

" SOME ASPECTS OF THE NATURE AND INCIDENCE
OF STUTTERING AMONG INDIAN PRIMARY SCHOOL
CHILDREN IN DURBAN "

A Thesis

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MASTER OF ARTS

by

ROYCHAND JITHOO,
B.A., Diploma in Logopaedics

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DECLARATION

I hereby declare that this thesis is my own work, and has not been submitted to any other University.

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CHAPTER 1.

INTRODUCTION

Stuttering has been a complex problem ever since the early history of man. It has been found to exist in some cultures to a greater extent than in others. In certain primitive cultures the phenomenon of stuttering was reported to be unknown, yet when members of these cultures were influenced by western environments some incidence of stuttering occurred among them. The influence of the environment therefore cannot be disregarded when considering causes of stuttering.

Although much research has been done by speech pathologists among various world cultures they have by no means completed their task for there are many groups, living in a variety of societies, which are yet to be studied.

The present rudimentary investigation into stuttering among Indians living in Durban may be regarded as a contribution to the knowledge that has already been accumulated.

1. AIM OF THE STUDY

Most studies conducted on the subject of stuttering have had western societies as the area of research. The cultural setting for this study differs to some extent

from western societies. The Indian community living in Durban is the population group that has been selected for study. In as much as this community reflects the patterns of an eastern culture, it is undergoing considerable change due to the influence of cultures that surround it. Due to the fact that the South African Indian population is concentrated in the city of Durban, it is strongly influenced by a western way of life.

As yet, very little research has been done into the nature of the stuttering problem as it affects the Indian community, therefore this study must be considered as being of an exploratory nature and any conclusions which may be drawn cannot be regarded as absolute. They should be considered as tentative until more extensive research can finally substantiate the truth of these findings. Indian primary school children living in Durban were chosen for this preliminary investigation.

The purpose of this study is not to solve, as Bluemel says, the 'riddle' of stuttering but it is intended to indicate some aspects of the problem of stuttering as presented by Indian primary school children living in Durban.¹

1. Bluemel, C.S. 'The Riddle of Stuttering', p.7.
The Interstate Publishing Co., Illinois, U.S.A., 1957.

It is hoped that this study might serve as a contribution to the already accumulated knowledge of the stuttering condition and point the way for research workers of the future, who wish to pursue the same field of study.

It is anticipated that through the data presented by this study, educationists will realize the importance of training and delegating personnel to increase the knowledge of those who are ignorant about the handling of stutterers and that speech therapists will, in the future, occupy a position in Indian Education which enables them to assist those who are afflicted with this complex problem.¹

This study has also been conducted so that some idea may be gained as to the similarities and differences if any, in the factors contributing to the development of stutterers generally and Indian stutterers in particular.

Most of the published research on stuttering has been conducted either in Europe or in the United States of America. It would therefore be interesting to attempt a comparison of the findings of research workers in England and the United States, etc. and those which may be drawn about Indian stutterers from this research project among Indian primary school children in Durban.

1. At present there are no speech therapists serving the Indian Educational System in Durban.

II. DEFINITION OF TERMS USED

- (i) Incidence: The term 'incidence' as used in this study will refer to the occurrence or rate at which the disorder of stuttering exists among populations.
- (ii) Nature: The 'nature' of stuttering as referred to in this study will mean the qualities and characteristics that pertain to this speech disorder, together with the concomitants that surround it.
- (iii) Stuttering: Many theorists and clinicians dealing with the subject of stuttering have defined and explained the term in various ways. The writer finds it advantageous to explain what the term 'stuttering' means rather than defining it.

Bluemel¹ states that the terms 'blocking or dysphemia' may be substituted for 'stuttering' and 'stammering'. He makes a distinction between 'stuttering' and 'stammering' for clinical reasons. He regards 'stuttering' as 'non-organized speech' which has still to be made up. 'Stammering' is considered to be 'disorganized speech' i.e. speech which is characterized by blocking where there is temporary failure in the function of speech.

1. Bluemel, C.S., 'The Riddle of Stuttering', p.8.

The term stutter generally connotes an audible defect in which the child repeats words whereas stammer connotes an inaudible defect where the child blocks before any sound is uttered.¹

The term 'stuttering' has often been used interchangeably with 'stammering'. Johnson et al,² note that in the United States of America the term 'stuttering' is preferred whilst in England and most other English-speaking parts of the world 'stammering' is used predominantly. It is generally agreed, however, that the two words may be used interchangeably and they are synonymous.

The author of this thesis will use the term 'stuttering' except when it appears as a direct quotation the word 'stammering' will be used.

Definitions of stuttering, where they have been attempted, tend to highlight the observable speech pattern. For this reason stuttering has frequently been referred to as a disorder of rhythm or fluency of speech characterised by repetitions of sounds, syllables, words, phrases and prolongations of sound, etc.³.

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1. Report of the 'Interdepartmental Committee on Deviate Children'. Union of S. Africa. Vol.II, Printed by the Govt., Printer, Pretoria, 1945, p.87.
 2. Johnson, Wendell, et al., 'Speech Handicapped School Children'. Harper & Row, New York, Third Edition, 1965, p.229.
 3. Andrew Gavin and Harris Mary, 'The Syndrome of Stuttering'. Lavenham Press, Suffolk, England, 1964, p.1.

Although stuttering is commonly defined in dictionaries and text books as a disorder in rhythm or fluency of speech, manifested in repeated sounds, pauses, blockages or hesitancies, this can only be a partial definition, and it is one that turns out to be ambiguous when applied. Among its shortcomings as a definition it seems to imply that in normal speech there are no disturbances of rhythm or fluency, etc.¹

Investigators of the problem of stuttering agree that normal speech is not always fluent. Morley² suggests that there are many variations in the ease and fluency with which individuals express themselves. Morley suggests that when most people hesitate or repeat, in speaking, they do not react with any feelings of embarrassment or anxiety but that the 'stammerer' is unduly aware of this difficulty and seeks to avoid the interruption in fluency, or the words and sounds which he believes are the cause of it.

It is not always simple to answer the question as to when stuttering really is stuttering. Johnson³ states that in the case of children who exhibit non-fluencies in speech which are of a simple, unforced type and of which

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1. Johnson, W. et al., 'Speech Handicapped School Children', p.230.
 2. Morley, Muriel, E., 'The Development and Disorders of Speech in Childhood'. Second Edition, E. & S. Livingstone Ltd., Edinburgh & London, 1965, p.364.
 3. Johnson W. et al., 'Speech Handicapped School Children', p.233.

the child is hardly aware - stuttering is born in the 'mind' of the parent and not in 'mouth' of the child. He uses the term 'normal non-fluency' for the repetitions of syllables, words and phrases and considers them as part of the normal speech development of most children between the ages of 2 to 5 years. Johnson arrived at this conclusion after using an extensive experimental design with children of the relevant age group.

In the face of this overlap between the observable features of what has been judged to be 'stuttering' and certain observable aspects of what has been judged to be 'normal' speech, it would appear to be essentially impossible, as Johnson has pointed out, to formulate a definition of stuttering as a feature of a child's speech which would serve to differentiate it in an operationally meaningful way from normal disfluency.¹

Van Riper, however, as cited in Eisenson², distinguishes between a 'normally non-fluent' child and a 'primary stutterer'. If a child speaks with non-fluencies so often that the speech calls attention to itself and significantly interferes with communication, then the child is a primary stutterer rather than a normally non-fluent child.

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1. Bloodstein, Oliver, 'Stuttering as an Outgrowth of Normal Disfluency' in 'New Directions in Stuttering', edited by Dominick, Barbara, Charles C. Thomas, Publisher, Illinois, U.S.A., 1965, p. 44.
 2. Eisenson, Jon, and Mardel Ogilvie, 'Speech Correction in the Schools'. The Macmillan Co., New York, 1957, p.204.

Stuttering can also be characteristic of speech non-fluencies which become associated with facial grimaces, tics or other forms of spasmodic movement either of the articulatory mechanism or other parts of the body not ordinarily directly concerned with speech production. This is what many investigators, among them Van Riper, recognize as Secondary Stuttering.

Embodied in this word stuttering are therefore certain non-lingual associates which (cited in Eisenson¹) Van Riper says, it is assumed, arises initially as an effort on the part of the speaker either to delay, distract or avoid speech, or as a device to 'break through' a block that occurs, or which it is feared may occur in the speech effort when non-lingual, overt accessory activity takes place. These non-lingual associates of speech are called secondary symptoms. The stut-terer with secondary symptoms, in contrast to the primary stut-terer, is aware of the nature of his speech.

Bloodstein² sums up what is presently known about stuttering and disfluency when he says that:

Stuttering is an outgrowth of normal disfluency. In the course of its development it often undergoes a considerable process of change as tensions and fragmentations become extreme and devices for circumventing them make their appearance, so that in the end we may fail to recognize in the stut-tering behaviour its common place beginnings.

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1. Eisenson, Jon, and Mardel Ogilvie, 'Speech Correction in the Schools', p.204.
 2. Bloodstein, O., 'Stuttering as an Outgrowth of Normal Disfluency', p.52.

Stuttering appears to be essentially an intensification, an exaggeration, and ultimately, in its developed forms, a monstrification of certain kinds of normal disfluency.

A type of disfluent speech which may also be referred to as stuttering although it differs somewhat from what is commonly known as stuttering, arises as a result of organic lesions of brain function and its origin is purely 'organic'.

This type of stuttering has been observed following birth injury, Rh complication, encephalitis, or accidental skull trauma. As a special case of brain damage in the adult, aphasic stuttering as a partial phenomenon of dysphasic language losses belongs to the same group. Other examples are palilalia due to extrapyramidal disease, or iterative dysarthria resulting from cerebellar lesions.¹

Symptomatically, this type of stuttering was of the repetitive kind and it occurred under all circumstances, when speaking alone, speaking in public, singing, etc. 'The tongue appeared clumsy and awkward and thus dyspractic. From this a certain dysarthria resulted with respect to the sounds (s), (sh), or lingual (r), which affected the motorically difficult blends or long words.'²

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1. Arnold, G.E., and Luchsinger Richard, 'Voice-Speech-Language'. Wadworth Publishing Company, Inc., Belmont, California, U.S.A., 1965, pp.746-747.
 2. Ibid., p.730.

Ambiguity must also be avoided between stuttering and cluttering. Cluttering is 'rapid, nervous speech marked by omission of sounds or syllables.'¹ Indistinct articulation or enunciation is a characteristic feature of cluttering whereas a stutterer may speak with clarity when he is enjoying fluency in speech.²

In what is considered to be one of the most comprehensive single definitions to date Wingate (1964) defined stuttering as,

1. (a) Disruption in the fluency of verbal expression which is (b) characterised by involuntary, audible or silent repetitions or prolongations in the utterance of short speech elements, namely; sounds, syllables, and words of one syllable. These disruptions (c) usually occur frequently or are marked in character, and (d) are not readily controllable.
2. Sometimes the disruptions are (e) accompanied by accessory activities involving the speech apparatus, related or unrelated body structures, or stereotyped speech utterances. These activities give the appearance of being speech related struggle.
3. Also, there are not infrequently (f) indications or report of the presence of an emotional state, ranging from a general condition of 'excitement' or 'tension' to more specific emotions or of a negative nature such as fear, embarrassment, irritation, or the like.

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1. Travis, Lee Edward, 'A Handbook of Speech Pathology'. Peter Owen, London, Second Impression, 1963, p.53.
 2. Van Riper, Charles, 'Speech Correction'. Fourth Edition, Publisher, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1963, p.307. 'Stuttering is intermittent. Even severe stutterers often speak more words normally than in a stutterer fashion'.

- (g) The immediate source of stuttering is some inco-ordination expressed in the peripheral speech mechanism; the ultimate cause is presently unknown and may be complex or compound.¹

Woolf (1965) criticized Wingate for the disregard of 'avoidance behaviour' in his definition of stuttering. Wingate's reply to such a criticism was that he considered avoidance behaviour to be an inference and not a fact. Bloodstein's view that avoidance is the most common single feature of a stuturer's speech behaviour gives support to Woolf's criticism of Wingate. Many people who are called stutters have all the emotional fears and anticipations that are associated with stuttering but they show very little speech disturbance; they are experts in finding synonyms and in performing circumlocutions. This type of stuttering is common and Freund (1934) described it as 'inneres stottern' and Douglas and Quarrington (1952) as 'interiorized stuttering'.²

The reason why pathologists find it difficult to arrive at a clear cut definition of stuttering may possibly be because they are dealing with a phenomenon of multiple causation rather than with a 'syndrome'. The use of the

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1. Wingate, M.E., 'A Standard definition of Stuttering', J. Sp. Hearing Dis., 29 (1964) in 'Research and Experiment in Stuttering' by Beech, H.R., and Fay Fransella, Pergamon Press, London, 1968, p.488.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering'. Pergamon Press, London, 1968, p.31.

word 'syndrome' in relation to stuttering was disputed by St. Onge (1963) who pointed out that the dictionary definition of 'syndrome' does not concur with what is known about stuttering. He says:

the fact that we cannot seem to derive from symptoms a satisfactory syndrome leads us to postulate a multiple etiology. While this sounds nicely academic it is a shallow trick. Not having defined stuttering adequately as a single disorder, by a finely tuned ear for paradox we ascribe it to a variety of causes, but continue to study it as if it were a single disorder'.¹

The foregoing discussion on stuttering demonstrates the inadequacy of any single definition and consequently points to the possible debate that may arise when such an attempt is made.

Indian. The term Indian in this instance refers to all South African Indian citizens resident in the Republic of South Africa and who originated from India about the year 1860 and the ensuing years. The Indian population comprises two main groups, namely, Moslems, also called (Muslims, Mohammedans) and Hindus (Hindustani, Tamil, Telegu and Gujerati). Christians form the third group and are mostly converts from one or other of the religious groups mentioned.

1. St. Onge, K.R., 'The Stuttering Syndrome'. J. Sp. Hearing Research, 6, in 'Research and Experiment in Stuttering' by Beech, H.R., and Fransella Fay, Peregamon Press Ltd., London, 1968, p.195.

Primary School Children, refers to all children attending Indian schools up to 1966 between class one and standard six, as classified by the Department of Indian Education.¹

Durban. Within the borough of the city of Durban. Along the eastern coastal belt of Natal in Southern Africa.

III. SPELLING

Standard English spelling will be used throughout the text. American spelling e.g. 'fiber', 'center', etc. will only be used when they are included in direct quotations from authors.

IV. WRITER'S BACKGROUND

The writer is an Indian, born and educated in Durban and is a South African citizen. He received his training as a speech therapist, in the Department of Speech and Drama, University of Natal, Durban. Immediately after his training he worked for one year as a Speech Clinician, in the Department of Physical Medicine, King Edward VIII Hospital, Durban. Thereafter, he was appointed as a Lecturer, in the Department of Speech and Drama, University of Durban-Westville, the position in which he is at present serving his sixth year.

1. Before this investigation began the education of Indian children which was controlled by the Natal Education Department had just been taken over (April, 1966) by the Department of Indian Affairs, Division of Education.

V. PRESENTATION OF CHAPTERS

Chapter 2 it is hoped will present a resumé of some of the published material related to the stuttering problem.

Chapter 3 is expected to give some perspective of the cultural background of the Indian group that was studied. Some of the material published on this subject will be reviewed. Wherever possible, the writer will give some of his observations and relationships will be made to the stuttering problem.

Chapter 4 is concerned with the methods and procedures of the study, the manner in which information was elicited and subjects provided for examination, the ways of presenting the data and the problems that presented themselves in this study.

Chapter 5 is designed to present a report on the various aspects that were studied and will include a separate discussion on each aspect.

Chapter 6 finally will make inferences regarding the important aspects of the incidence and nature of stuttering as presented by Indian primary school children in Durban. Suggestions also will be made for future research on the subject.

CHAPTER TWOA REVIEW OF SOME OF THE PUBLISHED
MATERIAL ON VARIOUS FACTORS ASSOCIATED
WITH THE STUTTERING PROBLEM

Stuttering as a disorder of speech has befuddled mankind since the days of antiquity. It has been known to affect people great and small, and of all social classes and races, the professional man and unskilled labourer, kings and beggars. Moses has been reported by Karlin¹ to have been a stutterer.

Much emphasis has been placed on the tongue as a cause of stuttering as well as therapeutically. In the fourth century B.C., in Ancient Greece, Aristotle attributed the cause of stuttering to the tongue and suggested the excision of the nerves of the afflicted part.

Wendell Johnson² points out that before the discovery of anaesthetics, as recently as the middle of the last century, French surgeons were cutting out pieces of the stutterers' tongues. Some cases were cured dramatically and permanently as a result of such surgery.

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1. Karlin, Karlin and Gurren, 'Development and Disorders of Speech in Childhood'. Charles C. Thomas, Publisher, Illinois, U.S.A., 1965, p.89.
 2. Johnson, Wendell, 'People in Quandries'. Harper and Brothers, New York, 1946, p.439.

Although some success was achieved through tongue surgery Johnson says:

The tongue is easy to observe, and as we know, and has been discovered at any time by means of simple observation stutterers' tongues are normal.¹

Physical correction of stuttering by operation or instruction, based on the belief that faulty behaviour is due to faulty structure, has lost appeal in more recent times and greater interest has been shown in psychological rather than physical factors as a cause of the disorder.

Eich put forward the novel psychical viewpoint in 1858 and he also recommended that each case should be treated separately according to individual needs. Kingsley (1859) an orator and playwright believed stuttering to be caused by either conscious or unconscious imitation. Rosenthal (1861) attributed the cause of stuttering to an excitability which was inherited. He described it as a disorder of co-ordination increased by anxiety and embarrassment, during the emission of sounds. He advocated treatment based on rhythm.²

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1. Johnson, W. et al., 'Speech Handicapped School Children', p.250.
 2. Diehl, Charles F., 'A Compendium of Research and Theory on Stuttering'. Charles C. Thomas, Publisher, Illinois, U.S.A., 1958, p.10.

Chervin (1867) a teacher in Lyons hypothesized that stuttering was chiefly caused by the 'higher brain' and that an education of the will was most important in a cure of the disorder. Neurologically orientated theories were also held by Thorne (1867) - that stuttering was caused by abnormal functioning of the central nervous system.

Charles Diehl¹ reports that Sandow (1898)

believed stuttering was a psychoneurosis on the debility of the nerves involved in speech. Each paroxysm of stuttering was induced by psychic stimuli, caused by dread of speaking, intense eagerness, or by too violent innervation while talking. He recommended rest and relaxation.

These theories about stuttering aetiology, put forward in the nineteenth century, appear to have sown the seeds for much of the theory and experimentation that followed.

The type and quantity of experimental research that was conducted on stuttering was analysed by Sortini² in the twenty-year period between 1932-1951. From 225 studies of this type he found the following directions in experimental evidence:

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1. Diehl, Charles F., 'A Compendium of Research and Theory on Stuttering', p.13.
 2. Boehmle, Richard M., 'Listener responses to Non-Fluencies', Journal of Speech and Hearing Research (1958), 1, as cited in 'Speech Handicapped School Children' by W. Johnson et al., Third Edition, Harper and Row, New York, 1967, pp.181-183.

A.	Genetic	6.2%
B.	Personality	9.3%
C.	Miscellaneous (i.e. studies of speech defects including stuttering)	16.4%
D.	Physiology	19.1%
E.	Laterality and Neuro-Physiology	20.5%
F.	Psychological or Behavioural	28.5%

In surveying the literature on stuttering the great diversity of interest and specialization which it involves becomes evident. Stuttering may appear, on account of its symptomatology, to be a superficially simple disorder. There is, in fact, no conclusive evidence to regard stuttering as a unitary phenomenon. It can take many forms and may appear in different psychological and physical settings and there is no wonder that there is no general agreement on its definition or origin.

From what must be considered as a peep into the historical perspective of stuttering it is apparent that research in this field is bedevilled by a lack of solid and reliable evidence, and an abundance of conflicting ideas and experimental results.

In this chapter, it is hoped to give attention to the incidence and nature of the stuttering problem. The purpose here is to provide, in some instances, background

material which will be utilized to some extent in chapter five where the study conducted on Indian school children will be analyzed. The following discussions in the present chapter will consist of:

- A. THE INCIDENCE OF STUTTERING.
- B. CULTURAL AND SOCIO-ECONOMIC FACTORS ASSOCIATED WITH STUTTERING.
- C. THE RELATIONSHIP OF STUTTERING TO SEX.
- D. THE ONSET OF STUTTERING AND ITS SEVERITY.
- E. LATERALITY (HANDEDNESS) AND ITS RELATION TO STUTTERING.
- F. INTELLIGENCE AND THE SCHOLASTIC LEVEL OF STUTTERERS.
- G. FAMILIAL INCIDENCE OF STUTTERING.
- H. THE POSITION (BIRTH RANK) OF STUTTERING IN THE FAMILY.
- I. BILINGUALISM AND STUTTERING.

A. THE INCIDENCE OF STUTTERING

The study of the incidence of speech disorders is useful to therapists as it acquaints them with knowledge of the frequency of the number and kind of defective speakers they will find among a given group of people. It is with this intention that the present study on stuttering was undertaken among Indian school children. It is of interest to compare the incidence of stuttering in

the Indian population studied with the data available from studies with other groups. The material available for this purpose is predominantly limited to studies in the United States of America, with some studies in Europe and England and parts of the African Continent.

Johnson et. al.,¹ says that:

There is considerable variation among published estimates of incidence of stuttering. This variation is probably due to the fact that (1) the proportions of children who stutter may vary from school to school, and, perhaps, even from social class to social class and from culture to culture; (2) survey and examination procedures may differ from one study to another; (3) definitions of stuttering, as actually applied, may differ from one investigator to another; and (4) judgements of stuttering may differ from one listener to another. This fourth point is supported by a number of studies including one by Boehmler, who found that trained judges apply the label of stuttering more often than untrained judges, and by Williams and Kent, who found that judges tend to hear what they were instructed to listen for'.

Milisen² discusses the difficulties encountered when classification of speech disorders are made. Evaluations may be affected by (i) the variability of the dynamic process of speech which makes the establishment of a standard well nigh impossible; (ii) when divided artificially, the complex processes that comprise the speech act shows an

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1. Johnson, W. et al., 'Speech Handicapped School Children', p.242.
 2. Milisen, Robert, 'The Incidence of Speech Disorders', Ch. 7, in 'Handbook of Speech Pathology' ed. by Lee Edward Travis, Pub., Peter Owen Ltd., Second Impression, London, 1963, pp.246-247.

underemphasis or overemphasis of any one of its elements to produce defective speech and (iii) the communicative function of speech involves listener as well as speaker who must both react to the defect in some manner. Both listener's and speaker's reactions must be such that the communicative act is interfered with to a lesser or greater degree. Within any act of verbal communication emphasis will shift from 'what' the speaker says to 'how' he says it. Milisen suggests that the defect appears on a continuum, varying from situation to situation, of complete acceptance to complete rejection of 'what' and 'how'.

The data collected on incidence varies from personal surveys to questionnaire studies and in many respects, as has already been commented upon, may show differences that will be noted.¹

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1. (a) Bloodstein, O., and Smith, S., 'A Study of the Diagnosis of Stuttering with special reference to the Sex Ratio'. *Journal of Speech and Hearing Disorders*, 19, (1954), pp.459-466. In 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles F., Charles C. Thomas, Publisher, U.S.A., 1958, pp. 212-213.

 - (b) William, Dean E., and Kent, Louise R., 'Listener Evaluations of Speech Interruptions', pp. 124-131 as cited in 'Speech Handicapped School Children'. W. Johnson et al., Third Edition, Harper and Row, Publishers, New York, 1967.

Questionnaire studies are especially criticized for a low reliability and validity because the investigator is faced with a dilemma as to whether he should use trained or untrained examiners in ascertaining a class of speech disorders. "If only trained examiners are used, the reliability of the judgements will be greater but the validity will be more questionable. If untrained observers are used, just the opposite may be true. This is because the trained observer may report accurately many minor deviations which seldom attract anyone else's attention and therefore should not be classified as speech defects; whereas the untrained observer may classify incorrectly many of the deviations he observes, but for the most part he will report only those deviations which are sure enough to be classified as speech defects".¹

Aron² cites 15 sources of incidence studies carried out mainly with school populations. She arrives at an average percentage of 0.80 incidence. She also cites the committee on the Midcentury White House Conference of the American Speech and Hearing Association which estimated that the incidence of stuttering among young people between the ages of 5 and 21 years in the United States was seven

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1. Milisen, R., 'The Incidence of Speech Disorders', p.247.
 2. Aron, Myrtle L., 'An Investigation of the Nature and Incidence of Stuttering among a Bantu Group of School-going Children', M.A. dissertation, University of the Witwatersrand, 1958, pp.10-12.

per 1,000 or 0.7 per cent.

It is widely acknowledged in the United States and other English-speaking countries that the incidence of stuttering is slightly less than 1 per cent.¹ For reasons already mentioned on the variability of research techniques used figures of higher incidence, which raise the eyebrow, will have to undergo more thorough and corroborative evidence in populations of some similarity. On the other hand, it must be noted, that cultural factors have been given much attention and are believed to promote appreciable differences in incidence from one culture to another.² Stuttering has been reported to prevail in diverse

1. (a) Eisenson, Jon, and Mardel Ogilvie, 'Speech Correction in the Schools'.
 - (b) Andrew Gavin and Harris Mary, 'The Syndrome of Stuttering'.
 - (c) Van Riper, C., 'Speech Correction'.
 - (d) Robinson, F.B., 'Introduction to Stuttering'. Foundations of Speech Pathology Series, Prentice Hall, Englewood Cliffs, N.J., U.S.A., 1964.
 - (e) Bloodstein, Oliver, 'A Handbook of Stuttering for Professional Workers'. The National Society for Crippled Children and Adults, Illinois, America, 1959.
2. Andrew Gavin and Harris Mary, 'The Syndrome of Stuttering', p.8.

cultural settings. The prevalence e.g. in Western Europe is approximately 1 per cent. Similar results have been ascertained from surveys in India, United States of America, Ghana, and with Bantu school children in Johannesburg. Section (b) of this chapter will deal more closely with cultural factors and their relation to the stuttering problem.

The rough average incidence of stuttering found after examining 9 different sources (see Table 1) is approximately 0.84 per cent. This figure of 0.84 per cent was arrived at after examining some of the research findings between 1916 - 1956. This finding affirms the generally accepted figure of slightly below one per cent which is considered as the average incidence of stuttering in different population and cultural groups.¹

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1. (a) Eisenson, Jon, and Mardel Ogilvie, 'Speech Correction in the Schools'.
 - (b) Andrew Gavin and Harris Mary, 'The Syndrome of Stuttering'.
 - (c) Van Riper, C., 'Speech Correction'.
 - (d) Robinson, F.B., 'Introduction to Stuttering'.
 - (e) Bloodstein, O. 'A Handbook of Stuttering for Professional Workers'.

TABLE 1

INCIDENCE OF STUTTERING AS REPORTED FROM 9 DIFFERENT STUDIES

Date	Source	Total Screened	% Incidence	Area and Type of Population Studied
1916	Wallin, as cited (39, p.243)	89,057	0.70	St. Louis, U.S.A. School pop.
1923-1924	Watzl, as cited (2, p.739)	135,900	0.63	Vienna, Austria Secondary School pop.
1928	McDowell as cited (5, p.13)	7,000	1.00	New York, U.S.A. School pop.
1937	Travis et. al., as cited (5, p.13)	4,827	for all 2.6 English only 1.80 Bilinguals 2.80	Chicago, U.S.A. School pop. including Foreign students.
1939-1942	Schindler as cited (39, p.243)	20,000	0.55	Iowa, U.S.A. In 5 countries - School pop.
1952-1953	Seeman as cited (2, p.739)	25,850	0.55	Prague, Chechoslovakia, lavakia, School pop.
1954	Starbuck & Steer as cited (5, p.13)	7,358	1.00	Newcastle Upon Tyne, England, School pop. (9-11 year old)
1956	Morgenstern as cited (5, p.13)	30,000	1.2	Scotland, School pop. of (10-11 year old)
1958	Aron (3, p.99)	6,581	1.26	Orlando, Johannes- burg, South Africa. Bantu School pop.

