months and was an early talker. The mother and the two children were staying with her people when A.10 was a baby as her husband was away on war service. A.10 has had scarlet fever at 8 years and also measles, and tends to get 'runny' ears and have abscesses in them. She bed wet every night until eleven years old - always had to have an under-sheet and a bath every morning. This ceased when A.10 went to stay with her aunt. She tends to be bronchial and has been X-rayed with negative result. She is left-handed. The parents tried to change her handedness, but did not force the issue. Mother describes A.10 as very neat and thorough and the teacher says she is a good responsible girl, but she tends to be 'nervous'. She isn't at all fond of books or reading but likes sewing, swimming, jumping and writing to her pen-friends.

Family History and Home Conditions

There are four girls in the family; the oldest one is only eighteen months older than A.10. The mother has been in and out of the Sanatorium for the last few years, and even prior
to that the family moved around quite a great deal, and were on the West Coast. The two younger children were sent away to stay with a relative when the mother entered the Sanatorium but the two eldest have remained at home and kept house and as the mother herself says, "have had to do quite a lot more around the house than most girls their age have to". Father appears diffident and retiring while mother is also quietly spoken. They live in a state house which is comfortably furnished.

School History

A.10 attends a convent school at present but has had many changes of schools. Her teacher says she is good at Arithmetic but weak in English, particularly Spelling.

Therapist's Interpretations and Observations

The family conditions have been such that A.10 may have felt insecure. Both enuresis and stammering occurring together suggest some emotional disturbance. There is the likelihood, although there is little evidence to suggest, that there may be some rivalry with the older sister as they are both so close together in age.

Result of Tests

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 97
Performance Scale: I.Q. 99
Full Scale: I.Q. 98

Both verbal and non-verbal ability are on a par, that is A.10 is of average ability. Similarly a score of 50 per centile in the Raven Progressive Matrices indicates she is of average ability.

The Vineland Social Maturity Test yielded a total score of 90.5, and an age equivalent of 15.8, giving a social quotient of 110.

The Rosenzweig Picture Frustration Test indicates that her extrapunitiveness is within the normal range for an adult, and the only comment that can be made is that under continuous frustration it appears she inhibits aggression and turns it inward (60→I.).

The Word Reaction Test

The following words yielded a significantly longer time:
fault - wrong, 9 secs; name - Susan, 6 secs; girl - boy, 3 secs; home - ranch, 5 secs; brother - brothers, 4 secs; money - thre pence, 7 secs; blood - red, 3 secs; naked - undressed,
3½ secs; policeman - in charge, 9 secs; hungry - nothing to
eat, 6 secs; greedy - fat, 8 secs; dead - at rest, 8 secs.
Without further information about the girl, it is not possi-
ble to generalize on these results apart from saying there
are quite a number of 'guilt' reactions.

Concluding Remarks

Although this child's stammer is not severe, she has
developed secondary symptoms and has been stammering for some
considerable time. It is felt that she may have been inhibit-
ing some aggression, and that adult responsibility and anxiety
may have been forced on her a little too early.

Suggestions for Treatment

With this in mind, every opportunity will be given her
to use the materials in the clinic according to her needs, and
as she seems to feel the need for a little direct work, this
will be centred around something of interest to her.
CASE STUDY – B.L.

Child:  B.L.  
Birth:  27.2.48

Occupation Father:  Air Force  
Class:  P.4.

Description of Speech Disorder

By Parent:  Mother says it's not a real stutter - he just 'hangs on to words'.

By Therapist:  A mild Tonic stammer, mainly confined to a prolongation on the vowels, e.g. go--t, Pee--ter; occasionally there is a repetition at the initial consonant, e.g. l-loo-king.

History of Speech Disorder

It began when B.L. was about two or three, and it hasn't worsened or improved. He's worse when he is excited and lately mother has been noticing he has been stumbling a little in reading.

Family History of Speech Disorder

Not known.

Developmental History of Child

B.L. is an adopted child. He was adopted at three months so his early development is not known. His milestones other than speech are well within normal. Speech development was a little late. He didn't talk very much until two. There were some feeding difficulties after 15 months. He would hold food in his mouth for about half an hour without swallowing it. Sometimes it took mother an hour to feed him. Even now he's not a big eater. He was toilet trained by 18 months during the day and by 22 months at night. He is very fastidious about going to the toilet. He thinks it's dirty and won't go unless he is actually forced to; this applies particularly if he is out. The only illness he has had was measles at four years; his present health is good and he sleeps well. He is right-handed and never had any other tendency even from a baby. His mother described him as a 'live-wire' inclined to be highly strung. She added further that he can be obstinate and he is a cautious child, e.g. doesn't like getting into water, and doesn't like beginning new things. He used to have an odd fear when he was a baby. He never crawled but moved around in a sitting position and if he was placed on his hands and knees he used to be petrified. Moreover he has always taken a comforter to bed with him. Even now he won't sleep unless he has a rug on his bed to hug. His main interest is reading, his mother said.

Family History and Home Conditions

They have only adopted this one child. The home is average
and very neatly kept. Mother seems somewhat older than her husband.

School History

B.I. attended kindergarten and now goes to a Church of England school having been promoted straight up from Primer 2 to Primer 8. He loves school and isn't as happy during the holidays as he is during the school term.

Therapist's Interpretations and Observations

B.I. was adopted; so that there was some disturbance in his early life. However, as it was before six months of age the disturbance is not so likely to have been far-reaching, particularly as he has had consistent care and attention since. There does seem to have been a tendency toward rigidity in feeding, toilet and cleanliness training. He is somewhat fearful of attempting new experiences, perhaps as a result of lack of stimulation and support from brothers and sisters.

Results of Tests

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 106
Performance Scale: I.Q. 118
Full Scale: I.Q. 113

B.I. did poorly in the Arithmetic Test and not as well as some of the others in the Similarities. His low score in Arithmetic may have been the result of poor coaching because in every other respect he appears to have been above average in ability, particularly in tests of a non-verbal nature. In the Raven Progressive Matrices his score gave him 90 percentile, and he is rated as Grade I, intellectually superior.

Concluding Remarks

From the case-history it appeared that his child had rather a rigid attitude to cleanliness, and has probably had too much adult attention. Lack of support from brothers and sisters may have contributed toward the continuance of a rather fearful attitude toward new and strange situations.

Suggestions for Treatment

A casual permissive attitude may be suitable in this case. Direct work should be introduced very gradually and much freedom of choice left to the child.
CASE STUDY - B.2.

Child: B.2.  
Birth: 18.7.46

Occupation Father:  
Class: Std. 1.

Description of Speech Disorder:

By Parent: Stammers

By Therapist: A clonic stammer, generally a repetition of the initial consonant or initial consonant and vowel. In blends there is a prolongation of the second consonant occasionally - for example, g-clau, and very occasionally a repetition of the whole word.

History of the Speech Disorder

B.2. spoke well until he was five years old. Just prior to going to school an inseparable playmate left the town and about the same time the new baby arrived. An operation for the removal of tonsils and adenoids coincided with this. His mother said that after they visited the hospital the child was so upset he screamed and threw himself out of bed. The parents have lately carried out advice given at the speech clinic and refrained from checking his stammer, although his father had previously thought a good smacking would 'do the trick'. They have had a lot of patience about it, the mother thought. B.2. stammers mainly when holding face to face conversations. At times he speaks quite well, then he has a lapse and finds it difficult to 'get started'.

Family History of Speech Disorder

Father seemed to remember as a child he had something wrong with his speech, but doesn't know exactly what.

Developmental History of Child

Normal birth, and weight. The family had two major moves when the child was small, and came back to New Zealand when B.2. was eight months old. At twelve months he scalded his hand and was ten days in hospital. Apart from that he has only had measles and his present health is very good. He was somewhat late in walking and talking, but within the normal range. In 1953 he had a bald patch on his head through pulling out his hair, but this has stopped. His mother says that B.2. was never shy; he is friendly and will go to anyone. He is definitely jealous of his young sister and gives her sly smacks and teases her, and is destructive of her toys. This, in spite of the fact that she has tried to "makeup" for the baby's coming and told B.2. he is "mother's boy" etc. Early this year the mother found that B.2. had been taking the money kept for paying the milkman and buying sweets with it. Mother was very worried because he continued to do it after she had found out and he had promised her not to do it again. The parents dis-
ciplined him by withdrawing privileges - for example he was not allowed to go to Cubs. Mother says B.2. has no persist-
ence whatever, and doesn't concentrate for long. She considers it may have been her fault for "doing everything for him".

Family History and Home Conditions

Mother is an Englishwoman; she tends to scold. There are two children - the patient who is seven and his young sister aged three years who is not talking yet except for a few homosyllables. She won't let her mother go across the road to the shops without her. The father has somewhat of a 'big brother' attitude toward B.2. - evidently a reaction again-
st his own strict up-bringing.

School History

B.2. attended kindergarten but in spite of this he was upset when he entered primary school. His work is average, and he is no trouble according to the teacher, although she says he doesn't concentrate very well.

Therapist's Interpretation and Observations

The stammer is not of long duration, and seems associated with the insecurity around five years of age. B.2. does not seem to have been encouraged towards self-sufficiency. Both children show signs that they are not being weaned gradually from dependency on their mother.

Test Results

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 109
Performance Scale: I.Q. 96
Full Scale: I.Q. 103
Raven Progressive Matrices 49 percentile; Grade III; average.

Both tests indicate that B.2. is of average intelligence.

Vineland Social Maturity Scale: A total score of 67 gave an age equivalent of 7.4 years and a Social Quotient of 90. The child is therefore slightly below his C.A. in social maturity.

Rosenzweig Picture Frustration Test

B.2. has a slightly low Group Conformity Rating - 54 per cent as compared with the expected mean of 60. There is an indication that with continued frustration B.2. tends to become overwhelmed ( - .60 0-D) and to react unintelligently toward the frustrating obstacles rather than finding a solution. An extrapunitive reaction at the ego-defence level is the most
conclusion.

**Concluding Remarks**

B.2. is of average intelligence, but is not socially as self-sufficient as is expected of most children his age. He may react badly to restraint and frustration and may be aggressive in such situations.

**Suggestions for Treatment**

The clinical programme could aim at encouraging self-sufficiency, and give plenty of opportunity for play therapy in addition to direct work on the speech.
CASE STUDY - B.3.

Child: B.3. Birth: 7.5.46

Occupation Father: Council Driver Class: Std. 2.

Description of Speech Disorder:

By Parent: Stammer

By Therapist: A tonic stammer. B.3. prolongs the initial consonant slightly, except in blends, when it is sometimes the second consonant e.g. floating. Sometimes there is a tonic block with the opening of the mouth, and a quick closing of the eyes.

History of Speech Disorder

B.3. has stammered since beginning to talk but the condition has slowly worsened, although it improves during the holidays. It also worsened when the teacher, evidently exasperated, suggested he mightn't go up to the higher class. He is very self-conscious about reading in front of the class.

Family History of Speech Disorder

A premature baby, who had quite a number of illnesses during the first year. There is a history of feeding difficulties. Even now he is a finicky eater - there are only a few vegetables which he likes, he doesn't like very many kinds of sweets, and is not a very big meat-eater. Significantly enough the mother added that when B.3. stayed with her sister's mother-in-law she "had him eating everything". Developmental steps for walking and talking are normal, and he is right-handed. The mother describes B.3. as very excitable and says he's always 'on the go'. He doesn't sleep very well - often not until ten or eleven o'clock, although he goes to bed between 7-30 p.m. and 8-0 p.m. The mother allows him to read in bed now, but the therapist gathered the impression that B.3. has made his mother anxious about the matter. Mother added further, that they dare not tell him anything exciting before going to bed, or else he will not sleep for a longer time. He likes to have the light left on in the hall. Mother says that like her, he tends to "bottle things up". The teacher's opinion is that B.3. is a mischievous, spoilt little boy, but timid in many ways. He is popular with other children and leads them into mischief. Father says he gets "frustrated" - for example if he has to come in at night because it is very cold he "takes it very hard". The teacher said that father takes the child to the pictures at night frequently.

Family History and Home Conditions

B.3. is the child of the mother's second marriage. She was widowed in 1939, her first husband being killed in a factory accident. The first marriage was an unhappy one. There were
four children by this marriage; two daughters twenty-one and nineteen years old are unmarried and live at home. Following the remarriage ten years ago there was a daughter who died at three years of age from an acute infection and for whom the parents still grieve. As the teacher says, B.3. is the "apple of their eye". They live in an average home, very neat and tidy, with an exceptionally tidy garden. The home is owned by the mother. She is a nervous, apprehensive woman who seems rather dependent on her husband. As stated earlier, she suffers from migraine, which, she says, is an hereditary characteristic.

School History

B.3. attended kindergarten for only a few weeks, and entered a Church of England day school because father didn't like some of the type of children attending the public school. B.3's school work is good - he is interested in nature-study and history stories. The child says he 'hates' English.

Therapist's Interpretations and Observations

It appears very likely that because of the death of the little girl, mother was over-anxious about B.3. This is reflected in the child's eating difficulties and sleeping habits. The attention-getting properties of stammering in this case should be taken into consideration.

Heredity is evidently outstanding in migraine so the mother's assertion is probably essentially correct. It is contended by Lennox that nine-tenths of adults with migraine are usually ambitious and attempt to dominate their environment. Almost all are over-conscientious, perfectionist, persisting and exacting, he goes on to say.

Without more interviews it would be impossible to say whether B.3's mother has these characteristics - those regarding neatness seen to apply.

Test Results

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 118
Performance Scale: I.Q. 118
Full Scale: I.Q. 120

The results from both the verbal and non-verbal tests coincide, so B.3. is likely to be above average in intellectual ability. This is confirmed by the Raven Progressive Matrices in which he is rated as Grade II, definitely above average.

In the Vineland Social Maturity Scale, B.3. gained a total score of 70 which was converted into an age equivalent of 8.0 years, and a social quotient of 93.

Rosenzweig Picture Frustration Test

Some degree of inability to meet stressful social situations in a conventional fashion is indicated. B.3's Group Conformity Rating was fifty per cent as against the expected mean of sixty-four. His extrapunitive score was extremely high (87 per cent against an expected 47 per cent) and the others were reciprocally lowered. The indications are that the blame for any frustration is directed toward others, and the high e may indicate that he expects others to conform. The high E score suggests that he tends to vigorously deny any blame. In the main the test suggests he leaves the solution of the difficulty to others but if the frustration continues he may try to overcome the obstacle by force.

Concluding Remarks

Looking back over the case history and clinical observations, it appears possible that this child's stammering could have been perpetuated by the mother's anxious attitude and the effect the stammer has on her. The food fads and sleeping difficulties all centre the mother's attention on the child; as the mother herself mentioned, the food fads ceased when the child stayed with someone else.

Suggestions for Treatment

A clinical attitude of objectivity in the face of the stammering, expressed fears, preferences and criticisms may be appropriate for this case. In view of the possibility that the eating and sleeping difficulties may be associated with a negativistic attitude any correction should be introduced very gradually.
CASE STUDY - B.4.

Child: B.4. Birth: 19.4.45

Occupation Father: Solicitor Class: Std. 2 B.

Description of Speech Disorder:

By Parents: Stammer

By Therapist: A tonic stammer with long periods of obvious tension. There are interjections of 'ums' and other phonations which act as starters, for example, i-i-i. Breathing disturbances accompany the stammer. They take the form of quick intakes of breaths. B.4. rarely speaks unless he has to, so that the severity of the stammer can be easily underestimated.

History of Speech Disorder

Mother reports the stammer developed after he entered school, and began when he changed to a different teacher whom he didn't like. It increased in severity in 1951, and is worse when he is tired or there is any extra tension. Mother mentioned that when it was severe they could hardly bear to have him at the table with them. He received treatment in 1952 for a period.

Family History of Speech Disorder

There is no history of speech defect in the family.

Developmental History of the Child

The birth was normal and the child was breast fed for four months. About a year there was some trouble with vomiting and the child appeared to have attacks every three weeks. The milestones were normal, and although the mother couldn't remember the exact time when the child first began to speak, she thought it was quite early. There was considerable difficulty with feeding and the child refused to eat. The parents handled this very strictly and the child was strapped when he refused to eat. Meal-times appear to have been a battle of wills between parent and child. There have been no serious illnesses nor accidents. The child is right-handed. Describing him, his mother said that he was shy, but got on well with other children. Father however, mentions his difficult behaviour at home; he said that the two boys were always fighting. B.4. has a canoe, likes fishing, and is very interested in boats and anything to do with the sea. In 1952, the Headmaster of the school informed the previous Therapist that B.4. was involved in a stealing incident. He was just six, the article only a trifle and there have been no further cases reported, so the matter was probably of little significance.
B.4. has been referred to a doctor this year for sleeplessness.

Family History and Home Conditions

B.4. is the oldest child, with another boy aged seven and girl four years younger. The mother seems of an even temperament and capable; she was formerly a nurse. The parents were married eleven years ago, the father somewhat late in life. In 1952 he was concerned about B.4., his stammer, his difficult behaviour at home and his somewhat unsatisfactory school work. Father would like B.4. to do well at school and seems to expect too much from the child. In spite of having discussed this with a previous Therapist in 1954, it was obvious he still maintained his high standards.

School History

In 1952, B.4.'s school work was described as patchy, and the same comment was made by a different teacher in 1954. According to the teacher he writes good essays and his knowledge of English is good but his Arithmetic is poor. Social Studies are his favourite subject. The teacher considers he gets on well with other children, and with the teacher himself, and feels that B.4. stammers sometimes to get attention.

Therapist's Interpretations and Observations

The previous therapist at first described B.4. as very withdrawn, and his behaviour as being very quiet. Later however, there was a marked change in behaviour and the child became very aggressive and counter suggestive. The case-history material suggests that as a result of parental standards and attitudes, the child has developed aggressive tendencies.

B.4. was tested at the Psychological Division in 1952 and his I.Q. as measured by the Revised Stanford Binet Intelligence Test was 110.

Test Results 1954

The Wechsler Intelligence Scale for Children was administered and the results of the Verbal Scale yielded an I.Q. of 96. The Performance Score was 108 and the Full Scale 102. The lowest score in the Verbal Scale was in Arithmetic and Comprehension. B.4. stammered badly during the Arithmetic Test and it appeared to the Therapist that he was very anxious. The lowest score in the Performance Scale was in the Object Assembly Test. This was the first test administered so that it may well be that the score is depressed because of the initial anxiety. The answers to some of the questions in the Comprehension Test are rather illuminating. To the question asking what he would do if another child much younger than himself attempted to fight with him, he replied that he would fight back, and to the question asking what he would do if one shop did not have the
loaf of bread he was sent to get, he replied that he would go home and tell Mum.

The Raven Progressive Matrices was administered and it confirmed that B.4. is of good average intelligence, (Grade III+).

In the Vineland Social Maturity Scale, a total score of 79 gave an age equivalent of 10.5 and a social quotient of 109.

The Rosenzweig Picture Frustration Test for Children

Some inability to meet stressful situations in the normal manner appears to be indicated. (His Group Conformity Score is 54 per cent as against the expected 65 per cent). He reacts aggressively, not so much at the ego-defence level but blindly toward the frustrating obstacle. (His obstacle-dominance score is 29 as against the expected mean of 15). There is a suggestion of guilt at his aggression ($E = .50$).