B. CULTURAL AND SOCIO-ECONOMIC FACTORS ASSOCIATED WITH STUTTERING.

Much interest has been shown in cultural factors and their relationship to the aetiology of stuttering. According to the findings, severally, of Johnson, Snicedor, Lemert, Bullen and Morgenstern greater significance has been attributed thereto.¹

In the nineteen thirties the search began in America for any form of stuttering speech that existed among so-called 'primitive' societies who lived outside the boundaries of so-called 'civilized' societies.

Wendell Johnson² reports the case of an English stuturer, William Nuttall, who said that whoever finds a cure for stuttering would have found a cure for all the ills of society. In this declaration Nuttall was interpreted as directing attention to semantic environment - the environment of attitudes and evaluations, opinions and beliefs - as a source of his difficulty.

Wendell Johnson's search among Indians of North American tribes gave greater importance to the semantic

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1. (a) Johnson, W. et al., 'Speech Handicapped School Children'.
 - (b) Bloodstein, O., 'A Handbook of Stuttering for Professional Workers'.
 - (c) Beech, H.R., & Fransella Fay, 'Research and Experiment in Stuttering'.
 - (d) Johnson, W., 'People in Quandries'.
2. Ibid., 1. (d), p. 440.

environment in relation to stuttering. Miss Harriet Hayes, a pupil of Johnson's, worked among the Bannock and Shoshone Indians for a year and she found no stuttering among them. The superintendent of the school at which she taught had been associated with Indians for twenty five years and he confirmed this report. Further information regarding the language of these tribes and the child-rearing practices were investigated a year later in 1937, by John Snicedor, another pupil of Wendell Johnson. Snicedor's findings, after intensive investigation of two years, revealed valuable information. Snicedor found that there was no word for stuttering in the vocabulary of these American Indian tribes and that the upbringing of their children when compared to 'civilized' Americans was lax.

With respect to speech in particular, it seemed to be the case that every Indian child was regarded as a satisfactory or normal speaker, regardless of the manner in which he spoke. Speech defects were simply not recognized. The Indian children were not criticized or evaluated on the basis of their speech, no comments were made about it, no issue was made of it. In their semantic environment there appeared to be no speech anxieties or tensions for the Indian children to interiorize, to adopt as their own. This together with the absence of a word for stuttering in the Indians' language, constitutes the only basis on which I can suggest an explanation for the fact that there were no stutterers among these Indians.¹

1. Johnson, W., 'People in Quandries', p.443.

Darley¹ in his investigation in 'civilized' American society gives reports of adverse influences in the home which might contribute to unsatisfactory speech development. He found in his investigation of 50 cases of stuttering and non-stuttering children of between 2-14 years of age and of their parents that:

1. Both the fathers and mothers in the stuttering group far exceeded the non-stuttering children's parents in acknowledging that they felt worried about their children's speech and that they also had relatives who showed concern over the speech of these children.
2. Stuttering children were punished significantly more than non-stuttering children for several types of behaviour, were reprimanded more often and were punished more often in anger.
3. The parents of the stuttering children appeared to possess high standards generally and distinctively high standards regarding speech behaviour in young children.

1. Darley, Fredrick L., 'The Relationship of Parental Attitudes and Adjustments to the Development of Stuttering', in 'Stuttering in Children and Adults', edited by Wendell Johnson, Third Printing, 1963, University of Minnesota Press, U.S.A., pp.75-153.

4. The parents of the stuttering children had peculiar definitions of normal speech and stuttering speech, which were supplemented by a greater than average desire on the part of the parents for their children 'to do well'. There was also diagnosis of stuttering before the child began to speak sentences which indicated lack of knowledge of the pattern of speech development. On a larger scale, the general failure to take into account the periods of normal speech preceding alleged onset, or to identify the easy repetitions and hesitations described as first stuttering symptoms with the normal non-fluencies of most young children, suggests also a lack of understanding coupled with a perfectionistic attitude.

It is pertinent to give attention to the non existence of a word for stuttering in the vocabulary of the Bannock and Shoshone American Indian tribes and to the liberal use of the label of stuttering to apparently normally non-fluent speech. It is on the findings of **these** investigations that Wendell Johnson stressed the importance of semantic environment and diagnosis of stuttering as bearing on the aetiology of stuttering. Johnson conducted a study in 1935 with 46 stuttering and matched non-stuttering subjects where he showed for the first time that stuttering in children differed from the adult type. He also

proved that it was normal for the average child to repeat at least 45 times per 1000 words. In addition he found frequent hesitations other than repetitions which he said were not accompanied by an apparent tension and anxiety on the part of the child. Johnson¹ stated that:

There is a tendency for more non-fluency to occur under conditions of shame, sense of guilt, etc., occasioned by parental scolding, rebuff, or disapproval, particularly when these serve to create negative evaluations by the child of his own speaking rights or ability. There is probably increased non-fluency, also, during 'language spurts', as during the transition from the speaking of simple words to the speaking of short sentences, or from the speaking of simple sentences to the use of complex sentences, or when the child is discontinuing the pronoun me in favour of I, etc.

'Stuttering' as a word for the disturbance of normal speech rhythms and its concomitants has universal application. The Germans call it 'stottern'; Fiji Islanders call it 'ka-ka'; in Japan it is known as 'do'mo'ri'; the Eskimo stutterer is 'iptogetok'; Zulus in South Africa call it 'amalimi'; Salish tribe of American Indians use the term 'sutsuts'.²

The wide application of the term 'stuttering' points to its being a common disorder which afflicts the human race. Whilst this may be so, some of the cultures of the Pacific, according to anthropologists' reports to Bullen in 1945,

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1. Johnson, W., 'People in Quandries', pp.444-446.
 2. Van Riper, C., 'Speech Correction', p.306.

do not have the problem or it is a very insignificant one. In private letters to Bullen the following reports were given:¹

Fortune: 'I have not met a primitive who stuttered'. (He estimated that in the course of his investigation he talked to about 6,000 people among eight different tribes in New Guinea).

Margaret Meade: 'I have never seen a case of stuttering or stammering among primitive people, although I remember hearing of one among the Arapesh'. (Meade was referring to natives of New Guinea and parts of the South Pacific).

Birdsell and Warner: The former had the impression that it was 'very rare' whilst Warner had never observed stuttering among them. (These two anthropologists worked extensively among the Aborigine of Australia).

Ekblaw: Ekblaw states that having lived for four years among 250 Polar Eskimos he found no incidence of stuttering.

In 1953 Edwin M. Lemert dispelled any doubts or misconceptions about the non-existence of stuttering among American Indian tribes. Large numbers of stutterers were found by this social anthropologist along the North West Pacific Coast among the Kwakiutl, Nootka and Salish. Lemert went on to establish the antiquity of the disorder among them and dispelled any idea that they were

1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.13.

influenced by 'civilized' American societies in their recent acculturation. He found native words for stuttering in their language; the folklore contains rituals and incantations for the treatment of stuttering and some living members of these tribes had memories of the stuttering of their grandfathers whose childhood might have gone back to the 1850's.

The explanation that was offered for the prevalence of stuttering among some Indian tribes when it was relatively unknown in others may find support in Morgenstern's findings about the Idoma and Ibo peoples of West Africa. Lemert points to the unique competitiveness of the North West Coast Indian.¹ It was a kind of competition in which the prestige of the entire clan depended on the conduct and aspiration of each individual and any shortcomings on his part led to a sense of embarrassment or guilt which he did not value. They also exhibited attitudes of social rejection to speech defects and left handedness, to mention a few. Amongst the Ibo an incidence figure of 2.67% of a group of 5,618 school children was reported on the basis of a survey conducted by teachers and headmasters. In Dr. Armstrong's, the American anthropologist's report, to Morgenstern about the Ibo people it was said:

1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers' p.15.

Ability to speak well in public is vastly admired in West Africa, and Idoma and Ibo country is no exception to this statement. People make speeches on the slightest pretext... There is strong ridicule from the stammerer's age-mates...¹

The Ibo are known to place great stress on the attainment of education, and they are frequently regarded by other tribes as 'the most competitive and economically aspiring people of West Africa.

In an extensive survey conducted by Morgenstern in 1953 detailed information was collected from 258 anthropologists about cultural traits and attitudes in non-literate groups all over the world. He found an absence of stuttering amongst some peoples of Borneo, Malaya, New Guinea, and India and no word was found in their vocabulary for stuttering. Stuttering tended to be more prevalent in societies in which less tolerance was shown to children who deviated from normative patterns.

These studies on cultural aspects of stuttering and the anthropological data that ensued from them give significance and clarity to Wendell Johnson's diagnosogenic or semantogenic theory of the cause of stuttering.

Johnson² says:

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.12.
 2. Johnson, W., 'People in Quandries', p.446.

Stuttering at its onset was found, then, to be remarkably different from stuttering, in the adult. Stuttering as a clinical problem, as a definite disorder, was found to occur not before being diagnosed, but after being diagnosed. In order to emphasize this finding, I have coined the term diagnosogenic; stuttering is a diagnosogenic disorder in the sense that the diagnosis of stuttering is one of the causes of the disorder. The evaluations made by the parents (usually) which they express, overtly or implicitly, by diagnosing their child's speech as 'stuttering' or 'defective', or 'abnormal' are a very part of the child's semantic environment, he too evaluates his speech as 'defective', 'difficult', 'not acceptable', etc., and his manner of speaking is consequently made more hesitant, cautious, labored, and the like. In this way normal speech hesitations are transformed into the exaggerated pausing, effort, and reluctance to speak which are so conspicuous and frustrating in the speech of adult stutterers.

The studies outlined show that variations in the incidence of stuttering appear from culture to culture, but they also suggest as Dr. Morgenstern says:

Stammering incidence in a culture is very highly correlated with cultural practices of stigmatization of the stammering, particularly with parental anxiety over the possibility of their children's stammering.¹

The opposite is true in cultures in which stuttering is rare or unobserved i.e. lack of pressure or tension in all types of situations and especially those related to speech.

1. Johnson, W., et al., 'Speech Handicapped School Children', p.248.

Bloodstein¹ states that since cultural implications are apparent in the stuttering problem it is expected that socio-economic levels, which are the sub-cultures of our own society, will confirm this finding. He says that in spite of the scant evidence such a confirmation is made possible.

There appears to be conflicting evidence on the question of socio-economic factors. In what is acknowledged as the most affluent study in this direction Morgenstern surveyed 30,000 school children in Scotland in 1953. Of the 350 stutterers found and placed against large scale normative data non-fluency was attested to a higher proportion of children of semi-skilled parents and among children of skilled manual workers living in sparsely populated areas. In contrast lower incidence was obtained among children of unskilled workers and where there were crowded housing conditions. The semi-skilled manual wage-earner included such occupations as truck driver or machine-tender and was low on the socio-economic scale.²

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', pp.17-19.
 2. (a) Ibid., pp. 15-16.
(b) Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', pp.26-27.
(c) Johnson, W., et al., 'Speech Handicapped School Children', p.249.

This phenomenon was explained as follows:

Morgenstern believed that it lay in the somewhat unique upward mobility of this occupational class in Scottish society. He observed that to a greater degree than appeared to be true of members of any other class the semi-skilled worker had both the opportunity and the aspiration to rise above his origins. This being so, he could be expected to exert somewhat greater pressure on his children to improve themselves, and perhaps tended to evince a somewhat finer appreciation of the advantage of such personal refinements as 'good' speech in the competition for social and economic status.¹

Andrews and Harris² in a more recent study in which 80 stutterers and 80 non-stutterers were compared did not corroborate Morgenstern's findings. In comparing their two groups of subjects the authors did not find any association between either incidence of stuttering and social class or with direction of social mobility.

Darley's comparison of 50 cases of parents of stuttering and non-stuttering children and an investigation by Douglass and Quarrington confirm Morgenstern's finding of the incidence of stuttering in social classes showing upward mobility. Beech and Fransella³ further point out that arising out of interviews and case history information

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers, pp. 18-19.
 2. Andrews, G. and Harris, M., 'The Syndrome of Stuttering'.
 3. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.27.

'interiorized' stuttering (exemplified in inferiority feelings, anti-social behaviour and anxiety) is associated with social mobility whilst the 'exteriorized type' (with overt secondary symptoms) show no such relationships.

Froeschels' (1941) study may show some relevance here. In her experience with European and American samples she claims that European stutterers are more likely to become 'Hidden Stutterers' ('interiorized'). They tend to avoid their listeners' eyes and will hold tightly clenched hands in their pockets. The American stutterers belong to the more 'exteriorized' type.

More investigations will have to be conducted in cross-sectional studies of population groups to confirm and establish the findings of Morgenstern, Darley and Douglass and Quarrington in the relevance of socio-economic factors to the aetiology of stuttering. Studies by Johnson in Iowa, U.S.A. arrive at conclusions that stuttering is high among people of 'middle' and 'upper middle' classes. This may be due to the fact that studies were conducted with American college and university students who represent a higher economic class.¹

In view of these findings Johnson and Morgenstern have observed that stuttering may not be related primarily

1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.18.

to the amount of socio-economic status possessed by a given class of society but the intensity of the drive that is made to achieve a higher status. In an attempt to rise above themselves stutterers' parents as a group are dominating, competitive, perfectionistic, over anxious and demanding in their relationships with their children.¹

C. THE SEX RATIO OF STUTTERERS

Stuttering has been found to predominate in the male sex. This has been consistently agreed upon by writers who have studied the incidence of this speech disorder.² Nadoleczny (1929) found a male female ratio of 3:1. Reid (1946) in an examination of statistics in America quoted relationships of from 2:1 to 10:1. Of 2154 cases of stuttering of all ages a ratio of 4.4:1 was cited by Arnold and Luchsinger.³ Morley (1952) found a frequency of 4 males to 1 female as seen in his clinic. Wepman (1929) found the same ratio in a study of 250 stutterers and 250 fluent subjects. Johnson and Schindler (1955) reported the male-female proportion of stutterers to be 3:1.⁴

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers, p.20.
 2. Arnold, G.E. and Luchsinger, R., 'Voice-Speech-Language', p.741.
 3. Ibid., p.395.
 4. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', pp. 22-26.

The available evidence suggests that the occurrence of stuttering in males and females becomes more disparate with age. The ratio ascends from 3:1 in first grade to more than 5:1 by the last year in secondary school.¹

Schuell (1946) cited, in Arnold², reported that of 1,243 cases sex differences fell into the following pattern: The smallest difference 2:1 appeared after the thirteenth year of life; university students showed a sex ratio of 7:1 compared to the same age group of non-studying persons, being 3:1; the highest differences in distribution were found in the third decade of life, being 10:1.

When summarizing past investigation of stuttering in relation to sex differences Schuell³ said:

The degree of ratio varied according to age and educational status of the population studied, and according to methods used to obtain samples. Males are more severe stutterers than females. More males outgrow stuttering than females.

The prevalence of stuttering was investigated according to sex from grades one to eight on two occasions. The first

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers, p.20.
 2. Arnold, G.E. and Luchsinger, R., 'Voice-Speech-Language', p.741.
 3. Schuell, H., 'Sex Differences in Relation to Stuttering': Part 1, Journal of Speech Dis., 11 (1946), pp. 277-298 in 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles F. Publisher, Charles C. Thomas, Illinois, U.S.A., 1958, p.209.

was conducted by Blanton (1916) in a personal survey among 34 stutterers and the second was investigated by the White House Conference (1913) in which questionnaire cases of 9,103 stutterers were examined. The writer finds that in both these studies, if graphically represented, a peak of incidence would occur amongst both girls and boys at grade V and that by grade VIII there is a decline in both groups. However, the boys show a sharper decline than girls and thus may be related to the sex difference being smallest just after the thirteenth year of life.¹

TABLE 2

INCIDENCE OF STUTTERING ACCORDING TO SEX
FOR THE FIRST EIGHT GRADES AS CITED IN TWO STUDIES.

Grade	Blanton 1961 Personal survey cases			White House Conference (1931) Questionnaire cases		
	Boys	Girls	Total	Boys	Girls	Total
I	2	0	2	623	203	826
II	4	0	4	829	244	1073
III	1	1	2	966	265	1231
IV	3	1	4	1052	253	1305
V	5	2	7	1172	271	1443
VI	5	1	6	1095	255	1350
VII	3	2	5	842	178	1020
VIII	2	1	3	678	177	855

1. Milisen, R., 'The Incidence of Speech Disorders', p.255.

Aron, whose study is cited in South Africa, the country of the present research amongst Indians, shows that the sex difference is consistent even among the Bantu school children, reported a ratio of 3.28:1 males to female.¹

Males are not only more prone to stuttering speech but generally experience difficulty with many types of language and speech behaviour as well as displaying constitutional and other differences when compared with females. Schuell² says:

Male infants have more difficult births than females and incur more birth injuries. Males are more susceptible to disease than females and have greater statistical probability of meeting sudden and violent death. Boys develop more slowly than girls both in growth and speech. Boys show more repetitions in speech than do girls. More males are referred to clinics for speech retardation, language disabilities, and articulatory defects. Approximately three times as many boys have reading disabilities. Males make more errors in writing and spelling and have a lower correlation between school achievement and intelligence.

In an attempt to find an explanation of this difference between the sexes Schuell considered the effects of

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1. Aron, Myrtle, L., 'An Investigation of the Nature and Incidence of Stuttering among a Bantu Group of School-going Children', p.106.
 2. Schuell, H., 'Sex Differences in Relation to Stuttering', pp.209-210.
 3. Johnson, W., et al., 'Speech Handicapped School Children', pp.267-268.

social and cultural influences upon boys and girls. In doing this she investigated home and school attitudes and policies towards the sexes. In outlining her findings she contends that besides the slower rate of male development in western society they are more susceptible to diseases and handicapping conditions as well as social maladjustments. She says this is due to the reward given to children by teachers and parents and society generally for submissive and withdrawing behaviour and the punishment that is meted out to them for aggressiveness, independence and assertiveness which males nevertheless are expected to develop. She further states that this contradictory attitude of expecting them to assume the role of leadership but training them in fellowship is considered by psychologists and mental hygienists to be indicative of serious maladjustments.

It may be deduced from this that on account of the slower developmental rate of males as opposed to females the male encounters competition which is unequal to him hence more frustrations, particularly in relation to language situations, and as a result exhibits more insecurity and inhibitions in speech. Complications of negative reactions to his speech may lead to the development of anxieties and tensions and to stuttering.¹

1. Johnson, W., et al., 'Speech Handicapped School Children', p.268.

Dr Clarice Tatman (cited in Bloodstein¹) suggests that the roles played by the sexes may be related to the difference in sex ratio. Boys and girls are expected to assert their individuality, yet under conditions of anxiety, tension and guilt the girls may be permitted to escape with indulging in silence while the boys are more likely to speak under stress.

Another contribution to the psychological explanation of sex differences in this speech disorder is that of Bloodstein and Smith (1954)², who set up an experiment to evaluate the proposition that there are higher standards of fluency for boys than for girls and that such a difference in expectation contributes to the acquisition of stuttering among males. The conclusions arrived at were that boys did not stutter any more frequently than girls which suggests that different expectations of fluency for the sexes may be rejected. Secondly, it was found that a male judge made a more ready diagnosis of stuttering than a female judge.

Other than these socio-psychological explanations for the puzzling sex differences related to stuttering two organic theories offer closely reasoned explanations.

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.21.
 2. Bloodstein, O., and Smith, S., 'A Study of the Diagnosis of Stuttering with special Reference to the Sex Ratio', pp.212-213.

These are found in aspects of West's 'ictocoongenital' hypothesis and Karlin's psychosomatic theory which will be viewed presently.

West's (1958)¹ 'icotocongenital' hypothesis theorised that stuttering is congenital and convulsive. His speculation of an organic cause of stuttering is made although he acknowledges that up to the time of his writing none of the available facts ensured us about the basic aetiology of stuttering.

West suggests several factors by which any theory of stuttering ought to be measured. These are, that it is a phenomenon of childhood; is more prevalent among males than females; has a tendency to run in families; occurs more frequently in families in which multiple births occur than in families in which children are born singly; is insidious in its onset; is associated with the late acquisition of speech; is convulsive - in that it includes muscular spasms; is related to the situation in which stuttering speech is anticipated; and is manifest in persons who exhibit differences from the non-stutterer in physiological reactions.

In evaluating West's theory Beech and Fransella² say:

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1. West, Robert, 'An Agnostic's Speculation About Stuttering' in 'Stuttering: A Symposium', edited by Jon Eisenson, Publishers, Harper & Row, New York, 1958, pp. 169-202.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.60.

He does not rule out the possibility that psychological factors play some part in the disturbance, but takes the view that one can frequently demonstrate psychological 'triggers' of organic disturbances and that one should not be surprised to find that this is true for stuttering. Indeed, the susceptibility of stuttering to psychological factors lends weight to his argument that stuttering is a kind of convulsive disorder, related to the epilepsies. Both epilepsy and stuttering are convulsive; both are common among males; both are susceptible to heightened emotionality and occur more frequently in childhood; both have a familial element; and both are 'reflexive' in that fear of an attack can precipitate the disorder.'

In relating stuttering to quantities of insulin present in the blood and to epilepsy and diabetes mellitus West says, that a lack of animal sugar does not help in aborting convulsions as in the case of the epileptic. Stuttering is, he says, rarely found among diabetics. But in the case of stutterers who are considered to fall within the epileptic category there is automatic control of convulsions because of their cybernetically balanced sugar metabolism.

This 'icostat' of the stutterer, however, does not completely inhibit convulsions. It arrests the grand mal but allows minor spasms to occur.¹

Stuttering is therefore suggestively placed in its perspective as the least severe form of a syndrome of

1. West, R., 'An Agnostic's Speculation About Stuttering', p.177.

convulsive epileptiform disorders ranging from grand mal to pyknolepsy¹ to convulsions that parallel stuttering:

When we read the clinical description of pyknolepsy, or see some patient labelled as pyknoleptic demonstrated in the clinic, we wonder how many times before we may have seen such a patient and mislabelled him a severe stutterer. Or perhaps the mistake was made in the other direction: a severe stutterer was picked up by the specialist in convulsive disorders and diagnosed a pyknoleptic.²

Lawrence³ refers to a report by West et al. (1939) in which it was found that 20 per cent of the stutterers in a study of 204 stuttering families revealed that stuttering was consequent upon a recovery from infections involving the respiratory system accompanied by high fever and associated with encephalitis, epilepsy and convulsions. In a more recent study by Dunlop (1964) of 360 epileptic children 54 per cent had neurological abnormality, indicating some degree of brain injury or dysfunction.

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1. They are of momentary duration. In pyknolepsy there is no loss of consciousness and during convulsion speech is arrested. West, R., 'An Agnostic's Speculation About Stuttering', p.178.
 2. West, R., 'An Agnostic's Speculation About Stuttering', p.178.
 3. Lawrence, A. Ives, 'Learning Difficulties in Children with Epilepsy' in British J. of Dis. of Communication. Vol. 5, No. 1, April, 1970. Publishers, E & S. Livingstone, London & Edinburgh, p.83.

West confirms the views of other writers about the physical, intellectual, emotional and social retardations that at least the young males of western society are faced with. He goes one step further by assuming that this proneness to disease in males begins before birth. He says that the female embryo as it grows is more in likeness to the biochemical make up of its environment.

The hormones of its body gradually begin to match, in proportion, if not in concentrations, the hormones of the mother. The male embryo, however, as it develops encounters an ever increasing incompatibility, from which it can escape only by separation from the mother. (Incidentally, the mother also suffers effects of its incompatibility, which doubtless accounts for the larger proportion of aborted males.) This incompatibility results in primary retardation and a proneness to disease which in turn further retard the child's growth and development, his increment and his metamorphosis. Most males suffer effects of these primary and secondary retardations until puberty affords a rebalancing of the endocrine system.¹

West goes to the extreme of suggesting that this deficit which is the lot of males may be corrected by a reorganization of nature in that males should bear their own offspring and females theirs.

West, in addition to the fundamental predisposition of males to convulsive disorders outlines several points of secondary complications stemming from congenital

1. West, R., 'An Agnostic's Speculation About Stuttering', p.180.

retardation. They are:- boys in maturity have longer muscles and require greater speed in their use; boys are expected to bear more rigorous responsibilities in society than females who are more the 'home maker'; before puberty boys are less equipped, age for age, for the roles they play; they are mismatched with girls of their own ages; boys suffer from an inferiority that is significant in speech development, they are slower than girls of their own age in the rate of diadochocinesis¹ - at least in childhood but surpass them in later life.

This movement rate is a fundamental measure that increases with the maturation of the central nervous system. It is basic and limiting in the speed of voluntary serial behaviour patterns such as running, writing, skipping and speaking.²

The pre-school child finds himself in an atmosphere which in speed exceeds his ability to perform quickly enough. So in speech where he is expected to make a response beyond his speech limit and in fear of losing the attention of his listeners he distorts his words and phrases and stumbles.

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1. 'The performance of repetitive movements such as lowering and raising the mandible, occluding and opening the lips, and tapping with the finger.'

Wood, Kenneth Scott, 'Terminology and Nomenclature' Ch. 2, in 'Handbook of Speech Pathology' ed. by L.E. Travis, Peter Owen Ltd., London, 1963, Second Impression, p.54.

2. Lawrence, A. Ives, 'Learning Difficulties in Children with Epilepsy', p.182.

This is regarded as 'cluttering' but if he is possessed by convulsions, cluttering leads to stuttering. West says children fill this group and boys experience this more frequently than girls.¹

To avoid undue repetition the sixth point of West's speculation will be considered in Section (D) of this chapter, as it relates more closely to the onset of stuttering.

Just as West concedes that psychological factors play some part in organic disturbances as in stuttering, Karlin's psychosomatic theory is a combination of psychological and organic factors to explain the cause of the disorder.

Basic to Karlin's hypothesis is the factor of myelinization of the pyramidal tract which he considers from birth to the age of twenty years, after Flechsig (30) he states:

Myelinization is regarded as correlated with function. A nerve fiber that has not been completely myelinated may transmit impulses, but the resulting action will lack precision and fine co-ordination.²

Other interesting observations made by Karlin on myelinization are, the degree of myelinization of the

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1. Lawrence, A. Ives, 'Learning Difficulties in Children with Epilepsy', pp. 182-183.
 2. Karlin, Karlin & Gurren, 'Development and Disorders of Speech in Childhood', p.92.

fibres in the central nervous system determines their functional capacity; myelinization of the sensory fibres take place first and they are followed by motor and associated fibres; it proceeds at no uniform rate; it only becomes complete at twenty years of age; it occurs earlier in the female than in the male; in the speech areas it is a comparatively late process in cortical development.¹

The organic delay in myelinization of the cortical speech areas is considered by Karlin to be the main factor in the onset of stuttering. The secondary, psychological factor manifests itself when the child of three or four years of age, who has delayed myelinization, is subjected to undue emotional stress which offsets the basic physical weakness and produces stuttering. If stuttering continues it is due to emotional factors and the established neuromuscular habits which act as causitive agents of stuttering.²

By the third or fourth year of life, Karlin says, the girl is normally more advanced in myelinization, hence enjoys better precision and finer co-ordination in speech than boys. When one considers the emotional factors that upset the male and bring about general retardation of the male as already discussed in West's and Schuell's explanation much 'light' is thrown on the puzzle.

1. Karlin, Karlin and Gurren, 'Development and Disorders of Speech in Childhood', pp.94-95.

2. Ibid., p.96.

However, there is no actual anatomical proof that stuttering is directly related to a delay in myelinization of the cortical areas of the brain concerned with speech. This theory needs further investigation and it is suggested that the direction that ought to be taken is that neuro-pathologists should take greater interest in the study of myelinization of speech areas in individuals who were stutterers during their lifetime.

D. THE ONSET AND DEVELOPMENT OF STUTTERING

Stuttering is regarded as a disorder which begins mainly in the early years of childhood, usually before the age of 8 years, and rarely after the early teen years or puberty. The few instances of the appearance of stuttering in adulthood have been known to begin with intense physical or psychological stresses and do not essentially correspond to the same type of disorder ordinarily referred to as stuttering. (See Chapter 1)

Evidence of the exact age of onset is suspect from the type of experimental evidence at hand. For example, Johnson's studies on the onset series I, II and III showed significant disparity between the information given by both parents as to the age of first symptoms of stuttering of a total of 245 children. Differences of as wide as 10 months were to be found between information given by mothers and fathers. The age of onset of the disorder as

revealed by Johnson's data collected from the parents of varying age groups of children ranging from about 2 yrs. to about 9 yrs. was found to be between 2 to 4 yrs.¹

Johnson and others arrived at the commonly known conclusion that the cause of stuttering lay in parents' faulty evaluation of their children's 'normal nonfluency' with or without openly expressed 'labelling'. Recognition was hereby given, by Johnson, to the role of speaker-listener interactions in the development of stuttering as a learned behaviour.

Wingate, as cited in Beech², after experimentation found that 'interruption' under experimental conditions produced improvement rather than deterioration in fluency and he concluded, contrary to Johnson's theory of the role of parents in initiating stuttering, that a critical evaluation of speech contributes towards controlling the stutter.

In addition to Wingate's findings Freund offers the following criticism of Johnson's studies of the onset series.

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1. Johnson, Wendell, 'Stuttering and what you can do about it'. University of Minnesota Press, Minneapolis, U.S.A., 1961, pp. 104-114.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', pp.71-73.

If parents of stutterers should possess as Johnson assumes an (unexplained) tendency to diagnose stuttering falsely, they did not seem to exhibit this tendency as far as a great majority of their children is concerned. In addition, there is no indication that they ever suspected their non-stuttering children of stuttering.¹

Although the parents of Johnson's studies did not describe the differences in the speech of their children which made them arrive at a differential diagnosis, they reported to have observed as the first signs of initial stuttering a notably large amount of speech sounds and syllable repetitions which were different from the repetitions of words or phrases reported by parents of the control group.

In 1939 Davis conducted a study with 62 boys and girls between the age of 2 - 5 years. He reported that those children who stuttered with syllable repetitions continued to do so with increase of age. However, there was a decrease in stuttering among those children who repeated words and phrases. Therefore it was learned from this study that children with high syllable repetitions appeared to be deviant from the group.

1. Freund, Henry, 'Psychopathology and the Problems of Stuttering'. Charles C. Thomas, Publisher, Illinois, U.S.A., 1966, pp.67-68.

West¹ has explained the onset of stuttering as a failure to develop a memory span for speech sounds at the period when a child begins speaking in joined syllables and of phrases and sentences. He says:

Mistakes of speech due to shortness of his span are omission of syllables, transposition of syllables, or distortion of syllables by substituting the consonant of one syllable for that of the next. It is interesting that children do not begin to stutter until they reach this age of syllable assembly.

Egland² compared disfluencies of 26 non-stuttering kindergarten children with the disfluencies of three pre-school age stutterers. The non-stuttering group repeated sounds or syllables more often than words or phrases. Egland also found that the stutterers had a greater number of prolongations in their speech.

The results of investigations by Davis, Egland and West lead us to believe that repetitions of sounds and syllables and prolongations of sound are more likely to be called stuttering than are other types of disfluencies such as revisions and interjections.

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1. West, R., 'An Agnostic's Speculation About Stuttering', pp. 183-185.
 2. Egland, George O., 'Repetitions and Prolongations in the Speech of Stuttering and Non-Stuttering Children' in 'Stuttering in Children and Adults edited by W. Johnson, University of Minnesota Press, Minneapolis, Third Printing 1963, Chapter 6, pp.183-185.

.... a child's speech cannot properly be classified as stuttering simply because he is disfluent. Evidently, the type of disfluency he exhibits is important. The greater the number of repetitions and prolongations of single sounds or syllables, the more confidently we can apply the label 'stuttered' to his speech.¹

Freund² issues a warning to experimental judges by saying that caution must be taken in making judgements about the onset of stuttering on the basis of a short span of observation which give the impression that parents are mistaken in the estimation of stuttering for what appears 'normal nonfluency'. The child may have episodes of the more severe forms of stuttering which parents can assess better.

Bloodstein³ points out the dilemma of the diagnostician determining between 'normal nonfluency' and 'stuttering'. He says there is no test to measure the precise point at which the 'normal' turns into the 'abnormal'. The search, he says, for a demarcation can easily lead into a labyrinth unless specific questions are asked about syllable repetitions, sound prolongations, phonated pauses, interjected speech fragments and so forth.

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1. Luper, L. Harold, and Mulder, L. Robert, 'Stuttering: Therapy for Children'. Prentice Hall, Inc., Englewood Cliffs, N.J., U.S.A., 1964, p.18.
 2. Freund, H., 'Psychopathology and the Problems of Stuttering', p.68.
 3. Bloodstein, O., 'Stuttering and Normal Nonfluency A Continuity Hypothesis' in 'Disorders of Communication'. The Journal of the College of Speech Therapists, London, Vol. 5, No. 1, April, 1970. Publishers, E. & S. Livingstone, Edinburgh and London, pp.30-31.

The difficulty experienced in making a distinction between 'normality' and 'abnormality' of speech fluency has led to a viewpoint which considers stuttering simply as an extension or exaggeration of disfluency heard in the speech of normal children. Protagonists of this school of thought are Bloodstein 1961, Shames and Sherrick, 1963. An earlier expression of a similar viewpoint may be found by Metraux, 1950 : although he did not draw a line or show much concern for distinguishing between 'normal' and 'abnormal'.¹

Stuttering may be considered in the light of an anticipatory struggle reaction hypothesis in which case the need for distinguishing between 'normal childhood nonfluency' and 'stuttering' may be shelved. Bloodstein² says:

The possibility needs to be pondered that some of what we call 'normal childhood nonfluency' consists of true anticipatory struggle reactions in the sense that they are based on the child's evaluation of the word, or phrase, or sentence of the moment as difficult to say, on his expectation that without usual effort he may fail to pronounce or articulate it acceptably, and in a general way on the subtle aura of formidability which speech is likely to possess for someone who is still a novice in its rituals strictures and taboos. If so, then the speech behavior which we call stuttering may not differ fundamentally except in degree from certain types of behavior which we refer to as normal disfluency.

1. Bloodstein, O., 'Stuttering as an Outgrowth of Normal Disfluency', p.31.

2. Ibid., pp.39-40.

The concept of stuttering as anticipatory struggle has been presented by various writers in many ways (e.g. Johnson and Knott, 1936; Van Riper, 1937; Wischner, 1952; Sheehan, 1953; Bloodstein, 1958; Mysak, 1960, etc.).

The unifying assumption of these formulations is that the immediate reason for the stutterers blocks on a given word is his expectation that he will have difficulty with it. Having anticipated some kind of failure in his attempt on the word, he tends to attack it with so much force and such elaborate precautions that he could not possibly say it normally. Moreover, the more frequently he fails to say the word properly the more confirmed he becomes in his conviction that he is unable to do so, and so the more he fails.¹

Woolf² noted the three important aspects of advanced forms of stuttering i.e. struggle, avoidance and expectancy. He cited Bloodstein 1959, Bloodstein 1960b, Johnson 1955, Johnson 1956, Sheehan 1958, Van Riper 1963 Williams 1957, as investigators who give clinical and experimental support to such a hypothesis.

Effort or tension as seen in 'struggle' i.e. hard contact or forcing of the articulators is not only found in the more advanced forms of stuttering but also among children below the age of five years.³ Johnson and his

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1. Bloodstein, O., 'Stuttering as an Outgrowth of Normal Disfluency', p.32.
 2. Woolf, Gerald, 'The Assessment of Stuttering as Struggle, Avoidance and Expectancy'. *British Journal of Dis. of Communication*, E. & S. Livingstone Ltd., London & Edinburgh, Vol. 2, October 1967, p.158.
 3. Bloodstein, O., 'Stuttering and Normal Nonfluency A Continuity Hypothesis', pp.35-37.

Associates (1959) show from their studies that parents of stutterers recalled some 'force' or 'tension' in the speech of their children at the onset of stuttering, though the majority characterized the tension as 'slight'. Their findings revealed such facts as:

- (a) 36 per cent of the mothers and 34 per cent of the fathers of stutterers recalled some force or tension at onset of stuttering.
- (b) In 3 per cent of the cases stuttering was said to have begun with 'complete blocks'.
- (c) 15 per cent of the mothers and 13 per cent of the fathers believed that the initial symptoms of stuttering had been accompanied by 'grimaces and bodily contortions'.
- (d) 11 per cent of the mothers and 7 per cent of the fathers reported that at the onset of stuttering the child seemed to be 'aware of the fact that he was speaking in a different manner or doing something wrong'.

On the whole the most common pattern at the earliest age levels appears to be one in which relatively simple syllable and word repetitions predominate, but are accompanied by signs of muscular strain which are audible in the laboured or overaspirated articulation of sounds or in

eccentric pitch, loudness, vocal quality, rate or phrasing, and are often visible by virtue of facial or postural cues. Even at the age of two years articulatory forcing and struggle behavior of no subtle kind is often to be observed.¹

Severity of stuttering may have been limited in the past to a consideration of the observable aspects of overt struggle whilst the manner in which the stutterer perceived his stuttering may have been neglected. A useful clinical test in measuring the stutterer's perception of his stuttering is the PSI (Perceptions of Stuttering Inventory).

Van Riper² states that the frequency and severity of stuttering usually vary with the amount of communicative stress. Stuttering becomes more frequent and is aggravated when penalties, frustrations, anxiety, guilt, hostility, past situation fears, certain word fears and an abundance of communicative stress are operative in the communicative situation. Other factors, the morale of the stutterer and the amount of fluency he experiences are instrumental in reducing stuttering.

1. Bloodstein, O., 'Stuttering and Normal Nonfluency: A Continuity Hypothesis', p.35.

2. Van Riper, C., 'Speech Correction', pp. 308-309.

Andrews and Harris¹ take into account the amount of impairment communication is experiencing and coupled with the type of symptoms (simple repetitions, prolongation and hard blockings, associated facial and body movements) arrive at an abbreviated description of a stutter. They say that:

.... as a stutter develops, simple repetitions are often succeeded by prolongations and hard blockings and finally by associated bodily movements. It is usually sufficient to code the most advanced symptom present, for the preceding symptoms may be present to a greater or lesser extent.

The onset of stuttering may be seen as predominantly an occurrence of childhood usually before the age of eight with peaks at 2 - 4 years and again at 6 - 8 years or on entry to school where the child is exposed to 'fluency disruptors'. The severity of the disorder may be explained, with some reserve, as beginning with simple repetitions of syllables, words, phrases, etc. succeeded by prolongations and hard blockings as 'non-lingual' associates (extraneous bodily movements) add to the speech symptom and to the sometimes gruesome appearance given by the stutterer in his struggle. In its milder forms, the stuttering occurs with little or no impairment of communication whilst in its most severe form communication is seriously impaired.

1. Andrew G., and Harris M., 'The Syndrome of Stuttering', p.5.

E. HEMISPHERE DOMINANCE AND HANDEDNESS IN
RELATION TO STUTTERING

Research on the relationship between stuttering and dominance dates from 1912 but greatest impetus to investigations of this type was given in the 1920's and 1930's by the Orton-Travis theory of cerebral dominance.¹

The cerebral dominance theory is one of the 'dysphemia' theories to explain the aetiology of stuttering and is based on the premise of a predisposition to stutter on account of a neurological 'weakness' which is exploited by environmental precipitating factors to produce stuttering.

The inner condition of 'dysphemia' of which stuttering is an outward symptom is explained by Bryngelson² thus:

Dysphemia refers to an irregularity of neural integration in that portion of the central nervous system responsible for the flow of nerve impulses to the speech musculature. The most commonly observed manifestations or phenomena of this central state of neurologic disintegration are the clonic and tonic interruptions of the breath stream, accompanied by marked lack of co-ordination of the midline bilateral speech structures. Such disjointed behavior I prefer to call stuttering.

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.31.
 2. Bryngelson, Bryng, in 'Stuttering: Significant Theories and Therapies' by Hahn, Eugene, F., Second Edition, Stanford University Press, California, 1958, p.15.

Research has not yet produced absolute proof regarding the exact nature of dysphemia and the way it predisposes an individual to stutter. It has been argued that a child who has a strong predisposition to stutter as indicated by a family history of the disorder may never become a stutterer if he has a favourable environment. Yet, where heavy environmental pressures exist a child who is lightly predisposed by heredity may become a stutterer.

The famous Orton-Travis theory of cerebral dominance pointed out:

- (a) That children are predisposed to stutter because of a conflict between two halves of the cerebrum for the control of the activities of the speech organs.
- (b) That the right and left halves of the tongue, jaw and other 'midline' speech structures received their motor nerve impulses from separate sources in the two cerebral hemispheres.
- (c) By reasoned hypothesis that for the purpose of smooth, fluent speech the two streams of impulses needed to be accurately synchronized and this was achieved by one cerebral hemisphere being 'dominant' over the other for the purpose of timing the nerve impulses. They argued that the non-dominant

hemisphere accepted the lead of temporal rhythm given by the dominant one. In the event of a lack of cerebral dominance a poor neural organisation would predispose the child to a speech breakdown.¹

That the term hemisphere dominance is used when the anatomical basis of a certain function is located mainly or exclusively in one cerebral hemisphere. The most obvious example of this is speech, the higher nervous pathways for which are usually situated in the left cerebral hemisphere in right-handed persons. The left-cerebral hemisphere for speech, which does not exclude the attribution of a subordinate function to the right hemisphere.²

In cases of cerebral damage which resulted in Aphasia, damage occurred in one cerebral hemisphere which rendered man speechless. Jackson (1932), who introduced the idea of a leading hemisphere, said that it was the left hemisphere which gave the lead whilst the right was automatic, in spite of both sides of the brain being educated in speech.

.... the establishment of the left hemisphere in man as the major hemisphere for speech resulted in the development of the right hand as the dominant hand.³

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', pp.3-4.
 2. Brain, Lord, 'Speech Disorders'. Second Edition, Butterworths, London, 1965, p.24.
 3. Ibid., p.25.

Conflicting evidence has been presented by experimental results to establish the relation between stuttering and handedness.

Bryngelson¹ using 700 clinical cases of stutterers drew attention to the fact that the diagnosis in cerebral dominance is made primarily on the fact of sidedness and not of handedness. Bryngelson^{2,3}, provide positive evidence for the validity of the Orton-Travis theory of cerebral dominance by showing that stutterers were more likely to be ambidextrous or more likely to have shift of handedness from right to left than non-stutterers. Compared with the controls the stutterers, in some cases, showed four times as much ambidexterity and eight times as much shift of handedness.

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1. Bryngelson, B., 'Sidedness as an Etiological Factor in Stuttering, Pedagogical Seminary, 47, (1935), pp.204-217. in 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles F., Charles C. Thomas, Publisher, Illinois, U.S.A., 1958, pp.119-120.
 2. Bryngelson, B., 'A Study of Laterality of Stutterers and Normal Speakers', Journal of Social Psychology, 11 (1940), pp.151-155, in 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles, F., Charles C. Thomas, Publisher, Illinois, U.S.A., 1958, pp.124-125.
 3. Bryngelson, B., and Rutherford, B., 'A Comparative Study of Laterality of Stutterers and Non-Stutterers', Journal of Speech Disorders, 2 (1937), pp.15-16, in 'A Compendium of Research and Theory on Stuttering', by Diehl, Charles F., Charles C. Thomas, Publisher, Illinois, U.S.A., 1958, pp.122-123.

A negation of the dominant-lead hypothesis is reported in studies by Van Dusen¹, Spadino² and Heltman³ who failed to find significant differences between groups of stutterers and non-stutterers in unilaterality but concluded that other factors were of greater importance.

Johnson and Duke⁴ in an investigation of the aetiology of stuttering in relation to handedness found that a number of stutterers who had almost or completely overcome their speech problem revealed a high degree of ambilaterality. It seemed, in these cases, that stuttering had been overcome without a change of handedness.

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1. Van Dusen, C.R., 'A Laterality Study of Non-Stutterers and Stutterers, J. of Sp. Dis., 4 (1939), pp.261-265, in 'A Compendium of Theory and Research on Stuttering' by Diehl Charles F. Publisher, Charles C. Thomas, Illinois, U.S.A., 1958, p.125-126.
 2. Spadino, E.J., 'Writing and Laterality Characteristics of Stuttering Children, Columbia University Teacher's College Contributions to Education, Columbia University, New York, 1941, in 'A Compendium of Research and Theory on Stuttering' by Diehl Charles F., Publisher, Charles C. Thomas, Illinois, U.S.A., 1958, pp. 127-128.
 3. Heltman, H.J., 'Contradictory Evidence in Handedness and Stuttering'. Journal of Speech Disorders, 5 (1940), pp.327-331, in 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles F., Charles C. Thomas, Publisher, Illinois, U.S.A., 1958, pp.126-127.
 4. Johnson, W., and Duke, L., 'Change in Handedness Associated with Onset or Disappearance of Stuttering'. Journal of Experimental Education, 4 (1935), pp.112-132, in 'A Compendium of Research and Theory on Stuttering', by Diehl, Charles F., Charles C. Thomas, Publisher, Illinois, U.S.A., 1958, pp.121-122.

Early studies of stuttering showed wide disparity when stutterers were examined for right-handedness, left-handedness and ambilaterality. Left-handedness among groups of stutterers varied from 2 per cent to 21 per cent, ambidexterity showed a range of 4 to 34 per cent. In some cases far more ambidexterity was found among stutterers than in the normal population but little left handedness.¹

It has been noted by Bloodstein² and others that the various ways of defining ambidexterity or left-handedness and the manner of investigating these phenomena led to inconsistency in findings. An objective test of handedness called the dextrality quotient (D.Q.) was devised by Wendell Johnson at the University of Iowa but the results obtained from this test revealed that stutterers were just as right-handed as non-stutterers.

Penfield and Roberts (1959) state that the greater the number of tests used, the less agreement was arrived at as to purely right-handed or purely left-handed.

The accumulation of experimental evidence made it clear that handedness alone was not conclusive of laterality but eyedness, footedness, together with handedness

1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.32.

2. Ibid.

produced a sidedness which usually correlated with hemisphere dominance. In the case of right-sidedness the left cerebral hemisphere was usually dominant for language functions whilst in cases of left-sidedness the left cerebral hemisphere was again the dominant one.¹

Stutterers were also found to be right-handed upon investigation but their native handedness was left. Working on this knowledge investigators worked towards finding a satisfactory measure of native or 'cortical' laterality. To rule out the influence of pressure of a right-handed society Van Riper devised a 'critical-angle board test'. As a result of such testing it was found that although stutterers appeared right-handed, they tended to have a latent ambidexterity which revealed itself in tests of native lateral dominance.²

Two sophisticated tests of laterality showed that stutterers were ambilateral and produced substantial evidence of a bilateral representation for speech. Jasper (1932) using the phi-test found that stutterers were 100% ambilateral. Romey (1935, 1938) improving on the phi-test showed that normals' perceptual dominance did not correlate with hand-eye dominance. Wada and Rasmussen (1960)

1. Brain, L., 'Speech Disorders', p.28.

2. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', pp.31-35.

used the intra-carotid amytal test, later used by Jones, (1966) proved that interference by one hemisphere with the other produced a disturbance of speech thereby confirming the bilateral representation in speech.

The latest studies once again arouse interest in the Orton-Travis theory so that the quest for a definite and absolute relationship between stuttering and handedness or hemisphere dominance must still go on.

Bloodstein¹ says:

It is perhaps too soon to make the final judgement that there is no relationship between stuttering and handedness. It is difficult to read certain case reports of children who began to stutter after a shift in handedness, or to study accounts of certain adults who experienced fluency disturbances after enforced use of the non-preferred hand, without being impressed by the possibility that laterality is a factor in some cases. But the inference may at least be drawn that up to this point no conclusive evidence has been produced to show that a relationship exists.

F. FAMILIAL INCIDENCE OF STUTTERING

To some extent stuttering does tend to run in families. More stutterers are found in the family of stutterers than in the family of non stutterers.²

1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.35.

2. Ibid., p.21.

Estimates based on relatively large samples of adult stutterers by American and European workers have shown that about 50 or 60 per cent have knowledge of stuttering relatives or ancestors, as compared with only 15 per cent, or less in the case of adult non-stutterers.

The available evidence, however, does not clearly differentiate between genetic and environmental factors as it appears to influence the prevalence of the disorder in families.

Wepman¹ in a study conducted in 1939 confirmed a familial incidence in stuttering. Of 250 families of stutterers 63% showed some incidence of stuttering. In the 250 families of the non-stutterers only 15.6% were shown to stutter. In his conclusions he further inferred that if stuttering is inherited from both parents it may be more lasting than if inherited from one parent and that the chances of rehabilitation were optimistic in the latter case.

Beech and Fransella² state that the method employed in unravelling the genetic from the environmental effect is the study of particular characteristics among twins.

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1. Wepman, J.M., 'Familial Incidence in Stammering', *Journal of Sp. Dis.*, 4 (1939), pp.199-204, in 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles F., Publisher, Charles C. Thomas, Illinois, U.S.A., p.117.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.83.

If the genetic factor played a main part in the production of stuttering then it would be expected that both members of a pair of monozygotic (identical) twins would stutter more often than a pair of dyzygotic (fraternal) twins.

Nelson, Hunter and Walter (1945) stated in their report of a study of 200 pairs of twins ranging from 4 to 40 years that when stuttering occurred among identical twins both members stuttered in all but one case, whereas with fraternal twins only one member stuttered in all cases but two.¹

This finding gives support to Berry's² contention in 1938 that, 'stuttering occurs more frequently in twinning families than in families in which twins do not occur'. Berry was further supported by Seeman (1939)

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1. Nelson, S.F., Hunter N., and Walter, M., 'Stuttering in Twin Types', J. of Speech Dis., 10 (1945), pp. 335-343, in 'A Compendium for Research and Theory on Stuttering', by Diehl, Charles F., Publisher Charles C. Thomas, Illinois, U.S.A., 1958, pp. 110-111.
 2. Berry, M.F., 'A Common Denominator in Twinning and Stuttering', Journal of Speech Disorders, 3 (1939), pp. 51-57, in 'A Compendium of Research and Theory on Stuttering', by Diehl, Charles F., Charles C. Thomas, Publishers, Illinois, U.S.A., 1958, p.110.

who reported that both twins were more likely to stutter if they were identical.¹

Contrary evidence was offered by Beech and Fransella who cited Graf (1955), Luchsinger (1940) and Andrews and Harris as failing to find evidence in support of the above mentioned twinning studies.

Graf carried out a study among 85,680 American school children in which 552 pairs of twins were found and of these 21 individuals stuttered. Included in this number were one identical pair and two fraternal pairs of which both twins stuttered. These 21 stutterers made up 1.90% of the twin sample.

Bloodstein in appraising the influence of twinning on the incidence of stuttering said:

The similarity between identical twins often extends to the most unexpected traits and it is possible that not only their heredity but also their environments are more alike than those of fraternal twins. As Meyer has argued, the fact that identical twins resemble each other so closely makes it more likely that they will be reacted to alike, and ensures a more intimate sharing of infantile and childhood experiences and environmental influences than obtains in the case of two children whose identity is each clearly unlike the other from the start.²

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1. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.84.
 2. Bloodstein, O. 'A Handbook of Stuttering for Professional Workers', p.25.

A study by Marcella Gray¹ on two branches of a stuttering family, one located in Kansas (one stutterer and 16 non-stutterers) and the other in Iowa (8 stutterers, 3 former stutterers and 16 non-stutterers) resulted in the collection of information for five generations. She came to the conclusion that stuttering could not be explained solely on the hereditary hypothesis because stuttering was evenly divided between the sexes in the family when the ratios most frequently reported were from three to one to five to one. Furthermore:

There appeared more evidence for a semantogenic aetiology. All stutterers believed that stuttering was hereditary in their families. The difference in incidence between the two branches might, it was suggested, be explained by the fact that one individual who was comparatively the most dominant member of the family remained in Iowa and influenced the Iowa branch attitudes while he was non-influential in Kansas.

West is cited by Beech² to have matched 204 stutterers with non-stutterers of an equal number. He attempted to separate stuttering which resulted from association with another stutterer from that which was genetically determined. West's investigation suggests that association with other stutterers is of no consequence in the determination of stuttering although he found an increased risk of stuttering in the family of stutterers.

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1. Gray, M., 'The X Family', A Clinical and Laboratory Study of a 'Stuttering' Family, *Journal of Speech Disorders*, 5 (1940), pp.343-348, in Diehl, op cit., pp.115-117.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.85.

Imitation is not given much consideration of late as a cause of the familial incidence of the disorder of stuttering. Some of the reasons that may be advanced for this are:-

1. Brodnitz, (1951)¹ found stuttering of different types amongst identical twins.
2. Johnson et al.² state that the actors play stuttering roles nights on end without any ill effect. They say:

Imitating a stutterer will no more make one talk habitually like a stutterer than imitating the call of a moose will doom one for ever to sound like a moose at inopportune times.

3. Research has shown that in many cases stuttering children have had no personal contact with stuttering relatives.

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1. Brodnitz, F.S., 'Stuttering of Different Types in Identical Twins'. Journal of Speech and Hearing Disorders, 16 (1951), pp.334-336, in 'A Compendium of Research and Theory on Stuttering', by Diehl, Charles F., Charles C. Thomas, Publisher, U.S.A., 1958, pp.113-114.
 2. Johnson, Wendell, et al., 'Speech Handicapped School Children', p. 266.

4. Bloodstein¹ points out that a comparison between childhood stuttering and adult stuttering, which the child is supposed to imitate, is dissimilar.

The evidence collected to date still leaves the method of genetic transmission uncertain although it suggests that some hereditary factors may be operating in the development of stuttering. The degree to which environmental factors can and do modify hereditary factors is also a 'cloudy' issue. Arguments have been postulated about the nature of predisposition to faulty speech which is inherited but the value of such a hypothesis has no support in the accurate description of the predisposing mechanism. The suggestion has been put forward by Beech and Fransella² that if the phi-test or the sodium amytal test could be given to all children with a family history of stuttering it would be possible to make predictions about those children who have a predisposition to stutter and those who do not.

It is for the research workers of the future to test the validity of these practical suggestions which might help towards clarifying the notion of hereditary predisposition.

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1. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', p.23.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.86.