Concluding Remarks

Although B.4. is of good average intelligence, it seems likely that too much was expected of the child. The attainment in the Arithmetic Test of the Wechsler Scale is certainly not commensurate with his ability. This should be followed up. While he is socially mature, his attitude to frustration seems likely to be such that he cannot get along comfortably. It would be wise to keep in mind the possibility of sibling rivalry.

Suggestions for Treatment

Before any direct work is attempted there should be a long period of play therapy. Parental therapy is probably also necessary in this case.
CASE STUDY - B.5.

Child: B.5.  
Birth: 20.5.44

Occupation Father: Doctor  
Class: Std. 3.

Description of Speech Disorder:

By Parents: Stammer

By Therapist: A clonic stammer with repetition of the initial consonant or, if it is a short word, an occasional repetition of the whole word. Sometimes there is a suggestion of tension around the eyes.

History of Speech Disorder

B.5. has stammered ever since beginning to talk; at times it has been worse than others.

Family History of Speech Disorder

Father stammers, although he disguises it and many of their friends don't realize he has one. At times, however, it is quite bad - for example towards the end of the year or when he is very tired. Two uncles also stammer, one was drafted out of the air-force because of it.

Developmental History

There was nothing in the physical history that was untoward; developmental steps were normal. However there is an indication that the child was a little insecure when he was a baby due to the family moving about during the war-years. The father's practice was a busy one, and the mother had to often leave the baby to attend to the phone, door, etc. The child used to get 'jittery' and wouldn't let mother out of his sight when the parents went out. When he became too 'jittery' they gave him sedatives and put him to bed for a while. This seemed to help. His present physical health is good and he only has a few colds. He is right-handed. His mother said he has always been a 'good' child and amenable to discipline. He hated going to school for instance, but never complained. Being rather shy he doesn't get asked out to parties or make friends like his younger brother does. He tends 'to get in a panic' about things - for example he is sure he won't be able to do his homework but when he actually sits down and attacks it systematically, he is surprised to find he can manage it. In spite of being shy his attitude to people is friendly. However his younger brother is such a charming child to look at, that he tends to 'have the say' before B.5. has had time to get the words out. By the time B.5. gets there, mother said, conversation is probably two paragraphs ahead. B.5.'s play activities include swimming for which he is having lessons and he is beginning to learn tennis.
Family History and Home Conditions

There are four children; B.5. is the eldest by three years to another boy and there is a girl and a younger boy aged four. The middle boy is top of the class and a 'bright' child. B.5. plods along about the middle of his class. Mother says that B.5. has often been given the responsibility of looking after the other children. She felt that he may have been kept with them (the parents) too much. The paternal grandmother appears to live with the family, but she is very elderly.

School History

B.5. attends a private school. According to his teacher, he is about average and is in the middle of his class. The teacher specifically mentioned a reading difficulty and the mother confirmed this by saying that when he was younger he almost had a 'word blindness'.

Therapist's Interpretations and Observations

B.5. appears to be too precise and formal. He is cooperative and friendly and rather diffident about initiating activities himself, there may be some insecurity, and aggressive feelings which he does not express openly.

Test Results

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 118
Performance Scale: I.Q. 106
Full Scale: I.Q. 113

B.5.'s ability in non-verbal tests is lower than those involving verbal material. It may be that his very good environment has stimulated his verbal ability.

The Raven Progressive Matrices resulted in a score of fifty percentile and a rating of Grade III, intellectually average.

The Vineland Social Maturity Scale

A total score of 79 resulted in an age equivalent of 10.6 and a social quotient of 98.

The Rosenzweig Picture Frustration Test

The results suggested that B.5. may have a low threshold for meeting frustration in a conventional fashion. The trend
toward obstacle dominance shows that he may become overwhelmed when frustration continues. He has (surprisingly) a very high extrapunitive score.

**Concluding Remarks**

This child would probably respond to the extra attention involved in individual sessions rather than any grouping with another child. Any means by which he can be encouraged to use the more expressive materials should be employed.

**Suggestions for Treatment**

As this child appears shy and somewhat insecure it may be that a non-directive approach may be appropriate. Overlapping his appointments with another shy child may be helpful, and every opportunity given for him to use the clay, paints, dough, sand and other maleable material. Some attention to his reading difficulties may be necessary.
CASE - STUDY - B.6.

Birth:  10.8.43  

Occupation Father:  Chemist's Assistant  
Class:  Std. 3 B.  

Occupation Mother:  Clothing Factory  

Description of Speech Disorder:

By Parents:  Stutter  

By Therapist:  A tonic stammer with prolongation on the vowel.  
A really severe block is accompanied by opening of the mouth and disturbed inhalation, with a little head shaking at times. Some words involve both repetition and prolongation, - for example m-m-o-re (more). Speech is fluent for a period and may be then broken by a severe spasm. There is an associated tic around the eyes.

History of Speech Disorder  

B.6. has stammered ever since beginning school, according to his parents. It is always worse at the end of term and even at the end of a week. When he was in one particular teacher's class stammering almost ceased, but it began again when he moved up. Sometimes B.6. becomes 'so tied up', mother said, that he bangs on the table to help himself. In 1953 he began to be self-conscious about his stammer. B.6. attended the clinic previously.

Developmental History of Child  

Normal birth but some feeding difficulties. When B.6. was three months old another baby was on the way so that the child was then bottle-fed. Mother attributes his fretfulness as a baby to lack of sufficient milk. He was very quickly toilet trained and didn't need napkins after fourteen months. There have been no accidents and the only illness was German measles. His present health is very good. B.6. is mainly right-handed but bowls and bats with his left. (Father and mother are ambidextrous). Mother describes him as being "very highly strung", and says he reacts badly to being reprimanded. He used to be very fearful in the night but this has now ceased. When mother keeps B.6. in bed for a few days, his stammer improves - presumably as a result of the extra rest and attention. He is friendly and very good with young children. At present he is going through a 'cheeky' stage. Football and swimming are his main interest; he is not very interested in reading, but is good at drawing, and likes that. Mother is concerned about some of his friends, - he has "Become interested in sex and comes home and asks questions." Sometimes he skips school and goes to the Centennial baths.
Family History and Home Conditions

There are three children, one girl being only a year younger than B.6, and in the same standard, (but not the same class). There is also a younger boy aged seven. Mother describes herself as being placid but on the other hand she has an ulcerated stomach and doesn't sleep very well at night. She says the children get on very well together and father accompanies them on excursions and plays cricket with them. He is relatively young and has a 'big brother attitude'. The home is good, average and is neatly kept without being over-tidy.

Therapist's Interpretations and Observations

It is difficult to account for B.6's difficulties other than that he was rapidly displaced as the baby by his sister. The slight tendency toward delinquency should be noticed. Mother working doesn't help matters because she doesn't hear about the misdemeanours until after they have occurred. If she was home they would probably be prevented.

Test Results

Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 95
Performance Scale: I.Q. 107
Full Scale: I.Q. 101

B.6. has average intellectual ability as measured by these tests. In the Raven Progressive Matrices B.6. was rated as Grade III, intellectually average.

Vineland Social Maturity Scale

A total score of 82.5 gave an age equivalent of 11.4 years and social quotient of 101. B.6.'s social maturity thus corresponds with his chronological age.

Rosenzweig Picture Frustration Test

The results suggest that B.6. reacts to frustration in a conventional manner. He had an extremely high ego-defence score suggestive of feelings of inadequacy, but his extra-punitive score was not excessively high.

Word Reaction Test

The following words had significantly long reaction times: Hate - hateful boy, 2 secs; brute - dog, 2 secs; dark - night, 2 secs; man - big, 2 secs; strike - boy, 3 secs; punish - the man, 3 secs; ghost - not so good, 3 secs; late - to school,
2 secs; mother - James, 2 secs; bed - bad, 1½ secs; angry - Noel, 2 secs; teacher - Mr. --, 2 secs; story - Jack, 2 secs; There are no words with excessively long reaction times, and no interpretation can safely be made.

Concluding Remarks

The facial tic, masturbation and night fears suggest that there is likely to be a relatively extensive emotional disturbance, but there are no major upsets in his background that could account for it.

Suggestions for Treatment

A rather more firm and consistent approach may be necessary for B.G. He should respond to direct work and approval for any improvement.
CASE STUDY - B.7.

Child: B.7. Birth: 27.10.41

Occupation Father: Carpet Factory worker Class: Std. 3 B.

Description of Speech Disorder

By Parents: No stammers

By Therapist: B.7. can speak fluently for quite some time, then his speech becomes very rapid and there is some staccato repetition of the initial consonant and vowel, or consonant alone, for example, ka-ka-Cassidy, or k-k-k-k-ome. Moreover sometimes there is a prolongation of a vowel and a severe tonic block, with opening mouth and silent interval.

History of Speech Disorder

Mother was adamant that the stammer began in Standard 1, although the Therapist personally thought it unlikely. She said it goes in spasms, sometimes it is alright, but it is definitely worse when he is excited.

Family History of Speech Disorder

No history of stammering, according to Mother.

Developmental History of Child

Normal birth and normal weight. Walking norms slightly late (18 months) and he began talking late - the exact time mother couldn't remember. There were no illnesses or accidents but circumcision at 12 months was rather painful. His present health is good although he is very tall and thin. He is left-handed. Mother describes him as having a nervous disposition, and he is not very keen on going out in the dark. He nail-bites. She says that he is obedient and not difficult to manage. His play life and interests are somewhat restricted; he has few hobbies except collecting stamps.

Family History and Home Conditions

B.7. is the eldest of a family of six. The home conditions are not very good in spite of the fact that they live in a State house. The house is orderly and clean, but the financial position is not very good. Father is a pinched sort of man, and has just had an operation for a gastric ulcer. Father himself has known physical want and deprivation during childhood. Mother says she is patient with the children but father can only stand just so much. During the home visit it was obvious that father expected instant obedience and disliked any argument. Questioned as to methods of discipline mother says father gives him a 'hiding' - but it doesn't do any good. She, herself, shuts him in his room as a punishment.
School History

B.7. has failed several classes and is now twelve in Standard 3.

Therapist's Interpretations and Observations

B.7. is fearful and somewhat insecure, probably as a result of his father's arbitrary discipline and his lack of scope for achievement.

Result of Tests

The Wechsler Intelligence Scale for Children

Verbal Scale: I.Q. 74
Performance Scale: I.Q. 74
Full Scale: I.Q. 71

This indicates that B.7. is definitely below average in intellectual ability, a finding which is confirmed by the Raven Progressive Matrices in which he was rated as Grade IV.

The Vineland Social Maturity Scale

A total score of 81 gives an age equivalent of 11.0 and a social quotient of 85. Thus, although B.7.'s social quotient is well below his chronological age, yet it is still greater than his mental age.

Rosenzweig Picture Frustration Test

The results indicate that while there is a larger extrapunitive reaction, this is not excessive, and there is some tendency for aggression to be turned inward. With continued frustration the child apparently has a tendency to relinquish extrapunitive reactions and become somewhat overwhelmed (→ 50) and fall back on patience and conformity as a solution of the problem as shown by the trend towards M in the need-persistence column (→ 50).

Word Reaction Test

The following words had a significantly long reaction time: dark - day, 8 sec; learn - English, 6 sec; man - naughty, 2 sec; nasty - John, 3 sec; clever - boy, 4 sec; mother - nice, 5 sec; street - wide, 4 sec; angry - Hop, 3 sec; teacher - Mottram, 3 sec; The long reaction times to 'learn' and 'clever' show the child is disturbed by his retardation. It is not possible to make any interpretation regarding the others.

Concluding Remarks
B. 7. is intellectually below average and most of his difficulties centre around failure at school. Furthermore this is not balanced by any success at sport, or anything else for that matter. He is fully aware of his inability and bears the situation with patience. That he has not become delinquent is, perhaps, to be wondered at.

Suggestions for Treatment

The main aim for treatment in this case would be to try to arrange for B. 7. to be transferred to a class with children of his own ability. Any means of encouraging initiative and helping the child to find some means of ego satisfaction should be grasped. He may respond more quickly if his appointments are arranged to overlap with B. 6.
CASE STUDY - B.8.


Occupation Father: Foreman machinery factory Class: Std. 5 B

Description of Speech Disorder:

By Parent: Stammers

By Therapist: A severe tono-clonic stammer, characterized
by prolongation on the initial consonant
usually, with a little repetition on p and b, and t and d.
B.8. has adopted a habit of forming the latter just outside
his front incisors. At the same time there is often an ac-
companying naso-pharyngical phonation, not very long, but
obvious, if one is listening to the speech. He also tends to
try and avoid stammering by a slight alteration of the vowel
sound, so that sometimes it sounds as though he is 'putting
on side'. The stammer is severe, not so much because of the
duration of the spasms but rather because it persists in nearly
all situations in which stammering children are generally
relatively fluent, for example, he even stammers occasionally
in unison reading. Severity is also indicated by several
secondary avoidance reactions and the associated dysphonia
(huskingness) caused by the tension.

History of Speech Disorder

B.8. has stammered since an early age; his parents think
he has improved lately because he 'hangs on to words' rather
than repeat them. They have attempted to correct it by tell-
ing him to put the word around the other way or to stop and
take it slowly. B.8. had previously attended the Speech
Clinic for some years, and has also had hypnotic treatment
(with no success).

Family History of Speech Disorder

Mother's brother stammers, and mother herself does a
little when she is excited. Father also stammered when he
was young and says he "broke himself out of it" when he was
about 12 years by just deciding he wasn't going to do it any
more. The eldest boy doesn't stammer, but is just the opposite
- "he talks like a gramophone".

Developmental History of Child

A normal full term birth - baby was bottle fed. Teething
and walking were at usual age. He was toilet-trained by
18 months. A.8. couldn't talk until he was over 2 years,
only saying a few words such as Mum and Dad. He had Dyslexia,
severely enough not to be understood when he went to school.
The only illness he has had is measles, and the only accident
was in 1948 when he caught his foot in a bike and had to go to hospital for a month with a severed tendon. His present health is good, but he bites his nails. He is right-handed. His mother described him as a very good-natured child — "happy-go-lucky". It is very rarely that he gets into a temper. He sometimes likes his own way and needs "a bit of coaching to do things". She attributes a tendency to be slapdash to being "a little spoilt as the youngest often is". He is interested in all sport, and horses. In his spare time he works at the stables. The father says B.8. is no trouble, except he's never home!

Family History and Home Conditions

There are four children in the family, a boy of 22 years, two girls 19 years and 16 years respectively, and the patient. The parents' attitude is optimistic and philosophical, for example, "he'll grow out of it one of these days". Their methods of discipline were either a good smack on the legs, or privileges withheld. They live in a small unpainted house, with an exceptionally neat garden.

School History

B.8. is now attending his second school. At the previous one he was in the Primory four years. He was poor at reading but better at number work. Now, at nearly fourteen, he is in Standard 5 and his teacher says he has very untidy slapdash work.

Therapist's Interpretations and Observations

There are probably attitudes in the home which are not apparent in one or two interviews. There are only one or two points which deserve watching in the case history. The possibility that the older brother dominated B.8. should be noted, and the attention-getting properties of the stammer should be kept in mind, particularly in view of his lack of achievement at school.

B.8. was given an Intelligence Test in 1953 and a comprehensive battery of Attainment Tests. The Otis I.Q. Score was 80. At that time he was 12 years old, but he scored below his C.A. on all tests and above his M.A. on A.C.E.R. addition, subtraction and multiplication. On the other hand in Problem Arithmetic he was 1 year 10 months below his Mental Age. His reading attainment was also not commensurate with his Mental Age. Failure in the Fieldhouse Oral Word Reading Test tended to suggest poor visual discrimination.

Results of Test 1954

Wechsler Intelligence Scale for Children

Vorbal Scale I.Q. 81
This indicates that in tests of a non-verbal nature, B.8. succeeds better than in the verbal tests. However the Performance Score may be raised partly as a result of practise effect with the Koh's blocks. In the Raven Progressive Matrices he was rated as Grade III - i.e. dull average, so that all three intelligence tests confirm that while he would find school work difficult, yet he doesn't qualify for a special class.

Vineland Social Maturity Scale

A total score of 92 gave an equivalent age of 16.5 years so that B.8's Social Quotient is 117. This supports the clinical observation that B.8. is very socially mature for his age.

Word Reaction Test

The following words had a significantly long reaction time:

fault - something you do wrong, 20 secs; hate - sorrow, 2½ secs; lazy - tired, 4 secs; silly - stupid, 3 secs; home - place, 2½ secs; play - run, 4 secs; father - Dad, 3 secs; face - round, 3½ secs; church - sing, 6 secs; punish - hit, 5 secs; ghost - skeleton, 6 secs; naked - undressed, 2½ secs; fall - fell, 3½ secs; boy - brother, 2½ secs; late - hurry, 4 secs; mother - Mum, 3 secs; street - road, 3 secs; neighbour - friend, 4½ secs; angry - rough, 3 secs; cheat - snipe, 3 secs.

It is not possible to comment on these.

Rosenzweig Picture Frustration Test

The results indicate that he reacts to frustration in somewhat of an unconventional manner by aggressive reactions toward the obstacle rather then rational solution of the problem. The extrapunitive reaction is by far the most common and it is mainly in the area of an obstacle dominance or ego-defence, rather than need persistence. Both the former two are higher than the expected mean while the latter is reciprocally lowered.

Concluding Remarks

B.8. is of dull-average intellectual capacity, socially mature, but with quite a lot of aggression which he tends to express only in defensive reactions or by bossing younger children.

Suggestions for Treatment

With a dull average intelligence, this child has had to
struggle along toward the bottom of the class. While he is socially mature and self-reliant, there are indications that he feels the need for more attention and approval. Accordingly this lack should be met as much as possible in the clinical situation. There are no signs of negativism so that he may respond to direct work.
CASE STUDY - B.9.

Child: B.9.  
Birth: 19.5.41  
Occupation Father: Clerk  
Class: Form II  
Description of Speech Disorder:

By Parent: He has a hesitancy — a light hesitancy. They rarely notice the lisp.  

By Therapist: B.9's stammer generally takes the form of a repetition with a quick breath intake and subsequent silent interval, for example "sh" who. It is not very prominent, but is relatively persistent in ordinary conversation, particularly when he is asking or answering questions. In addition he has an interdental (s) or lisp. Reading is fluent.

History of Speech Disorder

The mother considers it dates from the first operation at 5 years. He rarely stammers within the family group, but only when among strangers.

Family History of Speech Disorder

None.

Developmental History of Child.