Other organic conditions related to stuttering are the physiological factors of heart rate, blood constituents, brain waves and the effect of drugs. The nature of stuttering has led many investigators to associate stuttering with some organic fault. Whilst some have shown, through experimental design, reasons which lead us to believe that much truth is to be found in such a hypothesis there has been ample contra-evidence to such a belief. Johnson et al.¹ outline several ways in which organic conditions must function if stuttering is to be attributed to these conditions. Some of the factors given are:

1. The average stutterer stutters on approximately 10 per cent of the words he speaks, and he produces the other 90 per cent normally. The organic condition must account for the 90 per cent as well as it does for the 10 per cent.
2. Usually stuttering lasts one or two seconds or less. Assuming that the organic condition must function as a cause during these brief periods, then we must expect it not to function in the intervening intervals when there is no stuttering.

1. Johnson, Wendell, et al., 'Speech Handicapped School Children', pp.250-255.

3. Stuttering begins, in the average case, at about the age of 3 years. In some cases, however, it begins earlier than this, and in others somewhat later. The physical cause must lie dormant for the corresponding periods of time before beginning to function.
4. A considerable number of individuals are reported to have stuttered during some period in their lives and to have 'outgrown' the difficulty without undergoing treatment. The physical cause therefore must be one that in some cases apparently subsides or atrophies after having flourished for a time.
5. Practically all stutterers can sing or speak in time to any rhythm. They may also speak without stuttering under conditions created by sufficient intensities of sound or noise fed into the ears while speaking; some can act on the stage; most of them talk to themselves, or to their pets, or they can whisper or shout. They may speak fluently with a dialect or by using an electrolarynx. They read confidently in chorus with another person, even a fellow stutterer. The organic cause must be one that - for some reason not yet identified - operates feebly or not at all under such conditions.

Other properties besides those listed (1 - 5) need to be satisfied as well before the cause can be labelled as 'organic'.

G. THE POSITION (BIRTH RANK) OF STUTTERERS
IN THE FAMILY

It has been contended, by some investigators, that stuttering may have its origin in the position or birth rank of the stutterer in the family. The belief is that attitudes of parents may be governed by the child's particular position and that the attention he receives may have an influence on his behaviour.

In (1939) Rotter¹ studied stuttering in relation to position in the family. He used 552 stutterers (427 males, 95 females) with a mean age of 14 years and compared them with 7,738 junior high school non-stutterers. He concluded:

...that position in the family, number of years between siblings and sex of nearest sibling are independent of hereditary

1. Rotter, J.B., 'Studies in the Psychology of Stuttering : XI. Stuttering in Relation to Position in the family', J. of Speech Dis., 4, (1939) pp.143-148, in 'A Compendium of Research and Theory on Stuttering' by Diehl, Charles F., Publisher, Charles C. Thomas, Illinois, U.S.A., 1958, pp.114-115.

influences. These factors were, however, found to appear significantly in regard to the incidence of stuttering. In certain cases at least, environmental factors such as pampering appeared to have a direct relationship to the appearance of stuttering.

Rotter found that boys were more inclined to be pampered than girls and offered this as a suggestion for the difference in sex-ratio. Further to this, he pointed out that the parent who tends to pamper is more alert to any deviate speech behaviour of her child. Statistically significant was the fact that more only children and fewer middle children made up the stuttering group positionally in the family. Comparisons between the stutterers and non-stutterers also revealed that the mean number of years between stutterers and their siblings was notably larger than between non-stutterers and their siblings and it was on the basis of this finding that Rotter made the assumption of pampering as an aetiological factor.

If the child is separated by several years from other siblings, other things being equal, it is fairly certain that his mother has more time and attention to give him than if age differences were less.¹

Andrews and Harris in their English study² do not confirm Rotter's finding with relation to a larger sibling

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1. Rotter, J.B., 'Studies in the Psychology of Stuttering: XI. Stuttering in Relation to Position in the family', p.115.
 2. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', p.45.

gap surrounding the birth of stutterers. Although not significant at the 5 per cent level, ($\chi^2 = 2.9$), these investigators discovered more middle children as stutterers, unlike Rotter's finding of a greater number of only children.

Four items were labelled as factors influencing the physical and emotional development of the child i.e. intactness of family, quality of joint family life, housing and relationships with the extended family group. It was found that on each of these items coded

....there is a definite trend for the families of stutterers to fail. They often fail to provide an optimal home atmosphere for the child, and they fail to relate in a healthy manner with those outside the family.¹

Although Morley² found eight first children to be stutterers there was a significantly higher number of second and third children. Of the 37 children whom Morley studied for birth rank from the first to seventh child 24 were second and third children. No information is coded from her study on the details referring to only children which may lead one to believe that the number of only children was negligible.

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1. Andrew Gavin and Harris Mary, 'The Syndrome of Stuttering', p.54.
 2. Morley, M.E., 'The Development and Disorders of Speech in Childhood', p.58.

Morgenstern is cited by Aron¹ as saying:

....being a younger or older child in the family does not affect the likelihood of stuttering.

In data obtained from 230 stutterers he did not find more only children who stuttered. His results, however, confirmed Rotter's findings on the wide spacing between stutterers and their preceding and succeeding siblings. Morgenstern's analysis of the phenomenon of widely-spaced children is explained in terms of greater attention being devoted to these children and greater linguistic supervision which leads to stuttering. Support is hereby given to the semantogenic hypothesis of stuttering aetiology.

There is a lack of attention given to the question of 'birth rank' in experimental studies of stuttering. It would appear from the observations made that more 'middle' children rather than first or only children are prone to stuttering speech. There is conflicting evidence with regard to spacing of stutterers and it is clear from the few findings available that more detailed investigations are essential to come to some agreement as to whether the position of the stutterer in the family is of any consequence.

1. Aron, M.L., 'An Investigation of the Nature and Incidence of Stuttering among a Bantu Group of School-going Children, p.42.

H. I.Q. AND SCHOLASTIC LEVEL WITH RELATION
TO STUTTERING

The fluency disruptors that threaten the primary stutterers, or a child who may be genetically predisposed to stutter in the school environment are numerous and often create indelible impressions of the negative attitude of listeners.

Dr. John M. Fletcher¹ considers stuttering as a psychological difficulty and says that:

it should be diagnosed and described as well as treated as a morbidity of social consciousness, a hyper - sensitivity of social attitude, a pathological social response.

It is not any simple incident which causes and precipitates stuttering but:

.... the summated effects of thousands of daily experiences.²

Fletcher goes on to point out that the origin of stuttering which may be found in child-parent relationships

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1. Fletcher, J.M. 'The Problem of Stuttering', New York, Longmans, Green and Company, 1928, p.226, in 'Stuttering: Significant Theories and Therapies' edited by Eugene F. Hahn, Stanford University Press, California. Second Printing, 1958, p.31.
 2. Ibid., p.35.

is essentially copied in the pupil-teacher relationship of the school years which; he says,

.... accounts for the fact that what might otherwise be a temporary difficulty of childhood becomes after a few years in the classroom a life-time handicap.

It is suggested by Eisenson¹ that some of the pressure situations may be as follows:

1. Teachers who do not show any patience and attention to the stutterer.
2. The child who exhibits signs of primary stuttering is corrected in his articulation or finds that his defective speech arouses attention.
3. Teachers call upon stutterers to speak when they are likely to be nonfluent instead of allowing them to speak when they have experienced longer periods of fluency or are inclined to volunteer oral expression.
4. Teachers show ready anger and ridicule of the child's errors, or allow children to ridicule one another which causes much apprehension.

1. Eisenson, Jon, and Mardel, O., 'Speech Correction in the Schools', p.223.

5. No commendation is given to any effort that the stutterer makes even if he experiences difficulty.
6. Too strict a discipline in the classroom.

Kennedy, Carr and Backus¹ contend that failure to adjust in school may play an individual role in contributing to defects of psychogenic aetiology including the speech disorder of stuttering.

The factors outlined as disruptors of fluency may prevent the stutterer from concentration on his school work and bring about a retardation scholastically.

Aron² cites several cases of scholastic retardation of stutterers.

Fletcher cited Wallin who found that stutterers were retarded scholastically by 1.6 years. He also cited Estergaard and Conradi who reported independently that speech defectives tended to be scholastically retarded, particularly those speech defectives in the early grades at school.³ Schindler found that the stutterers in her study had a mean retardation in school progress of 8.55 months for stutterers.⁴

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1. Aron, Myrtle, L., 'An Investigation of the Nature and Incidence of Stuttering among a Bantu Group of School-going Children', p.39.
 2. Ibid., p.40.
 3. Bloodstein, O., 'A Handbook of Stuttering for Professional Workers', pp.80-81.
 4. Johnson, W., 'People in Quandries', p.354.

Intelligence does not appear to play any significant role in stuttering aetiology where normal individuals are concerned, but in cases of subnormals and patients with an 'organic' background it gains significance with regard to stuttering and the level of cognitive functioning.

McDowell (1928) in comparing stutterers and non-stutterers in terms of intelligence and school achievement found no differences between the two groups in cognitive functioning.

Schindler and Wohl are cited by Beech¹, as having reported by their experiments, that the average intelligence of stutterers was below the normal range.

Arnold and Luchsinger² reported that among 3,530 speech defectives stutterers formed the largest group of which there were 595 male and 132 female cases. When measured for intelligence 20% were found to be superior about 74% average, and about 6% were below normal or mentally retarded.

In cases of educationally subnormal children the incidence of stuttering appears to be quite high. Loutit

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1. Beech, H.R., and Fransella, Fay, 'Research and Experiment in Stuttering', pp.20-22.
 2. Arnold, G.E., and Luchsinger R., 'Voice-Speech-Language', pp.754-755.

and Halls found that the incidence of the disorder was three times more prevalent in E.S.N. children than in the normal population; whilst in (1957) Schlanger and Gottlesben, who examined the speech of 500 defectives with an I.Q. of 50, discovered the prevalence of stuttering to be 17%.¹

On the other hand, Travis (1959) found that the average intelligence of a group of 73 child stutterers was better than normal. Confirmation to a slight degree was given to Travis's finding by the study of Andrews and Harris (1964).

Tests using verbal and performance criteria showed no significant discrepancy in a study by Andrews and Harris but Arnold² states that a high performance I.Q. and a low verbal I.Q. is significant in several respects.

One of the arguments put forward for the finding of a superior intellectual capacity among stutterers is in cases where the selection of subjects is important. This is found in cases of college students where, it is suggested, students of lower intellectual ability will not be found because they would be reluctant to attend college

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1. Beech, H.R., and Fransella Fay, 'Research and Experiment in Stuttering', pp.21-22.
 2. Arnold, G.E., and Luchsinger R., 'Voice-Speech-Language', p.755.

with a stutter that does not have some compensation, in this case a higher cognitive capacity.

Such conflicting findings lead one to conclude that there is not very much significance between I.Q. and stuttering and that future research will have to attempt to find more conclusive results.

I. BILINGUALISM AND ITS EFFECTS UPON STUTTERING

The influence of more than one language in relation to a speech disorder such as stuttering has received some attention. In South Africa there are two official languages and the South African Indian has to cope with these in conjunction with his vernacular languages. (See Chapter 3).

The aetiology of stuttering has been attributed to the influence of bilingualism. Berry and Eisenson¹ say that:

.... the child who is subjected to the influence of two or more languages before he has arrived at a fair degree of proficiency in one, was generally inferior in language accomplishment to the monolingual child.

1. Berry and Eisenson, 'Speech Disorders', pp.34-35.

These bilingual conflicts also arise, says Van Riper¹, when:

Some parents deliberately attempt to teach their children two languages at the same time... Studies indicate that inefficiency and confusion result from such training even in adulthood.

In an experiment to find a relationship between bilingualism and stuttering conducted by Travis, Johnson and Shover (1937) on 4,827 children of public schools of East Chicago, Indiana, a greater number of stutterers were significantly found amongst bilinguals (2.8%) than among those who spoke only English (1.8%). One-quarter of the stutterers experienced the onset of stuttering with the introduction of a second language. These authors, however, found that bilingualism was not the only factor to which onset of stuttering could be attributed but factors of economic insecurity, emotional instability were found in many foreign homes in addition to the influence of a strange environment. The conclusion that these authors came to was that bilingual stutterers were less intelligent than English-speaking stutterers and that this should be considered before evaluating the significance of bilingualism as such in relation to stuttering.

1. Van Riper, C., 'Speech Correction', Third Edition, Publisher, Prentice-Hall, Inc., Englewood Cliffs, N.J., p.144.

Karlin, Karlin and Gurren state that children from materially poor homes experience difficulty at school in speech as well as in reading and writing because they speak neither their native language nor a foreign language effectively.¹

McCarthy, as cited by Aron², commented on the emotional dynamics of language learning when associated with parental culture, said:

If children are made to feel that the language of their parents is taboo, they may develop severe feelings of guilt about using the parental tongue, yet unconsciously and emotionally they cannot give it up completely.

Bilingualism needs further attention if it is to be firmly established in its relationships to stuttering. Just as in learning a new language difficulty is experienced in finding the correct word, so in learning the first language much difficulty may be experienced with a memory span for speech sounds.³

It is for future research to find out exactly when a new language should be taught to children and what influence this may have on their speech performance.

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1. Karlin, Karlin and Gurren, 'Development and Disorders of Speech in Childhood', p.31.
 2. Aron, Myrtle, L., 'An Investigation of the Nature and Incidence of Stuttering among a Bantu Group of School-going Children', p.49.
 3. West, R., 'An Agnostic's Speculation About Stuttering', pp.183-185.

SUMMARY

Several old and new theories on the causes of stuttering were briefly discussed as an introduction to Chapter 2 and following this:

- A. The incidence of stuttering was discussed. The percentage incidence of stuttering as reported over a forty-two year period ranged in some studies from 0.55 - 2.80. Some attention was given to the ways by which investigations of incidence were made.
- B. The cultural and socio-economic factors associated with stuttering were reviewed. The incidence of stuttering was found to be greater in western cultures and in those cultures who prized good speech and where parental anxiety over child-rearing existed especially over speech. Amongst primitive peoples stuttering was relatively unknown, whilst in the more competitive groups of primitive American Indian and West African tribes stuttering was present. Among the Ibo tribe of West Africa an incidence of 2.67% was found amongst school children. The diagenogenic theory was briefly mentioned in terms of the prevalence of stuttering. Where parent anxiety was evident in cultures with an incidence of stuttering, there was a relative lack of it in cultures with a more permissive and tension free attitude towards child-rearing. Conflicting evidence was found for the incidence of stuttering in particular levels of society. Much evidence pointed to stutterers being found in groups with an 'upward social mobility'.
- C. The relationship of stuttering to sex revealed a range of 2:1 to 10:1 in the male/female difference in various studies. There was a consistently greater proportion of male stutterers in all studies investigated by the writer and in all school grades as well. Various explanations were presented to explain the sex difference in stuttering. The stuttering theories of West, (ictogenital), and Karlin (psychosomatic) were given some measure of consideration in this section.
- D. The onset of stuttering was considered to be primarily in early childhood between 2 - 4 years or 6 - 8 years and rarely after puberty. Clarity was attempted

as to what type of disfluency might be called stuttering. The anticipatory struggle reaction hypothesis of Bloodstein and others was briefly included in the discussion. Severity of stuttering was also discussed developmentally and it was concluded that observable behaviour plus the manner in which the stuturer perceived his stuttering provided a truer picture of severity than either one of these criteria alone. It was, however, pointed out that the development of the stutter followed the pattern of simple repetitions, prolongations and hard blocks and finally, non-lingual associated bodily movements.

- E. Hemisphere dominance and handedness and its relation to stuttering was discussed. The Orton-Travis theory of cerebral dominance examined as a neurological weakness which predisposes an individual to stutter. Left handedness, ambidexterity and shift of handedness was discussed with supportive and conflicting evidence. Further research needs to clarify the exact nature of hemisphere dominance and handedness.
- F. Evidence was given for and against stuttering being prevalent in the family of stuturers. Explanations were given using arguments for and against genetic influences and environmental factors as contributory to the cause of stuttering. The manner of genetic transmission was noted to be hazy and the explanation of predisposition was not found to be clear. Other organic factors were considered in relation to stuttering and it was pointed out that several factors would have to be satisfied if the disorder were to be ascribed to organic causes.
- G. The position or birth rank of stuturers in their families was examined and the spacing between siblings was considered in relation to stuttering. The most significant finding was the longer sibling gap surrounding the birth of stuturers. No convincing explanation has been advanced by the various investigators for this.
- H. I.Q. and scholastic level were discussed in relation to stuttering. There was no conclusive evidence to show that the I.Q. of stuturers was different

from that of non-stutterers. Stutterers appeared to be scholastically retarded not because of deficient intelligence but because of certain environmental conditions. There was a consistently high incidence of stuttering among E.S.N. children.

- I. Great attention is not given to bilingualism in the literature on stuttering. Confusion that results from the difficulty of learning two languages before the mastery of one appears to be a contributory factor in stuttering aetiology. The evidence available for this suggestion is not strong enough to be conclusive and further study needs to be conducted.

CHAPTER THREESOME ASPECTS OF THE CULTURAL BACKGROUNDS OF
THE INDIAN GROUP STUDIED FOR THIS RESEARCH.

The aim of this chapter is to give a brief background to the culture of the group studied. The writer does not intend to discuss all sociological facets of Indian life here but hopes to present some insight into the numerous cultures which merge or remain distinct when we consider the Indians in South Africa. An attempt will therefore be made to elucidate rather complicated cultural patterns.

THE INDIAN POPULATION INVESTIGATED

The Indian population living in and around the city of Durban was selected for the purpose of ascertaining the incidence and nature of stuttering as presented by this group. The subjects consisted of Indian children attending forty seven out of ninety three Indian primary schools as reflected in the Natal Education Department's Statistical Supplement to Monthly Notice to Schools, August 1965.

1. BRIEF HISTORICAL BACKGROUND OF INDIANS IN DURBAN

The Indian people living in South Africa first came

to this country around 1860. They emigrated from India to work as indentured labourers along the coastal belt of Natal.

The majority of Indian South Africans are descendants of indentured workers brought to Natal between 1860 and 1911 to develop the country's sugar.¹

Many Indians turned to market gardening and trading when their indenture had expired and some found employment in the Northern Natal coal mines.

After 1911 'free' or 'passenger' Indians as they came to be called, prompted by the success of immigration to Natal, gained entry to the Colony, largely as traders and artisans. The most lucrative trading opportunities were offered to them in the two largest towns, Durban and Pietermaritzburg. Nonetheless, others ventured into rural coastal areas as traders and their descendants are still trading in these parts.

Many Indians were repatriated especially in the years 1914-1933 whilst others bought their freedom to live

1. Meer, Fatima, 'A Portrait of Indian South Africans', Publisher Avon House, Durban, 1969, p.7.

in Natal for three pounds.¹

By 1913 Indian immigration was generally prohibited by law. The result is that today, with few exceptions, Indian South Africans are South African citizens by birth.²

Watts et al., state that the Asiatic population in Durban consists almost entirely of Indians and they therefore refer to them as the Indian population. They estimated the Indian population of Durban to be 290,000 in 1966.³

The 1960 comparative population census figures for metropolitan Durban as a whole as quoted by Watts et al.⁴ are as follows:

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1. Burrows, Professor Raymond, 'Indian Life and Labour in Natal', Published by the South African Institute of Race Relations, Pamphlet No. 23, 1952, p.2.
 2. Kuper, L., Watts, H., and Davies, R., 'Durban, a study in Racial Ecology', Jonathan Cape, London, 1958, p.81.
 3. Watts, H.L., Davies, R.J., and Waters, G.H., 'The Spatial Distribution of the Present and Future Residential Population of Metropolitan Durban', An Applied Research Report of the Institute of Social Research, 1967, University of Natal, Durban,
 4. Ibid., p.243.

Asiatic	236,886	
Whites	195,664	
Bantu	230,683	Total 690,460
Coloured	27,227	

The Indians (since a very small percentage of Asiatics is Chinese) therefore form over one-third of Durban's population.

By 1960 two-thirds of the entire population of Indian South Africans lived either in one city, Durban, or within a 50 mile radius of it.¹

After serving the period of indenture many Indians were repatriated. Repatriation, or any danger of it was only dispelled in 1961 by the Hon. Minister of Interior in **the** South African Parliament on the 16th of May, 1961. The "Department of Indian Affairs" was created to regulate Indian life generally. (Hansard Vol. 108 : 6505) is quoted to report that:

Gradually people came to realize and it became clearer and today we say so unequivocally that the Indians in this country, are our permanent responsibility.²

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1. Indian South Africans, Published by Department of Information, Pretoria, Printed by Dagbreek on behalf of Government Printer, Pretoria, p.2.
 2. Ibid., p.2.

The passenger traders and the indentured labourers were divided by differences of culture, language and economic standards. The Hindustanis from Calcutta and South Indians from Madras mingled on the Natal Sugar Estates and constituted an economic class, but the Gujeratis from the North West remained distinct and different for many years.¹

The elite passenger class of Indians looked down upon their indentured counterparts. As a result of this feeling of superiority the Muslims sought to establish a distinction by calling themselves Arabs. Integration between these two distinct groups was brought about by the world famous Karamchand, Mohandas Gandhi, who in the face of common discrimination made the two economic groups realize their interdependence.² The areas of common discrimination were, for example, in the loss of franchise in 1896 and the erection of provincial barriers which restricted their movement from one province to another.

2. A PERSPECTIVE OF CERTAIN ASPECTS OF INDIAN
LIFE AND CULTURE IN DURBAN

A. RELIGIOUS AND LINGUISTIC GROUPS

In the latter half of 1860 the first paddle steamer

1. Meer, Fatima, 'A Portrait of Indian South Africans', p.2.

2. Ibid., p.2.

landed in Durban and brought with it 342 persons, mainly South Indian Hindus, with a few Christians and Muslims. The next steamer, S.S. Belvedere, arrived from Calcutta with 351 Indians.¹

The majority of South African Indians who live in Durban are basically divisible into two primary religious groups, Hindus and Moslems (Muslims or as otherwise called Mohammedans), who differ markedly in religious belief, language and mode of dress.

The Hindus who form about three-quarters of the total Indian population comprise four groups each with a different language. Two of these language groups which are of South Indian origin are Tamil and Telegu, and the other two are of North Indian Sanskrit origin, Hindustani and Gujerati. Meer² classifies 38% of Durban Indians as Tamil-speaking, about 12% as Telegu, 25% Hindi and about 2% Gujerati-speaking. Moslems speak Urdu or Gujerati, there being twice as many Urdu-speaking as Gujerati-speaking Moslems.

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1. Meer, Fatima, 'A Portrait of Indian South African, p.10. (Extracted by R.G.T. Watson from Schedules of Ship records, Natal Archives, Pietermaritzburg and included in his private notes.)
 2. Ibid., pp.61-62. (Estimated from 1960 population census Sample Tabulation No. 6, Bureau of Statistics, Republic of South Africa).

Other than Hindus and Moslems there exist a minority group of Christians (+ 7%) of which 1% are Catholics. Parsees appear as a mere sprinkling. Moslems make up 16% of Durban Indians.¹ There are many Christians who have been converted from one of the other Indian groups and although they might speak English they also carry with them the native language of their forefathers such as Telegu, Tamil, etc.

Hindu Gujeratis are divided into Kathiawadis from (Kathiawad) and Surtis from (Surat) and though there is considerable social contact between the two they do not as a rule intermarry.

Muslim Gujeratis are most noticeably divided into Vhoras and Mehmons. The Vhoras originated primarily from Surat and the Mehmons from Kathiawad and Kutch. Intermarriage between these groups does not normally take place. It is generally accepted that the finer differences that exist between the various Gujerati groups will eventually disappear because marriage partners from traditionally sanctioned circles are becoming limited since the law was passed in South Africa forbidding Indians from bringing wives from abroad.

1. Meer, Fatima, 'A Portrait of Indian South Africans', p.61.

Urdu-speaking Muslims, though drawn from various regions of India such as Gujarat (Miabhais), Hyderabad and Madras (Hyderabadis), the North-West Frontier (Pathans), intermarry more freely and therefore form a common integrated community.

The impression that might be gained from the foregoing paragraphs is that there is no homogeneous South African Indian Community. In spite of the numerous religious and linguistic groups and marital restrictions that modify the homogeneity of the South African Indian society its unity is not undermined. Many aspects of formal public life unify the various groups. In all aspects of public life office bearers are representative of the many groups mentioned. However, there does exist a consciousness of language and religion which serves the specific needs of each group. Mr. T.K.M. Balasubramaniam (International Lecturer, Madras University, India) said:

I am pleasantly surprised to see the amount of goodwill and co-operation between the various Christian, Muslim and Hindu sections of the Indian community. My personal experience, after being invited by Muslims and Hindus to speak to their respective communities only goes to confirm this impression. In this respect I find the Indians in South Africa a homogeneous community.¹

1. Balasubramaniam, T.K.M., in 'Indian South Africans', Printed by Dagbreek for Government Printer, Pretoria, p.38.

B. THE AWARENESS OF GOOD SPEECH

Much of the successful co-mingling of the various groups in every aspect of Indian life is promoted by the acquisition of fluency through the medium of English. English, and the writer speaks perforce from observation and experience, is spoken in almost every Indian home today. Afrikaans is now being learnt by Indian school children. So, in addition to the vernacular languages, the two official languages may be spoken by South African Indians. Those Indians domiciled in the Transvaal and the Cape Provinces may speak fluent Afrikaans but in Natal the learning of Afrikaans has only been introduced into the Indian schools during the past decade and, as yet, is not as widely spoken as it is in the other provinces.

The 'elite'¹ Indian child, without reference to any particular linguistic or religious group, prides himself in the fluency of his English speech. This interest has spread to the less conservative groups through speech contests and festivals being held in the schools. These include The Hofmeyer Speech Contest and the South African Speech and Drama Association's Speech Festival. Both these festivals have done much to increase the awareness and interest in a good standard of speech.

1. élite: may be defined here as a group of people of recognised pre-eminence in any particular field of social action and therefore considered worthy of emulation; as cited in Kuper, Hilda, 'Indian People in Natal', p.44.

In many schools time and effort is directed towards an ever improving standard of spoken communication.

Twenty one years ago the study of spoken communication was made available to the Indian community at the University of Natal. The present head of the Department of Speech and Drama, Professor Elizabeth Sneddon, may be singled out for her tremendous contribution in raising the level of spoken English among the Indians of Natal. More recently, in 1964, the University College for Indians in Durban has taken over most of the work initiated by the University of Natal.

It may be assumed that the demand for greater speech fluency has grown in the last two decades. The writer, acting as an adjudicator in the Indian schools Speech Festival, has observed an increasingly improved level of spoken communication in the past decade.

It may be a subject for future researchers to investigate the extent to which this demand for a good standard of spoken English has affected the speech fluency of a community that still carries with it the idiosyncracies of vernacular influences on intonation and articulation. This may be regarded as yet another factor which contributes to the pressure that the speech learning children are faced with.

C. THE FAMILY UNIT

Many Indians of Hindu origin have adopted either the Moslem or Christian faiths whilst, at the same time, still retaining many of the characteristics of the Hindu family structure. Therefore, the family unit will be considered as the Indian family unit and not severally as Moslem, Christian or Hindu.¹

The writer finds very little difference in the kinship structure of all religious and linguistic groups. The Indian presents a distinctive pattern of family type in the South African racial scene and great strength is displayed by them in joint family ties which help them to face poverty and unemployment with greater strength than other racial groups within the South African context.

Kuper² stated that the most important structured kinship unit in South African Indian society is the patrilineal extended family best known among the Hindi and Gujerati-speaking as Kul or Kutum, and amongst Tamil and Telugu speakers as Kudumbam or Kudumor.

A Kutum, as it is commonly referred to, is a restricted kinship group tracing descent through a male head, his wife,

1. Kuper, Hilda, 'Indian People in Natal', Natal University Press, 1960, pp.95-115.

2. Ibid., p.97.

unmarried children, unmarried brothers and sisters, younger married brothers, married sons, and brothers' married sons with their wives and children.

The highest authority in the kutum lies with the eldest living patriarch. A kutum has, at any particular time, living members of a few to over a hundred members. The kutum head is called ('Periver' in Tamil) and ('Bada' in Hindi). Both these terms mean the big one. Males in this hierarchy have greater status over women of their own age group but submit to women of senior generations.

All members of the kutum do not necessarily live under the same roof. This is especially so in urban areas due to restricted availability of land. In two suburban areas of Durban, Springfield and Merebank, the mean number of people living under one roof in 1952 was 8.8 whilst a number as high as thirty five was recorded in one instance.¹ In a majority of cases the kutum is divided into a number of separate houses each having its own 'house head' (ghar-ke-malik, gharwala in Hindi; Periver in Tamil) but still recognizing one kutum head.

The joint family developed in an agricultural caste society in which each member contributed labour and was restricted in occupational mobility, but with the shortage

1. Kuper, H., 'Indian People in Natal', p.106.

of land and the rise of towns and industries there was a weakening of the economic foundations of joint living. However, in more recent years in Durban, in barracks, and sub-economic municipal townships there is a control over the number of family members living under one roof. It is at present prohibited for more than one married son to remain with his parents. Segmentation has also been increased through growing westernization.

The relationship that exists between members of a kutum is expected to be warm and a deep sense of duty exists between them. Meer has stated that the kutum is like an intimate collective conscience that socializes and controls, binds and integrates members into a closely linked system of social interaction.¹

The traditional pattern was that sons should live with their parents after marriage. Today this is not always possible and whilst not entirely extinct, a son lives with his parents for at least a few years until he is in financial position to manage his own home. Although sons may be married, decisions, great and small, have to be made in consultation with the family head. If they are not consulted they consider it as an insult and this may lead to conflict, or a cooling off of relations which gives cause for moving from the parent household. Great anxiety

1. Meer, F., 'A Portrait of Indian South Africans', p.66.

is caused to the son, especially, who has to be independent sometimes when he is not yet ready for it. In poor families the joint household has helped to overcome the ravages of poverty by a pooling of the resources of all the sons with the father.

The joint or extended family became, both by choice and economic necessity, the most common pattern and continued to be so until as recently as twenty years ago. Though it is giving way to the nuclear pattern its incidence is still high, and various surveys made between 1946 and 1968 in Durban set the position to be between 29.5 per cent and approximately 50 per cent.¹

The Gujerati Hindus are least susceptible to change and make every possible effort to preserve traditional patterns of living. It is, on the other hand, the more educated and westernized Indian who has initiated the move away from joint-living.

There is an increasing rebelliousness says Meer² to parental and familial authority. The youth of today have a newly-found, self-directed freedom which takes them to youth clubs and 'gangs' beyond their homes. Parents are

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1. Jithoo Sabita Mrs., 'The Development and Cycle of the Indian Family in Durban', as cited in 'Portrait of Indian South Africans', by Fatima Meer, Publisher, Avon House, Durban, Premier Press, Durban, 1969, p.65.
 2. Meer, F., 'A Portrait of Indian South Africans', p.66.

sometimes defeated in their efforts to maintain the participation of children in home duties and functions.

However, though this may be the case, these extra-kutum affiliations such as sporting activities over the week end does not nullify the function of the kutum. Although open defiance is at present shown to the family, the youth are too dependent upon it for emotional support to do without it, hence its power.¹

Thus whilst much adaptation to the individualistic nature of western urban life has taken place, Indians continue to see people to a large extent as members of a kin group. The strength of the kutum still demands respect from the younger generation.

D. MARRIAGE

Marriage is regarded as an important institution and one which parents look forward to.

Marriage does not inaugurate an independent family but strengthens existing ties within the kinship structure. It is not only a sacred union of two individuals, but also a contract between their respective kin.... romantic love, like all assertive individualism is a new and disturbing intrusion. In 'modern' families the young people may make the initial choice, but the final consent must still be given by the elders who supervise and finance the elaborate

1. Meer, F., 'A Portrait of Indian South Africans', p.66.

ritual, and who direct the future plans for living as members of a kutum and community.¹

In the past the choice of the marriage partners was based on two important factors, namely, the linguistic and the religious similarities. Further restrictions were practised by the Hindus who selected their marriage partners from the same caste who originated from the same district in India.

Until recently Hindustani and Gujerati Hindus frowned on marriage between persons whose families were linked by blood in the preceding four generations. A certain group of Gujerati Hindus called Kathiawadi Sonis, however, favour union between a sister's son and a brother's daughter. South Indians and Muslims permit marriage between members of a kin group. The latter allow marriage between the children of siblings, especially favouring marriage between the children of brothers; while the former permit ties between a girl and her maternal uncle.²

The writer observes that probably one of the contributory factors to the incidence of stuttering amongst Indians could be due to recessive inheritance where cousin marriage is practised.

1. Kuper, H., 'Indian People in Natal', p.117.

2. Meer, F., 'A Portrait of Indian South Africans', p.75.

A recessive gene is one which must be coupled with a matching gene - i.e., there must be a pair of such genes, one coming from each parent, in order for the effects of abnormality to show in a child.¹

In recessive inheritance cousin marriage is of great significance in that blood relatives share more of the same genes than do unrelative people. For example a heterozygous who marries a cousin is more likely to marry another heterozygote than if he marries some unrelated person. Fraser stated that in first cousin marriages the chance is 1 in 8 that the cousin will carry the same gene.²

The marriage ritual of Hindu groups has many variations but there are a number of essential rites which symbolise basic obligations.

The cost of the wedding is primarily borne by the bride's household in the case of Hindustanis, Muslims and Gujerati Hindus, whilst it is the reverse with Tamilians who originated from the South of India.

The Hindu wedding is the most elaborate of all social institutions. A Hindu wedding may have a congregation of hundreds to thousands of people depending on the economic

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1. Robert, F.J.A., 'An Introduction to Medical Genetics' (2nd Edition) in 'A Study of Stuttering in an Indian Family with special reference to Genetic Factors - a project in partial fulfillment for the B.A. in Logopedics, University of the Wits., September, 1967, p.18.
 2. Nanabhay, Rabia, 'A Study of Stuttering in an Indian Family with special reference to Genetic Factors - a project in partial fulfillment for the B.A. in Logopedics, University of the Wits., September, 1967, p.19.

position of the family. Prior to the availability of suitable halls these weddings were conducted under a bamboo and tarpaulin structure at homes. A Hindu wedding will cost the host party from several hundreds to thousands of rands. Notwithstanding their economic position some people incur debts on such occasions which take them years to pay.

A Muslim wedding is less elaborate. The 'Nikah ceremony' which seals the union takes place in the mosque but this has no religious significance and is merely for convenience. The bride is never present at the Nikah ceremony. She is represented by her witnesses who confirm her willingness to marry. She thus marries by proxy.

Ramasar¹ recognizes the social change that is presenting itself in the institution of marriage amongst the Indians. The opinion expressed is that more marriages undertaken today, as compared to a decade ago, are based on courtship. These marriages often take place without parental consent and, in many instances, there is an elopement. These romantic marriages, based on free choice and love have not worked so well when the hardships of life have presented themselves realistically.

1. Ramasar, P. Mrs. 'Emerging Social Problems among the Indian People of South Africa'. Paper presented at a Conference of the S.A. Institute of Race Relations in Durban, Oct., 1967 in pamphlet 'The Indian South African', 1967, p.28.

This aspect of western influence on urban Indian life seems undesirable when the social agencies consider the problems they are faced with. A change in pattern is also noticed across traditional barriers of language and religion. Marriages across such barriers were rare a decade ago but are now on the increase. There is a sense of open defiance against tradition by the persons concerned.

The trend of defiance of traditional, orthodox patterns is being expressed openly with the rise in western education. Students meeting in a common environment 'know no laws' when they become attracted to each other on a basis of 'love' and 'acceptance' found through common interest.

The writer observes a growing show of rebelliousness against the traditional pattern. On account of this, much conflict has arisen between the 'modern youth' and the 'older folk' and this has given way to tension and misery.

Shoemaker and Brutten¹ on analysing Sheehan's theory on the onset of stuttering said:

1. Brutten, E.J. and Shoemaker, D.J., 'The Modification of Stuttering, Prentice Hall Inc., Englewood Cliffs, New Jersey, 1967, p. 11.

Sheehan thus considers stuttering the symptomatic expression of the turmoil of the inner self as it struggles with conflicting impulses. Various classes of symptoms may result from a state of conflict. In stuttering, the basic reactions of conflict are expressed through speech and take the form of rhythm breaks or interruptions in the forward flow of speech. But the reasons why the conflict is expressed through speech and why the specific symptom choice is stuttering are unknown and await discovery through research.

It is of interest to note Meer's comments on presumed reasons for suicide.¹

Factors indicating family disruption, or, more generally breach in interpersonal primary relations of an intense nature which provides both emotional and material support, loom large in the suicide of all races. However, the precise nature of such breach differs by race and sex and emphasizes the importance of cultural variations.

The writer would like to draw attention to the fact that Indians have the highest suicide rate in Durban. Meer² reports that between 1940-1960 the Indians had an average of 17.70 per 100,000 as compared to Europeans 13.02; African 8.91; and Coloured 15.51.

While Indians have the highest suicide figure racially, by sex the highest rate is that of European men

1. Meer, Fatima, 'Suicides in Durban. A Study of Suicide Patterns among Indians, Europeans, Africans and Coloured'. Dissertation for Master of Social Science, University of Natal, Durban, 1964, p.286.

2. Ibid., p.283.

23.1 per 100,000. Indian women have the next highest rate of 16.2 per 100,000 whilst European women have the lowest rate of all, 5.8 per 100,000.¹

Indian women fill a very docile and subservient position in society as compared to White women. Indian males have a higher proportion in the stuttering population (this will be discussed in Chapter Four) than females. Yet, Indian females show a higher suicide rate. The writer conjectures that the psychological factors prevailing under these special circumstances may prove by their comparison to be an interesting subject for future research.

E. THE PARENT-CHILD RELATIONSHIP

The child seems to live in an atmosphere of stability and great pride is taken by members of the joint household in many of the activities of child rearing. The mother may not object to anyone fondling the child in the home. However, it is the real mother who is closest to the child.

She is expected to feed her baby and to carry out, under direction of older women, the numerous protective rites. The child is the centre of attention, and the mother is the recipient of advice.²

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1. Meer, F., 'Suicides in Durban. A Study of Suicide Patterns among Indian, Europeans, Africans and Coloureds', p.284.
 2. Kuper, H., 'Indian People in Natal', p.124.

The period of lactation is fairly long and it is interrupted as soon as the mother learns that she is pregnant again. It usually takes place when the infant is between twelve and eighteen months. Recognition is given to the breast as a source of comfort as well as of sustenance. The youngest child is reported to have the longest period of breast feeding sometimes as long as three and four years.

Mothers readily admit their partiality for the youngest or weakest child. Culturally, it is accepted that there should be rivalry by the older child for the affection of the mother's attention on the birth of a new baby. Although there does not appear to be any open expression for the preference of a male child - mothers, however, show greater affection for the son and fathers for their daughter.

The wife, who takes up the domicile of the husband on marriage, may be confronted with advice from the mother-in-law which might be of immense value to her, yet, she may come into conflict with her new parents if her ideas about child-rearing do not concur with theirs. This happens to be the case where academic knowledge conflicts with folkways. The daughter-in-law does not usually show open defiance but has to suppress her feelings. This often leads to tension and 'internal' conflicts in the young mothers.

Kuper¹ adds that the situation is further complicated when several daughters-in-law live in the same house and where the children quarrel. A woman should not hit her husband's brothers' children even when she may consider them or their mothers the cause of any trouble.

F. DISCIPLINE

It is not the expressed duty of parents to discipline the child for this role is largely played by grandparents. Grandparents, in fact, hold the 'upper hand' and a mother is often afraid to smack her child in the presence of her mother-in-law.

Correction of irregular conduct begins when the child is about three years old. The family elders reprimand such acts as, taking food in the left ('unclean') hand, shouting in the house, dribbling, immodest exposure of oneself, use of foul language, playing with water, destroying property and disobedience.²

The child is fairly and firmly handled from an early age and obedience, modesty and respect are inculcated in him. This is achieved more through frightening the child rather than actually beating him. Yet, when he is punished the

1. Kuper, H., 'Indian People in Natal', p.135.

2. Ibid., p.125.

physical pain is not meant to be severe. If a child has been a problem the grandmother or, less frequently, the father will smack him (usually with the open hand or a thin stick).

The thwarting of undesirable action is achieved by threats which terrify. These threats among others are: 'I will kill you'; 'put chillies in your eyes'; 'send you to a reformatory'; 'kick you' etc.

Children are disciplined so that they grow up to be co-operative members of the kutum and not as independent individuals. Boys and girls are made to feel shame, guilt, and sin if they do not suppress their own desires, initiative and aggression in the interest of the family.

The writer learns, from case studies with parents, that there are inconsistencies in the way children are disciplined because parents and grandparents have different attitudes towards child-rearing. The older regime follow a more rigid discipline in contrast to the growing permissiveness among the newer generation.

Kuper¹ sums up the family unit of the Hindus in Durban as a complex network of relationships between kin with definite obligations set up by moral unwritten law.

1. Kuper, H., 'Indian People in Natal', pp.116-139.

Yet, many of the orthodox South African Hindus refer to ancient Hindu literature (particularly the epics of the Ramayana and the Mahabharata, and the laws of Manu) to explain or sanction behaviour required of specific kin. The majority of South African Indians articulate the ancient requirements without necessarily considering them the ideal. Conflict is created by an increasing awareness of western ways of life.

G. SOCIO-ECONOMIC POSITION AND OCCUPATION

The 1960 census figures indicated that there were 477,125 Indians in South Africa. Of this number 395,000 lived in Natal. Their main fields of employment were manufacture (26 per cent), commerce (22 per cent), and service (18 per cent). Over 21 per cent were unemployed at the time and though their unemployment rate has declined it is still estimated to be about 15 per cent of the working population, that of women being higher than that of men.¹

Approximately two-thirds of all Indians employed in Durban are semi-skilled and unskilled workers in the fields of commerce, industry, transport and service, labourers assistants to skilled tradesmen, clerks, messengers, waiters and drivers. About one-tenth are skilled workers

1. Meer, F., 'A Portrait of Indian South Africans', p.85.

occupied as painters, bricklayers, jewellers, carpenters, cabinet makers, watch repairers, tailors, chefs, supervisors and foremen. A smaller proportion about one-twentieth are in more privileged positions as teachers, doctors, lawyers, business executives and shopkeepers. Another ten per cent are agricultural workers and fishermen.¹

E. Higgins² in a pilot survey to investigate the career aspirations of full-time University College Students, in May 1968, concluded that the sample population was career conscious. Regarding the 'Future Study' that these undergraduate students wished to pursue it was stated:³

Rather optimistically one feels, nearly two-thirds (66.1%) of the respondents reported that they contemplated further study upon completion of their undergraduate course. Of these 37.9% envisaged professional study and 28.2% expressed intentions of following an academic course. Less than three out of 10 (29.1%) interviewees stated that they did not intend studying further after the completion of their degree. It is well known, of course, that many of the College students hope to go to the medical school after completing a B.Sc. Then we have a group who express a desire to follow an academic career, very often because they feel that the overall occupational structure of the Republic offers no scope for their particular talents and interests.

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1. Meer, F., 'A Portrait of Indian South Africans', p.86.
 2. Higgins, E., 'Some Career Aspirations of a Sample of Full-time University College Students' in Journal of the University College, Durban, Vol. 2; No. 1, March 1970, pp.35-40.
 3. Ibid., p.37.

The median age of the sample of students was 20.6 years and the ratio of males to females was 2:1 which was in accordance with the pattern at the University. Higgins¹ also found that four of every five respondents had some friend and/or relative with university education. It was stated here that the student population was far from representative of the country's Indian population and it was said to constitute a socio-economic élite.

A small section of the community is considered to be 'well off' and live comfortably. About one per cent of the Indians living in Durban through their successful commercial activities are able to contribute generously to the communities general needs.

The Durban Indian is otherwise poor. Poverty predominates for various reasons. One of these is the high dependency rate and the reluctance on the part of the families to allow women to be gainfully occupied. In 1960 only about one-tenth of those Indian women who were employable were gainfully occupied in South Africa. They

1. Higgins, E., 'Some Career Aspirations of a Sample of Full-time University College Students', p.37.

occupied most of the unskilled and semi-skilled positions as weeders, domestic servants and clothing factory workers. On the other hand, there is a rising number of women entering the professional field as teachers. Some, today, are lecturers at the University of Durban-Westville and one is known to be a lecturer at the University of Natal in Durban. These professional women, including doctors and lawyers, hold prideful positions in the community.

Against popular belief, the 1951 census figures of the Union of South Africa revealed that in Durban the Indian was poorer than the African and the poorest of the four racial groups in South Africa; Coloureds, Africans, Whites and Indians. In 1951 the average annual per capita income for Indians was £40, less than £4 a month; compared with the urban African receiving an average per capita income of £58.¹

By 1960 the Indian had improved his earning capacity and whilst most of the community still live below the poverty datum line their average annual capita income varied from R136 in the Transvaal to R110 in Natal.²

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1. Kuper, L., Watts, H., and Davies, R., 'Durban, a Study in Racial Ecology', p.1.
(The above figures are per person not per worker).
 2. Laschin, Feldman, 'Income and Expenditure patterns among the Indians in Durban', Bureau of Market Research, University of South Africa. 1966, as cited in 'Portrait of Indian South Africans', Publisher, Avon House, Durban, 1966. p.85.

A superficial analysis of income per linguistic group reveals that the Gujerati community possesses the highest income whilst Hindustanis, Telegus and Tamilians have the lowest. Using religion as a criteria of analysis Muslims have the highest incomes, Christians the second highest and Hindus very low incomes. The first four occupational ranks - professional and technical, managerial and administrative, clerical and sales are occupied by Gujeratis and Muslims. Hindus, Telegus and Tamilians predominate in semi-skilled and unskilled ranks.¹

The descendents of the indentured group are at present gaining an increasing stronghold in education and provide the majority of professionals who hold high positions in welfare organisations and trade unions. This group has successfully striven hard to improve its social and economic position.

Ramasar² states that there is an increase of disorganizing factors such as desertion, marriage discord, juvenile delinquency, crime and even suicide. These result from a basic economic inadequacy of a large section of the population.

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1. Meer, F., 'A Portrait of Indian South Africans', p.86.
 2. Ramasar, P. Mrs., 'Emerging Social Problems among the Indian People of South Africa'. pp.25-26.

.... case records of welfare agencies show evidence of the tensions and conflicts in family life that are produced when a father is unable to provide adequately. Some of these tensions and conflicts remain unsolved producing emotionally worn out individuals,...¹

It is inferred by Ramasar² that the poor economic position of the Indian parent is affecting the personality development of Indian children of today. Good child-rearing practices are frustrated through parents' feelings of incompetence, insecurity and worry. Low incomes are not only responsible for malnutrition but create personal insecurity and inadequacy. The Indian school child depends very much on the size of his family income for status and in more cases than not the income falls short of expectations. This provides feelings of inferiority and self-doubt which manifest themselves in warped personalities in adulthood. Emotionally unbalanced children are also brought up in wealthy families because of a different sort of pressure; that of conforming to and of achieving high and acceptable standards of life laid down by western culture,

The socio-economic position of the Indian, with limited opportunities for occupation seem to affect the personality development of the child. This may be yet another area for research in relationship to stuttering.

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1. Ramasar, P. Mrs., 'Emerging Social Problems among the Indian People of South Africa', p.26.
 2. Ibid., pp.23-36.

H. HEALTH AND ATTITUDE TOWARDS DISABILITIES

Kuper¹ reports that the living conditions of the Indians were poor with bad sanitation which affected their health. Research indicated a high incidence of respiratory and skin disease, marked evidence of malnutrition and a high frequency of bowel infestations. The main causes of death in Indian infants were known to be broncho-pneumonia, gastro-enteritis and prematurity; and among adults broncho-pneumonia and tuberculosis.

Fate plays an important role in the lives of orthodox Hindus. Those who are mentally or physically handicapped are believed to be reaping their misfortune by having sown evil in the present or past life (Hindus believe in Reincarnation or rebirth). If good is sown you are expected to reap fortune. According to the law of 'Karma' (fate) each deed carries with it a potential guilt which must be expiated.²

In discussing presumed reasons for suicide Meer³ states that Indians attribute personality disturbances to supernatural factors rather than to more sophisticated concepts of psycho-neurosis. To them people are 'mad'

1. Kuper, H., 'Indian People in Natal', p.236.

2. Ibid., p.200.

3. Meer, F., 'Suicides in Durban. A Study of Suicide Patterns among Indians, Europeans, Africans and Coloureds', p.285.

or 'behave strangely' because they are possessed by supernatural spirits. Indians generally attempt to conceal psycho-neurotic conditions and to talk of them secretively. The intellectualised, encouraged by academic support of psychiatry and psychology, discuss these matters openly,

Rejection of children, wherever it exists, is explained by saying that the child was born in a 'bad month' or 'unlucky star', etc. Children born at the new moon or during the Hindu religious festival of Diwali, are believed to be naughty and even bad.

I. RELIGION

Hinduism, Islam and Christianity constitute the major religious systems. In 1960 there were 282,797 Hindus, 57,361 Muslims and 40,653 Christians in Natal.¹

Every aspect of Hindu life is invested with its relationship to a divine source no matter how mundane its nature is. The Hindus in South Africa as in India practice their religion mainly by performing rituals. Differences are found among the different language groups in the exact form that the ritual takes. The Orthodox Hindu has numerous deities which are symbolically represented in pictures.

1. Meer, F., 'A Portrait of Indian South Africans', p.133.

Kuper¹ states that the most personal religious experience of orthodox Hindus in South Africa is the taking of the vow (Vrath in Hindi, Vaaku in Tamil). The vow is taken in the event of some difficulty or catastrophe, and acts as a form of penance to expiate. A vow is fulfilled by a ritual done with fruits, flowers and sweetmeats and offered to a special deity. Non-fulfilment of a vow is believed to lead to retribution.

A small but growing section, predominantly Gujeratis and Hindustanis, are Arya Samajes. They follow the reformed teachings of Swami Dayanand. They consider the sacred teaching of the Vedas² as all important and reject caste barriers. They worship God as a formless principle hence they have no images in their temples. The Arya Samajes subscribe to relatively fewer rituals than their orthodox counterparts.

The Hindus have, in the context of a multi-racial and multi-religious South Africa, three inter religious sects which are universal. They are the Ramakrishna Centre, established in 1947, the Divine Life Society in 1949, and the followers of the teachings of Paramahansa Yogananda initiated in 1960. Their basic approach to religion is similar, all preaching universal application of Vedanta and universality of all religious systems. They contend that the rational philosophy of

1. Kuper, H., 'Indian People in Natal', p.199.

2. The penetrating logic of Hindu philosophy.

Vedanta makes a Christian a better Christian, a Hindu a better Hindu, etc.

This more rational approach to religion is gaining widespread support and the writer is of the opinion that the succeeding generation will be attracted to this form of religion. The Hindu youth, and many adults, are today being influenced by western education and a majority of them do not know what the inside of a temple looks like. The Muslims and Christians practise their religion more fervently than the South African Hindus.

Fundamental to Islam is the worship of one God. Islamic life is, unlike the Hindu, relatively free of ritual. Muslims are required to pray five times a day in addition to observing two important festivals called 'Eid'. On both these days special services are held at the mosque. The writer knows that Islam is well practised by Muslims in Durban. Every Friday the Moslems meet at the mosque in prayer thereby creating a strong identity religiously and socially. On the other hand, the majority of Hindus visit their temples more randomly with greater emphasis on special occasions e.g. the birth of a deity (Lord Krishna).

Indian Christians follow one of the Christian faiths. They are converts from one or the other Indian religious groups, Hindu or Moslem. The writer observes

that there are a greater number of converts from Hinduism than from Islam because Hindus have a less rigorous religious discipline in practice.

J. EDUCATION

The education of the early indentured labourers was confined to religious and vernacular education. It was the missionary bodies who provided western education for the Indians. Today to a limited extent vernacular instruction still continues.

Until recently, most of the educational facilities available to Indians were the result of private enterprise. Some of these private schools received recognition from the Provincial Education Department also receiving finance and staff from this body. In 1927, some 10,000 children, out of a total of 55,000, between the ages of 5 and 19 years were accommodated in 39 schools.¹

For nearly two decades from 1940 onwards there was a system of afternoon or platoon sessions to cope with the large numbers who could not gain admission to school. Many of these children were older than the average age limit for a school beginner and were subject to a type of education from which he could not get maximum benefit.

1. Burrows, Prof. Raymond, 'Indian Life and Labour in Natal', p.39.

There was a steady increase, as the State took a greater interest, in the number of schools and by 1962 there were 218 state-aided schools with 39 government schools in Natal.¹

Since 1966 the state has taken over the control of Indian Education and the shortage of accommodation has been appreciably controlled with an all round improvement in organization and facilities provided.

The training of teachers also presented problems. The first teacher training institution was at the St. Aidan's Mission in 1904. Teachers were retired soldiers. Today, fewer teachers are inadequately trained.

Today, in the field of education, Indians hold posts which range from a primary school teacher to a university professor. In 1966, there were 4,359 Indian teachers in the Natal primary and secondary schools of which 400 were graduates. Several Indians hold the posts of Inspectors and one Indian has been appointed as Planner in the Division of Indian Education. Several Indian doctors and lecturers hold part-time posts in the University of Natal's Medical Faculty, whilst a few serve as research assistants. At the University College, Durban, of the 120 (+) members of the lecturing staff

1. Indian South Africans, Printed by Dagbreek on behalf of the Government Printer, Pretoria, for Department of Information.

20 are Indians. There are four senior lecturers with one professor.¹

In addition to the Springfield College of Education, the Fordsburg College of Education and the M.L. Sultan Technical College, the training of teachers is being conducted by the Faculty of Education at the University of Durban-Westville (formerly known as the University College).

In 1963, Mr. Theo Gerdener, the Administrator of Natal, announced that 150 new Indian schools would be built by 1973 to eliminate illiteracy among South African Indians.²

The Indian community has taken great interest in improving its standards, not only in general education but also technical. The M.L. Sultan Technical College, named after the largest private donor makes provision for the training of semi-skilled and skilled workers who fill their various places in the economic world.

The University of Durban-Westville at present on Salisbury Island began in 1961 and offered the post-matriculation degree course. By 1969 there was an approximate enrolment of 1700 students. With this

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1. Rambritch, Dr. B., 'Higher Education - Key to Indian Progress', Paper Presented at a Conference of the S.A. Institute of Race Relations in Durban, Oct., 1967, in pamphlet 'The Indian South African', 1967.
 2. Indian South Africans, Printed by Dagbreek for Government Printers, Pretoria, 196, p.7.

growth from 89 students in 1961, a new University at Chiltern Hills is being erected and it is hoped will accommodate 5,000 students.

Formally, although higher education was offered to both sexes Indian parents preferred to give their sons the opportunity of receiving this privilege. However, as Indian women have become emancipated it is not unusual to find an equal number of men and women pursuing post-matriculation studies.

The Rector of the Springfield College for Education reported that in 1969, for the first time, girls outnumbered boys in the first year enrolment.¹

Prior to the erection of a separate Indian University College, higher education was received at the Fort Hare College in the Eastern Cape and at open Universities in South Africa. At present to a very limited degree permission is given, in special cases, for study at the open universities.