The birth was normal. The child was of normal weight and was breast fed. However, he was born with a muscle deficiency in the right arm for which he had plastic surgery. The first hospitalization was at 5 years when he was in hospital for a fortnight and later at 10 years when he was in hospital for four months. Mother said he hated hospital but made no murmur about going. Afterwards he ran violent temperatures which the hospital put down to something physical; the mother, however, feels it was more like 'shock'. Developmental steps were normal, in fact as far as speech is concerned, he spoke as early as any and was very clearly spoken. He could say rhymes at 2 years. The only thing which mother mentioned as being of significance was that she considers she weaned him too fast and kept too rigidly to the Plunket schedule. B.9, tended to thumbsuck thereafter, although it was mainly at night. He stopped himself of the habit by putting his hand under the pillow. The thumbsucking has caused rather widely spaced incisors and is likely to have been a factor in the (s) defect. His present health is good. He is developing physically very rapidly. As far as laterality is concerned, he is of course, left-handed, as the right hand is withered by the muscular deficiency. Mother thinks he would have been a natural right-hander. Describing his disposition, mother said he had a
tendency "to bottle things up", and doesn't "let off steam" like the second boy. He is a reserved child and very sensitive to moods. He needs a placid life and as he is very interested in the outdoor, some sort of outdoor career would be suitable for B.9. The parents hope he may ultimately go to Lincoln College. B.9. himself says he would like to be a ranger. The Headmaster said that he mixes quite freely with the other children, has his own particular mates and social relations seem quite normal. The mother says that he has had more attention than the other two children because of his arm deformity.

Family History and Home Conditions

There are three children in the family, B.9, who is the eldest, a boy of ten and a girl of five years. The boys have an upstairs room in which they have a radio. Consequently they spend much of their time up there. The family live on a four-acre farmlet on the outskirts of the city, and they breed fowls as a side-line. The boys spend a lot of time outdoors, building huts etc. The mother appears poised, sensible and placid. The father appears to discipline through the mother "Stop that child from kicking ———". It would appear that he has rather strong views but leaves the running of the home to the mother.

School History

He is average in most things, but if he is really interested in a subject he will do quite well.

Therapist's Interpretations and Observations

B.9's stammer seems to date from his hospitalization and be associated in part with this. In addition the physical deformity must have caused him some distress. He doesn't seem to use the arm as much as he could, perhaps because he hopes in this way, to make it less conspicuous. The mother's attitude seems sensible but further acquaintance is necessary to ascertain father's attitude.

Result of Tests

Wechsler Intelligence Scale for Children

<table>
<thead>
<tr>
<th>Scale</th>
<th>I.Q.</th>
</tr>
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<tbody>
<tr>
<td>Verbal Scale</td>
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</tr>
<tr>
<td>Performance Scale</td>
<td>125</td>
</tr>
<tr>
<td>Full Scale</td>
<td>115</td>
</tr>
</tbody>
</table>

The wide discrepancy between the verbal and performance scale seems somewhat unusual and may mean that one is not accurate. An analysis of the sub-tests in the Performance Scale shows
that B.9. did particularly well in the Picture Completion and Block Design Tests. However, on September 28th the Raven Progressive Matrices was administered and in it his score was so low that he was rated as below average in intellectual ability of a non-verbal nature. This discrepancy was so great that later a third test of a non-verbal nature was administered - The Peabody Group Test of Practical Ability. In this he obtained a standard score of 100. This would seem to be the most reliable score. The therapist can offer no explanation why the score on Raven Progressive Matrices should be so low.

**Vineland Social Maturity Scale**

B.9. obtained a total score of 85. The age equivalent was 12.6 years and the Social Quotient 93. B.9. is thus slightly below average in social maturity, but not sufficiently to be considered in any way abnormal.

**Rosenthal Picture Frustration Test**

B.9's reactions are rather too conforming - He has a Group Conformity Rating of 75 as against the expected mean of 64. The various types of reactions, extrapunitve, impunitve and intropunitve, approximate the mean for his age group. These reactions remain mainly at the ego-defensive level however (75 as against the expected 54). The obstacle-dominance and need-persistence columns show a lowered score in consequence. It may be that the child does not persist toward the solution of a problem, but the score is not sufficiently low to be very firm on this point.

**Word Reaction Test**

The following words equaled or exceeded the mean Reaction Time: bad - good, 1 1/2 secs; fight - scratch, 3 secs; doctor - nurse, 1 1/2 secs; fault - (refused), 6 secs; poor - hand, 2 secs; hate - dislike, 2 secs; strike - hit, 1 1/2 secs; home - hospital, 2 secs; face - eyes, 2 secs; thief - jewellery, 6 secs; clever - dunce, 3 secs; policeman - kind, 2 secs; lie - sleep, 2 secs; greedy (refused), 7 secs; dead - alive, 1 1/2 secs.

There are several reactions that need further consideration in the light of the case-history material. After B.9. gave his reply to the stimulus word 'doctor' the Therapist made some comment to the effect that she supposed B.9. knew a lot about doctors. For the following word, B.9. was unable to give a reaction and it seemed likely that this was caused by the few previous remarks. To the word 'poor', B.9. replied 'hand', to the word 'home', 'hospital'. The test thus does help to confirm the Therapist's interpretations of the case-history that these experiences have been rather disturbing for B.9.

**Concluding Remarks**
B.9. is of average intelligence, is conforming and co-operative and not particularly aggressive. He is a little immature socially, probably as a result of the effects of the deformed hand, and may have some emotional disturbance arising out of his hospitalization experience.

Suggestions for Treatment

As hospitalization for attention to a muscular deficiency and atrophy of the right arm was apparently the precipitating cause of this child's stammer, every opportunity should be given for him to express any fears etc., that may have arisen. Direct work on the stammer should be deferred until the lisp is corrected.
CASE STUDY - B.10

Child: B.10  Birth: 21.4.40
Occupation Father: Hotel Proprietor  Class: Form IV F

Description of Speech Disorder:

By Parents: Stammer. She 'bites' at the words. Mother tells her not to bite out the words. She used to tell her to say it over again until she heard a broadcast advising against this.

Therapist: B.10 can speak for some little time without stammering but then she will have an extremely severe tonic spasm, with complete stoppage, silent interval and an opening and closing of mouth, and closing of eyes. There is often a retrial, which is rarely successful, so that she goes over a phrase like a cracked gramophone record, for example: I-is (open mouth, eyes closed) s-a-(phonation) also of, also of, etc. In reading, there is stammering on almost every word. When she has a 'bout' of stammering it is accompanied by wringing of the hands and flushes.

History of Speech Disorder

Mother can't remember exactly when it began. She thinks B.10 must have been stammering before she went to school, but it developed more when she was a school-girl. Sometimes she is quite alright, but other days she is not. For example on her 'good' days, visitors sometimes don't realize she has any difficulty at all. She never stammers when she yells. The severity of the stammer depends a lot on who speaks to her.

Family History of Speech Disorder

The father's brother used to stammer but he cured himself. Father himself, when excited, or talking on the telephone, repeats a bit.

Developmental History of Child

Mother had a severe shock when she was three months pregnant as her only son was accidentally shot by another child, and she had a nervous breakdown. B.10 was born a 'blue' baby and the doctor didn't think she would live. Mother and child nearly died. B.10's developmental steps were normal and there have been no illnesses or accidents. She is right-handed. Her present health is very good. Describing her daughter mother says she tends to be nervous, although her attitude to people is friendly. She perspires a lot in the palms of her hands when she is excited and she nail-bites. She learns singing and music and loves all sport. B.10 has always wanted to be a nurse.
Family History and Home Conditions

As the father is an hotel proprietor and they live in an hotel, they have many visitors and tend to meet a lot of people. They have few guests however, and mainly rely on bar trade so that the mother is not overworked. Besides B.10, there is another younger daughter aged 10 years. B.10, herself says they "don't get on" - the sister is evidently a real tomboy. Questioned as to how she likes living in an hotel, B.10. says that she likes it because there is plenty of company.

School History

The family have moved quite frequently so that B.10 has been in a number of different primary schools. She now attends a public secondary school and is in a form where there is no Latin but a little French. Her teacher says that she is below the average level of her class in attainment, but she considers her as "not unintelligent".

Therapist's Interpretations and Observations

Undoubtedly the effect of the death of the boy had a profound effect on the attitude of the mother toward B.10. It appears that it did affect the child in the intrauterine period (she was born a 'blue' baby) but it is likely to have extended further into a rejecting or over-protecting attitude toward the new baby. Halliday\(^4\) comments that the influence of intrauterine period is largely undetermined, but that frequently adult 'depressives' have a history showing that the mother was previously emotionally disturbed during the intrauterine phase of the patient by such an event as the death of one of her children.

Test Results

Wechsler Intelligence Scale for Children

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<td>96</td>
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<td>Full Scale</td>
<td>102</td>
</tr>
</tbody>
</table>

Together with the results from the Raven Progressive Matrices Grade III - it indicates that B.10's intellectual ability is probably average.

Vineland Maturity Scale

A total score of 92 gives an age equivalent of 16.4 years

and a Social Quotient of 113.

**Rosenzweig Picture Frustration Test**

Undoubtedly mood affects this type of test to some extent, and B.10, having had bad marks in her examination was feeling particularly aggressive. Nevertheless, her ego-defensive score was extremely high (73 per cent as against an expected mean of 52). A Low Group Conformity rating suggests she reacts to frustration in an unconventional manner, and the low M and m score suggests that she may not be very patient.

**Concluding Remarks**

There is likely to be quite a deep emotional disturbance in this case, probably associated with the mother having unconsciously rejected the child as a result of the death of the boy.

**Suggestions for Treatment**

As B.10 is an adolescent, a permissive, non-critical attitude should be effective, and direct work should be centred around something of interest to her.
APPENDIX B.
NOTES FROM DAILY RECORDS

Child: A.1.

Date      Observations
June 22   A.1. appeared to settle in easily, and left the room to play the gramophone at the suggestion of another boy. His first activity on returning was painting. He used big sweeping strokes and the whole page, and chose to take the painting home. In order to have some more direct contact with him the therapist suggested he select a suitable picture and he told a 'story' about it which was written down. No comment was made about his speech, but he was praised for thinking up such a good story. He had time to do a little stamping, but time was up and he still wanted to play with the clay. The Therapist commented that mother was waiting, to no effect. The Therapist then insisted, and said he could play with the clay immediately he came the following day.

June 24   Settling in period. Seems perfectly at ease. Mother reports he likes coming because "he can do as he likes!"

June 25   A.1. appears to find it difficult to settle on one activity for long. It is though he is distracted by all the possibilities and wants to do everything he can while he can. He invariably wants to do something further when the time is up. He doesn't accept limitations easily.

June 27   Administered Burt's Graded Vocabulary Test. Reading age 4 years. Throughout the test he rubbed his eyes, it may be some visual difficulty or it may be just a reaction to his reading failure. Tested him with different types of print at various distances but he had no difficulty in distinguishing them so the latter explanation must be the most probable. After the test he painted a large aeroplane and over-coated it with red. He tends to move from one thing to another very rapidly.

June 30   Administered part of Dolch Basic Sight Vocabulary List. Throughout the proceedings he rubbed his eyes, became restless, and asked to go to the toilet. Began remedial reading lessons using the McKee pre-primer workbook, as it was least like ordinary school readers. He seemed to enjoy it, but stammered somewhat (Continued remedial reading - nothing of importance to report)

July 7    A.1. generally plays by himself even if other children
are in the room, but to-day he initiated some conversation with A.3. Some sand-play. Praised him for any improvement in reading. There seems to be less rubbing of his eyes or trying to escape the situation by going to the toilet.

July 8 Tried Spello game for reading. There was no difficulty in remembering the words when it was in the form of a game.
A.1. often begins by declaring he will do something and turns it into a question, e.g. "I'll do this, shall I?" He is probably finding out the limits of the situation.

July 14 Back after an absence. His stammer seemed reduced—probably the period spent in bed and away from the failure situation has helped. He played with the coloured dough. There was some dramatization with the toy pots and pans—he was "cooking sausages in a pan" (no comment). He covered himself with flour and left everything in a similar condition.
During a little reading from the work-book he asked to go to the toilet. The Therapist laughed and he laughed too and said, "I do have to go". He returned grinning from ear to ear—knowing quite well the Therapist realized he was getting out of the situation.

July 19 Some signs of aggression towards A.2. to-day. ("Stop reading my book"). He began throwing little pieces of dough at the other child. However as soon as the other child retaliated he quickly said he wasn't playing any more.

July 22 The Therapist made a game with some of the words A.1. finds difficult. This worked quite well. He played a speech game with two of the other boys but after one round tired of it and said, "I'll play something else now".

July 26 The Therapist visited his teacher and indicated in gen-
eral terms A.1.'s intelligence as measured by the tests, and both discussed his reading difficulty. They use a lot of the Phonic method at this school.

July 30 Continuing remedial reading. As soon as he has had enough he says "I'll go home now" and off he goes.

Aug. 2 A.1. tends to give up very easily—even in an easy game if he isn't winning or doing well he will quickly give up and 'cheat'.

Aug. 4 Two or three pages are his limit in reading. His mother says he's stammering as badly as ever. There is no stammer in the clinic. His mother waits with
him if the Therapist is not in the room when they arrive, although he doesn't require her company at all.

Aug. 5 Still continuing remedial reading; he is now on the second book of the McKee readers. He was whittling a candle, with careless abandon all over the floor and it would appear he is not rigidly controlled at home or he would have more qualms.

Aug. 12 Is definitely tiring of having any reading - it may be as well to do it in a 'play-way'. Once again he protested when time was up, saying 'First I'll put away the blocks' - and he isn't that keen on putting away blocks! He evidently feels the need to assert his independence.

Aug. 16 The Therapist discussed A.l's problems with the Remedial Reading Teacher.

Aug. 19 The second rating at speech. A.l. made several pictures with the hammer mosaics and made 'stories' up about them, reading the material afterwards with no difficulty.

Aug. 21 There was some water and sand play to-day. The Therapist made up a game of 'Memories' - using the words he needed to learn for that day, and he played it very easily.

Oct. After conferring with the teacher and Headmistress, the Therapist referred the case to the Psychological Division to be placed on the waiting list for the Remedial Reading Clinic.

Final Note

Nov. The child has still had no recurrence of stammering. Trial discharge.
Date       June 22

Child:  A.2.

Observations
A.2. hung his head and answered any comments very quietly at first. However, he explored the room, and didn't stand around waiting for adult direction. In order to have some direct contact with the child the Therapist suggested he select a picture and tell a story about it to be written down. He selected a picture of a car and proceeded to enumerate the items he could see in a rather stereotyped fashion. The Therapist and child played a rhyming picture game together; he talked quite a lot but it was so quietly said, it was more in the nature of a monologue. However he became far more at ease, and laughed and smiled.

Date       June 23

Rating of Speech - in which he spoke almost inaudibly. He played some table tennis and modelled with clay a yacht, speed-boat, and a duck. Therapist gave him a cut-out of an aeroplane about which he made up 'stories'. He was praised for any ideas, and his speech seemed easier and he dictated quite a long passage.

Date       June 25

The child made up rhyming words. A.2. responds very well to praise. (Note that he should be commended as much as possible.) A.2. tends to fall in with adult suggestions too readily, even if he has another preference, e.g. "would you like to do some clay modelling?" "Yes" "You don't need to unless you really want to". A.2. then did what he had originally wanted to and played with blocks. It may be wise to minimize direction by the therapist as much as possible.

Date       June 29

Some water-play with A.3 - blew bubbles. There was much laughing and giggling between them, but immediately A.2. had finished doing this, he once more became submissive. It is almost a cringing attitude. There was no direct work to-day.

Date       July 11

A.2. chose his own activity, even after being asked to join a game, so he appears to be becoming more independent. He spent a long time reading in the corner. (Note - try to have material for more bolisterous play on hand.

Date       July 3

He remains quiet and submissive despite A.3. being present. Played a rhyming game. The Therapist tested his reading, which is some-what retarded for Standard I. Therapist directed him into some unison reading. Noted he skipped words and seems to have an erratic eye-span, jumping from early words to later ones and back again. To correct this suggested he follow with a pencil, as was advised with children who have
brain injuries and have difficulty in being consecu-
tive.  

July 5  A.2. did some unison reading with A.3. The Therapist made no comments whatever about mistakes or stammers, which were pretty frequent. He now tends to sit and read in the clinic, which makes it difficult to make any contact with him, other than accept his choice.

July 6  For the first time he made some spontaneous comments about the pictures in the book and seems genuinely engrossed in the stories, not quite so much in how he is reading. (Note: encourage this by making references to the story all the time.)

July 9  A little more boisterous play with A.3. Both these children are meek when by themselves. Some sand-play, with neat and careful arrangement of the animals in 'paddocks'. He was very methodical in going about it.

July 13  Somewhat more spontaneous.

July 15  Reading has improved to the stage that it is possible for whole lines to be fluent. Began to tick occasional fluent lines. Mother said that she thought he was improving and that several people had commented on it.

July 19  Some rough and tumble play - throwing dough at A.3. with much laughter. He also played skittles with more noise than he had ever felt free to make before. The Therapist is still continuing to tick fluent lines in reading.

July 22  Administered Raven Progressive Matrices, and also checked up on his sight vocabulary with the Dolch Sight Vocabulary List.

July 28  Visited school and spoke with teacher.

Aug. 3  Noticed that A.2. still skips words and sometimes whole lines - a scattering of attention rather than a systematic following of the sequence of ideas or words. Continuing system of the child following the text with a pencil. There are now many more spontaneous comments to the Therapist about the pictures and story. Played at suction darts with A.3. - there were some indications of quite a degree of aggression. A.2. made a feint of throwing the dart at the Therapist as she entered the door and emboldened by the acceptance related how he and his friends made "traps to catch his father in

by digging holes and covering them". (Query - Is there some aggression against father?)

(Little to report for next few sessions.)

Aug. 8 Visited home. Father said they had noticed A.2. is gaining more confidence at home and that he is asserting himself with other children.

Aug. 9 A.2. made threatening gestures with the rubber knife and hammer at A.3. He is not nearly so compliant. He doesn't come directly when a suggestion is made to come to the table, but finishes what he is doing. He can now read two or three lines sometimes without stammering.

Aug. 10 The two boys hid in the doll's house from the Therapist. They then spent a long time building a "bridge" out of blocks. Neither of them spend so much time painting as they did in the beginning - in fact they rarely do any painting now. Nearly all contact was with A.3. to-day.

Aug. 12 He chose to draw on the blackboard first. There was some direct work - retelling of a story the Therapist previously related. He stammered quite a lot but enjoyed telling it. Then he made quite a long spontaneous comment about the hens etc. - his voice was slightly more audible.

Aug. 17 Retelling of story to-day. He stammered quite a lot but his voice was louder and he seemed less self-conscious about talking.

Aug. 19 Second Rating of Speech.

Sept 16 Administered Vineland Maturity Scale. Some boisterous play with A.3. and a game of Picture Lotto.

**Final Note**

A.2 was kept on for a few weeks until both boys had become used to the idea of being transferred back to the speech clinic from which they had originally come. Their progress is continuing.
Child: A.3.

Date  | Observations
June 28 | A.3. settled in quite well, and joined in with the play of A.2.

June 29 | He came in on the bus, and walked from the square by himself to-day. To encourage oral expression the Therapist asked him to choose a picture. He had great difficulty making a choice and it took him a long time to decide whether he would take it home or not. His time overlapped with A.1. but they made no contact with each other.

June 30 | Without another child in the room A.3. seems rather lost and stands around waiting for adult direction. He made up a story about a picture, and then the therapist read a story leaving out key words now and then for A.3. to supply the missing word. This had the effect of stimulating interest in the story itself and reduced opportunity for stammering.

July 2 | A.2. and A.3. were together again to-day but both boys were very quiet and played on their own. A.3. did some reading in which he stammered severely at the beginning but eased off toward the end. (Query - Was it the result of the adaptation effect, or the acceptance and non-criticism of the Therapist?)