1. Speech at Graduation Ceremony of Springfield College of Education, 8th December, 1969, Durban City Hall.

SUMMARY

1. The appearance of Indians on the South African scene was briefly discussed. Two different classes of Indians, the 'passenger' and 'indentured labourer' consisting of various linguistic and religious groups was pointed out. It was made clear that Indians were accepted as a permanent part of the South African population only a century after their arrival in this country.

2. A perspective of some aspects of Indian life and culture were discussed under:

- A. The numerous religious and linguistic groups. The Indian community is comprised of two major religious groups namely Moslems and Hindus with the Christians forming a smaller third group. Linguistically Hindus are divisible into Tamil, Hindi, Telegu and Gujerati-speaking in descending order of number. The Moslems speak Urdu and Gujerati and the Christian may speak any one of these languages. In spite of these differences of religion and language it is possible to speak of a homogeneous South African Indian people.
- B. The awareness of a good standard of spoken communication. It was suggested that there was the possibility of its influence on speech fluency.
- C. The Indian family unit. The Indian's kinship structure being common to all groups already mentioned was found to have a male as the head of its hierarchy. The question of the traditional pattern of joint-family living was considered in the light of changes to the nuclear pattern due to acculturation.
- D. The old traditional patterns and new western influences. The relation to the importance of marriage and the consequent tensions that arise on account of it were assessed.
- E. The parent-child relationship. Mothers who received western education often came into passive conflict with the old tradition when the relationship with their children was interfered with by the senior members of the homestead.

- F. The discipline of the child. Parents are more subordinate to elders in the disciplining of their children. There arise inconsistencies in discipline which acted as a source of tension in the child.
- G. The socio-economic status of the Indian. It was pointed out that a greater majority of Indians employed in Durban were semi-skilled or unskilled workers. There was much poverty with a high incidence of unemployment. The high career aspirations and ambitiousness of the group were also included in the discussion.
- H. Health and attitude towards disabilities. Indians were found to live in poor circumstances; had a high rate of tuberculosis and pulmonary diseases, and had a tendency to explain disabilities in supernatural terms.
- I. The practice of Indian religions. Hinduism, Christianity and Islam were found to be the chief religious groups.
- J. The education of Indians. The progress towards better standards of education was noted.

CHAPTER FOURTHE METHOD AND PROCEDURES OF THE STUDYI. THE AIM OF THE STUDY

This study is a preliminary investigation into some aspects of the incidence and nature of the stuttering problem among Indian primary school children in Durban. General information about incidence was sought but much emphasis was placed on the classroom teachers' attitude and views about their attitudes to stutterers. It is the opinion of the writer that teachers are largely unaware of the manner in which they ought to handle stutterers in the classroom and it is one of the aims of this study to probe this situation. It is not the intention of this study to be exhaustive or absolute but it is in all respects exploratory.

II. THE GROUP SELECTED FOR STUDY

The group selected for study were primary school children in the morning-sessions of schools in Durban.¹

Through the kind permission of the Department of Indian Education the investigation was carried out. Of a total of 93 State and State-aided Indian schools in

1. At the time of the investigation there were many primary Indian schools which held a morning and an afternoon-session for two separate groups of children.

Durban the following response was obtained to the mail questionnaire in November 1966.¹ (See Table 3).

TABLE 3

NUMBER AND PERCENTAGE TOTALS OF SCHOOLS TO WHICH QUESTIONNAIRES WERE SENT, SCHOOLS THAT REPLIED AND THE CHILDREN THAT WERE INVESTIGATED

Total no. of primary schools in Durban	=	93
Total no. of schools that responded	=	47
Total % returns from schools	=	50.53
Total no. of children in morning-sessions of the 93 schools	=	41,368 (approx.)
Total no. of children in the 47 response- schools	=	25,112
Total % returns of the children in the 93 schools to which questionnaires were sent	=	60.70 (approx.)

1. (a) The schools and their population figures are extracted from the Statistical Supplement to Monthly Notice to Schools of the Natal Education Department, August, 1965.
- (b) The total number of children actually investigated was calculated from the questionnaire. (See Appendix 1)
- (c) The Department of Indian Affairs, Division of Education took over the control of Indian Education from the Natal Education Department in April, 1966 but at the time of posting the questionnaires the most recent list of schools was not available.

The geographical distribution of the entire primary school population of the 93 schools in Durban may be found in Appendix (2) whilst the geographical distribution of the schools from which the sample was derived may be found in Appendix (3). When the sample is viewed in relation to the total it appears to be a fairly representative distribution.

III. AGE AND SEX OF THE GROUP STUDIED

Although children are admitted into schools from the age of six years, not infrequently it is found that children commence their education at a much later age. Boys and girls of nineteen years may be found in the higher grades of primary schools.

The roll of boys and girls in each school was obtained collectively and not separately so that the total male and the total female population could not be ascertained.

IV. A DISCUSSION OF THE MAIL QUESTIONNAIRE WITH RELATION TO THE PRESENT STUDY.

The mail questionnaire method was used to obtain information. (See Appendix 4). A covering letter to explain the purpose of the survey and instructions with copies of questionnaires, was mailed to the schools. (See Appendix 5) The returns were spontaneously sent before,

on or not much later than the requested date, An analysis of the returns appears in (TABLE 3).

A summary of the questionnaire (See Appendix 4) is as follows:

Name of stutterer

Sex

Class or Standard

No. of pupils in his class

Position in class in last examination

No. of fellow stutters in class

Teacher's description of stutterer

Inclusion or exclusion from class reading

Are stutters questioned in class?

Home language

Languages taught at school

Teacher's assessment of pupil's intelligence

Teacher's knowledge of any attempts made to

improve stutterer's speech

Teacher's suggestions to the child to help

him to improve his speech

Physical defects

Co-operation of subject in class

Extraneous bodily movements

The additional information sought in a follow up of the study were:

- a) Age
- b) Occupation of parent (father)

TERMINOLOGY

The terms 'stuttering' and 'stammering' were explained in Chapter 1 to be synonymous. The writer used 'stammering' in his questionnaire (see Appendix 4) and in the covering letter (see Appendix 5) but has since shown preference for the term 'stuttering' which he has consistently used throughout this study. The reason for the change is the frequent use in the published works on the subject, of the term 'stuttering' rather than 'stammering'.

The questionnaire was designed 1) to obtain basic information about some aspects of the incidence and more especially 2) to examine the knowledge that teachers had about the nature of the stuttering problem and the manner in which they handled the stutterers in their classes.

Whilst the writer thought that teachers were able to recognize stuttering speech, because of its obvious peculiarity, he was of the opinion that teachers had little or no knowledge about the way they ought to handle stutterers in the classroom. This opinion was arrived at through contact and discussion with school teachers and principals on various occasions.

The questions were framed in such a way as to minimize any antagonism or suspicion on the part of the teacher as to the motives of the survey. Questions were phrased in a variety of forms to elicit similar information which it was hoped would act as a check to give as objective a 'picture' as possible. e.g.

- Q.10. 'Position in division of this student during last examination'.
- Q.18. 'Do you think this student is of Average/
Above Average/Below Average Intelligence.'

NON-RESPONSE

It is possible that the principals of the non-response schools had little or no interest in the nature of the survey. Whatever the reason, the writer does not think that the non-response group would show any difference in the type of response that teachers might have made. The decision to respond lay in the hands of the principals and no matter how much interest and willingness to co-operate the teachers might have had, it was not their wish that prevailed. In this questionnaire it is not the principals' but the teachers' opinions which were of any consequence.

It was necessary to follow up the original questionnaire by getting information on the age of subjects and the occupation of their parents or guardians as these questions were not included in the original questionnaire.

This was done by the writer telephoning each of the 47 school principals, followed up by a personal visit to the schools when class registers were examined to ascertain the age of the subjects. The age was established to the nearest year, up to and including November 1966. In many instances information about the occupation of parents or guardians was unobtainable because the subjects had been transferred to other schools. Indian education was in a state of flux especially in the area set aside primarily for Indian occupation at Chatsworth. There are at present many more primary schools in Chatsworth than there were at the time of this investigation.

In his visit to the schools and discussions with principals and teachers the writer found great interest in the survey. It is notable that with only two exceptions absolute and kind co-operation was received from principals and their assistants. The visits usually took much more time than had been anticipated. Principals expressed the hope that the present authorities of Indian Education would recognize the need for remedial speech specialists in the education of Indian children generally.

V. THE INFORMANT

Teachers were utilized to give information about their observations of and attitudes to stuttering. The

writer was of the opinion, at the outset of the study, that teachers were aware of and capable of recognizing what constituted stuttering speech, at least symptomatically. For this reason the writer believes that the diagnosis of stuttering, made by the teachers, may be of a fair degree of reliability. No questions were intentionally included in the questionnaire which were of a technical nature requiring specialised knowledge to make an appropriate response. Searching questions, where the reliability of the information is greatly reduced were avoided e.g. 'When did the child first begin stuttering?' The accuracy of answers to this question become suspect. Teachers would have had to put such a question to the child who might have had to ask his parents, who might, through a lapse of time since the event occurred, have given an unreliable answer.

Teachers were not under pressure to give answers, as in the interview situation, but could comfortably make considered judgements about each child they suspected of stuttering. If a teacher or child was absent the questionnaire could be filled in on their return to school. Teachers could also consult documents in answering questions like e.g. 'The position of the child in the last examination'. Great benefit was derived from the use of the questionnaire method of investigation especially as there were no trained observers available to consider using the interview method.

The possible advantage of the class teacher being the informant is that most teachers ought to know the children fairly well after teaching them for at least 9 months. In more cases than not the diagnosis of the child's stutter may have been made prior to answering the questionnaire. Oral work is part of the primary school curriculum, consequently teachers are familiar with the children's speech habits. Some stutterers of course may show greater fluency at school than at home, and vice versa, so that some cases of stuttering might have escaped the notice of the class teacher. Taking several factors into consideration, then, the figures of incidence given for this study, may be considered a conservative estimate rather than an overestimate.

The questions that comprised the questionnaire were framed to be as direct as possible and the type that demanded short, explicit answers. The questionnaire had to be completed in one sitting so that a considered opinion could be given of each child as a whole rather than as a fragmented impression. The writer thought that this would help the teacher to arrive at some total, more accurate profile of the subject under consideration. It also aimed at ruling out the possibility of the teacher getting a second opinion for he was expected to give a spontaneous answer.

The mail questionnaire method of investigation used made it impossible to corroborate the teachers' diagnosis of the pupils' speech as stuttering. Some of these children may in fact have been normally non-fluent. No pilot study was conducted to check the appropriateness of the questions used in eliciting accurate information and it was found necessary to disregard answers in respect of two questions i.e. Q.8 and Q.13 (see Appendix 4). The decision to scrap these questions before coding the data arose in respect of Q.8 because it was learnt that, contrary to expectation, children were not graded in all the schools according to academic achievement into a, b, c, etc., but rather, randomly. It had been assumed that classes were arranged according to school examination achievement but a random decision on allocating children to classes made this question irrelevant.

Answers were obtained for Q.13 but these were in most cases a duplication of those given for Q.12. However, some teachers said that they diagnosed the child's stutter from his reading, reciting or speaking in class. Q.13 appeared to the teachers ambiguous and the type of answers revealed this, therefore, it was dispensed with before coding took place.

Moser, in 'Survey method in Social Investigation' draws attention to some of the limitations of a mail questionnaire. He says:

.... the answers to a mail questionnaire have to be accepted as final, unless re-checking or collection of the questionnaires by interviewers can be afforded. There is no opportunity to probe beyond the given answer, to clarify an ambiguous one, to overcome unwillingness to answer a particular question or to appraise the validity of what a respondent said in the light of how he said it.¹

VI. STATISTICAL PROCEDURES USED

Detailed statistical analysis has not been resorted to in this study because of the preliminary nature of the investigation. This study tends to be more a quantitative rather than a qualitative study.

The data obtained from the questionnaire were classified into different categories and percentage and mean totals were calculated for the various categories. "X² fits" were then carried out in an attempt to arrive at some measure of objectivity.

In many instances, however, the data is given in a descriptive manner.

Dr. E. Higgins, Senior Lecturer in the Department of Sociology was consulted about the recording and presentation of data at all stages of the investigation. Mrs. A. Wright

1. Moser, C.A., 'Survey Methods in Social Investigation'. Published by Heinemann Educational Books Ltd., London, 1969, pp.177-178.

of the Computer Centre, University of Natal, with Dr. Higgins assisted in drawing up the programme for the Computer on which the analysis was made and the data is available for examination.

Differences in number of stutterers will be given in tables relating to the various categories investigated in the questionnaire because for some aspects no information was recorded.

SUMMARY

1. The aim of this study was a preliminary investigation into some aspects of the incidence and nature of stuttering among Indian primary school children in Durban.
2. The total number and the percentage of schools and children investigated were analysed. It was found that out of 93 schools with an approximate number of 41,368 children to which the questionnaires were sent there was a response from 50.53% of the schools which constituted a total number of 25,112 children.
3. Male and female school children of between approximately 6 - 19 years were studied.
4. A discussion of the mail questionnaire was given with relation to the present study. A summary of the questionnaire used was outlined together with the information sought in a follow-up study. The terms 'stuttering' and 'stammering' were discussed in special relation to the questionnaire used. Reasons were offered for a non-response to the questionnaire and some estimation was made of the effect of the non-response.

5. The teacher as the informant was considered. The teachers were thought to be fairly reliable informers. The instructions given to teachers to increase the reliability of information given were also discussed. Q.8 and Q.13 were scrapped and the reasons for such a measure were given.

6. The statistical procedures used were simple because of the preliminary nature of the investigation.

CHAPTER 5A REPORT ON THE ASPECTS STUDIED IN THE PRESENT
INVESTIGATION AND A DISCUSSION OF THE RESULTS

In this chapter some attempt will be made to report on and assess information concerning those aspects of stuttering that were studied among Indian, primary school children. The classroom teacher was the informant and he supplied all the information about the stutterers and also about his own attitude to stutterers. It is hoped that the facts and figures that will be presented here will be of interest and value to research workers in the future as this is intended to be a preliminary, exploratory study. As this is not a definitive work, an exhaustive assessment of the various aspects of the stuttering problem explored is not claimed.

The aspects that will be considered are:

- I. INCIDENCE OF STUTTERING
- II. AGE OF THE SUBJECTS STUDIED
- III. SEX RATIO OF THE SUBJECTS
- IV. SCHOOL-STANDARD OF SUBJECTS AND INTELLIGENCE
- V. THE OBSERVABLE PATTERNS OF STUTTERING
PRESENTED BY THE SUBJECTS
- VI. HOME LANGUAGE OF THE SUBJECTS

- VII. LANGUAGES LEARNED BY THE SUBJECTS AT SCHOOL
- VIII. RELIGIOUS AFFILIATION OF SUBJECTS
- IX. THE CLASSROOM TEACHER'S ATTITUDE TO THE
STUTTERING PROBLEM AND HIS ABILITY TO
COPE WITH IT.
- X. PHYSICAL DEFECTS AND STUTTERING
- XI. OCCUPATION OF PARENT (FATHER)

I. INCIDENCE OF STUTTERING

In order to ascertain the incidence of stuttering an investigation by means of a questionnaire was conducted in forty seven Indian schools in Durban which had a population of approximately 25,112 Indian primary school children in the morning-session. (see Appendix 1)

The following table indicates the total number of stutterers as reported by teachers in answer to the questionnaire.

TABLE 4

THE TOTAL NUMBER OF SCHOOL CHILDREN
INVESTIGATED AND THE INCIDENCE OF STUTTERING FOUND

<u>School Population Investigated</u>	<u>Stutterers</u>		
<u>Total</u>	<u>Total</u>		
<u>Males and Females</u>	<u>Males</u>	<u>Females</u>	
<u>25,112</u>	465	70	<u>535</u>

The percentage incidence of stuttering in the Durban Indian primary schools, morning-session only, was 2.13 for November 1966.

DISCUSSION

The incidence of 2.13% found among Indian school children appears relatively high when the average incidence, calculated from different studies, is found to be 0.84% (see Chapter 2,A). This difference in finding may be due to the difference in methods of investigation.

A study of incidence reflected in the Inter-Departmental Committee's report on Deviate Children in South Africa in 1945, Vol. II revealed that 518 out of 40,274 Indian school going children in South Africa stuttered, i.e. 1.29%.¹

When the 1945 report on Indians is compared with the present 1966 report on Incidence among this group the present study presents a 0.84% higher incidence. The writer ventures to suggest that there may be a rise, as suggested by a comparison of the above studies, in the incidence of stuttering among Indians probably because of the more urban orientated life that the Indian leads today as compared with that of over two decades ago. The tensions and conflicts, brought about by acculturation are seen as important contributing factors in the incidence of stuttering. (See Chapter 3).

1. Report of the 'Interdepartmental Committee on Deviate Children', p.98.

As a community, Indians show a great striving towards better standards in all aspects of living. They are especially conscious of the need to give their children a 'good education'. Evidence has been given in Chapter 3 of a high aspiration level of a certain group of Indian University students. It was pointed out in the discussion in Chapter 3 that these students indicated a desire to achieve what appeared to be outside the scope of their ability to do so.

Public speaking and good speech are valued by Indians. This attitude to speech may be found in schools where speech contests are organized and children go to the extent of having private speech education as an activity outside the school programme. It may be pertinent to note that a Speech and Drama Festival is organized as an annual feature in many Indian schools where children either volunteer to participate or are encouraged by their teachers to do so. The writer would like to note that in most schools it is only those children who can afford the entry fee that participate. In some schools there are more participants in the festival than in others. The adult community is also known to make speeches on the slightest pretext. Weddings, engagements, parties, dinners, theatrical enterprises are all surrounded by a heightened awareness of the drive to create a good impression in more ways than one, and this includes speech making. 'That was a good speaker' or

'He speaks well doesn't he?' and 'I was bored stiff with his talk', etc., are common comments to be overheard at community gatherings.

Cultural and constitutional factors are reported to be responsible for the existence of stuttering. The writer favours the explanation that stuttering occurs because of a constitutional predisposition which is offset by unfavourable environmental conditions. Although constitutional factors were not examined in this study the writer does not suspect any differences in the cause of stuttering among western European culture and that found among Indians in Durban who have an Eastern, Oriental background with strong western influences.

Urban school children were chosen for this study, where it was expected that the greater tensions, upheavals and little difficulties tend towards the creation of behavioural problems. A comparison on incidence of stuttering with rural children might prove meaningful. By making such a comparative study the effect of environmental pressures would be indicated with respect to their influence on stuttering behaviour, or if their relevance is nullified the pointer might show in the direction of a stronger entrenchment in the belief that constitutional factors are the cause.

II. AGE OF THE SUBJECTS STUDIED

The subjects who made up this study were 535 school children - 465 males and 70 females.

The ages of the stutterers varied from 6 - 19 years. The average age of the sample was calculated to be 12.4 years (see Appendix 6).

III. SEX RATIO OF THE SUBJECTS

The sex ratio of stutterers was calculated without establishing the exact male and female population in the schools which were used in this investigation. The incidence of male stutterers was found to be 6.64 times more than female stutterers. The sex ratio, therefore, being 6.64:1.

In the Inter-Departmental Committee's (1945) report on Speech Deviate Children it was reported that of all school children in South Africa between the ages of about 6 - 18 + years, Indian stutterers tended to have a higher incidence of male stutterers against females by 5:1. The reason offered for the disparity between the sex-ratio of Indians and that of other groups in South Africa was that there were many more Indian males attending school than females.¹

1. Report of the 'Interdepartmental Committee on Deviate Children', Op cit., pp.95-105.

The approximate figures obtained from the Department of Indian Education for both morning and afternoon classes in the Indian primary schools in Durban in August 1966 was 101 primary schools with approximately 34,477 boys and 33,378 girls. This figure does not show any great difference in the proportion of males that attended primary schools in Durban in 1966.

For studies conducted in the United States of America and England an average sex-ratio of 4:1 males to females, was estimated. The present investigation which reports a sex ratio of 6.64:1 appears to have a wider disparity in sex-ratio when compared with findings reported in other western countries. See Appendices 7 and 8 for a distribution of stutterers according to Sex by Age and Sex by Class or Standard, respectively.

Various explanations have been given for the puzzling sex differences found in stuttering. The ratio is said to ascend from 3:1 in the first grade at school to 5:1 by the last year in secondary school. Schuell (1946) reported the smallest difference to be after the thirteenth year of life. In the present study the smallest sex difference is found in the tenth year of life.

Males are believed to be more prone to illness, injury, language disabilities and social maladjustments, etc. Girls, even when they may be found to undergo the same stressful

situations as boys, do not react in the same way. Psychological explanations have been given and physical conditions have been considered to contribute to this difference between the sexes. Organic delay in myelinization of the pyramidal tract, which is associated with motor function, is offered by some writers as an explanation for the sex difference in stuttering.

Amongst Indians, girls have lived more sheltered and emotionally secure lives. Boys are expected to be the breadwinners of the family and from a very early age they are expected to prove their ability at school. The speech patterns of little boys is very readily compared with that of their female siblings or associates. This results in a diagnosis of what may be considered as normal non-fluency probably being given the label of stuttering. The writer thinks that where a constitutional predisposition exists, environmental influences operate strongly on them to produce stuttering amongst Indians living in Durban. The writer is merely giving his opinion here from his experience with Indians, but to arrive at any definite answer it would be of greater value to investigate the conditions surrounding the age of onset among a group of stutterers and compare it with a group of non-stutterers.

Although the average sex-ratio is given as 4:1 in western countries it is not unknown to find a sex-ratio of 10:1, (see Chapter 2). The finding of this study confirms

the fact that stuttering is more prevalent in males than females.

IV. SCHOOL-STANDARD OF SUBJECTS AND INTELLIGENCE

The subjects in this study ranged from class 1 - standard VI with a concentration of the stuttering population between standards II - V with a sharp decline in standard VI. (See Appendix 9). The average age of the subjects in the school grades are to be found in (Appendix 10 B) and the data used for a rough comparison is to be found in (Appendix 10 A). Using the figures in Appendices 10 A and 10 B a rough estimate of the scholastic retardation found, was made. (See Table 5).

TABLE 5

A ROUGH ESTIMATE OF SCHOLASTIC RETARDATION
OF THE SUBJECTS

Class or Standard	Scholastic Retardation in years
Class 1	1.25
Class 11	.76
Std. I	1.01
Std. II	.97
Std. III	.66
Std. IV	.11
Std. V	.24
Std. VI	.17

The average scholastic retardation was calculated to be .65 years or 7.80 months per class or standard. The lower grades at school showed a greater retardation than that found from standards IV to VI. (See Table 5).

In Chapter 2, H, it was pointed out that Wallin found stutterers to be scholastically retarded by 1.6 years whilst Estergaard and Conradi noted that speech defectives tended to be scholastically retarded particularly for the early school grades. The present study on stutterers appears to confirm this finding. Schindler's figure of 8.55 months scholastic retardation when compared with the present study shows close resemblance to the 7.80 months retardation found for Indian school children.

It is generally accepted that stutterers may be scholastically retarded but the cause of such retardation has not been ascribed to intelligence quotient but rather to the heavy emotional pressures that may be found in the classroom and school situation generally. (See Chapter 2, H). The pressures that the stutterer encounters may be directly concerned with the communicative situation or not. The role of the classroom teacher will be discussed in another section of this chapter.

Some indication may be found of the subjects intellectual ability, and the way they were viewed by their classroom teachers in respect of such, in the following table.

TABLE 6

PERCENTAGE DISTRIBUTION OF 466 STUTTERERS ACCORDING
TO TEACHERS' ROUGH ASSESSMENT OF PUPILS'
INTELLIGENCE, BY PUPILS' POSITION IN LAST EXAMINATION

Position In Last Examination	Total N = 466	Teachers' Assessment of Pupils' Intelligence		
		Above Average N = 81	Average N = 287	Below Average N = 98
TOTAL	100.0	100.0	100.0	100.0
In Upper Third	31.8	81.5	27.9	2.0
In Middle Third	34.5	17.5	46.7	13.3
In Lower Third	33.7	1.2	25.4	84.7

$$\begin{aligned} X^2 &= 218.96 \\ \text{d.f.}, & 4 \\ p &< .01 \end{aligned}$$

The above table, which examines the relationship between the position of the stutterer in his class during the last examination and the teachers' unsophisticated assessment of pupils' intelligence, it is hoped would provide some picture of the stutterers' intelligence. It was found to be statistically significant that teachers underrated, by their rough estimate, the intellectual ability of the stutterers when compared to an apparently more

objective assessment of intelligence (i.e. by the last examination position in class). Table 6 reveals that 31.8% of the subjects were placed into the upper third of the class roll by the total marks obtained in the last examination whereas class teachers only placed 17.4% of the children in the above average category of intelligence. It is debatable whether class teachers viewed stutterers as being of a lower intellectual capacity, than they really were, because of their stuttering. The class position of the stutterer, arrived at by the total marks obtained by the child in one examination may not be a true reflection of his intellectual ability. The class teacher may also be viewing the stutterer beyond the scope of a specific set of stimuli as presented by the intelligence of children of a particular standard in more than just one class and school. The experience of the teacher with children of similar age and standard may be guiding his decision. To be able to say that because the child stutters he is being viewed disadvantageously, in the light of his intellectual capability, it would be essential to know what criteria the teacher is using to make his judgement. Furthermore, a matched group of stutterers and non-stutterers should be measured for intelligence using objective tests and a comparison by the teachers' assessment against these tests may provide a more meaningful answer.

A greater volume of research will have to be done on the relationship between stuttering and intelligence, in

the future, because of the varied reports presented by different writers who have considered this relationship. A more definite relationship appears to exist between stuttering and E.S.N. children where the incidence of the disorder is consistently reported to be high.

V. THE OBSERVABLE PATTERNS OF STUTTERING PRESENTED BY THE SUBJECTS.

The published works on stuttering report that simple repetitions of syllables and words are known to characterize the early stages of stuttering to a greater extent than they do in the more advanced forms of the disorder. Prolongations and hard blockings are considered to be an outgrowth of simple repetitions, when examined developmentally. Although prolongations and struggle behaviour were found to appear very early in childhood, at the onset of stuttering, it is generally agreed that this pattern of stuttering is not characteristic of early stuttering. (See Chapter 2, D).

The appearance of extraneous bodily movements or non-lingual associates to the speech symptom are believed to be characteristic of the most severe observable form of stuttering. These extraneous bodily movements are reported to occur as a result of attempts made to prevent the break in fluency of speech or as an effort to extricate oneself from a 'block'. The term used by Van Riper¹ for these movements are 'interrupter devices' or 'starters' of speech.

1. Van Riper, Charles, "Speech Correction", pp.342-343.

The devices may be found by the stutterer to serve a useful purpose when he first uses them, but they are known to lose their significance after repeated use, and only act as superfluous additions to the already strained and distorted picture that the 'older' stutterer normally presents of himself. These extraneous bodily movements become habitual aspects of stuttering and function largely on occasions of great communicative stress and emotional imbalance.

The present study has examined:

- A. TEACHERS' DESCRIPTION OF THE STUTTERERS' SPEECH
- and B. EXTRANEOUS BODILY MOVEMENT

A. TEACHERS' DESCRIPTION OF THE STUTTERERS' SPEECH

The information given by teachers about the stutterers' manner of speaking was coded by the writer into 1) simple repetitions and 2) prolongations and hard blockings.

Table 7 shows some of the terms used by teachers to describe what they observed. These were roughly coded by the writer.

The information on symptomatology, as it was coded by the writer, must be considered as a rough estimate of an analysis of what was reported through the type of vocabulary used by the teachers.