July 3 | The child still waits around the table expecting adult direction. He did some unison reading with A.2. to-day but there was no self-initiated activity at all. He stammered less today but then there was less spontaneous conversation in which he would have an opportunity for stammering.

(Nothing very much to report, except a tendency to initiate some activities himself. Two sessions omitted)

July 13 | Rating of severity of stammer. A.3. was a little late with his rating because the raters, (and another child who required rating) were not all available at the same time.

July 15 | Although it was a pouring wet day A.3. arrived, having come by himself as usual. He is always very punctual too. He still tends to wait around the table and does not begin any play with the material available. The Therapist tried the method of ticking each line of fluent reading which has worked so well in the case of A.2. but it seemed to make him stammer more. (Note - drop doing this.)

July 19 | He put the gramophone on of his own accord today.
Then he threw some of the coloured dough at A.1., and then did some stamping with A.2. This Monday session when he comes with children his own age and can have a little longer seems much the best.

There was quite a lot of laughter and much less stammering. He played sticks with A.2, and then decided "I'd better go now". - much sooner than it was necessary. However it was so unusual for him to make up his own mind about anything that the Therapist let him rest on his own decision. (Note - Feel that a week of "no-direction" into any activity speech or otherwise would be appropriate.)

July 21 A.3. continues to be much less stolid and unresponsive. He went straight to the gramophone to-day and put on a record. He also played with the dough, pulling and squeezing it - something he has never before attempted. While the therapist was at the phone he picked up a Grade 3 reader and was reading it. (Therapist): I think that might be a bit hard for you, A.3. (A.3.): No. (Therapist): You'd like to try it? (A.3.): Yes. He managed it very well, although of course it was unison reading. In that situation it is obvious that he really is a very good reader and has a very good sight vocabulary and word attack.

July 22 Administered Raven Progressive Matrices Test. There was very little stammer until he told the therapist that he had to be home early. (Query - Was he expecting opposition?)

July 23 Visited home - mother was in bed with influenza. Father and mother are pleased with A.3's progress. Mother says he doesn't 'hold on' to his sounds as long as he used to, and has a lot more confidence. Even going in on the bus by himself has helped him "He thinks he is cock of the walk because none of the other boys do that". His last reading report has improved, and they attribute that to the speech clinic. Previously he had been given a 'very fair' now has a 'good'. Furthermore he will sit at a book and finish it.

July 28 Tried his reading alone today but he stammered badly, so once more unison work was continued. He hid behind the door to give the Therapist a surprise, but this was the only sign of playfulness.

Aug. 3 He chose his own story to read as usual. Conversation to-day seemed less marred by stammering spasms. He decided for himself when he was ready to leave. Now he often pokes his head around the door before he leaves, and calls out "Hurrah".
Aug. 5 Some reading - not very fluent, unless it is unison reading with the therapist. He tends to be mindful of the therapist at the table nearly all the time even when he is playing and rarely becomes absorbed in any activity of his own. In order to make the change-over to the Gloucester Street room more gradual, the therapist took A.3. around to show him where it was. Began some correction of the (r) defect to-day, but there was an impression that he resented it.

Aug. 9 He was very pleased with the new room, and smiling broadly. A long time was spent exploring its possibilities. Finally he settled to draw on the blackboard and drew a beehive arrangement with criss-cross lines which he has done several times before. He always rubs it out if he thinks the therapist is looking so presumably either it has some significance for him or he is ashamed of his drawing ability. He rubbed this one out before he left.

Still reading Grade 3 readers.

Aug. 11 To-day he built a construction out of blocks. He often casts glances at the therapist to see what her reaction will be. Some (r) correction was continued.

Aug. 13 A.3. was much quieter again to-day. Continued a little more (r) correction but it was noticed that he tended to phonate before the sound and tense his throat, e.g., or ride. The (er) is a gutteral sound. (Note - bet-
ter drop work on setting (r).)

Aug. 16 Attended in spite of the downpour of rain. There was some scuffle and good-humoured tumbling with A.2. He then painted a canoe with a red background around it. It is not usual for him to do much painting. A.2., A.3. and the therapist played picture lotto. There was very little stammer, he was less formal, and rapport seemed good. However during the re-telling of a story afterwards there was a great deal of stammering, with the usual interjections of gutteral sounds making it difficult to understand what he was saying.

Aug. 17 Some further painting to-day - a red yacht on a yellow background.

Aug. 18 Some sand-play. There does seem a trend toward using more plastic and immature types of play material. He asked if he needed to come next term, and said he didn't want to because of the "naughty buses". He sometimes misses a bus and this evidently troubles him, and if he catches a certain bus there are some boys on it who rag him, and with whom he is definitely outnumbered.

Aug. 19 Mother has noticed a marked improvement in his speech "although he has a long way to go yet". She has also
noticed an improvement in confidence and cited as an example how he stood up for himself against the boy next door.

Rating of Speech.

Final Note

A.3. was transferred back to his own clinic.
Observations

June 21 A.4. spent most of his time exploring the room and settling in. His father brought him to-day.

June 22 To-day he arrived too early and was in a flurry, having gone to another clinic by mistake. His first activity was painting. He painted precisely, a small boat in a wide expanse of sea and a second picture of a cat, which he outlined carefully in white and then filled in. He commented that his painting was rather babyish but that people seeing it on the wall would think it was done by a six year old. The Therapist commented back "You feel it's a bit babyish" and he modified it by saying, "It might be". (Query - Did he feel he was expressing himself at a level that was too young and felt ashamed?)
He was very thrilled with the gramophone but on the therapist's mild comments about not scraping the records too much so that they would last longer, (really meant for A.8's benefit) he was very apprehensive that something would get broken. (Query - Is he a little too 'good' for his own comfort?)
He pinned his paintings on the wall and stayed after school for some time. A short time was spent at the table with the therapist, doing unison reading.

June 24 A.4. appears rather anxious and 'disorganized' whenever he arrives. Perhaps the experiences of coming in on the bus by himself worries him.

Rating of Speech. He painted another boat, and it was larger than the previous one. He manipulated the gramophone by himself and seemed pleased after showing A.1. how to work it.

June 29 Once again he painted when he first arrived. This time it was an indoor scene - a table, a chair, a light and a child. The whole effect was rather miserable and empty-looking, with little movement and life. A second painting of a snow scene contained a lot of white. He had the gramophone on while he painted and sang as he did it. He seemed very happy. Then he darted to the water and bubble pipes and played with these; he showed naive enjoyment - which is not usual in a ten year old.
At the table with the therapist he pasted a picture of a little house and told a story about it at dictation speed, without stammering.
The outside door downstairs was shut when he left, and he came back immediately in great distress, saying it was locked and that he was locked out. Obviously he hadn't tried the door, but immediately panicked.
The therapist reassured him by not showing any surprise or fuss, told him that perhaps if he went down again
he would find it did work and if then, by an odd chance it didn't, he might want to come back up and fetch the therapist. He didn't return so presumably he found his way out.

July 2 A.4 arrived early again today. He quickly settles in to do some activity and uses most of the materials in the room. During a game of picture-lotto he stammered very little and not much in the reading which followed.

July 3 The therapist showed A.4, how to phrase and take pauses in his reading - his reading became easier. He blew bubbles again and cut out pictures to make a frieze. He played a game of 'sticks' with A.5, and A.9, and as expected, fitted in very well with them. All three children are intelligent, but not 'hardened up'. With the more socially precocious children such as A.7 and A.8, A.4, tends to be the scapegoat for their hostility, but with the former two he is supported and encouraged e.g. (A.5.) "I think A.4, has X-ray eyes, he is getting so many wins".

July 9 A.4, arrived breathless and bustled, as he often tends to do. There was, however, less rushing from activity to activity, and he spent a great deal of time playing the gramophone.

July 13 He has been well trained in being unselfish, and always offers to let the other child go first in a game. As he was going, he thought he had lost his gloves, and came into the room in great distress, and stammered badly when telling about the trouble.

July 17 The child has very enlarged and inflamed chilblains. Began direct relaxation suggestions, indicating how he should go floppy and let go. He drew on the blackboard a picture of a ship with a fine net-work of intricate lines. It was painstakingly done, but lacking in vitality and movement.

July 20 Once more he arrived too early - at half-past one instead of half-past two. This is a result of confusion of synchronizing bus times and time to get out of school, and being too anxious not to be late, rather than any delinquent tendency. However, as he was so early there were two other non-stammering children in the room and two students. This did not cause A.4, to stammer, as one would have expected and he went the whole period without stammering. There was one incident when he tipped over the gramophone and parts scattered everywhere, and there was a look of distress on A.4's face. The therapist treated the whole thing casually and went on working, leaving the child to right the matter.
July 22 There was one bout of stammering to-day when he was anxious to explain something. He spilt the "sticks" to-day, but this time he was much less concerned, saying in a cheerful voice, "Aren't I naughty!"

July 23 Some more direct suggestions to relax, instead of 'pushing' during a stammering block. Some relaxation exercises sitting at the table.

July 26 Visited school and interviewed teacher, who has only had A.4. a month. He said that from remarks that the previous teacher made, A.4. has definitely improved.

July 29 During reading, both in unison and alone there was no stammering to-day. The Therapist directed some relaxation, tensing and relaxing upper truck and arms. Played many speech games.

July 31 Visited home. The parents have noticed little difference in A.4's speech.

Aug. 2 A.4. was stammering badly again to-day. (Query - Was it the result of the home visit?) He painted another picture of a house, using a great deal of white again. Some direct questioning about his early memories.

Aug. 9 A.4. had arrived while the therapist was out of the room, and on her return found A.4. playing with the dolls and the doll's bed. He immediately stopped doing it although nothing was said. There was a game of picture lotto with A.8. and A.9. They were surprisingly tolerant when A.4. missed his own cue through paying attention to their cards.

Aug. 10 Stammered three times to-day, once asking an innocuous question, once when saying something about the room and once when the therapist had drawn attention to his speech after relaxation. He painted a boat - "too much smoke" said A.4. He then tidied and made the doll's bed. There was some conversation over the toy telephone, but he spoke so quietly it wasn't possible to hear what he was saying.

Aug. 12 Some occasional stammering to-day. There is more stammering during re-telling of a story than there is during reading. For the first time therapist directed some full-length relaxation on the stretcher.

Aug. 16 A very faithful attende; he came to-day in spite of the pouring rain. During a game of picture lotto with A.9. and the therapist he pouted and acted as a child of much younger years would.

Aug. 17 Gave him the Word Reaction Test. There was some
further short doll's play.

Final Note

A.4. has continued to attend once a week during the final term, and will also do so in the new year.
Child: A.5.

Date: Observations

June 21  According to A.5's mother he was rather reluctant to come. However he explored the place thoroughly and seemed happy enough when he went home. Later his mother told me that he had wanted to go to the toilet and didn't like to ask. While relating this, the mother spoke in a confidential whisper.

June 22  A.5. played the gramophone, and read a little.

June 24  Rating of speech. He played rather boisterous table-tennis and didn't wish to leave.

June 25  With tears in her eyes mother mentioned a scene she had with A.5. recently. Evidently A.5. had wanted some thing they could not reasonably afford, and when she had refused to buy it for him she had splashed bath-water over her. Mother baths A.5. on week-days. (Note - mother seems rather emotional and over-protective)

June 29  Most of the time to-day was spent by A.5. in looking at a book. Up at the table he dictated a story about a picture he had previously chosen.

June 30  A.5. is a very punctual attender - thanks to his mother! A.9. was also here and these two seem to get on very well together. A.5. was eating some sweets and offered them to the other. Up at the table he made up a story about a picture. No stammer while dictating it at writing speed.

July 1   To-day he resisted a suggestion to come and re-tell a story, so there was no direct speech work.

July 2   Some rough and tumble with A.9. He was quite happy to re-tell a story to-day and although the therapist made no comment or correction, she did approve when he remembered many items in the story.

(Continued in the same way for several sessions with nothing to report)

July 13  Both boys were playing in the next room, and called the therapist into "see what fun we're having".

July 14  A.5. played with the coloured dough but not for moulding. Rather he used it in an aggressive way, throwing it up in the air in the toy frying-pan and pretending it was pan-cakes. He had some direct speech work - still retelling stories.
A.8. and A.7. came in as A.5. had a longer period while waiting for his mother. The former two began to play 'Fish' rather boisterously, cheating among themselves at a good-humoured level. A.5. was obviously uncomfortable, especially when some of his bright remarks were greeted by A.7. with "Isn't that thrilling". A.5. looked unsure of himself and unhappy, and escaped from the situation by saying he would go down to the outer door to see if his mother had arrived. He came back in a few minutes, but not into the group situation and did not rejoin the game. He was quick to leave when mother arrived.

July 19  Noted that there appeared to be less stammering.

July 22  Administered Raven Progressive Matrices

Aug. 2  Continued re-telling of story. This time suggested that he retell it as though he was reading. This seemed to be more effective.

Aug. 5  Mother rang up about some minor matter and said that people had been commenting on the improvement but that he had begun to get very cheeky. Mother said her nerves were frayed by tea time and she found it difficult to cope. Father was harder on him as a consequence when he came home and said that he wouldn't allow A.5. to get away with things even if she would. Mother had spoken about A.5.'s cheekiness to his former elocution teacher who sensibly said that "as his stammer went, he may be losing his inferiority complex". Therapist added it was just a phase and it should moderate of its own accord later.

Aug. 6  The re-telling of the story to-day was not so fluent. Noted that A.5. can initiate games for himself even if others aren't present. He is fond of aggressive games. "Let's have a sword fight, Miss G----".

Aug. 7  Visited home - Unfortunately father was just leaving in the car. Mother says A.5. wants to stay up until a quarter past seven! - other boys do it. Furthermore he didn't like going to the store, but he doesn't mind now, and is quite happy about explaining things to people. He used to be bashful and over-particular about cleanliness - now he plays soccer and comes home from school filthy. A.5. has also taken up skating and has even been bold enough to go alone when his pal couldn't go.

Sept 9  A.5. has been away ill, but returned to-day after the holiday break.
Sept 13 There was mostly gun-play to-day. He and another child opened the windows and 'fired' on anyone coming below. His stammer appears to hold up his verbal expression less than it used to.

Sept 17 Greeted therapist with "And how's things to-day?" There was plenty of activity and play with guns again - in fact it was the first thing he picked up saying "Ah - it's still here".

Oct. 6 Second rating of speech.

Final Note

Although A.5's stammer is reduced, he will still need further treatment.
Observations

July 13 This was A.6's first attendance. He seemed somewhat suspicious and resentful, but after a time this lessened a little.
Rating of Speech.

July 15 There was an occasional smile to-day, but A.6's expression is, in general, rather dour. While playing a game with A.6, the therapist did something according to different rules. He stopped playing and said, "What did you do that to me for". He had taken it as a hostile action directed personally against him.

July 16 At first he stammered in the "repetitive" game but later it lessened. (Note - feel he would respond very well to a permissive non-directive attitude)

July 19 A.6 appears to be more at ease. He tends to show quite obviously his great pleasure in winning a game and conversely impatience when someone else is winning. Reflecting the feelings expressed, seems to be resulting in lessening the tensions. He asked for his Monday appointment to be changed because he has a story at that time. His requests tend to be in a bossy belligerent tone. Also he is not able to 'give', and comes in vigorously chewing toffee without attempting to offer any to other children in the room.

July 21 Administered the Wechsler Intelligence Test for Children. See Case Study Notes regarding his refusal to do one sub-test.

July 23 For some reason he did not wish to have an appointment changed from after school to during school time. He argued and expressed dissatisfaction.

July 27 Speech remains about the same. Therapist and child played a speech game "I am thinking of something". Left immediately his time was up.

July 31 Visited home.

Aug. 2 Administered Raven Progressive Matrices. He has a very demanding attitude. Sometimes he even comes up and takes books the therapist is using without any compunction at all. He remains solitary and has little to do with any of the other children.

Aug. 3 There seemed to be less stammering to-day. Therapist and child did some unison reading. A.6. pays little attention to full stops as pauses or relaxation points. Breath groups are not considered, rather there is a
staccato word by word attack. A.6. tends to be impatient, and unable to tolerate delay in other people. He was again chewing sweets vigorously, without any indications of sharing with the other child present. Once again he was in a hurry to be gone.

Aug. 4 He was late to-day. In a game of 'Hangman' the therapist noticed that he chose trade names of articles and other words which his opponent in the game was unlikely to be able to guess. The therapist indicated she would take him to see where the Gloucester Street room was. His immediate reaction was negative and hostile. "Sorry". After it was further explained that all the boys were being shown where to go, he consented.

Aug. 9 A.6. came half an hour earlier to-day. A resentful attitude was apparent. Therapist began some direct relaxation with A.6. — still sitting at the table. He was shown how to relax and unrelax his arm, and there was some practice in gently rolling his head to loosen the neck muscles. Following this there was some reading from a graded reader which he chose, but the vocabulary loading was too difficult. He resisted any attempt to have an easier grade.

Aug. 10 To-day A.6. came ten minutes late and went as soon as he could. He disclaims all responsibility not only for coming here but initiating any activities for himself. After he has finished any direct work he says "What now?" His whole manner is somewhat insolent.

Aug. 13 He waited while A.3. finished doing something with the therapist and then placed himself at the table. The therapist attempted to give him a word reaction test but co-operation became more and more difficult until finally he refused to do any more. (See Case Study notes) His replies indicated his hostility and negativism e.g. Fight — you, lazy — you. For the rest of the period he mainly read, although he attempted skittles, i.e. knocking down some blocks with a ball, and also played with the sand-tray for a short while.

Aug. 17 Easy reading from the Grade 1 reader. The therapist showed him how to phrase the material and 'rest' at the breath-groups. Left almost immediately without any attempt to use the equipment in the room.

Aug. 18 The therapist read a passage for A.6. while he marked the breath groups. Then A.6. read the same passage. This helped quite a lot. At one stage something came up about coming to the Speech Clinic and A.6. made 'a face'.
Aug. 20 Continued reading with pauses at the breath groups as above. There was a marked improvement to-day. A.6. read whole pages without stammering. A.6.'s first question on arrival is nearly always, "What's the time? I'm going at --" A.6. is going with the Y.M.C.A. on excursions during the vacation. This should help a little as otherwise he will be around home all day alone, as his parents will be still at work.

Sept. 6 On his arrival A.6. immediately asked the time and said he was going at such and such a time. He played picture lotto and stammered at first. The therapist asked him if he would like to do some reading. (A.6.): I hate reading. Administered Vineland Maturity Scale.

Sept. 8 A.6. again made 'a face' as soon as reading was mentioned.

Sept. 13 There was a rough and tumble and aggressive play with A.5. and another boy. He argued and complained when the therapist explained she would need to change his four o'clock appointment to two o'clock for that particular day. It is likely that A.6. doesn't like to be seen leaving to come to the speech clinic. However the change over was necessary, and the therapist explained why it had to be done. He then appeared to accept the change.

Sept. 15 A.6. didn't come at the stated time yesterday. On being questioned about it he said that he 'forgot' (Therapist): Perhaps it was a case of not wanting to remember. A.6. just grinned. He further objected to any direct work on speech. As he is obviously improving in his reading and as he must be able to realize this for himself, the only interpretation that can be offered is that there is resistance to improvement.

Sept. 16 Resistance continues. A.6. arrived in the afternoon instead of the morning, which would have been in school time. He said he had forgotten to come in the morning.

Sept. 20 A.6. was very negative and resentful to-day, and wanted to leave early to go bird-nesting.

Sept. 21 Gave some more direct relaxation. He played a speech game but did not play with any of the materials in the clinic, and stipulated a time when he would leave.

Sept. 22 A.6. pulled to pieces a 'hammer drawing' of a car that another child had done, but made no attempt to do any-
thing constructive himself. (A.6.): What now? 
(Therapist): You want me to decide
(A.6.): What do we do first. - very emphatically said. 
The therapist left the decision to A.6. and finally
he made a move to do some reading.
The therapist had asked him if he would like a biscuit
and he refused. Later he asked if he could have one,
so the earlier reply is likely to have been a negative
reaction.
At one stage he spoke exasperatingly to the therapist,
who remarked, (Therapist): You are taking your cross-
ness out on me. (A.6.): Yes.

Sept. 27 Resistant attitude continues.

Sept. 28 There is still no change - resistance to therapy still
marked, and he arrived late and went early.

Oct. 3. A.6. arrived at 1 p.m. instead of the stipulated 11 a.m.
"This is my last time" said A.6. and crossed his name
off the timetable.

Oct. 6 Second Rating of Speech.

Final Note

In view of A.6's severe emotional difficulties which
are apparent from the case history material, the test-
ing situation, and the day to day records of therapy,
it was decided to write to A.6.'s doctor indicating
these observations, and suggesting that A.6. may well
be referred to the Health Clinic in order that some
kind of psychotherapy could be given to the child and
further parental therapy as well. The doctor agreed
with the therapist's opinion and indicated he would
refer the case to the Health Clinic. Here the matter
stands, until such a time as the child is able emotion-
ally to accept Speech Therapy.
Letter to Doctor

Dear Dr. ---,

Regarding a patient of yours who has been undergoing treatment for stammering ---------------.

During the course of some nine weeks' observation and treatment, there have been some indications that ------ is somewhat emotionally disturbed. He became agitated during the administration of an Intelligence Scale and refused to do a certain test, although it was within his intellectual capacity to do so. Then too, during therapy there were other indications that suggested it might be wise to defer speech training until some attention had been given to these emotional difficulties.

It occurred to me that, if my opinion coincides with yours, a period of play therapy at the Child Health Clinic might be a solution to the difficulty, and I was wondering if it would be possible to refer him there.

I would be very willing to discuss the matter further if you wished, but would appreciate it if you could let me know what you think about the matter at your earliest convenience.

I remain,

Yours faithfully,
Child: A.7.

Observations

Date       June 22
This was A.7's first attendance. He seemed reluctant and rather on the defensive. He is a quiet, unsmiling child. He explored the room, confirmed his appointments, listened to the records played by the other boys, and departed.

June 23
Straightway went to the painting easel and painted - a yellow yacht with many sweeping lines in blue, green and white to represent the sea. He then blocked in red sails. Therapist and child played rhymo-dominoes. He enjoyed playing this because he won two games. The therapist reflected his feelings, and gradually he responded by smiling and talking a little more. A.8 joined in.

June 24
Rating of speech. He was very ill at ease during the rating and continually glanced at the other therapists. He spoke so quietly as to be almost inaudible. He has a tired, bored attitude.

June 25
A little more free and spontaneous to-day. In a group game with A.8. and A.4. he definitely aligned himself with A.8., who is about his own age, intelligence, and social maturity. A.4. became the outsider and the scape-goat.

June 29
A.7. waited outside the clinic in the outside room instead of coming in, or knocking. When the therapist went out he was just sitting. Child and therapist did a little unison reading.

June 30
He appeared more at ease and settled into the clinic routine to-day. Sometimes he speaks so quietly it is impossible to hear him. Therapist told a story to both A.7. and A.8. which they re-told. His stammering was more noticeable to-day but that may be because he was speaking more spontaneously.

July 1
A.7. still has an air of disinterest in everything. The only time he shows animation is when he wins a game. He finds little to occupy himself with in the room however.

July 3
A.10. was present in the room and as she is a girl, a little older than A.7. he stood inside the door in embarrassment. The therapist made no move to direct and encourage him, but merely greeted him and let him stand. Afterwards he played a talking game and became more at ease.

July 8
A.7. appears to be happier and more at ease in the clinic
He makes more contact with A.8. His attitude to the therapist is positive, and he is beginning to talk about his activities.

July 9  Now A.7. knocks loudly and walks straight in, without any diffident hanging back. Some unison reading with the therapist.

July 12 He is definitely more at ease than he used to be and is developing a 'tough boy' attitude. He enquired whether A.8. was coming and when he did arrive, showed his pleasure and relief in an emphatic, 'at last'. There was some unison reading with A.8. and a speech game.

July 14 Once more he appears very lethargic and bored, and has a disinterested attitude until A.8. arrives. During a game of 'Spello' there was some horse-play and deliberate cheating, which was accepted by both children. A.7. swore several times. He pushed A.8. in a good-humoured way and was resting his hand on A.8's shoulder.

July 19 Again stood inside the door-way when he saw that the girl was in the room. Once more he has relapsed into a bored air. A.7. is a poor reader, with poor word attack, and he makes a blind guess at a word he is not sure of, 'scrambling' over it, even if what he says doesn't make sense.

Aug. 2 He returned to-day after an absence, and seemed pleased to be back. There was some unison reading of Grade I material.

Aug. 4 Administered the Raven Progressive Matrices Intelligence Test.

Sept. 4. Returned after another illness, followed by a further break for the holidays. This time his illness was caused by septic poisoning of a cut he received at football. He made some move to do something with the play materials to-day and make a hammer picture. Some more reading, followed by the administering of the Vineland Social Maturity Scale.

Sept. 8. To-day he arrived wearing 'longs' and a knuckle-duster signet ring! At one stage while he and A.8. were playing a speech game, he picked up the toy knife and plunged it into A.8's back. He did some more hammering. Therapist noticed that there is much less stumbling during reading.

Sept. 13 The therapist took A.7. around to the Hearing Aid Clinic to have an audiometer test (see Case Study Notes). After the return to the clinic A.7. 'taught' A.8. and
the therapist a card game. During the game he assumed a sophisticated 'man of the world' air and, probably as a result of his dominant position, he did not stam-
mer at all. In order to encourage a systematic fol-
lowing of the text in reading, the therapist suggested to A.7. he follow the text with a pencil.

Sept. 20 A.7. has been absent again. He has resumed his bored air, and his stammer seems much the same. For the first time therapist considered he could begin reading alone.

Sept. 22 There is a positive attitude toward the adult, and no aggression is revealed in any way. On the other hand there does appear to be aggression toward peers. He continually pointed out A.8's slips in a game of sticks, with evident satisfaction, sometimes saying ironically, "That moved, dear boy!" His positive attitude to the therapist was also revealed in his final remark, "See you tomorrow and Friday".

Sept. 24 He is generally more at ease and seems happier, and now asks to do reading first so he must feel it is helping.

Sept. 27 A.7. now reads with only a rare stammer. His stammer is always worse at the beginning of a session and eases off again toward the end.

Sept. 29 Last attendance.

**Final Note**

A.7. was absent through sickness from school and the clinic and it wasn't until November 16 that he was given his final rating. His whole period of treat-
ment was characterized by some improvement in attitude followed by a relapse when he had been absent. The family is moving to a small town in the North Island, so the case is closed.
June 21 This was A.8's first attendance. He looked around in a very desultory fashion, and wasn't able to settle to do anything. Appointment times were arranged and he left.

June 22 He gave a rather tentative smile on his arrival, but in general is rather unresponsive. He directed both A.5, and A.4, how to make the gramophone play. This was interesting in the light of his lower intelligence. He appeared quite poised and not ill at ease in the strange situation. Finally he relaxed enough to paint.

June 23 A.8. arrived late, but did not seem at all worried about this. He said in a non-committal way, "I'm late today — we had choir practice". As the therapist was eating a throat tablet, she offered the child one. He promptly took one, and thereafter helped himself to the packet through-out the period. He played a speech game and did some unison reading. His reading ability is somewhat lower than a standard five level.

June 24 He was definitely pleased to come to-day and was smiling when he arrived. Rating of Speech. In spite of the presence of the strange adults he speech seemed easier.

June 25 His stammer appears to be easier — he is probably getting used to the situation. He is independent of adult suggestion, but not aggressively so. For instance to-day he finished something he was doing before he came up to the table at the request of the therapist. A.7. and A.8. have became friendly and tend to exclude others from the relationship.

June 29 To-day he was late again, and his stammer noticeable. He played a few records, but didn't appear to be particularly interested in anything. He had cobbled up a hole he had had in his jersey himself, so they must be left to take a great deal of care of themselves in the orphanage. Therapist and child did some unison reading.

July 8 A.8. has been absent, so the therapist phoned the school to make enquiries. The result was that to-day he turned up with no mention made of the reason for his absence. Therapist didn't enquire. For the past few weeks A.8. had been continually sniffing and didn't appear to have any handkerchiefs, so the therapist supplied him with two. He accepted them non-committally. After he had left to-day a lead figurine of a cow-boy on a horse was missing, and there
is a possibility that he has stolen it. (Note - check up to see if the orphanage is some sort of home for delinquent boys.)

July 12 To-day the therapist asked A.8. whether he had borrowed the cow-boy on the horse. "No," he said, "I haven't borrowed any books". (Note - That was neatly done, if he is the culprit. It suggests he has become rather sophisticated at stealing. The only other child in the room at the time was A.7.) The therapist had supplied puppets and left them where the boys could use them if they wished. They picked them up and explored their possibilities, but did no more. The session finished with some reading.

July 13 He seemed happier to-day. A.5. and A.8. threw pieces of coloured dough at each other, but picked up the pieces afterwards. He did some reading in unison with A.7. and was more fluent.

July 28 A.8. has been absent again for some time. He arrived back to-day after the therapist had rung the school. His stammer was as severe as ever to-day. For some direct speech work he played a speech game.

Aug. 2 Administered Word Reaction Test to-day. Some unison reading from a Grade I reader.

Aug. 3 He spent a little time throwing the suction darts, but otherwise seems to find nothing in the room to interest him. Reading continued.

Aug. 4 Therapist asked him some direct questions about his life before he went to the orphanage. He said that his mother is down in Christchurch, and came to see him at school the other day. He remembers being told how once he fell into the river and some lady pulled him out by the hair. (This turned out to be correct.)

Aug. 5 Administered Raven Progressive Matrices.

Aug. 9 Therapist asked A.8. to tell her more about his life before he went into the orphanage. Straightway A.8. said that he used to thieve. He used to thieve with a crowd of other boys. Asked what sort of things he stole, he seemed vague, but intimated it was mainly cigarettes. He said that his mother and father were separated, his mother was down here now, and he thought his father was in Wellington, but he didn't know. His mother knew he came to speech training because he had told her.

He played a game of picture-lotto with A.9. and A.5. and did some easy unison reading. Generally he says very little unless he is directly questioned, but on this occasion he spontaneously told the therapist how
he had lost his way finding the new room.

Aug. 10 Both therapist and child did some unison reading in the Grade I reader. He seemed genuinely interested in the story and decided to turn back to the beginning which he had missed. Then he played Picture-lotto with A.4, and won again to-day. This pleased him. He is definitely getting more enjoyment out of the whole clinic situation. There was no stammering while playing picture-lotto to-day.

Aug. 11 For something directly pertaining to speech, therapist asked him to make up a story about the farm picture, which was written down. This stimulated quite a lot of spontaneous conversation.

Aug. 18 A.8. has been away again, and he explained on his return to-day that he had had a poisonous foot - "has been to the doctor and that". He chose to play a game of pick-up-sticks and finished with reading.

Sept. 6 This was A.8.'s first visit after the holidays. He told how his mother is now working and boarding at a private hotel in the city, and that his father will be getting a house down in Christchurch after February. There was much spontaneous conversation about how he had been helping build a fowlhouse in the holidays. He finished the session by making a hammer picture of a truck and doing some reading, paying attention to the phrasing and breath groups.

Sept. 8 A.8. was smiling broadly when he arrived. He is now able to read by himself, although not without some stammering. He stayed after A.7. had gone to finish a hammer picture he had been making.

Sept. 10 This was a short session as his mother came up for an interview.

Sept. 13 Reading continues to improve.

Sept. 29 Stammer does seem to be gradually lessening.

Oct. 6 Second rating.

Final Note

A.8. continued to attend after the experimental group had begun. He attended regularly and if given a choice of activity always chooses something that incorporated speech - nearly always this was reading. No other things were missed from the speech clinic, and the therapist has the impression that the delinquencies
have stopped. This is not altogether due to the treatment at the Speech Clinic. Very great weight must be attached to the very opportune arrival of his mother in Christchurch and of the happiness this must have brought him.

Speech therapy continues.
Observations
June 21 The programme for treatment will be to ignore the stammer and concentrate on correcting the interdental (s). The therapist set the (s) using a straw. A.9. managed this quite well, and even managed to maintain the correct air-direction when the straw was withdrawn.

June 22 Work was continued on the (s) and there were more successes when the straw was withdrawn. He stammered a little to-day because some strangers were in the room.

June 23 Continuing trying to establish the (s). It is still necessary to use a straw. Managed to use some final ts words for practice. lo-ts, par-ts, le-ts. He was able to do this quite successfully.

June 25 Rating of speech. There was only one slight catch during the whole time. This is surprising in view of the amount of stammering when he was interviewed out at his own school. Continued with the (s) as for last day.

June 28 A.9. brought a little note-book and final ts words were written in it for him to practice. He is managing to say these words with the correct (s). Sometimes he even manages without the straw.

June 29 In preparation for initial (s) words, A.9. was directed to practice making the join. ts-ee, ts-ar. He managed this satisfactorily. A.9. always arrives punctually, and his motivation seems good.

June 30 Continued work on (s) with the vowels following.

July 2 Continued work as above. A.9. doesn't stammer at all in the clinic now.

July 5 Beginning work on initial (s) and in the final position also. He played a game to stabilize the (s) with A.5. and A.4. The therapist noticed he had an unusually accepting attitude to failure, and seemed completely unconcerned if he lost a game. Perhaps this is due to his high intelligence - there is no need to do well in a simple game. His attitude to the other boys was very unaggressive too, and he took a fatherly role with them.

July 6 A.5. and A.9. overlapped again to-day and they seem to be very happy in each other's company. A.5. generally asks A.9. "Shall we play such and such a game, A.9.?" A.9. is very amenable and accommodating and most often answers "Sure!" Therapist generally tells them the time they should be thinking about going and leaves them
to look after themselves as far as being on time to catch buses etc. is concerned. A.9. often says after a time, "well, I think I'll be getting along now". He says he is doing some practice at home and it certainly seems like it, from the improvement he is showing.

July 9  A.9. is able to put the correct (s) in, when he is reading if he reads slowly.

July 12  The (s) is becoming stronger, and occasionally he makes it correctly in conversation.

July 14  Some time was spent in modelling a puppet's head out of plasticine. He talked about school to-day. (See case-study note) He first talked about teachers in general, and then spoke about one teacher who used to strap for nearly any reason, he seemed to enjoy strapping, but, said A.9. he was a good teacher - he could make the subjects interesting.

July 17  The child stammers a little if there are other children in the room who have severe stammers. A.4. came during A.9's time and this seemed to affect A.9. adversely.

July 21  A.9. brought a book for A.5. to borrow. There was some slight stumbling during rapid talking to-day.

July 23  Began correcting (r) - he has a lip habit, and twists a little to one side.

July 28  The teacher commented to-day that A.9's stammering had improved but became worse again over the last fortnight. This may be a result of strain from trying to establish the (s) in conversation. The teacher further added that though A.9's general knowledge was good he was very untidy at times, particularly in writing. It certainly sounds as though writing is given quite a lot of emphasis at this school. The therapist commented that stammerers often have poor motor co-ordination.

For the next few sessions there was more work done on (r) with a comment that the child was tensing too much.

Aug. 5  Administered Raven Progressive Matrices. The therapist noticed that he reverts to the inter-dental (s) when he is excited.

Aug. 9  Continued setting medial (r) and began (or) and (gr) combinations. A.9. sits and reads while awaiting his turn, although he played for a short time with another child who was attempting to knock down some blocks with a bell.
Aug. 11  His (s) slips back into the interdental (s) when A.9. is talking rapidly.

Aug. 12  Visited home. Mother says they have not noticed a great deal of difference in A.9's talking.

Aug. 16  As well as work on (r) there was some attempt to correct words in which (s) and (sh) occurred together.

Aug. 17  and

Aug. 19  Second Rating

Final Note

A.9. continued to attend for the final term, and should only need a few months further work during the new year.
Child: A.10 (Female)

Observations

June 21 There was some general conversation about her speech, in what situations she found it worse, which letters troubled her etc. Therapist and child did some unison reading and after arrangements had been made to visit her mother, she left.

June 22 To-day, while the therapist finished some correspondence A.10 went to the clay and spent some time modelling - a wind-mill and a man. She seemed at ease and contented. The therapist suggested that together a scrap-book of fashions should be made so that any reading or direct speech work could be centred around this topic. Accordingly A.10 selected suitable pictures from American magazines.

June 24 A.10 had brought some pictures of fashions from home. She pasted them under appropriate headings in the book, and dictated appropriate descriptions for the therapist to write under each picture. At first she tended to try to defer to, or ask the therapist's opinion. Each time she did so, however some vague reply was given, so that in the end the choice was always hers.

June 29 A.10 seems to enjoy coming. For some time to-day she did some clay modelling and then described some of the pictures. She tends to dictate in little fast spurts in order to avoid stammering.

July 1 Her stammer seemed a little worse, if anything, to-day. She is very polite, and thanks the therapist every time before she leaves and acquiesces very easily - too easily, to any suggestions.

July 3 The therapist was busy with another child when A.10 arrived to-day. A.10 went to do some clay modelling and arranged some shells in the sand-tray. The arrangement was very precise and neat. During her descriptions of the fashions therapist noticed that she clipped her words a little, again possibly in an attempt to control her stammer.

July 6 In spite of the fact that the materials in the room are mostly suitable for younger children, and boys in particular, A.10 quietly occupies herself. To-day she played a little with the coloured dough, and read to, and 'mothered' several of the younger children.

Continued as above for several sessions - nothing to report.

July 9 Began showing A.10 how to relax at the phrase groups. Praised her whenever her descriptions were a little
out of the ordinary.

July 12 Although A.10's stammer is not very severe, she has developed secondary symptoms. For instance she will stammer more frequently on labials and it is obvious they have anxiety-value for her. For direct work recipes instead of fashions were used.

July 13 When A.10 is talking to the younger children her stammer is much less. She has a disturbance of exhalation on (w) and (wh).

July 14 There was some manipulation and moulding of the coloured dough. Her speech seemed easier during dictation to-day. Now after dictating what she wishes to say about a picture, the whole is phrased while the therapist reads it through and then finally, A.10 reads it herself.