TABLE 7

TERMS USED BY TEACHERS TO DESCRIBE WHAT THEY
OBSERVED IN THE SPEECH OF STUTTERERS AND THE
CATEGORIES INTO WHICH THEY WERE PLACED BY THE WRITER

Simple Repetitions	Prolongations and Hard Blockings
Speech is interrupted	Words uttered with force or strain
Jerky speech	He drags his sounds
Repeats first syllables	Stutters on first sound with gasps of air
Non-fluent	Jaws lock and do not close quickly in speaking
Repeats words	Sudden explosive sounds

Table 8 gives the number and percentage of simple repetitions and prolongations and hard blockings as presented by the subjects.

It is hoped that future research may find it possible to use trained observers to make assessments of the speech patterns of Indian primary school stutterers. The results from such a method of investigation may then be compared to the present study to see if any difference in the overall pattern presented by the group may be found. (See Appendix 11).

TABLE 8

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO TEACHERS' DESCRIPTION OF THE STUTTERER

Teachers' Description of Stutter	Number	Percentage
No. information	27	5.05
Simple repetitions	200	37.38
Prolongations and hard blockings	308	57.57
Totals	535	100.00

Significant differences were noted between the type of symptom displayed by the subjects and the home language that they spoke. In the case of Gujarati speakers the number (18), being less than 30, may be considered a small sample from which any conclusions can be drawn. It was found that those stutterers who spoke Gujarati at home differed significantly from the sample by having a higher percentage of simple repetitions than prolongations and hard blockings. On the other hand, for Hindi-speaking subjects quite the opposite was clearly noticeable - Hindi (73.40%) hard blockings and prolongations and (26.60%) simple repetitions. The writer finds it difficult to account for such a difference and hopes that this aspect will be investigated in the future to provide an answer.

B. EXTRANEOUS BODILY MOVEMENTS

Andrews and Harris state that the most advanced symptom present is sufficient to enable the observer to estimate the severity of stuttering as preceding symptoms may be present to a greater or lesser extent. (See Chapter 2, D). Some estimate may be attempted of the severity of stuttering by examining the observable phenomena only. By finding out the number of stutterers who have extraneous bodily movements accompanying their speech we are attempting to estimate the total number of severe 'exteriorized' stutterers. The following table indicates that approximately one-third of the subjects displayed a severe form of 'exteriorized' stuttering whilst the other two-thirds had less severe forms.

TABLE 9

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO EXTRANEOUS BODILY MOVEMENTS DURING SPEECH

Extraneous Bodily Movements	Number	Percentage
No information	8	1.50
None	346	64.67
One or more	181	33.83
Totals	535	100.00

Those subjects who displayed extraneous movement characteristics in stuttering may be divisible into three categories, namely, a general bodily movement without undue force or strain and bodily movements of the 'struggling' or 'forced' kind. Semantic differences appeared to influence the writer's coding of the data as given by teachers. Words like 'shivering', 'twitching' and 'unsteady' were coded into the general unforced bodily movement category whilst such phrases as, strains the muscles in his neck, clasps hands, moves his head to the right, stamps his foot, struggles to speak, etc., were coded as struggle reactions with force or strain.

These struggle reactions or 'starters' probably suggest that the expectancy of stuttering may have precipitated them. The pattern of struggle reactions against no struggle reactions as found in the subjects does not appear to be confined to any particular age group although children between the ages of 11 - 14 years seem to show more struggle behaviour. (See Appendix 12).

At the 5 per cent level, males and females show significant differences in terms of the severity of struggle behaviour. (See Table 10).

From Table 10 it is apparent that more male stutterers have severe struggle reactions accompanying their speech than those who do not. On the other hand, more

females display 'no extraneous bodily movements' than those who do. From this finding the writer would like to suggest that females tend to display the severe 'exteriorized' type of stuttering to a lesser extent than do males.

TABLE 10

PERCENTAGE DISTRIBUTION OF 527 STUTTERERS ACCORDING TO SEX BY EXTRANEOUS BODILY MOVEMENTS ACCOMPANYING SPEECH

Sex	Total N = 527	Extraneous Bodily Movements Accompanying Speech			
		None N = 346	Forced (one) N = 74	Forced (more than one) N = 49	Unforced N = 58
Total	100.00	100.00	100.00	100.00	100.00
Male	86.90	83.52	91.89	93.87	94.82
Female	13.10	16.48	8.11	6.13	5.18

$$\chi^2 = 10.84$$

d.f., 3,

$$p < .05$$

A possible reason for this difference between the sexes may be the stronger emotional pressures and physical deficits that the male is supposed to face and also the differences in reaction of the female to pressures of any kind. (See Chapter 2).

When the subjects are distributed according to the extraneous bodily movement category against class or standard it may be found that in the earlier classes there are fewer subjects with struggle reactions. In the standards the numbers in this group tend to grow whilst a sharp fall in numbers is noticed in standard six. (See Appendix 13).

This finding, by its similarity, is comparable with the bulk of experimental research that report a growth of bodily movement factors with the development of stuttering. The decline in number of subjects with such movement characteristics in standard six may present the dividing line for a reduction in non-lingual associates of stuttered speech. The frequency of the occurrence of stuttering may have helped towards a reduction of the fear of stuttering which might have reduced the amount of expectation of stuttering which in turn may have reduced the effort involved in attempting to communicate effeciently.

VI. HOME LANGUAGE OF THE SUBJECTS

Six different home languages were given for the stutterers who spoke any one of the following:

- 1) Tamil
- 2) Hindi
- 3) Telegu
- 4) English
- 5) Urdu
- 6) Gujerati

The extent to which these languages actually influenced the stutterers was not investigated. It may be expected, however, that the influence of the language is felt to some extent. Due to acculturation English is fast becoming a first language and also a home language rather than a replacement language.

Words for stuttering are to be recorded in the vocabulary of the vernacular languages of the subjects and may be found in the following table.

TABLE 11

VERNACULAR LANGUAGE OF SUBJECTS AND THE TERMS IN
THE VOCABULARY FOR STUTTERING SPEECH

Home Language	Terms for Stuttering
Tamil	Tikkip-pesu
Hindi	Haklana
Urdu	Tatlana, Pesh we Pesh Karna
Telegu	Natti-mata
Gujerati	Thothdu Bolvu

The number and percentage distribution of the subjects according to their home language is given in the following table.

TABLE 12

NUMBER AND PERCENTAGE DISTRIBUTION
OF STUTTERERS ACCORDING TO HOME LANGUAGE

Home Language	Number	Percentage
No information	1	0.19
Tamil	226	42.24
Hindi	100	18.69
Telegu	41	7.66
English	101	18.88
Urdu	46	8.60
Gujerati	20	3.74
Other	0	0.00
Totals	535	100.00

Table 12 may prove an interesting comparison with Table 13. (Page 167).

In venturing to make a comparison between a population census study (Table 13) and the present assessment of a stuttering population (Table 12) certain interesting facts emerge upon consideration of home language as a factor for such a comparison. Among other facts, it appears that

Tamil-speaking Indians have a higher proportion of stutterers than any other group.

TABLE 13

HOME LANGUAGES OF INDIANS IN THE
DURBAN METROPOLITAN AREA - 1960 CENSUS

Home Language	Number	Percentage
English	35,523	14.97
Tamil	82,791	34.89
Hindi	60,682	25.57
Telegu	22,615	9.53
Gujerati	13,568	5.72
Urdu	21,160	8.91
Other	947	.41
Totals	237,286	100.00

When distributed according to Home Language by Sex, stutterers may be seen at a sex ratio of 2.3:1 males to female for Gujerati speakers to 9.1:1 for English speakers. Males are always found to have a higher incidence of the disorder (See Appendix 14).

χ^2 fits between home language of the subjects and extraneous bodily movements were made and a one per cent level of significance was found.

TABLE 14

PERCENTAGE DISTRIBUTION OF 526 STUTTERERS ACCORDING
TO HOME LANGUAGE BY EXTRANEIOUS BODILY MOVEMENT

Extraneous Bodily Movements	Total N = 526	HOME LANGUAGE					
		Tamil N = 220	Hindi N = 100	Telegu N = 41	English N = 100	Urdu N = 45	Gujerati N = 20
	100.00	100.00	100.00	100.00	100.00	100.00	100.00
None	65.59	69.09	66.00	68.29	66.00	53.33	45.00
Forced (one)	14.07	11.82	12.00	19.51	12.00	22.22	30.00
Forced (one +)	9.31	7.73	8.00	4.88	12.00	17.78	10.00
Unforced	11.03	11.36	14.00	7.32	10.00	6.67	15.00

$$\chi^2 = 38.91$$

d.f., 15

p < .01

From Table 14 it is evident that Urdu and Gujarati speakers differ significantly from the rest of the sample of stutterers. They appear to have fewer stutterers who show no signs of extraneous bodily movements which means that a greater proportion of Gujarati and Urdu-speaking stutterers experience the most severe type of observable pattern of struggle reactions. The writer would, from this finding, suggest that Urdu speakers have a greater proportion of 'exteriorized' stutterers among Indians. Naturally, no conclusion may be drawn for Gujarati speakers because of the small number of the sample.

In the summary on the home language factor it may be said that: 1) differences in sex-ratio appear to be quite different in respect of Gujarati and English speakers; 2) the incidence of stuttering among Tamil and Hindi speakers differed from the proportion of these people in the population at large; 3) terms for stuttering were found in the vocabulary of all home-language groups; 4) Urdu speakers displayed a proportionately higher percentage than the rest of the sample of the more severe type of observable speech pattern i.e. forced struggle reactions in the form of extraneous bodily movements.

VII. LANGUAGES BEING LEARNED BY THE SUBJECTS AT SCHOOL

In addition to a vernacular language the subjects appear to be expected to speak at least one other language. This leads to the belief that some of the subjects were bilingual and others multilingual. Afrikaans and/or English, the two official languages of the country, were taught in the schools attended by the subjects. English was in all cases the medium of instruction. Afrikaans as another language was introduced into Indian primary schools just under a decade ago. At the time that the survey was conducted Afrikaans had been included in the Indian primary school curricula for about four years.

The effect of learning two or more languages, before a fair degree of mastery is achieved in the usage of the first language, is detrimental to the linguistic ability of the child. (See Chapter 2, I). It might be expected, then, that because Indian school children come under varying linguistic influences they would suffer linguistic disability to a greater extent than children who learn only one language.

The finding on languages learnt at school might prove of some interest to research workers of the future. The distribution of the subjects according to this criterion may be found in Table 15.

TABLE 15

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS ACCORDING TO THE LANGUAGES THEY ARE BEING TAUGHT AT SCHOOL

Languages Taught At School	Number	Percentage
English	218	40.75
Both English and Afrikaans	317	59.25
Totals	535	100.00

Almost 60 per cent of the subjects learn both English and Afrikaans at school whilst about 40 per cent learn only English. Bilingualism has not been explored extensively in relation to stuttering and no definite relationship exists between the two in view of the evidence at hand. It is the responsibility of research workers of the future to arrive at a more definite relationship between stuttering and bilingualism and multilingualism.

VIII. THE RELIGIOUS AFFILIATION OF SUBJECTS

The religious affiliation of the subjects was estimated by examining the names of the subjects and the languages that they spoke at home. The writer found no difficulty in separating Indians into their religious groups, Hindu, Moslem, or Christian, by using the criteria mentioned. This method of assessing religious affiliation is by no means infallible but is acceptable. The religious affiliation

of the subjects do not always coincide with the home language. This is especially true of Urdu and Gujerati-speaking subjects. Due to conversion, some Moslems speak Gujerati at home. In these cases the name of the subject helps to classify them into their religious affiliation category. First names gave a good indication as to whether the subject was a Hindu or a Moslem. If he is Gujerati-speaking and has a first name of e.g. 'Mohammed' he may safely be considered a Moslem because of the frequency of the use of such a first name among Moslems. This name is after prophet 'Mohammed', a Moslem. Other first names of Moslems are Ebrahim, Suleman, Cassim, etc. and are not usually used by Gujerati-speaking Hindus. First names like Mansukhlall, Purshotham, Hemant, Himathlall, etc. are typically used by Gujerati-speaking Hindus. Surnames usually gave an indication of religious affiliation but there did appear a duplication of surnames among (Gujerati-speaking) Moslems and (Gujerati-speaking) Hindus, e.g. Patel, Desai, etc.; in such cases the first names acted as a guide to categorization. The writer's knowledge and experience with names used among Indians enabled him to make a classification of the subjects, into their respective religious affiliation categories, he thinks, with sufficient accuracy.

Tamil-speaking and Telegu-speaking subjects were placed into the Hindu religious group and were found to have typical surnames as Pillay, Moodley, Reddy, Naidoo, Applesamy, Shunmugam, Ganesan, etc.

Hindi-speaking Hindus were found to have such typical names as Singh, Maharaj, Dookie, Bhundoo, etc. Gujarati-speaking Hindus had typical surnames as Hargovan, Jeena, Soni, etc.

Where English was given as home language the first names and surnames guided categorization. Christians bore such surnames as Christopher, Joseph, Emmanuel, Christian, etc., names given upon baptism or conversion from any of the other religious groups mentioned.

The following table gives the approximate distribution of the subjects according to religious affiliation.

TABLE 16

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO RELIGIOUS AFFILIATION

Religious Affiliation	Number	Percentage
Hindu	425	79.44
Moslem	60	11.21
Christian	50	9.35
Totals	535	100.00

IX. THE CLASSROOM TEACHERS' KNOWLEDGE ABOUT THE STUTTERING PROBLEM AND SOME ASSESSMENT OF HIS ABILITY TO COPE WITH IT.

Several factors will be taken into consideration in an attempt to ascertain some objective perspective of the knowledge that teachers possess about stuttering and the steps that they take to help the stutterer to overcome his handicap. An attempt will also be made to assess the effect of the classroom teachers' knowledge of and reaction to the stutterers' speech. Attention will be given to whether the teachers' alleviate or aggravate the stutterers' handicap in the verbal communicative situation.

The following factors on which data was collected through the questionnaire will be discussed:

- A. TEACHERS' KNOWLEDGE OF ANY ATTEMPTS MADE TO IMPROVE THE STUTTERERS' SPEECH.
- B. SUGGESTIONS MADE BY TEACHERS TO HELP THE STUTTERER WITH HIS SPEECH PROBLEM.
- C. THE INCLUSION IN OR EXCLUSION FROM CLASS READING.
- D. CLASS SIZE IN WHICH STUTTERS APPEAR.
- E. THE NUMBER OF OTHER STUTTERERS IN THE SAME CLASS.
- F. THE SUBJECTS ACCORDING TO WHETHER THEY WERE ASKED QUESTIONS IN CLASS OR NOT.
- G. THE CO-OPERATION OF THE SUBJECTS WITH CLASSROOM TEACHERS.

A. TEACHERS' KNOWLEDGE OF ANY ATTEMPTS MADE TO
IMPROVE THE STUTTERERS' SPEECH.

The way the teacher views the stutterer and governs his attitude towards him may vary from situation to situation and from teacher to teacher. There are several possible ways in which the child's speech impediment may be viewed and one or more of the following considerations may be operative at any given time:

1). The attention of the teacher may be called to the stutter because of its obvious peculiarity.

2). He may be interested to know why the child is stuttering.

3). He may be interested to know of the measures that have been or are being taken to improve the stutterer's speech.

4). He may be afraid to discuss the problem with the child because of his lack of knowledge about the problem.

5). He may show indifference toward the stutterer as he probably does toward all handicapped children because of the pressure of work in the classroom and generally in the school.

The writer ventures to think that those teachers who have knowledge of any attempts to improve the stutterers'

speech are probably the teachers who have a healthy interest in the child in spite of his limitations. Teachers who were found to possess no knowledge of the attempts made to improve the stutterers' speech are considered to lack interest in the children's problems. This neglect may lead to a widening of the 'distance' between teachers and stutterers. The teachers who show no interest in and little understanding of the stutterers' problem only assist in aggravating or perpetuating the stuttering behaviour.

The following table gives the type of response given by the teachers.

TABLE 17

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS ACCORDING TO TEACHERS' KNOWLEDGE OF ANY ATTEMPTS MADE TO IMPROVE THE STUTTERERS' SPEECH

Teachers Knowledge of Attempts to Improve Speech	Number	Percentage
Teacher has knowledge	71	13.27
Teacher has no knowledge	464	86.73
Totals	535	100.00

From Table 17 it is evident that a greater proportion of teachers had no knowledge of any attempts that might

have been made to improve the stutterers' speech. This finding probably suggests that a greater proportion of teachers have little or no interest in getting to know the difficulties of the stutterer in spoken communication yet they probably demand that he participate in oral work.

The 13.27 per cent of the teachers who knew about attempts that were made to help the stutterer with his speech problem reported a) what they had suggested themselves and b) what measures they knew the parents were taking. Most of the children were reported, by these teachers, to have either consulted a doctor or that they were being treated by a speech therapist at a local clinic, The Meyrick Bennett Child Guidance Clinic. Teachers made certain attempts which they reported. Some attempts by the teachers were:

a) getting the stutterer to read in a group
and b) encouraging him to speak in class as much as possible. Other attempts made by teachers were:

1) 'I make him read everytime in class'
and 2) 'He was asked to take a deep breath before reading or speaking'.

Some of the attempts made by the teachers may be considered detrimental to the stutterers speech whilst others may be considered beneficial. Attending a speech clinic was a report of a positive attempt but it was ascertained by the writer that approximately 75 cases of stuttering received attention, at the Meyrick Bennett Child Guidance

Clinic, in a twelve year period between 1953-1965.¹

B. SUGGESTIONS MADE BY TEACHERS TO HELP THE STUTTERER
WITH HIS SPEECH PROBLEM.

Suggestions of various kinds - 'take a deep breath', 'think of what you are going to say before you talk', etc., are normally well intentioned and occasionally help the stutterer. However, it is not 'what' is told to the stutterer that is important but 'how' he interprets the message. 'Speak slowly' as a constructive bit of advice might accomplish its goal with some stutterers and cause more harm with others.

Frank J. Falck² says:

It is easy to see that there are many variables which will influence the child's reaction to well-intentioned advice, regardless of the exact content of such advice. The importance to him of what he is saying when he is interrupted is significant. Also significant is whether he even happened to be aware of the non-fluencies which precipitated the comment. The tone of voice used, the look that accompanies the statement, and what his feelings happen to be about that person at the time are all important. Adults can vacillate in their feelings toward children at a moment's notice and there is no reason to believe that children do not do the same.

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1. This estimate was arrived at on examination of the records of the clinic by the writer.
 2. Falck, Frank, J., 'Stuttering : Learned and Unlearned', Publisher, Charles C. Thomas, Illinois, U.S.A., 1969, p.27.

Children may welcome advice if they are well disposed to a teacher when he is giving the advice or they may reject it if they are feeling otherwise towards him. Teachers may, when annoyed with the child, probably not deliver advice wisely to him. It may be assumed, then, that the most well-intentioned advice may have adverse effects. If the child interprets the request to e.g. 'speak slowly' as scolding he may further develop a conflict between the drive to speak and the fear of speaking. 'Speak slowly' may seem to be as much a reprimand as is the commonly issued order 'don't talk so loudly'.¹

Teasing by other children or suggestions from a well-meaning teacher may simply have the effect of increasing the stutterer's attempt to speak normally. Misguided attempts to accomplish this may complicate matters and contribute towards the perpetuation of stuttering. The stutterer develops more negative feelings about his speech which may cause him to attempt an escape from speaking situations rather than give his teacher a poor impression of himself by speaking improperly.

The writer coded suggestions given by teachers into two groups 1) into those which were allegedly detrimental and 2) those which were possibly beneficial. The possibility that some advice could achieve its goal was accredited to

1. Falck, Frank J., 'Stuttering : Learned and Unlearned', p.27.

teachers as a positive suggestion. Some of the so-called positive suggestions made by teachers were:

- 1) 'Encouraged to speak at his own pace'.
- 2) 'Encouraged reading and playing with groups of children'.
- 3) 'Speech training lessons'.
- 4) 'Asked him to read out aloud and speak to his friends'.
- 5) 'Breathing exercises'.
- 6) 'Attend a speech clinic'.

Information that was coded as a negative suggestion, by the teacher, was considered to be as such because the writer sensed a suggestion of scolding demand in such reports as:

- 1) 'Speak deliberately'.
- 2) 'Exercise jaws and tongue'.
- 3) 'Breath in deeply before you speak or read'.
- 4) 'Have asked him to read in class more than other children'.

The placement of information into positive and negative categories may be considered arbitrary so that no definite conclusions may be drawn from them and the results obtained in this study may therefore be considered as rather tentative.

TABLE 18

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS ACCORDING
TO THE TYPE OF SUGGESTIONS MADE BY THE TEACHERS TO HELP THE
STUTTERERS WITH THEIR SPEECH PROBLEM

Teachers' Suggestions	Number	Percentage
No information	4	0.75
Positive	183	34.21
Negative	68	12.70
None	280	52.34
Totals	535	100.00

Table 18 shows that in 52.34 per cent of the cases no suggestion was made to bring about a speech improvement. From Table 19 it may be learned that 87.01 per cent of the teachers had no knowledge of what was being done about the stutterers' speech problem. It may be estimated, then, in over 50 per cent of the cases teachers appeared to indicate either complete indifference towards the stutterer or an inability to cope with his problems. This conclusion may be supported by the high correlation between 1) no knowledge by teachers of attempts to improve the stutterers' speech and 2) those teachers who made no suggestions (none) to the stutterers' for speech improvement. Since over half the teachers seem to make no effort to promote an understanding of the communicative difficulties encountered by stutterers

or attempted to assist him, even, in any way they thought fit, leads the writer to think that stutterers are ever suspicious and afraid of the attitude of such teachers. This feeling expressed by the stutterers only increases tension which impedes effective communication.

TABLE 19

PERCENTAGE DISTRIBUTION OF 511 STUTTERERS ACCORDING TO TEACHERS' KNOWLEDGE OF ANY ATTEMPTS AT IMPROVEMENT OF CHILD'S SPEECH BY SUGGESTIONS OF TEACHER HIMSELF FOR ANY IMPROVEMENTS

Teachers' Knowledge Of Any Attempts At Improvement Of Pupils' Speech	Total N = 531	Teachers' Suggestions For Speech Improvement		
		Yes (Positive) N = 183	Yes (Negative) N = 68	None N = 280
TOTAL	100.00	100.00	100.00	100.00
Yes	12.99	18.03	19.11	8.22
No	87.01	81.97	80.89	91.78

$$2 = 11.29$$

d.f., 2,

$$p < .01$$

C. THE INCLUSION IN OR EXCLUSION FROM CLASS READING.TABLE 20

PERCENTAGE DISTRIBUTION OF 529 STUTTERERS ACCORDING TO
INCLUSION/EXCLUSION IN CLASS READING LESSONS BY SEX

Sex	Total N = 529	Inclusion In/Exclusion From Class Reading	
		Included N = 475	Excluded N = 54
Total	100.00	100.00	100.00
Male	86.80	85.70	96.30
Female	13.20	14.30	3.70

$$\chi^2 = 3.85$$

d.f., 1,

$$p < .05$$

TABLE 21

PERCENTAGE DISTRIBUTION OF 526 STUTTERERS ACCORDING TO
INCLUSION/EXCLUSION DURING READING SESSIONS BY WHETHER
THE TEACHERS ASKS THEM QUESTIONS IN CLASS OR NOT.

The Inclusion or Exclusion of the Stutterer from Reading in Class	Total N = 526	Does the Teacher ask the Stutterer Questions in Class?	
		Yes : N = 515	No : N = 11
Total	100.00	100.00	100.00
Includes	89.73	91.26	18.18
Excludes	10.27	8.74	80.82

$$\chi^2 = 54.70$$

d.f., 1,

$$p < .01$$

Table 20 gives evidence to the effect that of the females a proportionally higher number were included by teachers in class reading than found in the proportional relationship among males. The reason for such a finding will need to be investigated more thoroughly in the future but the writer thinks that it is possibly because of the generally less severe pattern of stuttering that females tend to present, observably, which colours the teachers' attitude. (Refer to Table 10).

Table 21 reveals a high correlation between those stutterers who are included in class reading and those stutterers who are asked questions in class. In view of the high proportion of stutterers falling into these categories, it may be assumed that some compulsion is exerted on the stutterer to make an adequate response rather than the stutterer volunteering to read or answer questions in class. This argument may find support in the apparent lack of discourse between teachers and stutterers about the speech disorder which hardly enables one to think that stutterers are asked to volunteer reading when they feel disposed to speak, in their more fluent moments, or on their 'better days'.

D. THE CLASS SIZE IN WHICH STUTTERERS WERE FOUND.

In Table 22 it may be seen that stutterers appear to be found, in greater numbers, in larger classes, between

35 - 39 and 40 - 44. It is possible that stuttering may be perpetuated because of the larger classes in which they appear. In such classes teachers would have less time than in smaller classes to give any individual attention to the stutterer's difficulty.

TABLE 22

NUMBER AND PERCENTAGE DISTRIBUTION OF
STUTTERERS ACCORDING TO CLASS SIZE

Class Size	Number	Percentage
No information	12	2.24
Less than 25	25	4.67
25 - 29	37	6.92
30 - 34	96	17.94
35 - 39	180	33.64
40 - 44	143	26.73
45 - 49	41	7.67
50 - 54	1	0.19
Totals	535	100.00

E. THE NUMBER OF OTHER STUTTERERS IN THE SAME CLASS

From Table 23 it may be learned that about 60 per cent of the subjects had at least 1 - 3 other stutters in their classes. About 5 per cent of the subjects had 4 - 5

other stutterers in their classes. From this survey, then, it may be learned that teachers had, in just over 65 per cent of the cases, from 1 - 5 stutterers in their classes with which they were expected to cope.

TABLE 23

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS ACCORDING TO NUMBER OF OTHER STUTTERERS IN THE SAME CLASS

Number of Other Stutterers in Class	Number	Percentage
No information	4	0.75
None	169	31.59
One	175	32.71
Two	103	19.25
Three	56	10.47
Four	16	2.99
Five +	12	2.24
Totals	535	100.00

F. THE SUBJECTS ACCORDING TO WHETHER THE TEACHERS ASKED THEM QUESTION IN CLASS OR NOT.

The following table (24) places stutterers, overwhelmingly, in the category where teachers asked them questions in class (see IX (c) of this chapter) for discussion.

TABLE 24

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO WHETHER THEY ARE ASKED QUESTIONS IN
CLASS BY THE TEACHER

Do the Teacher Ask Stutterers Questions in Class?	Number	Percentage
No information	4	0.75
Yes	520	97.20
No	11	2.05
Totals	535	100.00

G. THE CO-OPERATION OF THE SUBJECTS WITH THE
CLASSROOM TEACHER.

TABLE 25

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO WHETHER THE STUTTERER IS CO-OPERATIVE
IN CLASS OR NOT

Is the Stutterer Co-operative?	Number	Percentage
No information	7	1.31
Yes	506	94.58
No	22	4.11
Totals	535	100.00

Table 25 shows that 94.58 per cent of the subjects were co-operative. This overwhelming co-operativeness on the part of stutterers needs to be examined more thoroughly. What the teacher probably means by co-operation may be the performance of tasks by the stutterer without speaking. When one has to consider that stutterers generally withdraw from group activity and speaking situations this overwhelming co-operativeness reported needs further investigation in the future.

X. PHYSICAL DEFECTS AND STUTTERING

The most frequent types of defects reported by the teachers were: eye, ear, throat, tongue, limbs and teeth. The distribution of the subjects according to physical defects may be found in the following table.

TABLE 26

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO PHYSICAL DEFECTS

Physical Defects	Number	Percentage
No information	2	0.37
Yes	134	25.05
No	399	74.58
Totals	535	100.00

About 25 per cent of the subjects were reported to have physical defects. From the type of physical defects reported, the writer, taking into account that stuttering is not normally caused by a defect of the speech musculature and that certain struggle reactions accompany speech, ventures to suggest that most of the severe struggle reactions displayed by subjects might have been misconstrued for physical defects, e.g. defect of limbs, tongue, etc. (See also Appendix 15).

XI. OCCUPATION OF PARENT (FATHER)

The number of subjects is reduced for measurement on the occupation of parent (father) category because of the large number of no information given. (See Chapter 4).

The information about occupation of parent (father) indicated in Table 27 was utilized to arrive at an arbitrary division of class occupational grouping. Occupations numbered 1, 2 and 3 in Table 27 was put into an upper-class numbers 4, 5 and 6, a middle-class and numbers 7, 8 and 9 a lower-class. Although this may not be a very satisfactory method of classification it may, at least, be learned that more stutterers are clustered into a certain occupational class which might be considered the lower group. (See Table 28).

TABLE 27

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO OCCUPATION OF PARENT (FATHER)

Occupation of Parent(Father)	Number	Percentage
No information	193	36.07
1. Professional, Technical and related worker	23	4.30
2. Administrative, Executive and Managerial worker	0	0.00
3. Clerical worker	17	3.18
4. Sales worker	35	6.54
5. Farmer, Fisherman, Lumberman and related worker	4	0.75
6. Worker in Transport and Communication	29	5.42
7. Craftsman, Production worker and Labourer	98	18.32
8. Service, Sports and Recreation worker	78	14.58
9. Deceased, unemployed or in receipt of a Grant in aid	58	10.84
Totals	535	100.00

TABLE 28

NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO CLASS OCCUPATION GROUPING OF PARENT
(FATHER)

Class Occupational Grouping	Number	Percentage
No information	193	36.07
Upper class	23	4.30
Middle class	55	10.28
Lower class	264	49.35
Totals	535	100.00

When the present finding is compared with the occupational distribution of Indians in Durban it may be found that more Indians fall into the lower occupational group, i.e. numbers 7, 8 and 9 of Appendix 16. 4.30 per cent of the subjects were found among the Professional, Technical and related worker group. High aspirations may be found in this professional group but the writer does not envisage the lower class group of this study as necessarily representing a 'social upward mobility' tendency but thinks, rather, that the frustrations of poor wages and high costs of living promote tensions which manifest themselves in behavioural problems, one of which is stuttering.

SUMMARY

The findings in the survey on Indian primary school children in Durban were reported and discussed.

1. An incidence of 2.13 per cent was indicated in Durban from a population of 25,112 primary school children investigated. This figure of 2.13 per cent was rated as quite high when compared to the studies of incidence of stuttering in Europe and America (the average incidence reported being just below 1 per cent).
2. The age of the subjects varied from 6 - 19 years. The average age of the sample was calculated to be 12.4 years.
3. The sex-ratio was found to be 6.64:1 males to female. A comparison was made with several studies throughout the world and the sex-ratio for this was considered to have a proportionally greater number of males than was usually found. Similar reasons for the sex difference in other cultures was given for this study.
4. Subjects were found to be concentrated between standards II - V with a sharp decline in numbers in standard VI. Stutterers represented a group, who were roughly estimated to be scholastically retarded by 7.8 months per class or standard, with a higher scholastic retardation in the early classes decreasing in the higher standards, IV - VI. Stutterers in other studies were also found to show scholastic retardation and were compared with the finding in this study. An estimate of the intelligence of stutterers was attempted through class examination position and teachers' assessment of intelligence. Most of the stutterers fell in the average or below average category as assessed by teachers but were evenly distributed, on the class examination results, into upper, middle and lower third of the class.
5. The observable patterns of stuttering presented by the subjects were divided into three levels of severity, viz. simple repetitions, prolongations and hard blocking and extraneous bodily movements.

According to home language, Hindi-speaking subjects displayed the highest proportion of prolongations and hard blockings whilst Gujerati speakers had the most simple repetitions. The lower grades had fewer struggle reactions in the form of extraneous bodily movements. About one-third of the subjects showed the most severe form of observable stuttering in extraneous bodily movements with relatively fewer struggle symptoms than males.

6. The home languages spoken by the subjects were as follows: Tamil, Hindi, Telegu, English, Urdu, and Gujerati. In all the vernacular languages, words to describe stuttering were to be found in their vocabulary. The distribution of stutterers closely resembled the total population when home language was considered. Sex-ratios fluctuated from 2.3:1 - 9.1:1 for Gujerati speakers and English speakers, respectively. However, it was always found that males predominated in the stuttering populations. Urdu speakers were found to have relatively more extraneous bodily movements than the other home-language groups.
7. Subjects were influenced by more than just one language. Bilingualism and in more cases multilingualism appeared to predominate among the stutterers. In schools where both official languages were learned i.e. English and Afrikaans approximately 60 per cent of the subjects were stutterers.
8. An explanation of the method used by the writer to categorise subjects into one of three religious groups (Hindi, Moslem and Christian) was discussed. According to religious affiliation stutterers were distributed viz. Hindu 79.44 per cent, Moslem 11.21 per cent and Christian 9.35 per cent.
9. The classroom teachers' attitude to stutterers was assessed according to the knowledge he might have had of the stuttering condition and the measures he took to help stutterers. Various factors from (a) - (g) were considered. It was found that a very small percentage of teachers made any attempt to help the stutterer with his speech problem or knew of attempts to help him. The writer discussed possible reasons

for these findings. It was also pointed out that the teachers who appeared to lack interest in the stutterers problem had in about 60 per cent of the cases encountered from 1 - 5 other stutterers in their classes.

10. Physical defects as reported by teachers were discussed in relation to the subjects and the stuttering condition generally.
11. The occupation of the fathers of subjects was analysed and it was found that more stutterers appeared to come from homes of low occupational class.

CHAPTER 6CONCLUSION

This study has been primarily aimed at assessing the incidence of stuttering among Indian primary school children in Durban. This was ascertained through a questionnaire study and was found to be 2.13 per cent. The total school population from which these children were referred was 25,112. This incidence rate can be thought of as one which varies significantly when the average incidence figures are taken for studies in European countries.

The sex-ratio was found to be 6.64:1, males to female, which is considerably higher than the average sex-ratio of 4 males to 1 female reported from various parts of the world. However, this finding is not so startling when we consider the fact that in some studies with college students in the United States the sex-ratio of 7:1 was found. This study, at least, confirms the universally recognized fact that stuttering is a malady more common among males.

Since stuttering was found to exist among Indian school children information was obtained on certain aspects which relate to stuttering. It was found that according to the native language of the subjects significant differences were found.

In all primary school grades from class 1 to standard VI stuttering was indicated whilst there was a concentration of stutterers in standards III, IV and V. The average age for the stuttering population was 12.4 years. The distribution of stutterers in the various grades appears to be similar to some of the findings in the United States of America as cited in Chapter 2. Similarity was also noted with regard to scholastic retardation of the stutterers which was roughly established as being approximately 7.80 months, on an average, in this study.

Stuttering may not be considered a malady of recent origin among Indians living in Durban or among their ancestors in India whose cultural heritage stems from one of the oldest civilisations known to man. In all the Indian languages spoken in Durban there were words in their vocabulary to describe stuttering. Furthermore, an average of 1 per cent incidence of stuttering in India has been reported by Andrews and Harris in their book 'Syndrome of Stuttering'. The incidence of 2.13 per cent is twice that found in India and the reasons for this difference may require further investigation. Different methods of investigation from that used by the present study should be used to establish the relevance of this finding and before any conclusions are arrived at. It must be realised that 2.13% is not the highest figure of incidence of stuttering reported in any cultural setting. In West Africa, among the Ibo people, an incidence of 2.67% stuttering was

reported in a school population and the reason given for the occurrence of this high incidence there was that the people were highly critical of speech and prized good speech. This may also be true to a certain extent among the Indian population studied who show signs of a competitive culture where their social obligations and conscience are foremost in their minds.

Further research workers in the field of stuttering will need to select a comparable group of non-stutterers to distinguish between stutterers and so called normal speaking populations to make the results obtained more meaningful. However, it may be of interest to note that differences in native linguistic background of the subjects apparently indicated differences in relation to some aspects of stuttering behaviour.

In the sample studied it was found that among those who spoke Gujarati at home 2.3 males to 1 female stuttered whilst the greater disparity in sex-ratio was found among those who spoke English in their homes, the difference between boys and girls was 9.1 : 1.

Where two languages were learnt at school by the subjects the incidence of stuttering was found to be higher than in the case of a single language. Further research may prove bilingualism and multilingualism to be significant considerations in the cause of stuttering.

The type of observable stuttering behaviour (repetitions, prolongations and hard blockings, and extraneous bodily movements) were also found to show significant differences. More prolongations and hard blockings were found among Hindi speakers whilst a relatively greater proportion of Urdu speakers had extraneous bodily movements.

From this study it was learned that although many teachers appeared to have little or no knowledge of the stuttering problem yet they seemed to demand from the stutterers a participation in oral expression in class. At the same time they made no attempt to provide either a relaxed speech atmosphere for the stutterers by talking to them about their stuttering or to understand their problem. In fact, teachers reported in more cases that they did not do anything about the problem. This was interpreted by the writer as possibly contributing towards increasing the psychological distance between the teacher and stutterer, thereby increasing the fear of speaking in the child, and leading towards an aggravation rather than an alleviation of the disorder.

The writer believes that the Department of Indian Education should consider the employment of speech therapists as a basic need in education in order to help speech handicapped school children. The professional guidance that

these children could receive would not only help them to conquer their speaking problems but at the same time would create a more responsive pupil in all learning situations.

As this work is of a preliminary nature it is not possible to say in any definite terms that cultural factors are responsible for stuttering. Furthermore, constitutional factors will have to be considered and eliminated as causative factor before such a conclusion can be made. However, it is hoped that, in spite of the limitations presented in this study, the data presented and conclusions made may provide a stimulus to future researchers on stuttering who need to carry out a more extensive and thorough investigation before meaningful answers are found to what appears significant in this exploratory work.

A P P E N D I C E S

APPENDIX I

THE GEOGRAPHICAL DISTRIBUTION OF EACH SCHOOL, ITS ROLE, THE NUMBER OF MALE AND FEMALE STUTTERERS ARE GIVEN. THE TOTAL NUMBER OF CHILDREN INVESTIGATED AND THE TOTAL NUMBER OF STUTTERERS ARE ALSO INDICATED.

NAME OF SCHOOL	AREA	SCHOOL ROLE	NO. OF STUTTERERS		TOTAL
			MALE	FEMALE	
Ahmedia S.A.I.S.	Mayville	1,155	11	1	12
Andra Vishnu Trust S.A.I.S.	Springfield	149	3	-	3
Anjuman Islam S.A.I.S.	Durban Central	664	5	-	5
Avoca S.A.I.S.	Avoca	359	10	1	11
A.Y.S. S.A.I.S.	Mayville	573	4	2	6
Bayview Hindu S.A.S.	Chatsworth	612	16	6	22
Briardene S.A.I.S.	Umgeni	160	2	-	2
Candella Samalan S.A.I.S.	Mayville	598	12	-	12
Chatsworth S.A.I.S.	Chatsworth	340	8	2	10

NAME OF SCHOOL	AREA	SCHOOL ROLE	NO. OF STUTTERERS		TOTAL
			MALE	FEMALE	
Chatsworth 21a S.I.S.	Chatsworth	763	13	2	15
Clairwood S.I.S.	Clairwood	590	25	-	25
Dartnell Crescent S.I.S. (Girls)	Durban Central	395	-	7	7
Depot Rd., S.I.S.	Durban Central	190	11	-	11
Durban South State Primary	Clairwood	590	24	-	24
Essendene Road, S.A.I.S.	Mayville	574	2	2	4
F.O.S.A. S.A.I.S.	Newlands	350	5	-	5
Greenwood Park S.A.I.S.	Greenwood Park	577	16	3	19
Hillside S.A.I.S.	Chatsworth	657	16	2	18
Hillview S.A.I.S.	Hillview	264	3	-	3
Hindu Institute S.A.I.S.	Mayville	390	8	8	16
Hindu Sungtan S.A.I.S.	Mayville	325	6	-	6
Hindu Tamil S.A.I.S.	Durban Central	359	32	-	32

NAME OF SCHOOL	AREA	SCHOOL ROLE	NO. OF STUTTERERS		TOTAL
			MALE	FEMALE	
Jacobs Rd., S.A.I.S.	Clairwood	168	8	-	8
Junagarth Rd., S.I.S.	Merebank	754	23	1	24
Kathiawad Hindu S.A. Girls School	Durban Central	386	-	2	2
Manilal Valjee S.A.I.S.	Durban Central	508	6	-	6
Mayville S.I.S.	Mayville	1,002	16	-	16
Merebank S.A.I.S.	Merebank	633	10	3	13
Merebank/Wentworth	Merebank	514	22	4	26
M.E.S. S.A.I.S.	Mayville	450	4	2	6
Mobeni S.A.I.S.	Clairwood	688	2	-	2
Nagari Pracharni S.A.I.S.	Springfield	375	6	-	6
Orient Islamic S.A.I.S.	Durban Central	751	13	2	15
Overport S.R.S. S.A.I.S.	Overport	924	8	4	12

NAME OF SCHOOL	AREA	SCHOOL ROLE	NO. OF STUTTERERS		TOTAL
			MALE	FEMALE	
P.P. Chetty Family S.A.I.S.	Clare Estate	301	1	-	1
Puntans Hill S.A.I.S.	Puntan's Hill	320	4	-	4
Reservoir Hills S.A.I.S.	Reservoir Hills	265	7	1	8
S.M. Jhavary S.A.I.S.	Clare Estate	758	11	1	12
Spearman Rd., S.A.I.S.	Sydenham	300	7	2	9
Springfield Hindu S.I.S.	Springfield	638	13	4	17
St. Aidan's Boys' School	Overport	611	19	-	19
St. Aidan's (Girls') School	Overport	934	-	3	3
St. Theresa's S.A.I.S.	Mayville	375	3	1	4
Truro State Indian School	Chatsworth	714	7	2	9
Valley S.A.I.S.	Wentworth	336	6	-	6
Welbedacht S.A.I.S.	Chatsworth	587	12	-	12
Wentworth S.A.I.S.	Wentworth	1,186	25	2	27
TOTALS		25,112	465	70	535

203.

Abbreviations: S.A.I.S. = State Aided Indian School S.I.S. = State Indian School

APPENDIX 2

GEOGRAPHICAL DISTRIBUTION OF TOTAL NUMBER OF
PRIMARY SCHOOLS IN DURBAN ACCORDING TO THE
STATISTICAL SUPPLEMENT TO THE MONTHLY NOTICE
TO SCHOOLS OF THE EDUCATION DEPARTMENT, NATAL,
AUGUST, 1965.

Area	No. of Schools	Total School Population
Avoca	2	661
Cavendish	2	1,013
Chatsworth	11	6,849
Clairwood	8	3,407
Clare Estate	4	1.301
Durban Central	16	7,141
Durban North	2	707
Greenwood Park	1	593
Hillary	1	105
Mayville	12	4,795
Merebank	8	4,676
Newlands	2	697
Overport	3	1,555
Reservoir Hills	1	275
Sea Cow Lake	3	1,029
Sea View	1	464
Shall Cross	1	287
Springfield	6	2,589
Sydenham	4	1,418
Umgeni	3	948
Wentworth	2	858
TOTALS	93	41,368

APPENDIX 3

THE NUMERICAL DISTRIBUTION OF SCHOOLS PER AREA,
THE NUMBER OF CHILDREN INVESTIGATED AND
THE INCIDENCE OF STUTTERING FOUND.

AREA	No. of Schools	No. of Children Investigated	Stutterers		
			Male	Female	Total
Avoca	1	359	10	1	11
Chatsworth	5	3,673	72	14	86
Clairwood	4	2,036	59	-	59
Clare Estate	2	1,059	12	1	13
Durban Central	7	3,253	67	11	78
Greenwood Park	1	577	16	3	19
Mayville	9	5,442	66	16	82
Merebank	3	1,901	55	8	63
Newlands	1	350	5	-	5
Overport	3	2,469	27	7	34
Reservoir Hills	2	529	10	1	11
Springfield	4	1,482	26	4	30
Sydenham	1	300	7	2	9
Umgeni	1	160	2	-	2
Wentworth	2	1,522	31	2	33
TOTALS	47	25,112	465	70	535

APPENDIX 4

SURVEY OF STAMMERING IN INDIAN SCHOOLS

This Questionnaire must be completed in one sitting. Date: _____

PLEASE PRINT CLEARLY

1. NAME OF SCHOOL
2. ADDRESS
3. SCHOOL ENROLMENT
4. NAME OF STUDENT YOU SUSPECT OF STAMMERING
5. HOME ADDRESS OF STUDENT
6. SEX OF STUDENT 7. STANDARD
8. DIVISION (a.b. etc.) 9. NUMBER IN DIVISION
10. POSITION IN DIVISION OF THIS STUDENT DURING LAST EXAMINATION
11. NUMBER OF OTHER STUDENTS IN CLASS THAT YOU SUSPECT OF STAMMERING ..
12. HOW WOULD YOU DESCRIBE THE ABOVE MENTIONED STUDENT'S STAMMER
(e.g. He drags his sounds)
13. HOW DID YOU DIAGNOSE THIS STUDENT'S SPEECH DIFFICULTY
14. DO YOU INCLUDE OR EXCLUDE THIS STUDENT FROM READING IN CLASS
15. DO YOU ASK THE STUDENT QUESTIONS IN CLASS. YES / NO
16. UNDERLINE THE HOME LANGUAGE OF THIS STUDENT. Hindi Tamil,
Gujerati, Urdu, Telegu, English, Afrikaans, or any other.
17. UNDERLINE THE LANGUAGES WHICH THE STUDENT IS BEING TAUGHT AT
SCHOOL. English, Afrikaans, Latin, French, German, Hindi,
Tamil, Gujerati, Urdu, Telegu, any other.
18. DO YOU THINK THIS STUDENT IS OF AVERAGE / ABOVE AVERAGE / BELOW
AVERAGE INTELLIGENCE. (Underline the Applicable answer)
19. DO YOU KNOW OF ANY ATTEMPTS THAT HAVE BEEN MADE TO IMPROVE THE
SPEECH OF THIS STUDENT. YES / NO. IF 'YES' PLEASE STATE
DETAILS
20. HAVE YOU MADE ANY SUGGESTIONS WHICH YOU THOUGHT WOULD BE OF USE TO
THIS STUDENT. IF SO WHAT WERE THESE, IF NONE PLEASE STATE NONE.
.....
21. DOES THIS STUDENT SUFFER FROM ANY DEFECT OF EAR, NOSE, THROAT, EYE,
LIMBS, LIPS, TONGUE, TEETH, PALATE, etc. (Underline those
applicable).
22. HAVE YOU FOUND THIS STUDENT TO BE CO-OPERATIVE. YES / NO
23. HAVE YOU NOTICED ANYTHING STRANGE ABOUT THE BODILY MOVEMENTS OF
THIS STUDENT DURING SPEECH. YES / NO. IF 'YES' PLEASE STATE
WHAT YOU HAVE OBSERVED

APPENDIX 5

University College,
Private Bag 4001,
DURBAN.

The Principal:

Dear Sir or Madam,

With the permission of the Department of Indian Education in Natal, I am conducting a survey on the problem of stammering among pupils at Indian schools in Durban and environs.

Enclosed are copies of a Questionnaire which should be completed by the class teacher of students who stammer. Each class teacher should decide how many students in his class stammer, and should fill in one Questionnaire per stammerer. If more copies of the Questionnaire are required, please contact me as soon as possible, and I will forward some to you immediately.

At schools where there are two sessions daily, the survey should be made of the morning sessions only. All completed and unused Questionnaires should be returned to me by post to the above address, not later than the 20th November, 1966.

The outcome of the survey should be of great value to Indian Education in this Province, and to the Community as a whole, but the success of this survey will not be assured without the kind co-operation of the Principal and Staff of the schools.

Thanking you in anticipation, I am,

Yours faithfully,

ROY JITHOO.

APPENDIX 6NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO AGE

AGE	NUMBER	PERCENTAGE
No information	40	7.48
8 yrs. and under	38	7.10
9 yrs.	20	3.74
10 yrs.	38	7.10
11 yrs.	64	11.96
12 yrs.	84	15.70
13 yrs.	86	16.07
14 yrs.	82	15.33
15 yrs.	40	7.48
16 yrs. and over	43	8.04
TOTALS	535	100.00

Average Age = 12.4 years.

APPENDIX 7NUMERICAL DISTRIBUTION OF 495 STUTTERERSACCORDING TO AGE BY SEX

SEX	AGE IN YEARS									TOTALS
	8 and under	9	10	11	12	13	14	15	16+	
Male	32	17	30	56	73	75	72	38	40	433
Female	6	3	8	8	11	11	10	2	3	62
TOTALS	38	20	38	64	84	86	82	40	43	495

Average Age of Males = 12.5 years

Average Age of Females = 11.9 years

Average Age of all = 12.4 years

$$\bar{X} = \frac{N_1X_1 + N_2X_2 + \dots + N_9X_9}{N_1 + N_2 + \dots + N_9}$$

X = Age in years

N = No. of people in age group.

APPENDIX 8NUMERICAL DISTRIBUTION OF MALE AND FEMALE
STUTTERERS ACCORDING TO CLASS OR STANDARD

<u>CLASS OR STANDARD</u>	<u>BOYS</u>	<u>GIRLS</u>	<u>TOTAL</u>
No information	1	0	1
Class i	18	1	19
Class ii	19	5	24
Std. I	40	5	45
Std. II	64	17	81
Std. III	101	12	113
Std. IV	85	14	99
Std. V	89	13	102
Std. VI	48	3	51
TOTALS	465	70	535

APPENDIX 9NUMBER AND PERCENTAGE DISTRIBUTION OF STUTTERERS
ACCORDING TO CLASS OR STANDARD

<u>CLASS OR STANDARD</u>	<u>NUMBER</u>	<u>PERCENTAGE</u>
No information	1	0.19
Class i	19	3.55
Class ii	24	4.49
Std. I	45	8.41
Std. II	81	15.14
Std. III	113	21.12
Std. IV	99	18.50
Std. V	102	19.07
Std. VI	51	9.53
TOTALS	535	100.00

APPENDIX 10A

AVERAGE AGE PER CLASS OR STANDARD OF INDIAN PRIMARY
SCHOOL CHILDREN IN THE PROVINCE OF NATAL FOR 1967-8.
(INFORMATION OBTAINED FROM THE DEPARTMENT OF INDIAN
AFFAIRS, DIVISION OF EDUCATION)

<u>CLASS OR STANDARD</u>	<u>AVERAGE AGE IN YEARS</u>
Class i	6.70
Class ii	7.97
Std. I	9.20
Std. II	10.46
Std. III	11.72
Std. IV	12.80
Std. V	13.75
Std. VI	14.79

APPENDIX 10B

AVERAGE AGE OF 494 STUTTERERS ACCORDING TO
CLASS OR STANDARD AS FOUND IN THE PRESENT STUDY

<u>CLASS OR STANDARD</u>	<u>AVERAGE AGE IN YEARS</u>
Class i	8.05
Class ii	8.73
Std. I	10.21
Std. II	11.43
Std. III	12.38
Std. IV	12.91
Std. V	13.99
Std. VI	14.98

APPENDIX 11

PERCENTAGE DISTRIBUTION OF 507 STUTTERERS ACCORDING
TO HOME LANGUAGE BY TEACHERS' DESCRIPTION OF PUPILS' STUTTER

TEACHERS' DESCRIPTION OF PUPILS' STAMMER	TOTAL N = 507	HOME LANGUAGE					
		Tamil N = 214	Hindi N = 94	Telegu N = 39	English N = 100	Urdu N = 42	Gujerati N = 18
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Simple Repetitions	39.25	40.65	26.60	46.15	42.00	38.10	61.11
Prolongations and Hard Blocking	60.75	59.35	73.40	53.85	58.00	61.90	38.89

$$\chi^2 = 11.64$$

$$d.f., \quad 5$$

$$p < .05$$

APPENDIX 12NUMERICAL DISTRIBUTION OF 488 STUTTERERS FOR AGEAGAINST EXTRANEOUS BODILY MOVEMENTS

<u>Age in Years</u>	<u>No External Bodily Movements</u>	<u>With External Bodily Movements</u>	<u>Totals</u>
8 yrs. and under	23	15	38
9 yrs.	13	7	20
10 yrs.	21	16	37
11 yrs.	41	22	63
12 yrs.	58	25	83
13 yrs.	56	28	84
14 yrs.	54	27	81
15 yrs.	24	16	40
16+ +	32	10	42
TOTALS	322	166	488

APPENDIX 13

NUMERICAL DISTRIBUTION OF 526 STUTTERERS ACCORDING TO
EXTRANEOUS BODILY MOVEMENTS BY CLASS OR STANDARD

EXTRANEOUS BODILY MOVEMENTS	CLASS OR STANDARD								TOTALS
	Class i	Class ii	Std. I	Std. II	Std. III	Std. IV	Std. V	Std. VI	
None	11	15	24	50	78	64	70	34	346
One or more	8	7	21	30	33	33	32	16	180
TOTALS	19	22	45	80	111	97	102	50	526

APPENDIX 14THE NUMERICAL DISTRIBUTION OF STUTTERERS ACCORDING
TO HOME LANGUAGE BY SEX

Sex	HOME LANGUAGE						Totals
	Tamil	Hindi	Telegu	English	Urdu	Gujerati	
Male	202	86	32	91	39	14	464
Female	24	14	9	10	7	7	70
TOTALS	226	100	41	101	46	20	534

APPENDIX 15PERCENTAGE DISTRIBUTION OF 525 STUTTERERS ACCORDING TO
PHYSICAL DEFECTS BY EXTRANEOUS BODILY MOVEMENTS

Physical Defects	Total N = 525	Extraneous Bodily Movements Accompanying Speech			
		None N = 344	Forced (one) N = 74	Forced (more than one) N = 49	Unforced N = 58
Total	100.00	100.00	100.00	100.00	100.00
Yes	25.14	19.94	35.13	36.73	32.75
No	74.86	80.06	64.87	63.27	67.25

$$x^2 = 13.34$$

$$\text{d.f., } 3,$$

$$p < .01$$

APPENDIX 16OCCUPATIONAL DISTRIBUTION OF INDIANS IN THE
DURBAN METROPOLITAN AREA - 1960 CENSUS

OCCUPATIONAL GROUPS	NUMBER	WORKING	TOTAL
		POPULATION	POPULATION
		%	%
Professional, Technical and related Worker	2,662	4.27	1.12
Administrative, Execu- tive and Managerial Worker	903	1.44	.38
Clerical Worker	4,389	7.11	1.85
Sales Worker			
i. Working Proprietor	1,608	2.58	.68
ii. Other	4,730	7.59	2.00
Farmer, Fisherman, Lumberman and related Worker	2,670	4.28	1.12
Worker in Transport and Communication	4,152	6.66	1.75
Craftsmand, Production Worker and Labourer			
i. Labourer	6,504	10.44	2.74
ii. Other	15,864	25.47	6.68
Service, Sports and Recreation Worker	8,420	13.51	3.55
Unemployed and Unspecified	10,371	16.65	4.37
Total Economically Active	62,280	100.00	26.24
Total not Economic- ally Active	175,064	-	73.76
TOTAL	237,344	100.00	100.00

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