July 16 After the usual description of fashions, the therapist asked A.10 to tell her all the things she could remember happening to her when she was small. She said she could remember her mother, her sister, and herself being on a tram and her sister spilling some sweets over the track and screaming because she couldn't pick them up. Of waiting for her sister outside the school gate before she herself attended school and missing her sister because she came out another gate. As a consequence she missed going to town. Another thing she remembered was waiting for the bus when they were living over on the coast and her sister pushing her in the ditch, at a time when she was wearing a white skirt. Of going to the dentist and screaming so much that he pulled the wrong tooth out.

These accounts suggest some aggression against her older sister which she doesn't accept. Earlier the therapist had asked her how she got on with her older sister and she replied that she got on very well with her. In answer to the question who was "the boss" she said that her sister was. With the two girls being so close in age there is some likelihood of rivalry.

July 19 There seemed to be less stammering to-day.

July 21 Most of the time was spent in telling the therapist the things that happened on the coast. She told how, when the youngest child was born they were sent to stay with their aunt until mother came out of the home. Mother was sent to the sanatorium and their stay with their aunt lengthened into eighteen months. A.10 did some clay-modeling.

July 23 Administered Raven Progressive Matrices.

July 27 To-day A.10 spoke about the changes of schools she has
had. She attended a public school in Christchurch at first. She commented that in the private schools "you don't get such a good education as at a public school". It was interesting that she feels free enough to make this type of comment.

Aug. 11 Visited the school and talked with the teacher, who, without questioning, volunteered the information that she considered A.10 was improving. The teacher now asks her the answers to sums, which she wouldn't do previously. "She answers", says the teacher, "without all that z-z-ing before she starts."

Aug. 12 A.10, has very poor word attack when it comes to new words which have several syllables. Moreover she has poor auditory perception, and cannot analyse out the sound groups that the word contains. Although she has a (th) defect at times, the therapist considered it wiser not to correct her for this.

Sept 7 Second rating of speech. This had to be done after the vacation as A.10 was not able to come the last day of the term, when the rest of the control group was rated.

Final Note

A.10 continues to attend the clinic. In the opinion of the therapist, with the single attendance per week, she has not maintained the improvement which she had previously gained.
Date
Sept 13 This was B.l's first period, and he settled in quite easily. His main activity was playing the records, but he joined in a game of picture lotto, and there was no stammer in the questioning and answering that was involved in the game. Direct work was begun straight away, as he seemed to be quite at ease. The therapist introduced some patterning. She said a jingle with a definite rhythm, line by line, and the child imitated her. B.l. seemed to enjoy doing this and there was no stammer. There was a little stammering during the course of the period when the child was making incidental remarks.

Sept 15 B.l. played a short time with the gramophone. The therapist and child played a game of picture lotto, exaggerating the rhythm of the question and answer a little e.g. "Who has the monkey?" "I have the monkey". This he did without stammering. Following this there was some more patterning of jingles, and another repetitive game. The therapist made no direct comment about his speech but indicated how well he had done in the game. As a final activity B.l. made a hammer picture. He was not as accurate in hitting the nails as the older boys, but managed to complete a plane.

Sept 16 There was only one stammer the whole session to-day and interestingly enough this was on the word 'mummy'. He played with the gramophone for sometime as there were some older boys in the clinic at the beginning of the session. Later he joined in a game of picture-lotto. Finally he noticed the coloured dough and asked the therapist to play ball with him. He tired of this and asked what the dough really was. The therapist explained it was to use in the same way as plasticine. B.l. tentatively tried it, and said it was sticky and he would get his hands dirty. This was countered by a casual offhand remark that there was plenty of water in the tap to wash with afterwards. (B.l.): I'll make a big fat carrot. (No comment) Time was then up.

Sept 20 Rating of speech.

Sept 21 Administered the performance half of the Wechsler.

Sept 22 There was some sand-play to-day. His behaviour was less like the usual very-good mannered little boy.

Sept 26 Administered the verbal section of the Wechsler Intelligence Scale for Children.

Sept 27 B.l. painted a picture which was almost exclusively blue.
He painted some on his leg. "Look!" he said to the therapist, obviously being very bold. Then he made a feint of painting his face. He then turned his attention to B.2, who was also in the room, and began flicking paint at him, showing some aggression. Further emboldened, he poked his finger in the paint and said that he had got some paint on his hands. Time was then up. In view of the mother's remarks regarding B.1's cleanliness habits his behaviour in his session is particularly interesting (See case study notes)

Note: Finger-painting may be of help to B.1.

Sept 29 There was some finger-painting provided to-day. B.1. looked at it, asked what it was, and left it alone. Instead he went to the easel and painted with the ordinary paint. The yacht he painted included a great deal of green in the background. He frequently touched the painting with his fingers, and said "look at my hands!" Although he was not bold enough to use the finger-paints himself, he encouraged B.2. to paint some on an old toy boat, and giggled with glee. He didn't want to leave when time was up, and made many excuses such as having to finish the painting etc.

Sept 30 In view of B.1's changing behaviour the therapist thought it wise to warn the mother in case the parents were troubled and tried to discipline the child. Accordingly to-day the therapist spoke to the mother, explained that there was some likelihood that B.1. would get a little cheeky, and that it was a stage that quite a number tended to go through. Mother said she had already noticed that B.1. had become a little 'cheeky' and she and her husband had discussed the matter. She had already decided that the stammer was "a lot to do with nervousness" and that they would be wise to let him have a little more freedom. "We don't want to undo the work you are doing here", she said.

Oct. 1 He painted again to-day. During a game of Rhymo Dominoes he showed very clearly his displeasure at not winning.

Oct. 4 The therapist introduced some more patterning to-day. This was done successfully.

Oct. 6 Direct work began with reading, then some patterning of rhymes and a game of Rhymo Dominoes.

Oct. 7 To-day the therapist introduced the cards of topics, e.g. fishing, bike-riding, bird-nesting. Child and therapist took 'turns'. There was no stammer at all. (note: Cautiously introduce re-patterning if the child stammers.)
Oct. 8 B.L. spent nearly the whole period painting. There was time for one speech-game - Snakes and Ladders using some repetitive phrases, i.e. "I threw a four".

Oct. 13 Question and Answer reading cards were introduced today. "Where do you live?" "May I have a lolly?" etc. There was one prolonged stammer during this. The therapist indicated that "we can say that again". He re-traced the phrase he had previously stammered, quite fluently. It was interesting to note that when he stammered he gave the therapist a quick shame-faced look. The therapist was careful to make no reaction at all.

Oct. 14 There was no stammering the whole session to-day. At his request he had a game of rhymo-dominoes. The therapist told B.L. a story and he re-told it. He spoke perfectly fluently.

Oct. 15 For direct speech work B.L. described a picture and was given the "reading and reply" cards.

Oct. 16 B.L. came on the bus on his own to-day, instead of his mother bringing him. Direct work consisted of further topics about which he made up 'stories'.

Final Note

The nine weeks' treatment was not able to be completed in this case. The child was taken up to the North Island with the mother who had to nurse a sick grandmother. On November 29th the therapist visited the home and spoke with the father. The therapist asked the father what he thought about B.L's talking and he replied that he didn't see B.L. very much except at week-ends so he did not find it easy to judge, but he thought "It had got better and the wife thought it had got a lot better."
Observations

Sept 13 B.2. settled in quite easily. He joined B.I. in a game of picture lotto, and spoke throughout with no stammer but very rapidly. His stammer isn't as severe as it was at the time of the original interview at school, and may have lessened as the mother's anxiety about it has lessened. However, this is pure conjecture. Patterning after the therapist was begun straight away as rapport seemed good. There was no stammer.

Sept 15 The child went straight to the gramophone when he arrived. He stammered at the very beginning of the session but that was all. "Mum's gone to the dentist". (The stammer was on the initial letter of Mum's) Picture-lotto and Memories were introduced and there was some more patterning of jingles.

Sept 16 After a little play with the hammer pictures and the coloured dough, therapist and child played a variety of speech games. Again B.2. stammered only when mentioning where his mother had gone. "Mum has gone down to buy me some shoes".

Sept 17 Continued as above.

Sept 20 Rating of Speech.

Sept 22 There was some sand-play to-day, and some speech games. No stammer.

Sept 23 Some more sand-play and repetitive speech games as above.

Sept 24 Some unison reading was begun to-day. He stammers worse in reading. Then B.2. did some painting and insisted on finishing it even after the therapist had commented that mother was waiting.

Sept 27 There was more stammering than usual today, although it was just a slight repetition of the initial consonant. In reading (even in unison with the therapist) it was noticed that he read rapidly, and skipped words. The therapist suggested mildly he could perhaps go a little slower as it was hard to keep up with him. "I hate reading," said B.2. The therapist commented that perhaps he hated it because he skipped words and when he didn't do this he might like reading.

Sept 29 B.2. used the finger-paint, slopping it around everywhere, smoothing it over his hands, and wiping it over the paper with his whole hand. After he had finished he moved over to water play, and blew bubbles. Finally
he played in the sand, dipping the spoon in the sand and letting it trickle out. All play seemed very unstructured. Up at the table, he did some patterning of jingles.

Sept 30 There was more stammering to-day than usual. During free play he painted, and played with the bubble pipe. Direct work was confined to reading.

Oct. 1 Once again he stammered only when saying that his mother had gone to the dentist.

Oct. 4 B.2 was very bolisterous and aggressive. He scuffled with B.1. on the floor and settled to nothing definite although he dabbled with the finger paints and played a record. In direct work patterning was continued. "I'm sick of rhymes!" said B.2. He stammered on a phrase and he re-patterned it quite fluently.

Oct. 6 B.2. plays with the sand, spills it and walks through what he has spilt. Continued with a little unison reading.

Oct. 7 B.2. always walks through the sand-tray as he comes from the other part of the room. The therapist commented that perhaps he could try to remember to walk around it, thinking it was accidental. However as he continued to do it, it must have been deliberate. He announced that he didn't want to do reading and this was accepted. Instead the therapist read while B.2. marked the phrase groups.

Oct. 8 Administered Raven Progressive Matrices.

Oct. 18 A little reading was done. He was given praise for any improvement. Oral expression centering around the prepared topics was introduced. The therapist suggested he say over again a phrase on which he had stammered. This appeared to be successful for that particular phrase, but he seemed to stammer more a little later.

Oct. 13 There was an increase of stammering today, after mention had been made of his speech. There was also an increase of aggressiveness afterwards, and he showed signs of non-fluency even in unison reading.

Oct. 14 B.2. was still stammering more today. However in the reading cards he was perfectly fluent. (B.2.): I want to play that True game. (the reading cards) (Therapist): Oh, I think we had better leave that until you are able to say it nice and smoothly. (B.2.): I'll say it smoothly if I can say it now. And he did say it smoothly! B.2. moves around from one activity to another, persisting in one activity for a very short time.
Oct. 15 B.2. was stammering for the whole period, except when he was using the reading cards. Then he only stammered twice and the therapist asked him to repeat the phrase. He repeated it fluently. During the unison reading he was praised.

Oct. 18 The child is still stammering quite a lot. He seems very restless.

Oct. 20 No change.

Oct. 21 Administered the Rosenzweig Picture Frustration Test. Reading is improving.

Oct. 22 Reading was definitely better to-day. (Note - B.2. may need a more definite direction from an adult)

Oct. 27 Mother commented about B.2.'s speech to-day, saying that during the first week he improved marvellously but he has since gone back.

Nov. 1 B.2. and B.3's time overlapped. They became very aggressive toward one another. They scuffled together, and B.2. had the worst of it. He wanted to play the gramophone but the handle had come out of it. He moved it around in the socket rather ineffectually and finally said "How does this go in?" The therapist feigned ignorance, so B.2. instead of persisting, gave up and went to play with something else. It would appear that B.2. attempts to do little for himself, as this is typical of his attitude. Furthermore, he was eating peanuts, "I hate the skins", said B.2. and dropped them on the floor! He refused to do any reading and banged out saying, "I'm going now."

Nov. 4 B.2. began with finger painting to-day. He used his whole hand, and wiped his fingers through it, evidently enjoying the feel of it on his hands. He pressed so hard on the paper that his fingers went right through. Next he moved to the clay, which was very wet. He squeezed the very wet clay through his fingers and wiped it over his hands. Finally he wiped his hands on the plastic apron, which was intended to protect his clothes, thus getting his clothes covered with clay. He ripped off the apron because it was tied, dropping it where he stood on the floor, wiped his hands clean on the towel and made a few scribbles on the black-board. From the black-board his attention turned to the painting material. Picking up the paintbrush, he made a few dabs with it, and dropped it on the floor. Finally he stepped in the sand-pit to draw on the other board and shook the sand off his sandals on the floor as he stepped out. Up at the table he made up 'stories' about words that
the dice fell on. He stammered doing these but the therapist ignored the stammer and made no comment, merely indicating with an 'mmh' when one was said perfectly fluently.

Nov. 5. Announced he wasn't doing any reading to-day.

Nov. 8. Began with a repetitive game, and the oral expression as outlined above. The sentences had a large number of "I hate such and such". He painted and glued the darts, playing with the glue by pushing the brush in and out. Finally he began to make a Guy-Fawkes' mask as he had seen another child doing. The pasting was done on the floor. "It doesn't matter about the paste - it's only on the floor". He was very boisterous and conversed with the therapist, making many remarks such as "I like --" "I hate --".

Nov.10. During a description of a picture today there was a slight hesitancy so he was asked to repeat the phrase. He repeated it fluently and there was no stammering afterwards. Spent most of the time 'making' the mask, but in a short while had cut it into little pieces. He is now stammering very much less.

Nov.11. He did a little reading which was quite fluent. The therapist suggested he might play a speech game. "No - I'm tired of playing games." Similarly after he had pasted a picture in his book he said, "I'm not going to make up a story about it to-day." Mother commented to-day that father said B.2. was improving.

Nov.16. Rating and recording of speech.

Final Note

In a follow-up interview on 29th November, the therapist observed that B.2. had maintained his improvement. Mother says he stammers only rarely and she "almost forgets about it." The child is temporarily discharged.
Child: B.3.

Observations

Sept 13 After his arrival B.3. looked around rather unenthusiastically. However later he joined another child in some play with the toy guns. He was uninterested in the paints and painting easel and said, "I hate painting." There was time to play a speech game before it was time to go.

Sept 14 B.3. arrived twenty minutes early. He began by playing with the hammer picture material, but didn't make a picture, merely hammering pieces together. During some rather desultory play with the gramophone he conversed with the therapist without any trace of a stammer. Therapist and child played picture lotto and although B.3. didn't stammer, his speech was a little cluttered. The therapist slowed down her own speech and emphasized the rhythm, and gradually B.3.'s speech became loud and gradually improved. The session finished with a jingle to pattern.

Sept 16 Good rapport seems established as he talked spontaneously about some frightening pictures he had seen. Direct speech work was confined to a repetitive speech game.

Sept 17 B.3. played in the sand-tray with B.1. He completely dominated the play. As soon as B.1. put his hand in to arrange something, B.3. would tell him to arrange it somewhere else. He couldn't allow the other child to express his own ideas at all. He patterned another jingle and was praised for it.

Sept 21 B.3. played for nearly half an hour in the sand-tray, first of all pushing the miniature train around, then molding the sand into "volcanoes". Then he brought over the lead animals and dramatized some 'killing' episodes with them. He talked in a kind of monologue, mainly to himself, but including the therapist from time to time. Administered Raven Progressive Matrices.

Sept 30 More sand-play, followed by some unison reading from the Grade 1 reader.

Oct. 1 Rating of Speech.

Oct. 4 The session began with unison reading, and then B.3. elected to play pick-up-sticks. The therapist noticed that he ignored the occasions when his own sticks moved. Each time they moved it was quietly pointed out by the therapist. That B.3. was angry about this was seen a little later when he threw a dart at her.
(Therapist): You're feeling angry with me.
(B.3.): I'm not.

Oct. 8 B.3. is still aggressive. He hit down some blocks another child was playing with. "How much longer do I have to come here?"
He did a little unison reading.

Oct. 10 B.3. was aggressive again to-day, and didn't settle to do anything very much. He criticized, contradicted, and at times threatened the therapist. He read the reading cards very fluently.

Oct. 12 Reading is improving, but B.3. remains aggressive. He made some comments to-day indicating how lucky children are who do not have to come to the speech clinic.

Oct. 14 He was a little less aggressive to-day, although at one stage he told the therapist to get out of the way or else "I'll get cross". There is very little stammering however.

This continued for two more sessions.

Oct. 19 He arrived half-an-hour late to-day. The therapist rang the teacher who said, surprisingly enough, that B.3. has been stammering badly in school the last fortnight. This is in contrast to the clinic situation. As the child didn't appear to be working through this aggressive stage the therapist decided on an active policy of 'giving' to counter the aggression. Accordingly praise and pleasure were actively shown.

Oct. 26 B.3. arrived promptly to-day. There was quite a lot of stammering during incidental conversation. The therapist was playing with another child when he arrived, and he called her a 'cheat'. Surprisingly he modified the statement by saying, "I can't talk, I do it myself". He asked to do some reading and read alone, although sometimes he stammered. When this occurred he read it over again, with the therapist. During the description of a picture he stammered once, but the therapist didn't ask him to correct it as he was absorbed in the meaning.

Oct. 28 His reading is still quite good. However he made a threatening gesture when the therapist asked him to repeat something he had stammered on, so he obviously doesn't like it. He is stammering quite a lot. During the description of pictures it was noticed that he didn't like being asked to repeat a phrase on which he had stammered.

Oct. 29 There is now less aggression but more stammer.

Nov. 1 To-day he came half an hour early and began to paint.
The he painted a completely red one! "This is a dangerous painting", said B.3. B.2. arrived and they became very aggressive toward one another. They scuffled on the floor - B.3. generally seemed to get the better of B.2. After that the therapist tried to do some direct work but B.3. stammered so badly it was discontinued.

Nov. 2 He painted another completely red painting to-day, and talked as he painted. He stammered at the beginning of the session but this lessened. The session finished with a repetitive game.

Nov. 4 B.3. began with a short desultory play in the sand. B.6. was in the room too as he had come early.

(B.3.): This gun doesn't work.
(B.6.): Why don't you buy a gun then?
(B.3.): I've got a gun.
(B.6.): Well, stop harping then.
He did some reading, which was fluent on the whole, and any stammering pieces were re-traced.

Nov. 5 B.3. drew another tent and partly finished painting it. The therapist was taking another child at the time and B.3. stammered badly when asking her some questions. (It looked very much like an attention-getting device.)

Nov. 6 Visited home. The parents, in agreement with the teacher report there has been more stammering lately.

Nov. 8 Although there was still some stammering in conversation to-day, he was talking much more spontaneously. He made a mask and left it to dry. (B.3.): Don't let anyone touch it.
(Therapist): If we put it aside it should be alright but I can't promise in case the children play with it when I'm busy.
(B.3.): Well, tell them not to.
(Therapist): We don't boss children in here. B.3.
(B.3.): Don't tell them in an angry way, just in an ordinary way.
B.3. asked to do some reading which indicates he is beginning to feel happier about it.

Nov. 9 During reading to-day there were some unaccountable involuntary stammers, which didn't appear to be related to word anxiety. Immediately reading was stopped, and B.3. played in the sand until the end of the period.

Nov. 11 He began with sand-play with the lead animals once more. During a repetitive game the therapist deliberately spoke slowly and rhythmically and this had the desired effect on B.3's speech. During reading there were three stammers, and each time the phrase was repeated, the therapist reading with him the second time.
Nov. 15 B.3. played in the sand a little while, then painted, but left that without completing the painting. Direct work comprised of description of a picture, and a page only of reading.

Nov. 16 Rating of speech.

**Final Note**

Treatment will be continued. It will be considered whether a period at health camp might not be of value for B.3. There, with the pressure of opinion of the other boys, and away from mother, some of the food habits might be altered.
Child: B.4.

**Observations**

**Date**

Sept 13  B.4. joined A.5. in some gun-play. Both boys leaned out the window and 'fired' on all who approached down below. B.4. kept the gun by him during a repetitive game, occasionally picking it up and 'firing'.

Sept 14  On the whole B.4. tended to be withdrawn and speak in mono-syllables. The therapist showed him how to pattern in some rhyming jingles emphasizing the rhythm.

Sept 15  He can manage the easy phrases in picture lotto quite successfully. A new jingle for patterning was introduced. B.4. is obviously resistant. He doesn't open his mouth and apparently doesn't like anything in which he is required to speak.

(Note - This being the case, it would be wise to stop direct work until the child is less negative. He doesn't respond well to praise, and is suspicious of it. A non-directive approach might be best.)

For the last part of the session he made a hammer picture.

Sept 17  Played a repetitive type of speech game. B.4. speaks in a very quiet voice, probably in order to disguise his stammer. He also tends to speak in monosyllables, with only an occasional spontaneous remark.

Sept 20  Rating of Speech.

Sept 21  He was overawed by the presence of B.6. and stood around for sometime. He stammers during word memories, so his stammer is severer than is first apparent.

Sept 24  B.4. began with hammer pictures. Very tentatively he fiddled with the sticks and hammer for some time, surreptitiously glancing at the therapist to see if she was looking. After he had finished, he went to the painting easel. He continued to watch the therapist all the time. Then (surprisingly) he came up and said that there was one colour finished. The therapist told him where to get the powders and left it to him to mix them. He painted two pictures. There was no direct speech work given.

Sept 27  He made a hammer picture of a train, and then hammered the shapes to spell his own name. He answered all questions in monosyllables but appeared more friendly. The therapist asked whether he felt like doing any reading and he didn't want to, so instead he had a repetitive game.

Sept 28  At the beginning he painted for a long time, and then
came and stood at the dividing door. The therapist asked him what he would like to do next, to which he replied that he didn't know. To the question of how school was, he said nothing. However when the therapist asked him if it was awful or not bad, he said he had had the strap for fighting in Arithmetic. He did a little reading. On the whole he seems less suspicious.

Sept 29 To-day he painted slowly and for a long time. B.2. commented "That's a funny house".
(B.4.): It's not a house.
(B.2.): Is it a castle?
(B.4.): No.
The therapist asked if we could guess what it was.
"No," said B.4.
The painting was done in green and overlaid with grey, and resembled a castle with slits for windows.
(Note - Was it a school?)

Oct. 1 Again he spent most of the period painting. This time it was a light bright picture of footballers. (Query - Positive feelings for school?) He consented to do some reading, and sat, instead of standing stiffly away from the table, as he has done previously.

Oct. 5. He called to his mother to come up and have a look at the paintings he had done and the book he was reading. While the therapist was out of the room he drew a face on the board and inscribed underneath it 'Miss G ---- crying'. (note - aggression?)

Oct. 6 Unison reading seems much easier. B.6. watched very suspiciously while the rating of another child was being done.

Oct. 8. A long time was spent in building a 'ramp' of blocks for the toy cars. The therapist asked him if he was ready for doing something up at the table. "No, - after I've finished this." Administered Raven Progressive Matrices.

Oct. 10 Continued spending a long time painting. The reading is improving.

Oct. 12 B.4. wanted to have some reading-cards that were cut on the table. He stammered every time over the initial letter in the first word. The therapist didn't think it wise to comment at this stage, and considered it was a pity he had attempted it. After reading in unison for a while, he managed three-quarters of a page alone without stammering.

Oct. 13 During a game of picture dominoes with B.5. he became very demanding, very impatient for his turn, and critical - definitely angry at the therapist. Again he
drew a face on the board with the mouth turned down and labelled it 'Miss G--'

Oct. 15 B.4. continues very aggressive, negates any comment by therapist and doesn't want any direct work.

Oct. 18 B.4's behaviour still negativistic

No change for several sessions.

Oct. 22 B.4. demanded a train game which would have taken the whole period. The therapist, therefore countered the suggestion by saying there would need to be a shorter game. B.4. became negativistic and refused.

Oct. 29 B.4. still very aggressive, and it is impossible to do direct work.

Nov. 1 During a game of 'trains' B.4's aggression was continually evident. He made jibes when the therapist was unable to 'move' end when he did well, made gleeful noises. He continually remarked "Hurry-up"

Nov. 3 B.4. arrived late. He did some finger-painting with B.2. and B.1. and that was all there was time for. As he left the building he shouted out aggressively.

Nov. 5 He refused to do any direct work. The therapist was more insistent because of the short time left. There was a terrific show of aggression by B.4; he even resorted to a physical display, and he banged out.

Nov. 8 The therapist quite expected that B.4. would not return if his guilt feelings were very strong. However he did arrive and looked askance at the therapist. (Note: Perhaps he expected some retaliation?) The therapist decided to encourage oral expression indirectly, by providing B.4. with a scrap book so that he could collect pictures of ships in which he is particularly interested. There was some spontaneous comment about a visit to a ship at Lyttelton.

Nov. 9 B.4. had brought a booklet of pictures of boats, to cut out. He spent fully half an hour cutting out and pasting these in his scrap book. The therapist suggested mildly that perhaps he could leave some to do until the next day. B.4. reacted negatively. He gave a few short descriptions of pictures, A.1. arrived and was given a little remedial reading. B.4. immediately reacted, interrupting the therapist and B.1. It looked very much as though he was jealous. The therapist commented that he could have a look in the mirror in the bathroom at a smut on his nose.

(B.4.): You only say that to get rid of me.
He spent another half hour building with the blocks. The therapist told him his time was up and he could go. (B.4.): After I've finished this. B.9. arrived and once more B.4. tried attention-getting devices, locked the door and hid behind B.9.'s chair. When this had no effect he sat down for fully twenty minutes and watched the therapist give B.9. his lesson. Finally said "I'm going now," having spent nearly two hours in the clinic.

Nov. 10 B.4. is stammering badly in the description of pictures, but less in spontaneous conversation.

Nov. 15 Stammering seems greatly reduced to-day. He spent a long time describing pictures of aeroplanes and boats, for the therapist to write down as captions. Administered the Vineland Maturity Scale. B.4. answered the questions without any negativism. In the usual game of 'trains' there was the first indication of positive feelings. He left when his time was up with no demur.

Nov. 16 Rating and recording of speech. B.2. and B.4. were both very aggressive.

**Final Note**

Looking back over the daily-records it seems a reasonable hypothesis that behaviour difficulties are at least in part, in some way associated with jealousy. Only toward the end were there any indications of positive feelings toward the adult and consequently no correction of the child's speech could be done. There was no improvement in his stammering, and the outcome as far as personality factors were concerned, is doubtful.
Child: B.5.

Observations

Date B.5. joined in a speech game, but the therapist noticed that he was rather slow in picking up the principles of the game. He tended to follow the therapist around, telling of the things he would be doing in the Christmas holidays etc. (Note: Perhaps he felt insecure and was talking to cover this up?) Although B.9. was doing some clay modelling, he made no attempt to follow suit, but wandered around without really doing anything.

Sept 14 The therapist noticed that B.5. was a little cautious in getting down on the floor to play a game with A.5. The therapist showed him how to pattern after her in a repetitive game. He chatted easily the whole time.

Sept 15 He appeared to be pleased to be at the clinic, but wandered around restlessly. He didn't have any free play but elected to have some speech games instead. His speech was deliberate and there was no stammer. All B.5's actions are very deliberate.

Sept 17 He is very punctual. He elected to play a speech game which took up the whole time. There was a slight trace of a stammer during conversation.

Sept 20 Rating of speech.

Sept 21 B.5. roams restlessly around the room after he arrives, as though he is getting up courage to tell something of importance. He finds it necessary to have the exact directions for a speech game explained to him before he starts.

Sept 24 The session began with a repetitive game and then there was some reading from a Grade 2 reader. B.5. omits words, and is a fast, but erratic reader. The therapist made no comment or attempt to correct B.5. Although the reading was in unison, B.5. tends to go at his own pace. (Note: Did he resent the therapist reading in unison with him?)

Oct. 4 The therapist read, while B.5. marked the breath groups. Then the same material was read together.

Continued as above for several sessions.

Oct. 12 It is difficult to help B.5. to read evenly, as he becomes so absorbed in the meaning of the story that he pays little attention to how he reads.

Oct. 13 Reading better to-day, it was more consecutive and there
was less stumbling.

Oct. 15 Reading improvement maintained. The therapist noticed that he avoids playing with the other boys but rather chooses to do some formal work with the therapist.

Oct. 18 His reading has regressed. It is too fast and he ignores the breath groups. For oral expression the therapist and child played 'Yes - No Jackpots'.

Oct. 19 The reading is still not good (Query - does he resent correction?)

Oct. 20 Reading seems a little easier to-day (Note - Drop reading for a while.)

Oct. 22 B.5. was less formal in his manner to-day and a little more cheeky.

Oct. 29 There was no direct work to-day, as it was hoped that B.5. would use some of the expressive materials. He played suction darts with B.9. but was not tempted by the clay or paints.

Nov. 1 B.5. is very neat and punctilious, and stacks away the cards neatly when they have been finished with. Moreover, it is obvious that he gets satisfaction from doing it. He is stammering a little in conversation again.

Nov. 2 Interview with mother. She said that her husband commented that B.5. was teasing the younger children and becoming quite cheeky. He is having swimming lessons twice a week at 7-30 in the morning so perhaps by his 4-30 appointment he has become over-tired. This would explain his lapse into stammering.

Nov. 8 He started to read soon after his arrival and insisted on finishing the whole story, so that he read aloud for the whole 30 minutes. The therapist made no correction, because he was obviously so interested in the story itself he would have been frustrated by interruptions.

Nov. 9 To-day he was in what he described as a 'giggly' mood. His speech was better again to-day. After his lesson he wandered around the room 'chopping' the furniture with the rubber axe.

Nov. 15 On his arrival to-day he bounced in the door, not at all in his usual sedate manner. After a repetitive speech game, there was a short amount of reading. No stammer to-day.

Nov. 16 Rating and recording of speech.
Nov. 31 Follow up visit to the home

Final Note

Mother and father report definite improvement. B.5. has now consented to taking part in a Sunday School play, which he has never done before. They also said he is getting over his aggressiveness. Father said he had had to start asserting himself again as B.5. would argue with him.
Date Observations
Sept 13 B.6. had brought B.7. with him as they both attend the same school. Immediately he came in he said, "Oh painting - that's what I'd like to do". After he had painted, he modelled with clay, or rather he hammered, pounded, squeezed and flattened it. Finally he began throwing little pieces at B.7.
He played picture lotto with B.7. and the therapist, talking freely all the time. However there were occasional spasms of stammering.

Sept 14 B.6. and B.7. arrived at 3-15 instead of 4 p.m. The therapist asked how they managed to get here so quickly after school and it transpired that they had excused themselves from school at 2 p.m. The therapist said that she would post the times they had to be excused to the teacher. B.6. began to stammer. They both talked for a little about how they dislike their teacher. B.6. is very much at ease, and gets quite a lot of satisfaction from showing B.7. around. Nevertheless he refers to him. "Shall we play with the clay, B.7.?"

Sept 16 There is a continuous 'tic' around the eyes, and an occasional stammer. He is very blustery and 'outgoing'. Direct speech work was confined to a repetitive game.

Sept 17 A dominant (s) was noticeable to-day. It is probably caused by the gap where his front incisor is missing, but also is probably partly deliberate.

Sept 20 B.7. arrived without B.6. The therapist enquired where the child was. B.7. said that he had to go to the dentist. However when the therapist rang the dentist she found the child had no appointment for that day.

Sept 21 B.6. had played truant from school yesterday. The matter was put to him and he agreed to keep his appointments regularly. B.6. spoke about his stammer and how he avoids stammering some times. B.7. and himself and boys like him, say, "You know what I mean, the what's its name" - when they really know what they want to say all the time.
(Therapist): You get around it that way?
(B.6.): Yeah.

Sept 23 Rating of speech. Arrived exactly on time. "I'm right to-day aren't I?" The therapist called him up to the table. "O.K. Wait until I've finished this."

Sept 24 B.6. seems more moderate in his behaviour. B.7. wanted to change his time but B.6. said, "Mine suit me." They both arrived on time to-day. B.6. was eager to read. "Can I have a turn now?" He completed a paint-
ing he had started yesterday. B.6. always finds plenty to do, and never needs to wait for adult direction.

Sept. 27 He arrived on time, and occupied himself in painting again.

(Therapist): How about some reading, B.6.?
(B.6.): That's just what I was going to ask you. However he had an occasional stammering block during reading.

The same routine was continued for the next session.

Oct. 1 Began repeating any phrases on which he stammered during reading. The therapist read in unison with the child on these occasions.

Oct. 5 Now reading alone, but a little too fast.

Oct. 8 Oral expression around the topics, e.g., fishing; on the farm; etc. The therapist told B.6. to say over any words he stammered on. He agreed but 'forgot' to do this when he actually did stammer. Occasionally the therapist said the phrase and B.6. patterned after her. He could do this quite fluently, but the therapist thought that the stammering seemed to be increasing.

Oct. 12 To-day the therapist reminded him to repeat any phrases he stammered on, and there didn't appear to be any increase in stammering afterwards. The therapist praised him a lot for his reading in order to offset any criticism the child may have felt in the correction. There was some further oral expression in 'Yes - No Jackpots'.

Oct. 14 In a speech game B.6. stopped and said a phrase over correctly on his own accord. However on the whole his stammering seemed to increase during the session. B.6. said his teacher said that "He goes to speech but he's the best reader in the class". B.6. was very pleased.

Oct. 15 He is beginning to be careless about punctuality again. Began direct work with a description of a picture.

Oct. 18 He still stammers when he is talking in ordinary conversation, although he is fluent when describing a picture.

Oct. 21 Administered Rosenzweig Picture Frustration Test. He was stammering more frequently to-day, twice during the description of a picture.

Oct. 26 B.6. was absent the last period, and played truant from school. Consequently the therapist reproached him, and there was a lot more stammering.
Nov. 1 Still stammering fairly severely. He had been away with his father over the week-end, so perhaps he had been too stimulated. Administered Word Reaction Test. He painted a completely grey flat wash of colour, and while he was doing this he appeared to be masturbating.

Nov. 2 He was masturbating during painting again to-day. Later he did some finger painting. On the whole there was less stammering to-day.

Nov. 4 Along time was spent making a Guy Fawke's mask. Once again he was stammering quite a lot in general conversation, but not when he was up at the table doing direct work.

Nov. 8 B.G. was stammering very badly to-day, but was probably feeling guilty because he 'played the wag' on Guy Fawke's Day.

Nov. 15 Administered Vineland Maturity Scale. No stammer during direct work again to-day.

Rating of speech.

Final Note

This case needs further following up — and some further interviews with the parents. Treatment will continue.
Observations

Sept 13 B.7. arrived with B.6. The gramophone attracted him first, but he soon went to do some painting. He joined a game of picture-lotto. His intelligence is such that he doesn’t know the names of some of the more uncommon animals. There was time for a little play with clay before time was up. Although B.7. is twelve he is very diffident of going anywhere on his own, and it was only by being able to come with another boy from his class that he could be induced to attend. One appointment had to be at a different time from B.6. and B.7. was unhappy about this. "I hate going anywhere on my own."

Sept 14 Both B.6. and B.7. arrived three-quarters of an hour early for their appointment. When they were questioned, it was found that they had left school an hour and a quarter earlier.
B.7. showed more initiative than yesterday, when he fell in with the other child’s suggestions very readily. Once again they both painted, one on either side of the easel, and sitting on chairs for comfort! During picture-lotto he spoke fluently and there was little stammering throughout the whole period—but B.7. mainly stammers when asking direct questions.

Sept 20 Rating of speech.

Sept 21 As both boys are still getting out of school too early, they were told that notes would be sent to their teacher indicating at what times they need to be excused. As B.7. is generally frightened to come into town on his own, the main leader must be B.6. Furthermore, the basic reason is probably B.7.’s low achievement in school. (Note: Try to procure the parent’s permission for his transfer to the special class.)
Even in the speech games B.7. is rarely able to succeed with the other children. Consequently he always asks the therapist to play with him, since his failures are not pointed out.
For every session so far B.7. has painted the same picture, but today he painted one with more imagination.

Sept 22 Administered Raven Progressive Matrices. A little free activity afterwards.

Sept 23 B.7. wanted his Friday appointment changed so he "could get out of sport".
Direct work was confined to reading. He is a very fast reader and finds Grade 3 material too difficult for him.

Sept 28 He asked for reading immediately today and although he still reads rapidly, he is beginning to slow down
a little. Each time he reads slowly the therapist says 'good'.

Sept 30 It seems likely that the rapid reading is a defence against stammering. If he slows down he tends to stammer.

Oct. 1 Unison reading is somewhat easier, and his speech is free from stammer although it is rather cluttered and rapid. The session concluded with a repetitive game.

Oct. 4 Began requiring B.7. to mark the breath groups as the therapist read. Then the same passage was read in unison and finally alone. By the time the child read it, the material was familiar and anxiety lessened. Pattern- ing of a jingle was quite successfully done.

Oct. 5 Both boys arrived an hour early again. Reading was continued in the same way and the child was given a lot of praise. He was given further jingles to pattern and finished with the reading cards.

Oct. 7 Began requiring B.7. to repeat any phrase on which he had stammered during oral expression based on the prepared topics. Reading is much improved and he is slowing down somewhat.

Oct. 8 B.7. is now able to read alone satisfactorily.

Oct. 11 Used the 'question and answer' cards.

Oct. 13 Visited home and talked with the mother who seemed quite agreeable for B.7. to change over to the special class. However, father has yet to be consulted.

Oct. 14 B.7. was excitable to-day and stammering somewhat. His mother had mentioned the possibility of his changing schools. Once more he requested that the therapist alone, should play a speech game with him, telling B.6. he "could play after."

Oct. 15 Reading continues to improve, although the material is easier.

Oct. 18 There was no stammer during the whole session.

Oct. 21 Administered Rosenzweig Picture Frustration. Began requiring B.7. to describe a picture, so that he could be corrected in unprepared material.

The same routine was continued for another session with nothing to report.

Nov. 1 Administered word-reaction test. There was some stammering at the beginning of the session but this
gradually ceased.

Nov. 2 B.7. did some finger painting to-day, but did not use his hand. Instead he used the point of the brush. He described a picture and made up some 'stories' about the prepared topics.

Nov. 4 B.7. was stammering badly to-day – even in reading. The therapist requested him to say over any words he stammered on; although he did this successfully, the number of spasms did not decrease. Much of the stammering was stimulated by words in the harder reader with which he is unfamiliar. Immediately afterwards the therapist introduced a repetitive game in order to reduce the stammering.

Nov. 8 B.6. and B.7. built a construction of blocks. B.6. mainly giving instructions which the other followed. B.7. stammered only when telling of the other boy's escapade, otherwise speech was fluent and reading was fair.

Nov. 15 B.7. wanted to read a Grade 3 reader. Consequently he stammered a great deal over unusual words, and although these phrases were repeated and he finally said them correctly, the stammer did not appear to lessen

Nov. 16 Rating of speech.

**Final Note**

It is doubtful whether B.7's stammer can be completely reduced when he is continually facing his own inadequacy in the school situation. Unfortunately his father has refused permission for him to attend a special class. When the child leaves school, and he finds congenial employment, the prognosis may be better. However, treatment will be continued,
Child: B.8.

Date Observations
Sept 13 B.8. stood up during a game, which indicated he was fairly tense and ill at ease. He cannot repeat a line of jingle after the therapist without stammering. The stammer is therefore more severe than is first apparent.

Sept 14 B.8. arrived punctually. The therapist introduced a repetitive game expecting the stammer to reduce with the repetition, but found that even on a short phrase such as "I see a pen", the child has difficulty. B.8. ensures that he wins in such a game by moving the cards around where he knows where they are. He likes to organize the younger children and 'boss'. At one stage he showed the therapist a trick, and there was a running patter, with remarks such as "You see? It's simple!" etc.

Sept 16 Once again tried to find out if B.8's stammer would reduce during a repetitive game, but with no success.

Sept 20 Rating and recording of speech.

Sept 21 B.8. picked up a book and wanted to read it. Even in unison reading there is a tendency to stammer, which is very unusual.

Sept 22 Continued unison reading and made no suggestions or comments. B.8. became quite interested in the story.

Sept 23 There is a jerky, word by word effect in reading, and he stammers if he happens to say a few words alone. Generally B.8. arrives promptly and leaves promptly so there is little time for much free activity, however to-day he made a hammer picture of a horse's head.

Sept 30 To-day the child was asked to mark the breath groups with a pencil while the therapist read, and then he read the page in unison with the therapist.

Oct. 1 He was quite happy to do a lot of reading to-day, and there seemed to be an improvement. It was found that he didn't stammer on numbers in the ludo game. e.g. 'I threw a four, I threw a six, etc' (Note: Start from here and gradually introduce other nouns.)

Oct. 4 There was much less tension in unison reading and no stammer. B.8. was able to manage the progression from numbers to other words quite satisfactorily. Occasionally he stammered and these phrases were repeated in unison with the therapist, and finally he was able to
Oct. 5 The same thing was continued, only one word in the phrase being varied each time. If B.8. stammered it was re-said correctly.

Oct. 8 Continued same procedure. Reading in unison. This is gradually getting easier and it will soon be possible for him to do a little alone. Now the repetitive phrase can be varied.

Oct. 11 This was incorporated in a game. The therapist threw the dice and the child guessed the number. 'Is it a two? Is it a four?' etc.

Oct. 12 Now it is possible to vary the last word in this phrase and to make it into another guessing game.

Oct. 14 Reading is so improved that he is able to read quite a few sentences alone without stammering. The therapist pointed out to him that he was improving. "Yes," he said, matter-of-factly.

Oct. 15 Reading continues to improve and B.8. goes back over a stammered phrase of his own accord.

Oct. 19 There doesn't appear to be any carry-over into ordinary speech. However in reading he can go quite a little way alone. As he was leaving he caught hold of the therapist's hand and held it. "I did good to-day, didn't I?" This indicates how much he needs praise.

Oct. 26 Began the session with asking B.8. to describe a picture, but it appears this was introduced too soon. In material in which he has the responsibility of thinking how to describe it, he is unsure.

Oct. 27 He is now able to play the repetitive games with other children and remain fluent. Reading becomes a little easier each time.

Oct. 29 As B.8. works in the stables after school and is very interested in horses, it was decided to make this a centre of interest for direct speech work. He stammers when he is giving the description for the therapist to write down and this is in marked contrast to the reading of the same material.

Nov. 1 Continued as above. Administered word-reaction test.

Nov. 2 B.8. is now able to pattern and repeat after the therapist. There was a short session as B.8. left early, but there was some time for a repetitive game.
Nov. 5 B.8. brought some pictures for his scrap book. He still stammers during the descriptions, although he attempts to retrace some stammers. Reading of short reading cards was fluent and if, on the odd occasion, he did stammer, he retraced the phrase of his own accord. Once he said "No." and went over it again correctly.

Nov. 8 Oral expression centred around the prepared topics. He stammered less than formerly and spontaneously went back over a stammering phrase.

Nov. 15 Description of pictures was continued and he was given much praise for a 'good' story.

Nov. 16 Rating of speech.

Final Notes

B.8. will be returning for continued treatment next year.
Sept 13 B.9. was rather solemn on his arrival, but relaxed a little after playing a speech game with two other children. He spent the rest of the period modelling out of clay. His (s) defect was marked, but not his stammer.

Sept 14 Patterned after the therapist in a repetitive speech game, He stammered slightly when asking a question. (Note: Begin correction of (s) and later introduce some direct work on the stammer.)

Sept 16 Began air-direction for (s) down a straw, working from (t). B.9. stammers if the phrase in a repetitive game is too long.

Sept 17 B.9. achieved a good ts sound. The therapist introduced vowels following, but the join was too difficult yet.

Sept 20 Rating of speech.

Sept 21 It is now possible to gradually remove the straw without the sound dropping into the inter-dental position.

Sept 23 He is making very good progress now on his (s). It is now possible for him to make the correct sound without using the straw. The therapist feels that B.9. is withdrawn and not responsive, although outwardly polite and obliging. A.5. tried to entice B.9. into a 'mock' fight, without success. Perhaps B.9. feels embarrassed with his withered hand.

Oct. 4 Practice was begun on joining the (s) to the vowel with some success.

Oct. 5 The (s) is now set.

Oct. 7 Practice of the sound in words was begun. B.9. marked the breath groups as the therapist read.

Oct. 8 B.9. still seems unresponsive. Practice of (s) in the initial position continues.

Oct. 12 The therapist introduced the practice of (s) in the final, as well as the initial, position.

Oct. 13 Although B.9. can read from the book fluently, he cannot read the shorter cards which approximates more to normal speech. The correction of (s) continues.

Oct. 14 It was noticed that B.9. stammered quite a lot in a speech game with some other children to-day.
Oct. 19 The (s) is improving and he can make it correctly in a word at the first try. B.9. had a game of suction darts, using his left-hand of course. He was throwing them from all positions, and the therapist thought it an opportunity to mention the atrophied hand matter-of-factly. She therefore asked him if he ever used the other hand. "Yes," said B.9. and proceeded to do so.

Oct. 20 B.9. is now trying to carry the (s) over to reading. As he has to consciously substitute the correct sound for the interdental one, reading is slowed up. Administered Word Reaction Test.

Oct. 22 B.9. seemed happier to-day and was smiling. He told how he goes trapping rabbits sometimes in the week-ends. The stammer was still evident in a speech game, and although it wasn't very obvious there were some silent periods, and the therapist had the impression that it was interiorized to some extent.

Oct. 26 The (s) during the correction period was quite good, but of course it has not been established in ordinary conversation yet. He stammers somewhat in reading now, probably with the strain of establishing the (s). After phrasing the material it was read in unison with the therapist.

Oct. 27 It was noticed that if B.9. had to say a small phrase after the therapist during (s) correction, he invariably stammered. It was decided to say these in unison with the child. This seemed to be effective. B.9. still continues to smile more than he used to.

Nov. 2 Repeating the phrase with him when correcting the (s) seems to have eliminated the stammer on these isolated phrases. Reading improved, and he managed alone to-day. Description of pictures was begun. The therapist asked him to repeat a phrase on which he had stammered.

Nov. 4 Words which included both (th) and (s) were practised to-day.

Nov. 9 There is no stammer when he reads alone now, and the (s) is correct, but the reading has slowed down.

Nov. 15 B.9. was required to make a few corrections during the description of the pictures and was given much praise for his efforts in reading.

Nov. 16 Rating of speech.

Final Note

It was a pity that B.9. had to cease lessons before the
(s) had become firmly established in conversation, as it is likely to revert. Treatment will, however, be continued in the new year. In a follow-up interview his parents said that they had not noticed any change in B.9's speech.
Child: B.10

Date Observations
Sept 17 During the first session arrangements were made for
the other appointments and she played a repetitive
game without any stammer. It was decided to make
fashions the centre of interest as was done with A.10.

Sept 20 Rating of speech.

Sept 21 There was very little stammering in general conversation.
Some fashion pictures were pasted in, and she described
them. There was stammering at the beginning of each
one.

Sept 22 B.10 is very relaxed and at ease. The therapist was
always careful to throw the choice for anything back
on the child, reflected her feelings and allowed her
to express her likes and dislikes. There were very
few stammers.

Sept 23 The therapist continues not to make any correction or
comment when B.10 stammers. Reflection of feelings
expressed, tend to help the child to release a block.

Sept 27 The stammer was obvious at the beginning of the session
but eased off toward the end. There is now no stammer-
ing during the description of pictures.
She told about the places where she used to live to-day
and how her brother was killed two months before she
was born.

Sept 28 Began marking the breath groups - the therapist reading
it first while B.10 marked them.

Sept 29 B.10 began immediately to tell the therapist about some
trouble she has been in with one of the teachers. The
teacher, according to the child, said that she was 'the
cheekiest girl in the school'. She stammered very
badly when talking about this. Her dictation of fashions
however, was quite fluent.

Sept 30 The same routine continued - nothing to report.

Oct. 4 Again she expressed her anger against one of her
teachers.

Oct. 5 The same routine continued - nothing to report.

Oct. 6 The reading material was phrased, then read over in
unison. The therapist tried allowing her to read
alone for a while, but she immediately stammered. It
was considered that the short reading cards might be
easier, but it was found that she stammered on the
initial word of each. Immediately they were said again in unison with the therapist.

One session omitted - nothing to report.

Oct. 12 Began patterning of jingles. Unfortunately B.10 tried to do two lines at a time, instead of one, and stammered. (Note: Discontinue this.)

Oct. 13 She is now able to read the material alone, if it is previously phrased. She is still unable to read the short reading cards without stammering.

Oct. 14 The speech wasn't as good to-day when reading alone, so that it will be necessary to go back to reading in unison again.

Oct. 18 B.10 says her speech has been a little better lately. Once again she is able to read the previously phrased material alone.

(Three sessions omitted)

Oct. 27 Speech seems improved. She can now describe the picture completely before the therapist writes it down.

(One session omitted.)

Nov. 8 B.10 has been absent for a week during examinations. Whether it was the week's absence or the strain of the examinations, it is hard to tell, but she was certainly stammering much more. She says she has done badly in the examinations.

Nov. 9 B.10 is expressing much dissatisfaction with school, evidently as a result of doing badly in the examinations. The therapist made no attempt to dissuade her or in any way contradict her, but merely reflected her feelings. Administered Rosenzweig Picture Frustration Test.

Nov. 10 There is now some incipient stammering even in reading, and she has begun to lose interest in direct work.

Nov. 11 The child was stammering badly to-day. Her mother went up to the school and discussed whether, in view of her low marks, she should continue next year after she is fifteen. The teachers thought her poor marks were a result of lack of confidence. B.10 said it was "lack of brains". The therapist is inclined to agree with the child that she has reached her limit at the present. She entered the fourth form when she was thirteen, and although she is now fourteen she has done very well to cope adequately with High School work.
Her form is a school certificate class and an increase in the difficulty of the work has probably taken place this year.

Nov. 16 As she remains able to read prepared material without stammering, the introduction of unprepared material could now begin.

Nov. 17 B.10 began reading unprepared material. She stammered at the beginning of each new section for a while. Then she read several passages fluently, but suddenly, without any apparent cue such as a difficult word, she began to stammer. The therapist asked her to repeat a phrase which she was able to do fluently, but a few seconds later she had another spasm. On the other hand, earlier, when she made a self-correction she had no recurrence of stammering afterwards. (Note: The explanation of why the child stammers when the therapist asks her to repeat something and not when she does it of her own accord, may lie in the fact that the child considers the therapist's request a criticism and resents it.)

Nov. 19 Rating of speech.

Final Note

The child feels she has improved enough to want to continue treatment next year. Her friends at school have commented that her speech is better. Treatment to continue.
APPENDIX C.

REPETITIVE GAMES

ARRANGED IN ORDER OF DIFFICULTY

1. Play Snakes and Ladders or Ludo and each time the dice is thrown, indicate the number thrown. e.g. "I threw a two."  

2. Memories: Using matched picture-cards or playing cards, placed face down in any order on the table. The aim is to procure two of the same cards. Again there is continuous repetition of the phrase with only the last word altered each time. e.g. "I see the --- (boat)" "I see the --- (girl)" Later a variation in the phrase can be made, e.g. "Here is the ---." "There is the ---."  

3. Hangman: The child or therapist thinks of a word and writes a dot for each letter in the word. The other player guesses the letters. "Is it a p? Is it an a?" Each time there is a wrong guess, part of the little figure is made.  

4. Picture-lotto: Large cards of ten to twelve pictures are made, with matching small cards. At first the picture should be clear and unambiguous, with one simple object. The small cards which are in a pile in the centre are picked up one at a time, the child saying, "Who has the ---?" The other player replies, "I have the ---." There can be many variations of this, e.g. using printed words instead of pictures, or numbers. Later on, pictures which require more description can be introduced.  

5. Fish: This involves a longer phrase. The small cards, which include matching pairs are dealt out, the remainder being placed face down on the table. One child asks the other for a picture-card. "Please may I have a ---?" "Fish" He then takes one from the pile in the centre.  

6. Shopping: "I went to a --- (grocer's) shop and I bought something beginning with ---." "Was it a ---?" "Was it a ---?"  

7. Picture Dominoes: Such phrases as "There is a boat, I put down a boat," can be used.  

8. Many Cumulative games, which involve repetition can be used. e.g. "I went to Woolworth's and I bought a ---." Each player adds something to the list which is repeated each time. Or: "The Parson's Cat." Each time an adjective is added  

*It should be played with speech, not silently. Many of these games have been used to establish sounds in articulation, but not to foster the adaption effect in stammers.
to describe the cat using the next letter of the alphabet.

9. "I spy with my little eye."

10. Hiding an object. e.g. "Is it behind the cupboard?" "Is it in the box?" etc.
GAMES INVOLVING LITTLE REPETITION

BUT WHICH ENCOURAGE ORAL EXPRESSION.

1. "I am thinking of someone, who is it?"
   Only three direct questions are allowed and the other
   player asks such questions as "Is he alive?" "Is he famous?"
   etc.
   Many variations of this game can be used, e.g. a place can
   be named instead of a person.

2. Yes - no Jackpots.

3. Twenty Questions.


5. A card with pictures or words pasted on it. The child
   throws a dice and makes up a sentence involving the word
   on which the dice falls.

6. Topics: Little cards with Topics printed on them. Each
   child in turn picks up a card and says as much as he can
   about the topic.
   e.g. Catching fish
   Bike-riding
   Making a kite
   Explain all about the game of football
   Bird nesting
   How many makes of cars do you know?
   How do you get to your house from here?

7. Re-telling a story. The child can be given points for
   the number of items they remember.

8. Remembering; the items in a picture which is shown to them
   for a short length of time, or a number of objects set out
   on a tray.

9. Describing a picture, and indicating what has happened
   before and after.
READING CARDS

1. Short statement, e.g. 
   My name is ------.
   I go to ---- school.
   I am in Standard ----.
   I have a little brother etc.

2. Short questions e.g. 
   Where do you live?
   What's the time please?
   Where is Mum? etc.

3. Short questions to be answered, 
   e.g. 
   Do you like swimming?
   Do you play foot-ball?
   Can you ride a bike? etc.

4. True or False. The card is headed true or false, and underneath there is a short statement which the child reads out aloud, indicating afterwards whether he considers it to be true or false.

   e.g. 
   True or False?
   Christmas Day is on November the fifth.
   True or False?
   There is something that can fly without wings. etc.

5. Absurdities. The child reads out a short statement and indicates in what way it is absurd.

6. Tell what you know about: Superman
   Robin Hood
   Edmund Hillary
   Scott of the Antarctic.

7. Tell me: 
   three parts of a bike
   ten parts of a car
   six parts of a boat etc.
   These are printed separately on cards.

8. Tell me: 
   Six uses for wood
   Three uses for glass
   Two uses for coal

*From Bluemel page 100 - 101.*
CASE HISTORY

Name:  
Address:  
Parent or Guardian:  
Occupation F.:  
Occupation M.:  
Telephone Home:  
Business:  
Doctor:  

Date seen:  
Birth:  yrs  mths  
School:  
Class:  
Ref. by:  
Seen by:  
Informant:  

SPEECH:

Milestones:  

Difficulty:  

Duration and Development:  

Present Condition:  

Previous Treatment:
PHYSICAL:

Birth and Early Infancy:

Development:

Illnesses, Accident, Etc:

Physical Habits and Symptoms:

Present Health:

Hearing:

Motor Co-ordination:

Laterality:

EDUCATIONAL:

Pre-School: Primary School Commenced yrs. wks.

Attendance:

General Response:

REPORTS, TESTS, Etc:
ENVIRONMENT:

Economic and Social Conditions:

Members of Home:

FAMILY HISTORY:

Family Life:

Home Atmosphere:

Attitude to Child and Speech:

Methods of Discipline:

Obstacles to Co-operation:

PERSONALITY:

Abilities:

Disposition:

Fears and Worries:

Attitude to People:

Attitude to Speech:

Play Life, and Interests:
THERAPIST’S ASSESSMENT:

Condition on Examination Speech - Physical - Psychological:

DIAGNOSIS:

RECOMMENDATIONS:

Date of Final Discharge or Transfer:.........
DESCRIPTION OF STAMMERING BEHAVIOUR

INSTRUCTIONS:
1. Select seven words on which, in your judgment, the child definitely stammers. Select words sufficiently far apart that you can observe with maximum accuracy just how he stumbles on them.
2. Write the first word which you observe at the top of the column marked word 1. Below it place a check mark (X) opposite to each type of reaction during the stammering done in trying to say that word. For example, if on the word "ball" at the time, the child is observed to say "b..all", prolonging the initial sound while closing his eyes and pressing his lips hard together, write the word "ball" at the top of the first column and check the boxes in that column after the letters, b, e, and h. If he has other symptoms not listed among the first 16, (a..p), write a concise description of them in the extra spaces provided on lines q to w. For example, if he jerks his head while grunting, write these in spaces r and s., and place a check mark after them in the appropriate column.
3. Repeat the procedure on any other six stammered words selected from other conversation or reading.

NOTE: REPEITION refers to repetition of any part of the word, such as the initial sound or syllable, of the whole word. The whole word might be repeated alone or together with one or more other words that precede it. If the latter is the case mention it under comments.

PROLONATION refers to the prolonging of a sound, usually the word's initial sound.
INTERJECTIONS is a term used to indicate that some extra sound, word, or phrase such as "well" or "um" is uttered before the word itself is attempted.

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DATE:

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Comments: