A QUESTIONNAIRE SURVEY OF THE TERMINOLOGY AND SYMPTOMATOLOGY CURRENTLY EMPLOYED IN THE DESCRIPTION OF THE CLINICAL ENTITY -- "CONGENITAL APHASIA"

by

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I. INTRODUCTION

Definition of Aphasia

Aphasia has gained the attention of speech pathologists in recent years, particularly aphasia as it occurs in children. The recognition that little advancement has been accomplished in the area of aphasia had begun primarily since the advent of World War II and the studies in adult aphasia therapeutics conducted since that time. Although there have been some meaningful accomplishments in the general area of symbolic dysfunctions, many discrepancies still exist.

> In reviewing the present we find that the subject of aphasia in children is receiving more attention than has ever been true before. Until the last five to ten years, it was popular to scoff at the idea that there was such a condition as aphasia in children. Those who considered that there was such a condition were in the minority.[1]

In addition to the problem of treating a child's inability to comprehend and/or to produce language, there is the problem of what terms to use in describing aphasia in children. A child's inability to comprehend and/or reproduce language may be attributed to three causes: mental retardation, hearing loss, or emotional disturbances. These disorders may or may not involve some degree of brain damage. When diagnostic procedures have eliminated these three causes, and shows a positive sign

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[1]Frank R. Kleffner, "The Aphasic Child," Report of the Proceedings of the Thirty-Eight Meeting of the Convention of American Instructors of the Deaf," Washington: United States Government Printing Office, 1958, p. 49.

of neurological damage, we are still faced with a lack of speech and a question of the appropriate treatment procedures: "The use of "congenital aphasia" as a labeling designation may prove to be a barrier to effective diagnosis, because once the individual has been labeled the diagnostic process terminates."[2] This is not to say that without a label we are unable to proceed in an orderly fashion in the treatment of such disorders, but merely to imply that there is a need for agreement on terminology employed in the description of this problem.

The lack of or loss of symbolic language function does not imply a loss of intelligence. The individual, adult or child, represents the inability to communicate on the symbolic level. The definitions of terminology signifying the loss of symbolic function in adults are:[3]

a. Aphasia - loss of symbolic formulation and expression due to brain damage.
b. Apraxia - loss of the ability to execute simple voluntary acts: especially loss of the ability to perform elementary units of action in the expression of language.
c. Alexia - complete inability to read characterized by an associative learning disability.
d. Agraphia - inability to express thoughts in writing due to a lesion in the central nervous system.
e. Agnosia - loss of the function of recognition of individual sensory stimuli; varieties correspond with the several senses.

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[2]L. M. DiCarlo, The Concept of Congenital Aphasia from the Standpoint of Dynamic Differential Diagnosis: A Symposium, Thirty-Fourth Annual Convention American Speech and Hearing Association, November 17, 1958, New York, N. Y., ed. S. R. Brown, Washington, D. C., American Speech and Hearing Association, 1959, p. 30.

[3]L. Travis, (ed.) Handbook of Speech Pathology, New York, Appleton-Century Crofts, 1957, p. 4ff.

Aphasia implies the loss of language on all levels; inner, receptive and expressive, but the loss of language on all levels of usage is rare. Myklebust[4] has stated that

> The functional classification of language can be viewed simply in these terms: inner language is that language which the individual uses autistically, receptive language is that language that he uses for the purposes of comprehending others, and expressive language is that language which he uses in making himself understood to others.

There are degrees of aphasia. Expressive aphasia is a disorder in the ability of the individual to express himself or function on the symbolic level.[5] Receptive aphasia type is the incapacity to understand the speech of others although the individual is able to hear speech.[6] Mixed receptive and expressive aphasia indicates that there is a lesion that causes both receptive and expressive aphasia and simultaneously a lesion that would cause impairment of the capacity to communicate with oneself.[7] Mixed aphasia would present a marked disturbance of language, and also disturbance in general behavior. It should be emphasized that none of these categories are "either/or" categories, but that there are degrees and varieties of each type of disorder.

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[4] H. Myklebust, Handbook of Speech Pathology, L. Travis (ed.) New York, Appleton-Century Crofts, Inc., 1957.

[5] H. Myklebust, Auditory Disorders in Children, A Manual of Differential Diagnosis, New York, Grune and Stratton, 1954, pp. 143-181.

[6] Ibid.

[7] Ibid.

Etiology of Aphasia

There are a number of causative factors in the background of children with an aphasic-like condition which may be either exogeneous and endogeneous in nature. These factors could include:[8]

A. Imperfection of development--cell development interfered with by poor blood supply in the uterus, by radiation of the mother, virus infections or blood diseases, Rh factor, hydrocephalus development and anoxia.

B. Accidents during birth--placenta tears loose, short cord, operative measures and other delivery and labor complications.

C. Dangers immediately after birth--head injury in rapid birth, frailty, difficulty with spontaneous delivery, and cerebral hemmorhage.

Rubella and encephalopathic diseases such as meningitis and encephalitis should also be considered. The expressive aphasic frequently does not have a history of disease or trauma; whereas, the receptive aphasic more frequently than not is found to have a history and other evidence of actual trauma.[9]

Anatomy and Physiology of Aphasia

From the anatomical point of view the question of localization of areas of the brain that can be directly related to specific language disturbances has not been settled.[10] In the late 1800's, Broca[11] and

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[8]J. M. Neilson, "Disturbances of Language," Education, (1959) 79:404-407.

[9]Myklebust, Handbook of Speech Pathology, op. cit., p. 522.

[10]Travis, op. cit., pp. 456-458.

[11]Ibid.

Wernicke[12] had identified areas of the cerebral cortex that they claimed to be largely responsible for the production and reception of spoken language, (Figure 1).[13] Paul Broca postulated that the third left frontal convolution was involved in speech.[14] This theory was previously advanced by the phrenologist Franz Gall, and his pupil Spurzheim. Jean Charcot produced ten or twelve cases confirming Broca's theory, but this proof was later disputed by Pierre Marie, who only found nineteen of 108 cases confirming Broca's theory.[15] Marie declared that there was only one true aphasia and that it was in the region of Wernicke's zone. Carl Wernicke had described and located the first temporal convolution as the area of the sensory aphasia syndrome.[16]

The explanation of brain functioning has become a dichotomized process. Investigators in this area may be divided into those who adhere to cortical localization of function such as the writers discussed in the preceding paragraph, and field theorists or non-localizationists. Prominent among the forerunners of the field theorists were Henry Head and Hughlings Jackson. In 1926, Henry Head theorized that aphasia was a disorder of

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[12] Ibid.

[13] W. Penfield and L. Roberts, Speech and Brain Mechanisms, Princeton, J.J.: Princeton University Press, 1959, p. 80.

[14] Ernest Gardner, Fundamentals of Neurology, Philadelphia, W. B. Saunders Co., 1952, pp. 309-328.

[15] G. M. Klingbeil, "Historical Background of the Modern Speech Clinic, Part Two: Aphasia," Journal of Speech Disorders, (1939), 4:267-284.

[16] Penfield and Roberts, op. cit., p. 16.

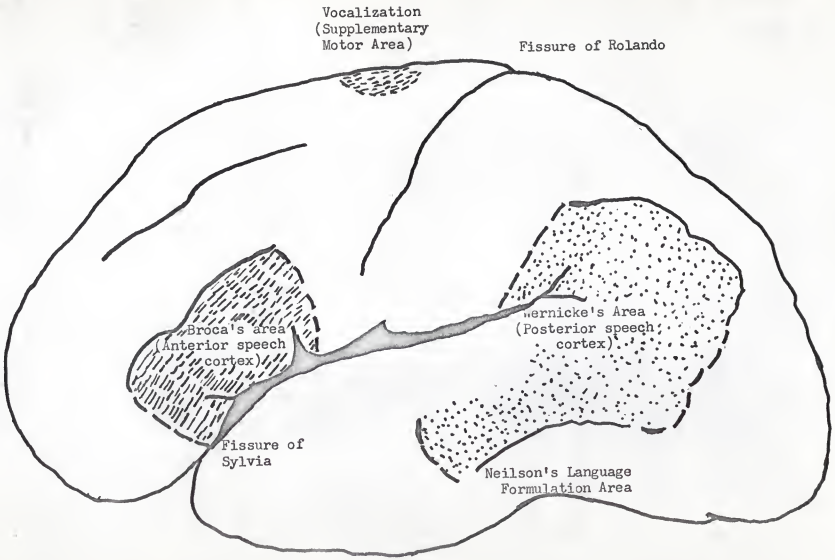

FIGURE 1

LEFT CEREBRAL HEMISPHERE SHOWING SPEECH AREAS

symbolic thinking and expression.[17] Head's publication aided in the recognition of the problem. Hughlings Jackson localized the loss of expression to the region near the corpus striatum. Expression was defined as the individuals ability to propositionalize; i.e., relate single words and make them meaningful.[18] "This definition left the brain the simple, though still most important, task of being the 'instrument' in speech, but denied it any 'claim' to serve as a center for language."[19]

Generally, it is held that speech resides on the left side of the brain for right-handed people and speech disturbances "almost always" occur when the left side is damaged.[20] "Almost always" casts some doubt on the concept of localization. A functional center of the cortex cannot be absolutely "localized".[21] "Available evidence indicates that the amount of tissue removed may be more critical than its location in terms of the observed deficit."[22] Damage has not been proven to be restricted to any specific area, particularly Broca's, due mainly to the lack of histologic anatomy and other factors.

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[17] Ibid.

[18] W. Peise. "Hughlings Jackson's Doctrine of Aphasia and its Significance Today," Journal of Nervous and Mental Disorders, (1955), 122:1-13.

[19] Ibid.

[20] Oscar Sugar, "Congenital Aphasia: An Anatomical and Physiological Approach," Journal of Speech and Hearing Disorders, (1952), 17:301-304.

[21] Penfield and Roberts, op. cit., p. 81.

[22] I. Rapin, "The Concept of Congenital Aphasia from the Standpoint of Differential Diagnosis, op. cit., p. 22.

"Aphasic arrest" has been produced by electrical stimulation to Broca's area and other similar areas of the brain as reported by Penfield and Roberts.[23] The vocalizations elicited by electrical stimulation of certain areas of the cortex may give an idea of the functions of this part of the brain but the movements are nevertheless, artificial. Vocalizations elicited as a response in the organisms interactions with his environment involves more than one area of functioning. We need an entrance and an exit for sensory data (as indicated by the studies using electrical stimulation), but what occurs between entrance and exit can not be as definitely localized. As Strauss and Kephart[24] have stated: "...the activity of any neurone would then be a function of its general integration with other neurones at a given moment."

The localization discrepancy is even more pointed when applied to children. According to Sugar,[25] some children have been born with natal and others with post-natal damage to the right hemisphere and speak well. In addition, Neilsen stated that both halves of the brain must be damaged for aphasia to develop in children under the age of five.[26]

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[23] Penfield and Roberts, op. cit., p. 83.

[24] A. A. Strauss and N. C. Kephart, Psychopathology and Education of the Brain Injured Child. N. Y. Grune & Stratton Co., 1955, p. 204.

[25] Sugar, op. cit., p. 301.

[26] J. M. Neilson, "Disturbances of Language," Education, (1959) 79:404-407.

Language Formation- an Essential in Diagnosis

The term "congenital aphasia" came into use in the latter part of the 19th century, reflecting the then current views on localization.[27]

As Kleffner[28] has pointed out some writers seem to favor the term "congenital aphasia"; however, a good many of them apparently favor it unwillingly or for lack of something better.

The question of onset of the disorder and its resulting characteristics appear to generate the greatest controversy. The Central Institute for the Deaf classifies an aphasic child as one who has failed to develop language in the presence of adequate hearing, mentality, and emotional integrity but presents sufficient indication of neurological signs of central nervous system pathology.[29] Wood has suggested that:

> ...the increased awareness on the part of the examiner of these symptoms -- (that is, the failure of speech development, failure of auditory comprehension and additional clues to central nervous system involvement) -- the actual diagnosis of aphasia must be delayed until the child reaches the chronological age when we expect him, maturationally, to be using verbal symbols and making judgments.[30]

For the normal child, the sequence in the acquisition of speech sounds and language is assumed to follow the Fr. Schultze's law of minimal

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[27]A. L. Benton, "Aphasia in Children," Education, (1959), 79:408-412.

[28]Kleffner, op. cit., p. 49.

[29]F. B. Kleffner, "Teaching Aphasic Children," Education, (1959) 79:413-418.

[30]Nancy Wood, "Language Development and Language Disorders: A Compendium of Lectures," Monographs of the Society for Research in Child Development, (1960), Serial No. 77, 25:361.

expenditure of energy: "...that sound is acquired earlier which needs less effort to be produced."[31] A number of factors determine whether the production of a sound or word is more or less difficult to execute:[32] concrete-abstract, attitude-environment, voluntary-automatic, physiological-psychological. New sounds are developed in two ways:[33] syntagmatic or by adding two sounds together, and paradigmatic or the substitution of one sound for another. For the normal child as well as the aphasic, the above factors play an important role in the development of speech. Every child has a unique pattern of growth which is the key to his individuality.[34] This pattern is controlled in part by the environment which surrounds him.

The normal development of speech depends upon the anatomic and functional integrity of all the physiological and neurological aspects of maturation, and also on a stimulating and rewarding environment.[35] Language, like motor skills, takes form through expression in infancy. The infant's initial manipulations are untaught, and their retention is guided by experience. The sequential readiness of the body's neuro-muscular

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[31] Kurt Goldstein, Language and Language Disturbances, New York, Grune and Stratton, 1948, pp. 34-45.

[32] Ibid.

[33] Ibid.

[34] Arnold Gesell, Infant Development, New York, Harper Bros., 1952.

[35] Myklebust, Handbook of Speech Pathology, op. cit., pp. 506-507.

system governs the initiation of these activities.[36] The child must be physiologically ready to initiate a task. The child must have experienced the automatic actions necessary for the task before voluntary movements can be initiated. In addition, he must have experienced some forms of concrete activity before he is ready for abstract activity. Psychologically, his attitude toward a particular task must be one that will not hinder his performance. The responses of his environment toward his ability to perform tasks in the past as well as their attitude toward the initiation of a new task must be favorable. However, no task can be successfully performed unless he is physiologically and psychologically ready for it. For this reason, one cannot assume the existence of aphasia before the development of speech readiness and appropriate stimulation has been experienced by the child.

Before we can be concerned with what terminology is more appropriate to the condition, we must be aware of the terminology currently employed in this area. It is therefore, the purpose of this paper to explore the use of the term "congenital aphasia" and similar terminology currently employed in the description of children with a lack of symbolic language function. There is a need to identify the characteristics of this entity and the terminology employed in describing them. This exploration will

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[36] Wm. Cruickshank and G. Raus, Cerebral Palsy, Its Individual and Community Problems, Syracuse University Press, 1955, p. 381-ff.

[37] I. W. Karlin, "Aphasias in Children," AMA American Journal of Diseases in Children, (1954), 87:752-767.

also include a questionnaire survey of speech pathologists and psychologists currently engaged in the area of language disorders. There will be an evaluation, on the basis of the data obtained from the questionnaire results of the preferred nomenclature and symptoms related to it.

CHAPTER II

REVIEW OF LITERATURE

Why is it necessary to be concerned with the terminology employed in the description of a disorder? This is answered somewhat by the nature of language itself. Language is symbolic, it is variant and changes from culture to culture. This implies that as our knowledge increases, we must have a better understanding of what we are implying when we use certain terms. If this implication has changed then the terminology used to denote the concept must also be altered.

> The continued use of the old term also carries with it the excess baggage of the associations and expectations which that word has acquired historically; the vagueness would still be an implicit characteristic of the redefined concept. It is the very purpose of these refinements to reduce associations and overtones of meaning which have accrued to a term in the course of its linguistic and pragmatic history....The language of science differs in a large degree from the language of art and poetry in that it must have terms which carry no overtones; it will perforce be unfaithful to any vivid natural experience of reality.[1]

The same may be said of "congenital aphasia". On the one hand, acquired aphasia is characterized by the loss of symbolic expression or reception after its acquisition, due to some damage to the brain caused by disease or accident. On the other hand, "congenital aphasia" may involve a child with a failure in the development of language function

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[1] G. Mandler and W. Kessen, The Language of Psychology, New York, John Wiley and Sons, 1962, pp. 19-20.

without any known history or known neurological signs of brain injury or disease.[2]

Terminology Other Than "Congenital Aphasia"

Since the term "congenital aphasia" came into use in the late nineteenth century, there have been other terms that were designed to be more definitive than "congenital aphasia". Some of these terms were descriptive of speech defects and gave no hint of the presence of a receptive deficit. Among these were atavistic speech (Hun, Hull, and Crane), articulation defects (Hadden), and idioglossia (White and Golding-Bird).[3] "Idioglossia" was also defended by Hadden as well as White and Golding-Bird, on the grounds that it appeared that the patient was speaking in a language all his own.[4]

Worster-Drought and Allen proposed the term "congenital auditory imperception".[5] Their defense was that this term was most descriptive of the fundamental defect of the condition, or the lack of speech. According to Worster-Drought and Allen:[6]

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[2]I. W. Karlin, Aphasias in Children, AMA American Journal of Diseases in Children, 1954:87.

[3]Worster-Drought, and I. M. Allen, "Auditory Imperception (Congenital Word Deafness) and its Relation to Idioglossia and Other Speech Defects," Journal of Neurology and Psychopathology, (1936), 10:193-236.

[4]I. M. Allen, "Speech Defects Apparently Congenital in Origin," British Journal of Childhood Diseases, (1932), 29:98-116.

[5]Worster-Drought and Allen, op. cit., p. 197.

[6]Ibid.

> Certain aspects of the condition suggest that considerably more than a defective appreciation of the words is present, and on this account, Hughlings Jackson and Head were probably right in recognizing the defect as upon a lower level than aphasia.

However, there has been no evidence to support the latter half of this statement. Worster-Drought and Allen proposed the term "congenital auditory imperception" on the grounds that "congenital word deafness" was justifiable only so long as it is remembered that something more than auditory appreciation of words is defective, that the defect in perception may extend to include cruder sounds, and that the term is used in a special sense in some cases.[7] For these reasons, they felt that it was senseless to use a term descriptive of only one aspect of the defect such as "congenital word deafness" when there is a more fundamental aspect.

Karlin[8] says that "congenital word deafness" is characterized by a delay in speech, normal mentality, social inadequacy ranging from withdrawal to a tendency toward shyness, no history of physical or neurological damage, no history of illness or injury, and normal hearing abilities. He points out that there may also be a delay in the development of handedness and that emotional factors may accentuate the behavior but are not primary characteristics of the condition.[9] Karlin[10] stated

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[7] Ibid.

[8] Karlin, Aphasias in Children, op. cit., p. 762.

[9] Wm. Peacher, Neurological Factors in the Etiology of Delayed Speech, Journal of Speech and Hearing Disorders, 1949: 14. p. 154.

[10] Karlin, op. cit., p. 766.

that "congenital word deafness" is synonymous with "congenital" or "infantile" aphasia, "psychic deafness", "central deafness", "congenital verbal imperception" and "congenital verbal auditory imperception".

Other terminologies were also more descriptive of the auditory deficits. Psychic deafness in children indicates a condition in which deafness is not due to any pathological condition of the hearing mechanisms. Froeschels[11] feels that the term "central deafness" is more adequate to describe this condition than "psychic deafness".

Ewing[12] describes a condition of high frequency deafness with a progressive loss of hearing above 250 cycles-per-second, but investigations have not confirmed this theory. She feels that the basis of this disorder may be due to delayed myelinzation of the auditory fibers or a defect in the cochlea or auditory pathways. Articulatory disorders comparable to the dyslalias were observed.

In describing aphasias in children, Kastein[13] favors the term "dysacusis" in order to stress differences between failure to develop language in young children compared to acquired dysfunctions of language after it has once been established. Dysacusis is synonymous with "congenital auditory imperception", "word deafness", "auditory agnosia" or any hearing impairment that cannot be measured in decibels.

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[11] Froeschels

[12] Peacher, op. cit., p. 153.

[13] S. Kastein, "Analysis of Language Development in Children with Special Reference to Dysacusis," Asha, (1962), 4:71-74.

"Audimutitas" is defined by Karlin and Kennedy[14] as that disorder in children with normal intelligence and hearing but no speech, that may be organic, psychological, or environmental in origin.

Recently, it has been proposed that children who show classic symptoms and characteristics found in those cases which have been previously labeled reading retardation, dyslexia, specific educational disability, strephosymbolia, specific language disability, word blindness, dysacusis, etc., should be considered as having a disorder of integrative mechanisms or D-I-M.[15] Children with D-I-M systems are those which have some basic neurophysiological similarities, which result in speech, reading, writing, or spelling disorders or combinations of these problems.

Nance[16] has suggested the term "idiopathic language retardation" for those children who have failed to develop speech for which there is no demonstrable cause. Carrell and Bangs[17] support the choice of this terminology on the grounds that it differs from aphasia since the aphasia implies a loss of language. According to Carrell and Bangs[18], "idiopathic

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[14] I. W. Karlin and L. Kennedy, "Delay in Development of Speech," American Journal of Diseases in Children, (1936), 51:1138-1149.

[15] F. J. Falck and V. T. Falck, "Disorders of Neurological Integrative Mechanisms - A Rationale," Asha, (1962), 4:4-9.

[16] L. S. Nance, "Differential Diagnosis of Aphasia in Children," Journal of Speech Disorders, (1946), 11:219-223.

[17] J. Carrell and J. Bangs, "Disorders of Speech Comprehension Associated with Idiopathic Language Retardation," Nervous Child, (1951), 9:4-77.

[18] Ibid.

retardation" has one or more of the following symptoms: inadequate comprehension of spoken language, speech development inappropriate to child's age which may take the form of failure to talk to a limited amount of speech or the use of "jargon" language, and certain abnormal behavior traits which are characteristics of the disorder.

Strauss and his associates feel there is a definite difference between the aphasia-like of a child, a growing organism acquiring language, and the aphasia-like of an adult, a person who has lost his capacity for language.[19] They also postulate that while language imples a symbolic function in adults, children's language is primarily a signaling rather than a symbolizing activity. This point of view is supported by Rapin[20] who suggests that: "...aphasia should be restricted to patients who acquire deficits of previously normal language functions....the non-verbal child has not learned to use symbols." For this reason, Strauss calls aphasia in children "oligophasia" to emphasize the qualitative differences between adult and childhood aphasias.

Peacher[21] presents still another term, "cumlingualism" (from the Latin "with speech") and defines it as an impairment of speech due to a developmental language delay on the basis of central nervous system

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[19]A. A. Strauss and N. Kephart, Psychopathology and Education of the Brain-Injured Child, Vol. II: Progress in Theory and Clinic, New York, Grune and Stratton Co., 1955, pp. 106-111.

[20]Rapin, The Concept of Congenital Aphasia from the Standpoint of Differential Diagnosis, op. cit., p. 22.

[21]Peacher, op. cit., p. 159.

pathology. "Sinlingualism" (from the Latin "without speech") designates those children with a similar problem after a few sounds and later words have developed, but still with obvious central nervous system impairment.

Dichotomy of "Congenital Aphasia"

Despite these suggestions for other terminologies "congenital aphasia" is still being used and in many cases, used with some reservations. Peacher lists ten reasons for the continued use of the term "congenital aphasia" in the presence of sufficient confirmatory neurological, psychometric, encephalographic, or autopsy data:[22]

1. Language and its kindred processes are involved in both the congenital and acquired forms, such as reading, writing, calculations, spelling, etc.
2. Intellectual function, abstract behavior, etc., may be impaired in either.
3. Disorders of motility may co-exist.
4. Agnosia, apraxia, and other signs of cerebral dysfunction may be present in both types of cases.
5. A knowledge of either condition alone facilitates the study and understanding of the other.
6. Principles of therapy are similar in each instance at different levels, depending upon the etiology, degree, and site of the pathology, etc.
7. There is considerable resemblance in symptomatology in the two groups; i.e., they may be primarily receptive, expressive, or mixed, etc.
8. Etiological factors may be approximate, such as trauma, vascular, and inflammatory processes, etc.
9. Environmental, cultural, social, educational, and other factors are important in both groups.
10. The term congenital aphasia is already well known in the medical and educational fields.

However valid these reasons may appear, there is no sufficient confirmatory

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[22] Ibid., p. 156.

neurological, psychometric, encephalographic, or autopsy data. Nance[23] has cited the lack of autopsy findings. Burr[24] reported this lack of evidence along with the fact that there is usually recovery from acquired aphasias, and that he believes bi-lateral lesions (a rarity), are necessary for "congenital aphasia".

Myklebust[25] stated that the term "congenital" simply implies time of onset and most aphasia in children seems to be congenital from the point of view of timing; i.e., present from time of birth. Landau, Goldstein, and Kleffner[26] indicated that since aphasia means an absence of speech and since the child who loses normally acquired oral language and its understanding is often not behaviorally distinguishable from one with retarded language development, we can use the term "congenital aphasia" without apology. Karlin[27] believes that aphasia is a good generic term since it denotes a cerebral form of language dysfunction, but that it should not imply a congenital disorder.

However, there are still those children who never develop the ability to speak and those whose mental capacities influence their

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[23]Nance, op. cit., p. 200.

[24]Worster-Drought, op. cit., p. 198.

[25]Myklebust, Handbook of Speech Pathology, op. cit., p. 508.

[26]W. Landau, K. Goldstein, and F. Kleffner, "Congenital Aphasia: A Clinicopathologic Study," Neurology, (1960), 10:915-921.

[27]I. W. Karlin, "Aphasias in Children," AMA American Journal of Diseases in Children, (1954), 87:752-767.

verbal abilities. Many of the methods of examination rely a great deal upon verbal stimulation and performance, the one ability that is most decidedly impaired.

> ...if there is such an entity as "congenital aphasia", the personality implications would be those of a non-communicating child with deficits in maturation of the organism-as-a-whole and the defense reactions elicited by such a problem.[28]

Benton[29] expresses the objections more precisely:

> Semantic objection to the entity is that aphasia means a loss of language skills. This is trivial since one speaks of congenital cerebral palsy or blindness, and we need not hesitate to speak of congenital aphasia if such a condition exists.
> The empirical objection raises the question as to whether the condition which can be reasonably called congenital aphasia actually exists. Specifically, it denies that congenital retardation in language development is truly comparable to the acquired aphasic conditions of childhood or adult life.

Bender[30] has said:

> Perhaps it [congenital aphasia] only exists as a transitory phase in some of the developmental disorders of children such as in the more generalized conditions of developmental language disorders or in schizophrenia or in the development of children with various other types of deviate or damaged brain functioning, or in children who have been socially isolated and deprived of sensory stimulation especially during the first two years.

However, she was unable to remember a suitable example encountered in her clinical experience. In the same report, Brown[31] defines "congenital

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[28]Bender, The Concept of Congenital Aphasia from the Standpoint of Differential Diagnosis, op. cit., p. 20.

[29]A. L. Benton, "Aphasia in Children", Education, (1959) p. 410.

[30]Bender, op. cit., p. 16.

[31]Brown, The Concept of Congenital Aphasia from the Standpoint of Differential Diagnosis, op. cit., pp. 7-10.

aphasia", but states that he has never diagnosed a child as congenitally aphasic. Jellinek[32] stated that "congenital aphasia" resembles the adult aphasic condition. Contrary to this, Gutman,[33] Sugar,[34] and Neuhaus[35] feel that the true aphasic condition as seen in adults is rare in children.

Goldstein[36] has suggested that aphasia should be used as a generic term to encompass those children with a disorder of symbolic language function that occurs as a result of brain damage, and cannot be attributed to a disorder of audition.

A questionnaire survey was conducted by VanGelder, Kennedy and Laguaite[37] in which they asked thirty-four speech therapists to report those cases of aphasia; sensory or motor, dating from early childhood, encountered in their experiences. There were thirty-four cases collected, and until 1940, only fifty cases had been recorded. From the results of their survey, it was concluded that the term aphasia was only loosely used in respect to children.

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[32] A. Jellinek, "Phenomena Resembling Aphasia, Agnosia, and Apraxia in Mentally Defective Children and Adults," Journal of Speech Disorders, (1941), 7:51-62.

[33] A. Gutman, "Aphasia in Children," Brain, (1942), 65:205-219.

[34] Sugar, op. cit., p. 304.

[35] Neuhaus, The Concept of Congenital Aphasia from the Standpoint of Differential Diagnosis, op. cit., p. 13.

[36] Goldstein, "Differential Classification of Disorders of Communication in Children," American Annals of the Deaf, (1958), 103:215-223. A. O. Ross, "The Aphasic Child," Education, (1959), 79:508-512.

[37] D. W. VanGelder, L. Kennedy, and J. Laguaite "Congenital and Infantile Aphasia," Pediatrics, (1952), 9:48-54.

Symptomatology of "Congenital Aphasia"

If there is no agreement on the terminology used to indicate "congenital aphasia" perhaps there are characteristic symptoms that would indicate the presence of the condition. This is also disputed by some writers. Worster-Drought and Allen[38] list several reasons for the confusion encountered in the differential diagnosis of "congenital aphasia". The first reason listed is that the symptomatology is not so obviously characteristic as to delineate this disorder from others of a similar nature. Other reasons presented are that the disorder is most likely to be confused with mental retardation because these children are most apt to be retarded from deprivation or lack of stimulation, and also that the psychological problems that arise from lack of language will produce behavior problems that are most apt to be noticed than in other disorders. Kleffner[39] has said that

> We recognize that the aphasic child frequently presents irate or deviate behavior in addition to his lack of language, but we feel that such behavior problems result mainly from the confusion and frustration of his and his parents reactions to the handicap.

If it is true that there are symptoms that are characteristic of disorders other than aphasia, what are these symptoms? The following (Table I) is a chart of symptoms that are presented by Myklebust[40] defining

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[38] Worster-Drought and Allen, op. cit., p. 200f.

[39] Kleffner, "Teaching Aphasic Children," Education, (1959), 70:418.

[40] Myklebust, Auditory Disorders in Children, op. cit.

TABLE I
CHART SUMMARY OF SYMPTOMATOLOGY

CHARACTERISTICS	PERIPHERAL DEAFNESS	PSYCHIC DEAFNESS	APHASIA	MENTAL DEFICIENCY
Vocalizes in play	Usually no	Autistics do	Usually no	(Present) According to capacity
Normal speech acquisition		Schizophrenic may have but ceased at yr. 1 or 2. Marked autism		Retarded
Echolalia present		In some autistics	(Present)	Questionable
Social Quotient	Approx 90	Approx 80	Approx 75	Approx 55
Attends to facial expression	(Present) Usually		Sometimes	(Present) To extent of capacity
Responds to facial expression	(Present)	Rarely	Exhibits inability to respond	(Present)
Adjusts to situation	Must see situation in order to adapt to it		Attempts to but capacity limits them	Limited by capacity (Present)
Attempts social-ised play	(Present)		(Present)	(Present)
Laughter and smiling	Lacking in amount and differentiation	Schizophrenics--Bizarre Autistics--No Anxiety States--when anxiety is lifted, crying also	Laughs rare, more of a defensive manner	Lacking or grossly inadequate socially
Crying	Present and frequent	Schizophrenics--Bizarre but may have tears Autistics--sometimes but no tears	Characteristics lack depth and feeling	Frequent
Emotional development and expression	Development not Bizarre Expression frequently immature	Lack of Normal expression	Retarded in development lack basic means of expression. Uniqueness- catastrophic behavior	Development retarded Expression limited to capacity
Retarded in Development (somatic)	(present but not marked)		(Present)	(Present)
Motor Performance	Shuffling Gait perhaps some vestibular disturbance	Do not perform well motorically, depressed and unexpressive, ritualistic and stereotyped activities apart from environment	Inferior coordination, compulsive hyperactivity	Perform on retarded level
Mental capacity, test responses	Not bizarre, integrated and uses environmental clues well	Bizarre, does not relate to environment	Disinhibited, hyperactive, forced responsiveness	Responsive but low generic and concrete manner. Not bizarre.
Responds to sound consistently	Present	No response directly		May not respond
Uses Hearing projectively	(Present)			and integrate because of retardation
Type of Auditory Behavior	Varies with residual hearing and level of maturation	Inadequate auditory behavior, willful in nature	Erratic auditory behavior because of inability to integrate stimulus	
Auditory perceptual behavior	Auditory perceptual disturbances	Willful absence of normal perceptual functioning, rejection of sensory impressions	Cannot structure auditory world and select sounds which are immediately pertinent	Behaves in confused disturbed manner, but makes continuous attempts to relate
Not unduly sensitive to tactile sensation		(Present) Rejection of reality in general	(Present) Lack of orientation and integration	(Present) Lacks normal curiosity and capacity to profit
Not unduly sensitive to use of vision		(Present)	(Present)	(Present)
Uses gestures	(Present)		Not effectively	In proportion to M.A.
Characteristic tonal quality	(Present)	(Present)		
Expressives sound for pleasure			In characteristic manner	(Present) According to capacity
Uses voice projectively and meaningfully	(Present)			(Present) According to capacity

the disorders presented in the chart in the following manner:

> 1. Peripheral deafness -- impaired auditory acuity resulting in the inability to communicate with others in the normal manner.[41]
>
> 2. Psychic deafness -- emotional disturbances derived from conflict between the organisms under requirements and external demands of the environment. When this conflict reaches certain proportions, the organism compromises by relinquishing at least part of its contact with the environment, and a highly significant manner in which this can be achieved is by relinquishing the use of hearing.[42]
>
> 3. Aphasia -- a disorder of symbolic function which results from damage to the brain.[43]
>
> 4. Mental deficiency -- deficient mental growth; idiot grows one-fifth that of the normal (20 I.Q.), imbecile averages one-half of the normal progress (50 I.Q.) and the moron progresses seven-tenths that of the normal (70 I.Q.).[44]

The symptoms presented in the chart indicate that the aphasic child presents some of the same symptoms in varying degrees as those found in other disorders; and yet the definition of aphasia differs.

Wood[45] has stated that unless the child has a verbal or auditory symbolic formulation disorder, one should not diagnos the problem as aphasia. Hoffman also feels that the children present a distinct language pattern.

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[41] Ibid., p. 104.

[42] Ibid., p. 183.

[43] Ibid., p. 144.

[44] Ibid., p. 220f.

[45] Nancy Wood, "The Child with Aphasia," Journal Lancet, (1959), 79:315-317.

> Goldstein would say that the Gestalt had never been completed; that figure and ground had never been differentiated, that linguistically the aphasic child has nothing to recall; he has no background of language patterns to recover, nor has he been able to use language as a tool for learning or as a means of relating to and controlling his environment.[46]

It would appear therefore that the individuality of the aphasic condition in children makes it impractical to pinpoint the disorder through a set of characteristic symptoms.

"Congenital Aphasia" and Similar Disorders

Other writers have also attempted to provide a framework for differential diagnosis of the aphasic child. Goldstein[47] says: "To speak of the condition of intelligence in aphasic patients in general... is impossible." Neuhaus[48] paraphrases Goldstein by stating: "...to speak of the condition of aphasia in mentally retarded children is impossible." Mentally retarded children are more likely to be retarded on all levels of achievement -- language, and non-language and aphasics are retarded only on the language level of achievement. If their (mentally retarded children) non-language skills are fair and there is gross retardation in language skills, they are more apt to be confused with aphasics. Wood[49] says that the child with aphasia is different in kind of disorder rather than degree, while the child who is mentally

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[46] J. A. Hoffman. "Training of Children with Aphasic Understanding," Nervous Child, (1951), 9:85.

[47] Goldstein, op. cit. p. 43.

[48] Neuhaus

[49] Wood, op. cit., p. 21.

retarded is different in degree rather than kind.

The behavior problems that the aphasic child presents may be due to the lack of verbal expression rather than a psychological deviation such as schizophrenia or autism. Eisenson[50] presents questions that may be asked in the clinical observation of the child's behavior. If the answer is "yes" to these questions, aphasia is more apt to be present than mental retardation or emotional disturbances.

1. Does the child respond to novel sounds, but only for a brief time?
2. Does the child appear to ignore human speech and familiar sounds of the environment?
3. Is he inconsistent in his response to a sound if he responds at all?
4. Is his voice of normal pitch range and loudness?
5. Is attention difficult to obtain, and if obtained, is it difficult to sustain?
6. Is there a marked tendency to perseverate which almost seems to be of a compulsive nature.
7. Does the child reveal emotional lability?
8. Does the child approach a new task with apparent enthusiasm and energy and then appear to fatigue quickly and suddenly?
9. Can the child's general attitude be described as uncooperative?[51]

"Congenita-lyaphasic" children also appear to exhibit a partial deafness that involves higher frequency sounds which results in marked impairment of the appreciated speech sounds.[52] This has also been reported by Ewing.[53] Eisenson reports that if the history indicates a

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[50]Eisenson, Examining for Aphasia, New York, Psychological Corporation, Rev. 1954, p. 271.

[51]Ibid.

[52]Benton, op. cit., p. 410.

[53]Peacher, op. cit., p. 153.

TABLE II

DIFFERENTIATING CHARACTERISTICS OF DEAF AND APHASIC CHILDREN

MOST USEFUL			LEAST USEFUL			
ETIOLOGY	AUDIOLOGICAL	MOTOR SYSTEM	VESTIBULAR	ELECTROENCEPHLOGRAM	X-RAY	
Meningitis Severe infantile infection Family history hearing loss	Sloping audiogram	No major abnormalities	Normal except for meningitis	-----	-----	DEAF
Maternal rubella Complication during pregnancy	Sloping audiogram Moderate-severe loss	Minor abnormality	Normal, depressed, no response (with audiological data)	Normal or dysrhythmic	Normal	DEAF OR APHASIC
Rh factor Complication, labor or birth Convulsive disorder Family history of speech or neurological disorder	Normal or flat audiogram with moderate loss	Major abnormality	Depressed (with audiological data)	Focal abnormality	Anomaly of cranial vault	APHASIC

failure to babble a hearing loss should be suspected, but if babbling occurred and progressed to echolalia and perhaps a few words then stopped abruptly, aphasia should be suspected.[54] Some of the questions that may aid in differentiating the two disorders are:

1. Was babbling relatively normal and prolonged?
2. Were the later pre-lingual speech states, lalling and echolalia, delayed and prolonged but relatively normal (if age is not a factor)?
3. Is the articulation faulty?[55]

Eisenson suggests that if the answers to the above questions are positive hearing loss or mental deficiency rather than "congenital aphasia" is suggested.

Goldstein, Landau, and Kleffner[56] conducted a study to establish more definite criteria for different classification of communication disorders in children, and to improve the understanding of the overall neurological functioning of children with communication disorders. Their findings were based on tests given to 183 children with full-time classes at the Central Institute for the Deaf. These tests included pure tone, case history, caloric tests of vestibular function, neurologic examination, electroencephalograph, and skull x-rays. The preceding chart[57] (Table II)

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[54]Eisenson, op. cit., p. 26f.

[55]Ibid.

[56]K. Goldstein, W. Landau, and F. Kleffner, "Neurologic Assessment of Some Deaf and Aphasic Children," Annals of Oto-rhinology and Laryngology, (1958), 67:468-479.

[57]Ibid.

shows the results of this study; however, none of the findings provided unequivocal criterion for the differentiation of deaf or aphasic children.

The preceding review of the literature emphasizes the lack of agreement in the area of symbolic language dysfunction in children. Earlier terms such as atavastic speech and idioglossia have favored the speech defects present in the disorder. Later terms tend to be more descriptive of auditory impairment, such as congenital auditory imperception and dysacusis. There are also those terms which are intended to be descriptive of the neurological dysfunctions such as oligophasia and alalia. Each individual that proposes a term cites the discrepancy of previous terminologies and emphasizes the finer distinctions of the proposed term. The question cannot be resolved on the basis of characteristic symptoms since other disorders may present the same symptoms to one degree or another. As DiCarlo[58] has so aptly stated:

> A cursory survey of the best source of literature makes it clear that the "congenitally aphasic" child presents a multiplicity of disturbances which can no longer be considered a clearcut single clinical or pathological entity.

Is there a common meeting ground in an area where there is dissension? It may be that there are terms and/or groups of symptoms that are most often used in the clinical description of "congenital aphasia". This paper will investigate that possibility.

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[58] L. M. DiCarlo, "The Concept of Congenital Aphasia from the Standpoint of Dynamic Differential Diagnosis," A Symposium Thirty-fourth Annual Convention American Speech and Hearing Association, November 17, 1958, New York, N. Y., ed. S. F. Brown, Washington, D. C. American Speech and Hearing Association, 1959, p. 30.

CHAPTER III

PURPOSE

The purpose of this paper is to investigate the terminology currently employed in reference to the disorder of symbolic language function as it applies to children. "Congenital aphasia" is chosen as the basic terminology in this paper because these children exhibit pathology and symptomatology much like that of adult aphasics. The possible qualitative differences in these aphasic conditions have not been resolved, but aphasia in adults is well known and confirmed in the professional areas concerned with the disorder. Kleffner[1] reports that though there is still controversy about aphasia in children, there is now more agreement than has presently been true. Kleffner[2] has divided these disagreements into three categories:

1. There are those who, although they recognize that the condition exists, are unwilling to call it aphasia.

2. There are those who recognize the condition and who are willing to call it aphasia, but who would disagree on the criteria for the diagnosis or classification of individual cases.

3. There are those who recognize the condition and agree, in general, on diagnostic criteria but who would disagree on the educational program which should follow diagnosis.

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[1] Frank Kleffner. "The Aphasic Child," Report of the Proceedings of the Thirty-Eight Meeting of the Convention of American Instructors of the Deaf, Washington: United States Government Printing Office, 1958, p. 50.

[2] Ibid.

There will be an investigation of the use of "congenital aphasia" and similar terms in the description of children with a loss of symbolic language function. Also included will be a question regarding those symptoms most characteristic of the disorder. There will be a comparison of the terminology chosen by those who have encountered the problem clinically, and those whose opinions are based more on theoretical assumptions than clinical experience. The continued confusion by some clinicans between the diagnosis of aphasia and other disorders forms the basis of still another question. In addition, there will be an interpretation of any trends the data might indicate.

Specifically, answers to the following questions will be sought:

1. Is "congenital aphasia" recognized and preferred as a term used in the diagnosis of children with symbolic language dysfunctions?
2. Is there a preference for some terminology other than or rather than "congenital aphasia"?
3. Is there a symptom complex which is recognized as characterizing "congenital aphasia"?
4. Does the choice of symptom complex influence the choice of terminology?
5. What other disorders are most often confused with "congenital aphasia"?
6. Does clinical experience influence the choice of terminology and decrease confusion with other disorders?
7. Does occupational position (current employment) influence the choice of terminology?

CHAPTER IV

PROCEDURE

Selection of the Questionnaire

In order to investigate the terminology currently employed in reference to "congenital aphasia" a questionnaire was designed and mailed to those persons currently employed in the field of childhood language disorders. One limitation placed on the sampling procedure was that the population should include at least one person from each of the fifty states. Another limitation was that the individual must be associated with the diagnosis and treatment of those childhood speech problems that may be caused by brain damage, hearing loss, or emotional disturbances. This was determined largely by the address of the individual, and in some cases, from articles and research projects written, some of which appear in the bibliography of this paper.

A total of 300 questionnaires was mailed. A review of the number of individuals employed in the clinical diagnosis and/or instruction and direction of others engaged in clinical diagnosis indicated that this would be a representative sample of such a population. The American Speech and Hearing Association and the American Psychological Association directories for 1962 were used as source material in obtaining the names and addresses of these persons. The American Psychological Association directory clearly states those who are employed in the area of childhood language disorders of which 71 were selected. The names of 229 persons were obtained from the American Speech and Hearing Association directory.

These individuals were chosen to fill the requirement of state representation, and also chosen on the basis of place of employment. The latter implies that those persons who were employed in centers that would most probably encounter children with language disorders were selected. These centers were university-oriented clinics and clinics containing one of the following titles: "Childhood", "Children", "Infantile", "School", or "Institute".

The questionnaire found in Appendix A was designed to fulfill two major criteria:[1]

1. to explore the questions proposed by this project in such a manner as would yield results most adaptable to statistical analysis.

2. to motivate the respondent to communicate the required information in a manner that would not prove difficult or time consuming for him and yet obtain all of the information necessary to completely answer the proposed questions.

The questionnaire was designed in the following manner. Question one was designed to find those persons who recognized the term "congenital aphasia" as compared to those who recognized but did not prefer the term "congenital aphasia".

Question two was designed to find those who preferred terminology other than "congenital aphasia" and the order of their preference. The presentation of terms was arranged to fulfill item two of the questionnaire criteria; that is, format and ease of handling. The writer

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[1] L. Festinger and D. Katz, Research Methods in the Behavioral Sciences, New York, Dryden Press, 1953, pp. 340-353.

felt that a forced-choice response would yield only those terms preferred as first choice. A rating response was requested in order to indicate trends toward the choice of terminology. Thirteen terms were selected as representative of terminology suggested by the review of the literature. These terms shown in Appendix B spanned the history of the problem from "aphemia" and "word deafness" to more recent additions such as "oligophasia" and "sinlingualism". Five items were added to this question after suggested responses to the same item totaled 4 or more.

Question three was designed to yield the choice of symptoms which would most likely represent the behavior of those children with disorders that may be designated as "congenital aphasia". The symptoms that would most likely be representative of the behavior of a brain damaged child were taken from those presented by DiCarlo[2] and Myklebust,[3] and are listed in Appendix C. The symptoms were divided into those that can be detected when they are:

1. antithetical to the environment - designated by the letter (E).
2. performed irrespective of the environment - designated by the letter (P)
3. physiological deviations - designated by the letter (M).

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[2]L. M. DiCarlo, The Concept of Congenital Aphasia from the Standpoint of Dynamic Differential Diagnosis: A Symposium 34th Annual Convention, American Speech and Hearing Association, November 11, 1958, New York. (ed.) S. R. Brown, Washington, D. C., American Speech and Hearing Association, Part 5.

[3]Helmer Myklebust, Auditory Disorders in Children, New York Grune and Stratton Co., 1954, Refer to Table 1, Symptomataly in Review of the Literature.

4. the results of diagnostic tests - designated by the letter (D).

5. speech and hearing deviations - designated by the letter (S).

An additional division included all other considerations and suggestions by the respondents. This was designated by the letter (G). One item was added to this question after suggested responses totaled 4 or more.

Question four was designed to yield those persons whose opinions were based on clinical encounter of the problem, and those whose opinions were based more on theoretical assumptions than clinical experience. One item was added to this question after suggested responses totaled 4 or more.

Question five was designed to yield the disorder chosen as the one most likely to be confused with an aphasic-like condition in children. These disorders were selected material found in Myklebust[4] and Travis.[5] Lastly, question six would indicate with some degree of specificity, the current occupational position of the participants in this survey. The six questions listed in Appendix D were coded into seventy items for the purpose of statistical analysis.

The initial returns of the questionnaire yielded 55 per cent of the original population (300). A note shown in Appendix E was posted to those persons who had not responded. The final returns totaled 73 per cent or 220 participants in the survey. Of this total, 176 of the

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[4] Myklebust, op. cit.

[5] L. Travis, Handbook of Speech Pathology, N. Y., Appleton Century Crafts, 1957.

responses were considered useful in a statistical analysis of the data. The remaining 44 were not considered useful because: they refused to answer (28); insufficient mailing address (11); and the answers were indeterminant or incomplete (5).

A frequency count of the answers for the 176 questionnaires was tallied and transferred to IBM cards. These were coded in the following manner: "no" answers were counted as a "zero" score on the IBM card, "one" indicated the "yes" answers, "two" indicated "sometimes" or "second" choice, "three" indicated "third" choice, "four" indicated "fourth" choice, etc., and "nine" which indicated "ninth" choice or above.

Specific Problem

The basic question to be answered in this study is, "Is there a significant number of persons who prefer the term congenital aphasia?" The null hypothesis (H_o) states that there is no difference between the number of persons who recognize the term "congenital aphasia" and the number of persons who prefer the term "congenital aphasia". The hypotheses subordinate to this basic question are as follows:

a. There is a significant trend in preference for a term other than "congenital aphasia."

b. There is a significant group of symptoms that can be selected as characteristic of the aphasic-like condition in children.

c. Clinical encounter of the problem will have a significant influence upon preference of terminology and choice of symptomatology.

d. There is no significant difference in the selection of disorders that are most often confused with "congenital aphasia."

e. Occupational position has a significant influence upon the response to preference of terminology, choice of symptomatology and selection of the disorder most often confused with "congenital aphasia."

Statistical Procedures

A normal approximation of binomial distribution can be safely assumed with a population of 176. Therefore, in order to estimate the true value of proportions (p), normal theory was used. The assumption of normality leads to simple calculation of confidence intervals in which will lie the true proportion of those individuals who answer "yes".[6] The procedure to obtain such confidence intervals where (y) equals the number of "yes" answers and (N) equals the total population is indicated below:

$$\hat{p} = y/N \qquad \hat{q} = 1 - \hat{p}$$

$$\hat{p}_U = \hat{p} + \sqrt{\frac{\hat{p}\hat{q}}{N}}\ (1.96) \qquad \hat{p}_L = \hat{p} - \sqrt{\frac{\hat{p}\hat{q}}{N}}\ (1.96)$$

The fixed value of t (1.96) allows us to make the statement that the true value of $\hat{p}$ lies between the point estimate of $\hat{p}_U$ and $\hat{p}_L$ at the 95% level of probability.[7] Point estimate confidence intervals were computed for proportions of the population answering "yes" for questionnaire items 4, 5, and 25 through 70.

In order to answer the question of differences between responses,

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[6] Festiger and Katz, op. cit., p. 182.

[7] Ibid, p. 183.

point estimate confidence intervals were computed for the differences between proportions of the population. The assumption is that we cannot distinguish between those proportions that fall under the same difference interval but if zero does not fall within the interval the two proportions are different. This may be restated in the following manner: since zero is not included in the confidence interval, we conclude that the proportions are different; if the confidence interval had included zero the inference would be that the proportions are potentially equal.[8] Not only does this procedure yield rank, but also the relative importance of rank. The procedure for obtaining difference intervals was used where $(\hat{P}_1)$ indicates one proportion, and $(\hat{P}_*)$ indicates another proportion independent of the first. The confidence interval for the difference $(\hat{P}_1 - \hat{P}_*)$ was computed as follows:

$$\frac{(\hat{P}_1 - \hat{P}_*)}{\sqrt{\frac{\hat{P}_1\hat{Q}_1}{N} + \frac{\hat{P}_*\hat{Q}_*}{N}}} = \pm 1.96$$

$$(\hat{P}_1 - \hat{P}_*) = \pm 1.96 \sqrt{\frac{\hat{P}_1\hat{Q}_1 + \hat{P}_*\hat{Q}_*}{N}}$$

$$(\hat{P}_1 - \hat{P}_*) + 1.96 \sqrt{\frac{\hat{P}_1\hat{Q}_1 + \hat{P}_*\hat{Q}_*}{N}} = d_U \qquad (\hat{P}_1 - \hat{P}_*) - 1.96 \sqrt{\frac{\hat{P}_1\hat{Q}_1 + \hat{P}_*\hat{Q}_*}{N}} = d_L$$

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[8] George Snedecor, Statistical Methods, Ames, Iowa, Iowa State University Press, 1961, p. 49f.

Difference intervals were computed for questionnaire items 25 through 52, and 54 through 59.

A two by two contingency test[9] was used to measure the extent of association between questionnaire items 4, 5, 26, 31, 32, 44, 45, 46, and 53 through 70. Consider a two by two contingency table in which A indicates the first variable and B indicates the second variable. Cell (a) contains the number of individuals that answered "yes" to both variable A and B, and cell (d) contains the number of individuals that answered "no" to both variable A and B. Cell (b) contains the number of individuals that answered "no" to variable A and "yes" to variable B, and cell (c) contains the number of individuals that answered "yes" to variable A and "no" to variable B.

	A	$\bar{A}$
B	a	b
$\bar{B}$	c	d

When (N) equals the total of the population, the chi-square with one degree of freedom is calculated as follows:

$$x^2_{(1)} = \frac{N(ad-ac)^2}{(a+b)\,(c+d)\,(a+c)\,(b+d)}$$

The correction for continuity (n/2) was not used with a sample size of 176. The test of null hypothesis (H_o) is as follows: if the value

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[9] Ibid., p. 221.

yielded by chi-square with one degree of freedom is equal to or less than the table value of chi-square then the data supports the null hypothesis otherwise the alternative hypothesis (H_1) is accepted.[10] The alternative hypothesis is stated: there is a significant association between the two variables.

The coefficient of concordance[11] was used for a test of interjudge reliability for questionnaire items six through 24. When (S) equals the sums-of-ranks by judges (k) equals the number of judges, and (N) equals the number of items judged, the coefficient of concordance is determined in the following manner:

$$W = \frac{S}{1/2\ k^2\ (N^3 - N)}$$

This is a test of the degree of association between rankings by two or more judges. Since more than two judges were involved, W must be zero or positive.

A questionnaire was designed to investigate the terminology and symptomatology currently employed in the diagnosis of "congenital aphasia." This questionnaire was sent to 300 persons employed in the field of childhood language disorders, as listed in the American Speech and Hearing Association and American Psychological Association directories for 1962. Of the 220 responses, 176 were considered useful in a statistical analysis

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[10] Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences, New York, McGraw Hill Book Co., 1956, p. 8.

[11] Ibid., p. 229ff.

of the data. The seven questions were coded and transferred to IBM cards. These questions yielded seventy items which were subjected to the following statistical procedures: point estimate confidence intervals to estimate the true proportion and point estimate test of differences in the population, chi-square contingency test to study associations between different response variables, and coefficient of concordance to test consistency among judges.

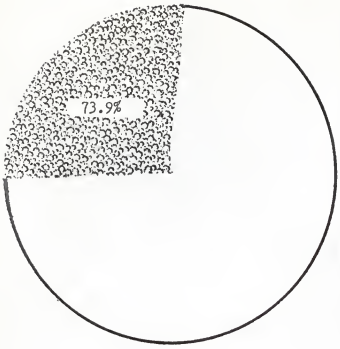
CHAPTER V

RESULTS

Of the three hundred questionnaires mailed, two hundred and twenty were returned. One hundred and seventy-six of these responses were used in a statistical analysis of the data.

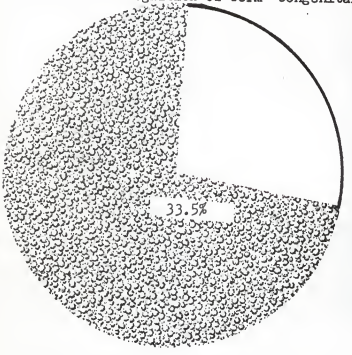
The responses to questionnaire items four and five were in the form of "no" answers (Figure 2). The observed proportion (p) of those who recognized the term "congenital aphasia" among the total population was .739 (73.9%). The observed proportion (p) of those who preferred the term "congenital aphasia" among the total population was 0.335 (33.5%). The confidence interval for the true proportion (p) of those who recognized the term "congenital aphasia" is (0.674, 0.804) meaning that the confidence level is 95% that the true value of p will be between the values 0.674 and 0.804. The confidence interval for the proportion of those who prefer the term "congenital aphasia" is (0.269, 0.401 at the 95% level of confidence. Unless otherwise stated, all confidence intervals are at 95% level of confidence.

Of those who recognized the term "congenital aphasia", only 45.5 per cent preferred it. In this case, the confidence interval for the true proportion was found to be (0.379, 0.539). The null hypothesis (H_o) states that there is no difference between those who recognize the term "congenital aphasia", and those who prefer the term. A two by two contingency test yielded a chi-square of 15.23 with one degree of freedom. We can reject the null hypothesis at the .05 level of significance since



RAW DATA: 130

Per Cent of Recognition of Term "Congenital Aphasia"



RAW DATA: 59

Per Cent of Preference of the term "Congenital Aphasia"

FIGURE 2

THE PERCENTAGES OF RECOGNITION AND PREFERENCE
OF THE TERM "CONGENITAL APHASIA"

the table value for chi-square equals 3.84.[1] We can accept the alternative hypothesis (H_1) which states that we will expect that recognition of the term "congenital aphasia" will affect the proportions of those that prefer the term "congenital aphasia".

We can accept the subordinate hypothesis that states that occupational position has a significant influence upon the responses to preference for the term "congenital aphasia". As shown in Appendix D the hypothesis can be accepted at the .05 level of significance for questionnaire item 59 (administrative) and item 66 (university). Although we can make simple statements of probability through the use of the obtained values of p, only items 59 and 66 yielded significant chi-squares. Item 59 yielded a value of 4.77 and item 66 yielded a value of 5.91, both of which exceed the table value of 3.84 at the .05 level of significance. Other comparisons approached the critical value for chi-square. Among these were items 63 (research with chi-square value of 3.52), and 60 (diagnostic with chi-square value of 2.59).

A coefficient of concordance test for interjudge reliability had been planned for items 6 through 24. However, the inconsistency of the ratings prevented determining such a coefficient. Often the ratings were incomplete and tied. In addition, selected terminology was inconsistent between judges; that is, no two persons chose the same terms for rating. For these reasons, the responses are presented in Table III in the form

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[1]Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences, New York, McGraw Hill Book Co., 1956, p. 249.

TABLE III

FREQUENCY OF PREFERENCE FOR TERMS OTHER THAN "CONGENITAL APHASIA"

Questionnaire Item	Terminology	Frequency of ratings 1	2	3	4	5	6	7	8	9*
6	Aphemia						1		1	2
7	Auditory agnosia	3	4	2	2	2	1		1	
8	Central auditory perception**	4	7	6			1			1
9	Central deafness		1	2	1		1		1	
10	Dysacusis	8	1	1						2
11	Developmental aphasia	11	7	4	1	1	1	2		1
12	Congenital auditory perception		5	1	4					
13	Oligophasia			3			1			3
14	Sinlingualism	1					1			3
15	Word deafness	1	1			1		1		2
16	Idiopathic language retardation	12	4	4	2	1				1
17	Verbal auditory agnosia	2	6		2	1	4			
18	Receptive or expressive aphasia	22	13	3	2		1	1		1
19	Description of the problem	9								
20	Aphasoid	7	2	1						
21	Functional language disorders	4								
22	Delayed language development	9	2			1				
23	Childhood or infantile aphasia	6	3	1						
24	Other	24	4	2					1	

*9 or better

**Typographical error: should read "imperception".

of a frequency count of ratings. "Receptive or expressive aphasia" was most often chosen as preferred rather than "congenital aphasia". "Idiopathic language retardation" and "developmental aphasia" were next in first choice selection over "congenital aphasia". A typographical error in questionnaire items 8 and 12 (imperception) probably has influenced the choice of these items. Suggested responses of four or more prompted the addition of items nineteen through twenty-three. Suggested responses for item 24 (other) included:

a. "brain damaged child"
b. "verbal learning disorder"
c. "juvenile aphasia"
d. "neurophrenia"
e. "congenital symbolic dysfunction"
f. "aphasic family of disabilities"
g. "developmental articulatory aphaxia"
h. "perceptual dysfunction"
i. "central impairment"
j. "non-peripheral involvement"
k. "central perceptual deafness"
l. "disordered neurological integrative mechanisms"
m. "congenital language disorders due to organic dysfunction"
n. "non-phonetic"
o. "language dysfunction"
p. "deviant language development"
q. "language difficulty"
r. "atypical deaf"
s. "Strauss syndrome"
t. "aphasic-like"
u. "non-verbal"
v. "a-lingual"
w. "congenital dysphasia"

This item yielded a frequency count of twenty-four ratings for first choice preference.

Positive responses to questionnaire items 25 through 52 shown in Appendix D were used in a point estimate of proportions in order to obtain confidence intervals. One item was added to question III after suggested

responses totaled four or more. This item says in effect that "any, all or none" of the symptoms listed can be exhibited at one time or another by a child with an aphasic-like condition. Among the suggested symptoms included in the "other" section of question III were:

a. "delay in social adjustment"
b. "ech-olalia"
c. "does not use voice projectively"
d. "does not use hearing projectively"
e. "failure to respond rapidly to audiometic conditioning"
f. "congenital deficiency in auditory perception"
g. "basically a learning problem"
h. "scribble speech"
i. "short memory for sound sequences (verbal)"
j. "lacks consistent and adequate means to respond orally and gesturally"
k. "poor auditory discrimination facility"
l. "apparent inattention"
m. "uses jargon"
n. "desires to communicate"

The above listing is not complete but is a sample of the suggested symptoms. Other suggestions used similar behavior patterns that were refined or generalized to one degree or another. A typographical error in questionnaire item 33 (catastrophic behavior) may have influenced responses to this item.

The proportions for the items in question III were ranked as indicated in Table IV and difference intervals were computed. The results of this computation shown in Fig. 3 indicate that the proportions for questionnaire items 32 (lacks conceptualization), 45 (scattered test picture), 46 (restricted comprehension), 26 (excessive distractibility), 31 (perseveration), and 44 (visuomotor disturbances) are significantly different from the remaining items in this question. This means that zero is not included in any of the difference intervals between

TABLE IV

RANKED PROPORTIONS FOR SYMPTOMS CHOSEN AS MOST CHARACTERISTIC OF "CONGENITAL APHASIA"

Questionnaire Item	Category	Symptom	Rank	$\hat{p}$
32	P	Lacks conceptualization	1	.705
45	D	Scattered test picture	2	.647
46	S	Restricted comprehension	3	.613
26	E	Excessive distractibility	4	.556
31	P	Perseveration	5	.545
44	D	Visuomotor disturbances	6	.500
37	M	Spatial and body disorientation	7	.365
36	P	Emotional instability	8	.364
39	M	Poor motor coordination	9	.318
38	M	Lack of control-fine musculature	10	.278
29	E	Non-conformity	11	.250
35	P	Occasional aggressiveness	12.5	.238
28	E	Isolation	12.5	.238
33	P	Catastrophic (behavior)	14	.210
49	S	Excessive use of gesture	15.5	.198
50	S	Indiscriminate vowel production	15.5	.198
42	M	Hasty erratic movements	17	.188
30	E	Disregards environment	19.5	.182
41	M	Fatigues easily	19.5	.182
43	D	Poor sense perception	19.5	.182
52	G	Other	19.5	.182
25	E	Lack of imagination	23	.113
48	S	Threshold attention	23	.113
51	G	Any or all of the above	23	.113
40	M	Normally skillful in movements	25	.102
27	E	Rhythmic rocking and clapping	26	.068
47	S	Cupping ears for sound	27	.056
34	P	Fixed responses to music	28	.003

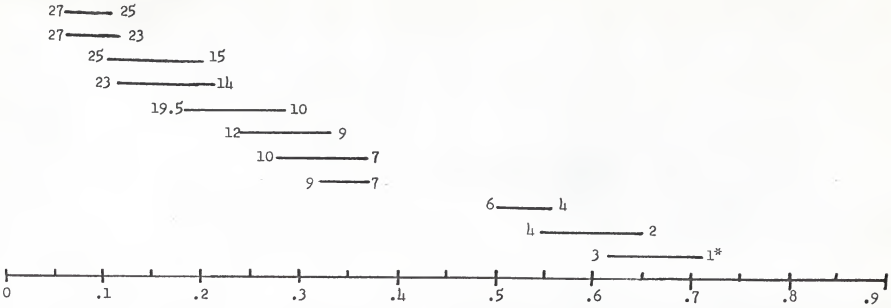


FIGURE 3

THE RELATIVE EXTENTS OF PROPORTIONS OF SYMPTOM SELECTION

*Refer to Ranks, Table IV.

these six items and the remaining items. We can consequently therefore accept the subordinate hypothesis that states there is a significant group of symptoms selected as characteristic of the aphasic-like condition in children. This acceptance is based on the assumption that since zero is not included in the difference interval, we conclude the proportions are significantly different.

Those six symptoms with the most significantly different proportions were used in contingency tests of association as shown in Appendix F. A two by two contingency table of comparison using these six symptoms and item 5 (preference) did not yield any significant chi-square values at the .05 level of significance. We can therefore assume that there is no significant association between preference for terminology and selection of symptomatology.

A contingency test of association yielded significant chi-square at the .05 level with one degree of freedom between items 32 (lacks conceptualization) and 60 (diagnostic), 45 (scattered test picture) and 60, 45 and 62 (therapeutic), 45 and 68 (private practice), 46 (restricted comprehension) and 59 (administrative), and 46 and 68. In addition, the chi-square for item 45 and 60 approached significance with a value of 3.72. We can conclude that selection of the first three symptoms chosen as characteristic of the aphasic-like condition in children is significantly associated with certain occupational positions (diagnostic, therapeutic, and administrative).

The proportion of the population that responded "yes" to the questionnaire item 53 (clinical encounter) was 88.6 per cent. This

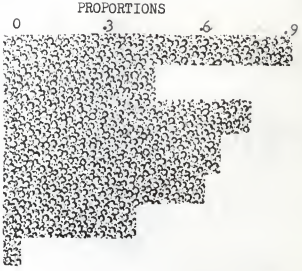
proportion shown in Figure 4 was used in a contingency test of association between preference, symptomatology, and occupational position. Significant chi-squares with one degree of freedom at .05 level, as shown in Appendix F, were obtained for 53 and 32 (lacks conceptualization), and 53 and 60 (diagnostics). The chi-square testing the association of items 53 and 46 (restricted comprehension) approached significance at the .05 level with a value of 2.55. We can therefore assume that clinical encounter does significantly influence the selection of "scattered test picture" as a characteristic symptom of aphasia in children. A significant number of participants in this study currently employed in a diagnostic position have encountered the problem clinically.

Responses to questionnaire items 54 through 58 shown in Figure 5 were used in point estimate proportions and contingency tests of association. One item was added to question V after responses totaled four or more. This item (schizophrenia) was added only in those cases which specified a distinction between the suggested item and item 57 (emotional disturbances). Other suggested items included:

a. "combinations of the presented disorders"
b. "mild cerebral palsy"
c. "sensori-motor disturbances"
d. "brain damage causing perceptual motor problems"
e. "psychopathic"
f. "infantile autism"
g. "delayed speech"

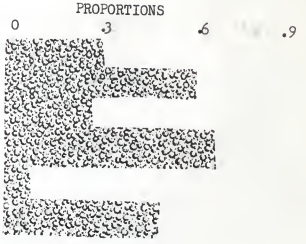
Difference intervals for items 54 through 58 indicated that items 54 (mental retardation), 55 (deafness), and 56 (emotional disturbances) contained zero within the intervals; that is, those proportions were potentially equal. The difference intervals for the remaining items in

OCCUPATIONAL POSITION	RAW DATA	p
CLINICAL ENCOUNTER	156	.886
ADMINISTRATION	87	.494
DIAGNOSTIC	135	.766
TEACHING	116	.659
THERAPEUTIC	106	.60
RESEARCH	81	.46
OTHER	10	.057



(Fig. 4a)

OCCUPATIONAL POSITION	RAW DATA	p
HOSPITAL	52	.295
UNIVERSITY	104	.59
SPECIAL CLINIC	47	.267
PRIVATE PRACTICE	29	.65
SCHOOL SYSTEM	18	.02
OTHER	26	.48



(Fig. 4b)

FIGURE 4

THE RELATIVE EXTENTS OF OCCUPATIONAL POSITION

LIKE DISORDER	RAW DATA	p
MENTAL RETARDATION	145	.824
DEAFNESS	133	.756
EMOTIONAL DISTURBANCES	131	.744
SCHIZOPHRENIA	10	.057
OTHER	21	.119

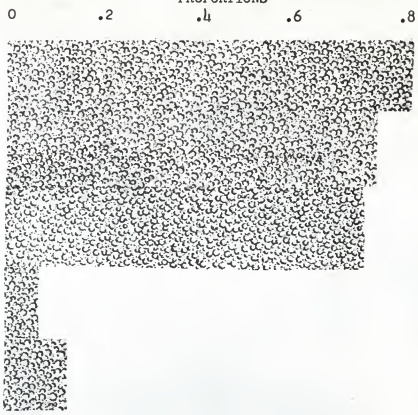


FIGURE 5

THE RELATIVE EXTENTS OF SELECTION OF LIKE DISORDERS

question V did not contain zero and we can assume that the proportions are significantly different. The rank of proportions for these items indicated the following order: 54, 55, 56, 58, and 57.

Significant chi-squares at the .05 level with one degree of freedom were obtained for the following comparisons: 54 (mental retardation) and 66 (university), 55 (deafness) and 5 (preference), 55 and 46 (restricted comprehension), 56 (emotional disturbances) and 46, and 56-57 (emotional disturbances and schizophrenia combined) and 65 (hospital). We can therefore assume that there is a significant association between the selection of the above items at the .05 level of significance. In addition, the following comparisons approached significance at the .05 level: 54 (mental retardation) and 61 (teaching) with a value of 3.44, 55 (deafness) and 59 (administrative) with a value of 3.41, and 56-57 (emotional disturbances and schizophrenia) and 63 (research) with a value of 3.04.

A statistical analysis of the data supported or rejected the proposed hypotheses in the following manner:

1. H_0 - We can reject the null hypothesis and accept the alternative hypothesis (H_1) that states that there is no one to one correspondence between those who recognize the term "congenital aphasia" and those who prefer the term "congenital aphasia" since the confidence interval of the true proportion of those who prefer the term and those who recognize it does not include unity.

    a. Due to the inconsistency in rating procedures by the judges, significant statements of trends in preference for terminology cannot be made. However, "congenital aphasia", "receptive or expressive aphasia", "idiopathic language retardation" and "developmental aphasia" were chosen more frequently than other terminologies.

b. The selection of lack of conceptualization, scattered test picture, restricted comprehension, excessive distractibility, perseveration, and visuomotor disturbances as characteristic symptoms of aphasia in children yielded proportions that were significantly different from the proportions of the remaining symptoms.

c. Clinical encounter of the problem is significantly associated with the selection of scattered test picture as a characteristic symptom of aphasia in children.

d. The disorders listed in question V did not yield significantly different proportions. It is therefore assumed that they are potentially equal.

e. Statistical results indicate that a diagnostic position will more often influence responses of other questions.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This study was designed to answer seven specific questions:

1. Is "congenital aphasia" recognized and preferred as a term used in the diagnosis of children with symbolic language dysfunctions?
2. Is there a preference for some terminology other than "congenital aphasia"?
3. Is there a symptom complex which is recognized as characterizing aphasia in children?
4. Does the choice of symptom complex influence the choice of terminology?
5. What other disorders are most often confused with "congenital aphasia"?
6. Does clinical experience influence the choice of terminology and decrease confusion with other disorders?
7. Does occupational position (current employment) influence the choice of terminology?

Statistical evidence has shown that of the population (176) that participated in this survey, 73.9 per cent recognized the term "congenital aphasia" and 33.5 per cent preferred the term. Some of these preferences were qualified. Nine of the 59 persons who responded positively to this question, preferred the term as a second choice, for lack of something better, or in that it describes only the onset of the disorder.

One respondent, a noted speech pathologist,[1] commented that the term "congenital aphasia" was proferred:

> ...where it can be clearly established that the etiologic condition existed at or before birth.... The confusion and dispute over terminology here arises chiefly from a rigid insistence that the term aphasia, because of its derivation, means only loss [sic] of speech (or language), hence is inappropriate to a child who has never developed language. May we not also define the term as a failure to develop [sic] language?

Another respondent[2] felt that aphasia is "too broad and imperception is a very specific dysfunction of input experience without any further reference to process of symbolization, storage, and recall." Another response[3] to the questionnaire was accompanied by the comment:

> ...that clinicians in all fields use basically descriptive rather than grossly categorical or classificatory language in giving accounts of what patients do under what specific conditions and subsequent to, or preceding, what other specific events.

It appears that many feel such a term offers a "...negatively evaluative classificatory designation"[4] that will perhaps inhibit the child's psychological maturation and successful interactions with others. A noted educator of the deaf[5] states that:

> The various investigators define these "aphasic-like" conditions differently. There seems to be some agreement to the effect that this is a Central Nervous System impairment involving lack of capacity to indulge in certain types of

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[1] Questionnaire 8 (Washington, D. C.).

[2] Questionnaire 18 (Minnesota).

[3] Questionnaire 128 (Iowa).

[4] Questionnaire 128 (Iowa).

[5] Questionnaire 286 (New York)

> symbolic processes. I, personally, do not use the term "congenital aphasia", since the term "aphasia" refers to a loss of symbolic processes [sic] due to some insult to the C.N.S... These children who are believed to have "congenital aphasia" seem to be more different than they are alike.

From this point of view "congenital aphasia" is the preferred term in that it describes the generally accepted nature of the disorder. The term, however, must be qualified by a description of the specific nature of the disorder as it is seen in individual cases.

A frequency count of first choice ratings of terms other than "congenital aphasia" shows that "aphasia" appears in these terms also. "Receptive or expressive aphasia", "developmental aphasia", and "aphasoid" are among these terms. Exceptions to the use of "aphasia" in first choice terminology are "idiopathic language retardation", "dysacusis", "delayed language development" and "description" of the problem rather than specific terminology. Raw score values of first choice ratings favor terms that use "aphasia" in a qualified manner. The qualifying statements for question II again indicate that this is an "aphasic-like" condition and a description of the problem will be more helpful in "...interpretation, description, common use or understanding and remediation".[6]

A group of symptoms representing each of the divisions of detection as outlined in CHAPTER IV PROCEDURES, was selected as most characteristic of an aphasic-like condition in children. Preference for terminology does not effect the selection of these symptoms. Clinical encounter does effect

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[6]Questionnaire 5 (California).

the selection of the symptom "scattered picture from the results of diagnostic tests". The effect of occupational position on the selection of these symptoms reflects the association of clinical encounter to symptom selection. This is shown in that those responses to diagnostic, therapeutic, and private practice positions affect symptom selection. Administrative position also affected symptom selection, however it is assumed that those persons currently engaged in an administrative position have some degree of clinical experience.

Some respondents have noted that while many of the symptoms may co-exist with the aphasic-like condition, they are not characteristic of the classic condition. A respondent[7] from one of the country's leading schools for the deaf has noted that while:

> ...using complete case histories, thorough neurological examination (including EEG), psychological tests and observations, it is quite impossible to arrive at finite diagnosis. The causal picture appears to be varied and extremely obscure. There seems always to be accompanying sensory or motor disabilities, along with, or resulting in distortions of behavior. These children, as a group, do not respond to any one method of education or therapy. There is almost always some communication problem present and some dysfunction in the area of language, and retarded speech development.

It would appear that while certain symptoms are most often chosen as characteristic of the aphasic-like condition in children, these symptoms are not common to all aphasic children and are not confined to aphasic disorders.

Mental retardation, deafness and emotional disturbances are

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[7]Questionnaire 286 (New York).

potentially equal in the degree to which they are confused with aphasia in children. Not only are these disorders likely to be confused with "congenital aphasia", but they may occur along with "congenital aphasia". Clinical encounter of the problem does not have any significant association with selection of disorders. Some respondents to this survey indicated that the less experienced tester would have more difficulty differentiating these disorders.

Specifically this investigation has answered the proposed questions in the following manner:

1. "Congenital aphasia" is preferred by a small percentage of the persons currently employed in the area of childhood language dysfunctions. This preference is often qualified by the statement that the use of the term should be accompanied by a description of the individual problem.

2. Preference for terminology other than "congenital aphasia" favors those terms which include "aphasia". This preference is also often qualified by a statement emphasizing the need for a description of the problem.

3. Six symptoms were chosen as important characteristics of the aphasic-like condition in children, but it was cautioned that none of the symptoms were mutually exclusive of other disorders nor were they always characteristic of an aphasic-like condition.

4. Choice of symptom complex and choice of terminology are independent variables.

5. Mental retardation, hearing loss, and emotional disturbances are equally likely to be confused with an aphasic-like condition in

children. In many cases, they co-exist with aphasia.

6. Clinical experience is independent of preference for terminology and selection of like disorders. However, clinical experience does effect the interpretation of the overall diagnostic test picture.

7. Administrative and university positions are significantly associated with preference for terminology. Diagnostic-oriented positions are significantly associated with symptom selection and choice of like disorders.

It has not been the intention of this investigation to settle the question of conflicting views over the use of the term "congenital aphasia", but merely to clarify the current use of the term. Current views of the issue definitely favor a trend toward less use of a classificatory language and more use of the descriptive technique. It is also suggested that this descriptive technique should be less concerned with the non-language aspects of the problem and more concerned with the language deficits associated with the disorder.

It is felt that future surveys should be concerned with terms that are more adjectival in nature rather than those that are categorical in nature. In addition, future research would profit more from the presentation of symptoms that are oriented toward speech and language deficits rather than those that are more descriptive of the non-language problems. It would perhaps be more beneficial to conduct a follow-up survey that would reveal the diagnostic and therapeutic implications of the choice of terminology used in reference to aphasia in children. It is certainly suggested that this include any changes in diagnostic and therapeutic

techniques that occur when aphasia is suspected after an initial diagnosis of another disorder. There is also the need for an investigation of the influence of years of clinical experience upon responses.

This study has in many ways developed into an exploratory study. This study has pointed out some of the many difficulties encountered in a questionnaire survey study; and yet, it has emphasized the need for follow-up studies in the same area.

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APPENDIX

APPENDIX A

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Eisenhower Hall

Dear

I am currently engaged in a research project at Kansas State University Speech Clinic. The following questionnaire is of vital importance to that project. There is a need to clarify the conflicting views over "congenital aphasia" as a term for the aphasia-like condition in children. Your response will be of significant importance in the statistical analysis of this study. Please answer and return the questionnaire as soon as possible. You will be referred to by number only in a publication of this data.

I. Do you recognize the term "congenital aphasia" as a clinical entity?-----. Do you prefer the term "congenital aphasia?-----.

II. If you prefer another term or terms, give the order of your preference(1 strongest, 2 less strong, etc.)

-----aphemia

-----auditory agnosia

-----central auditory perception

-----central deafness

-----dysacusis

-----developmental aphasia

-----congenital auditory perception

-----oligophasia

-----sinlingualism

-----word deafness

-----idiopathic language retardation

-----verbal auditory agnosia

-----receptive aphasia or expressive aphasia

OTHER:----------

APPENDIX B

Bibliographical Listing of Terminology Presented in Question II

"Aphemia"	L. Travis, ed., Handbook of Speech Pathology, New York, Appleton-Century Crofts, Inc., 1957.
"Auditory Agnasia"	Travis, op. cit.
	S. Kastein, "Analysis of Language Development in Children with Special Reference to Sysacusis," Asha, 1962:4(71-74).
"Central Auditory Imperception"	Kastein, op. cit.
"Central Deafness"	E. Froeschels, "Psychic Deafness in Children," Archives of Neurology and Psychology, 1944: 51 (544-549).
"Dysacusis"	Kastein, op. cit.
"Developmental Aphasia"	F. S. Ingram and S. Reid, "Developmental Aphasia Observed in a Department of Child Psychology," Archives of Diseases in Children, 1956:31 (161-172).
"Congenital Auditory Imperception"	C. Worster-Drought and I. M. Allen, "Auditory Imperception (Congenital Word Deafness) and its Relation to Idioglossia and Other Speech Defects," Journal of Neurology and Psychopathology, 1930:10(193-236).
"Oligophasia"	A. A. Strauss and N. C. Kephart, Psychopathology and Education of the Brain Injured Child, Vol. II, New York. Grune and Stratton, 1955.
"Sinlingualism"	W. Peacher, "Neurological Factors in the Etiology of Delayed Speech," Journal of Speech and Hearing Disorders, 1949:14(147-161)
"Word Deafness"	I. W. Karlin, "Aphasias in Children," AMA American Journal of Diseases in Children, 1954:87(752-767).

"Idiopathic Language Retardation"	J. Correll and J. Bangs, "Disorders of Speech Comprehension Associated with Idiopathic Language Retardation." Nervous Child, 1951:9(4-77).
	L. S. Nance, "Differential Diagnosis of Aphasia in Children," Journal of Speech Disorders, 1946:11(219-223).
"Verbal Auditory Agnosia"	Karlin, op. cit.
	Peacher, op. cit.
"Receptive Aphasia or Expressive Aphasia"	Travis, op. cit.

APPENDIX C

Division of Symptoms Presented in Question III

E-----lack of imagination and curiosity
E-----excessive distractibility
E-----rhythmic rocking, clapping, and grimacing
E-----self-imposed isolation and lack of communication
E-----fails to conform to social patterns
E-----disregards environment

P-----perseveration
P-----conceptual development disturbances (including abstract & concrete)
P-----catastrophic
P-----fixated responses to music
P-----occasional aggressiveness
P-----emotional instability

M-----spatial and body disorientation
M-----lack of control of fine musculature
M-----poor motor coordination
M-----normally skillful in movements
M-----fatigues easily
M-----hasty erratic movements

D-----poor perception of senses of taste, smell, touch, temperature, and pain
D-----visuomotor perceptive disturbances
D-----scattered picture from the results of diagnostic tests

S-----restricted degrees of comprehension
S-----cupping of ears with hands even with soft intensive sounds
S-----attends to threshold but not to excessive sounds
S-----produces vowel-like sounds indiscriminately
S-----excessive use of gesture

G-----any all or none
G-----other

Key: E - antithetical to the environment
P - irrespective of the environment
M - physiological deviations
D - results of diagnostic tests
S - speech and hearing deviations
G - general

APPENDIX D

Key to Coded Questionnaire Items

Item	Question	Statement
1-3		Number assigned to each recipient
4	I	Recognition of the term
5		Preference of the term
6	II	"aphemia"
7		"auditory agnosia"
8		"central auditory imperception"
9		"central deafness"
10		"depacusis"
11		"developmental aphasia"
12		"congenital auditory imperception"
13		"oligophasia"
14		"sinlingualism"
15		"word deafness"
16		"idiopathic language retardation"
17		"verbal auditory imperception"
18		"receptive aphasia or expressive aphasia"
19*		"description of the problem"
20*		"aphasoid"
21*		"functional language disorder"
22*		"delayed language development"
23*		"childhood or infantile aphasia"
24		other
25	III	lack of imagination and curiosity
26		excessive distractibility
27		rhythmic rocking, clapping, and grimacing
28		self-imposed isolation and lack of communication
29		fails to conform to social patterns
30		disregards environment
31		perseveration
32		conceptual development disturbances (including abstract & concrete)
33		catastrophic
34		fixated responses to music
35		occasional aggressiveness
36		emotional instability
37		spatial and body disorientation
38		lack of control of fine musculature
39		poor motor coordination

Item	Question	Statement
40		normally skillful in movements
41		fatigues easily
42		hasty erratic movements
43		poor perception of senses of taste, smell, touch, temperature, and pain
44		visuomotor perceptive disturbances
45		scattered picture from the results of diagnostic tests
46		restricted degress of comprehension
47		cupping of ears with hands even with soft intensive sounds
48		attends to threshold but not to excessive sounds
49		produces vowel-like sounds indiscriminately
50		excessive use of gesture
51*		any or all of the above dependent upon the individual
52		other
53	IV	clinical encounter of the problem
54	V	"mental retardation"
55		"deafness"
56		"emotional disturbances"
57*		"schizophrenia"
58		other
59	VI	administrative
60		diagnostic
61		teaching
62		therapeutic
63		research
64		other
65		hospital
66		university
67		special clinic
68		private practice
69		school system
70		other

*These items were added after suggested responses totaled 4 or more.

APPENDIX E

KANSAS STATE UNIVERSITY
Manhattan, Kansas

Department of Speech
Eisenhower Hall

You recently received a questionnaire concerning the terminology and symptomatology of "congenital aphasia." Fifty-five per cent of the questionnaires have been completed and returned, but yours is still needed to meet the sampling assumptions and to assure a more accurate picture of trends in the field of "congenital aphasia." I shall appreciate your cooperation in this project.

Sincerely yours,

(Mrs.) Colleen Wilkinson
Graduate Assistant

APPENDIX F

TABLE V

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE* AS RELATED TO PREFERENCE FOR "CONGENITAL APHASIA"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
5	Preference (1)***	59	71		
4	Recognition (2)	--	46	$.379 < p < .539$	+
5	Preference	37	61		
26	Excessive distractibility	22	56	$.307 < p < .499$	-
5	Preference	37	59		
31	Perseveration	22	58	$.314 < p < .456$	-
5	Preference	26	62		
44	Visuomotor disturbances	33	55	$-- < p < .868$	-
5	Preference	37	87		
32	Lacks conceptualization	22	30	$.231 < p < .365$	-
5	Preference	37	77		
45	Scattered test picture	22	40	$.256 < p < .394$	-
5	Preference	37	71		
46	Restricted comprehension	22	46	$.273 < p < .413$	-
5	Preference	48	97		
54	Mental retardation	11	20	$.262 < p < .400$	-
5	Preference	21	22		
55	Deafness	38	95	$.43 < p < .57$	+
5	Preference	17	28		
56	Emotional disturbances	42	29	$.306 < p < .449$	-

TABLE V (continued)

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
5	Preference	36	51		
59	Administration	23	66	$.342 < p < .486$	+
5	Preference	41	94		
60	Diagnostic	18	23	$.237 < p < .371$	-
5	Preference	37	79		
61	Teaching	22	38	$.246 < p < .391$	-
5	Preference	32	74		
62	Therapeutics	27	43	$.239 < p < .365$	-
5	Preference	25	56		
63	Research	34	61	$.241 < p < .377$	-
5	Preference	13	39		
65	Hospital	46	78	$.19 < p < .31$	-
5	Preference	32	41		
66	University	27	76	$.365 < p < .511$	+
5	Preference	17	30		
67	Special clinic	42	87	$.292 < p < .432$	-
5	Preference	10	19		
68	Private practice	49	98	$.275 < p < .415$	-
5	Preference	6	12		
69	School system	53	105	$.264 < p < .402$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

***Raw data should read:

Variable (2) \ Variable (1)	Yes	No
Yes		
No		

TABLE VI

POINT ESTIMATE CONFIDENCE INTERVALS FOR SYMPTOMS CHOSEN AS MOST CHARACTERISTIC OF "CONGENITAL APHASIA"

Questionnaire Item	Category	Symptom	"Yes" Responses	$\hat{p}$	95% Confidence Statement
25	E	Lack of imagination and curiosity	20	.113	$.117 < p < .109$
26	E	Excessive distractibility	98	.556	$.629 < p < .483$
27	E	Rhythmic rocking, clapping, and grimacing	12	.068	$.071 < p < .065$
28	E	Self-imposed isolation and lack of communication	42	.238	$.300 < p < .176$
29	E	Fails to conform to social patterns	44	.250	$.313 < p < .187$
30	E	Disregards environment	32	.182	$.186 < p < .178$
31	P	Perseveration	96	.545	$.618 < p < .472$
32	P	Conceptual development disturbances (including abstract & concrete)	124	.705	$.772 < p < .638$
33	P*	Catastrophic	37	.210	$.214 < p < .206$
34	P	Fixated responses to music	6	.003	$.010 < p < -$ **
35	P	Occasional Aggressiveness	42	.238	$.300 < p < .176$
36	P	Emotional instability	64	.364	$.434 < p < .294$
37	M	Spatial and body disorientation	65	.365	$.435 < p < .295$
38	M	Lack of control of fine musculature	49	.278	$.344 < p < .212$
39	M	Poor motor coordination	56	.318	$.386 < p < .250$
40	M	Normally skillful in movements	18	.102	$.106 < p < .098$
41	M	Fatigues easily	32	.182	$.186 < p < .178$
42	M	Hasty erratic movements	33	.188	$.193 < p < .183$
43	D	Poor perception of senses of taste, smell, touch, temperature and pain	32	.182	$.586 < p < .178$
44	D	Visuomotor perceptive disturbances	88	.500	$.573 < p < .427$
45	D	Scattered picture from the results of diagnostic tests	114	.647	$.767 < p < .577$

TABLE VI (continued)

Questionnaire Item	Category	Symptom	"Yes" Responses	$\hat{p}$	95% Confidence Statement
46	S	Restricted degrees of comprehension	108	.613	$.691 < p < .535$
47	S	Cupping of ears with hands even with soft intensive sounds	10	.056	$.059 < p < .053$
48	S	Attends to threshold but not to excessive sounds	20	.113	$.117 < p < .109$
49	S	Produces vowel-like sounds indiscriminately	35	.198	$.203 < p < .193$
50	S	Excessive use of gesture	35	.198	$.203 < p < .193$
51	G	Individual cases may present any or all of the above	20	.113	$.117 < p < .109$
52	G	Other	32	.182	$.186 < p < .178$

*Typographical error: should read "catastrophic behavior".

**Interval contained zero.

TABLE VII

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE*
AS RELATED TO SELECTION OF SYMPTOM "LACKS CONCEPTUALIZATION"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
32	Lacks conceptualization	103	42		
54	Mental retardation	21	10	$.65 < p < .71$	-
32	Lacks conceptualization	96	37		
55	Deafness	28	15	$.656 < p < .788$	-
32	Lacks conceptualization	92	39		
56	Emotional disturbances	32	13	$.635 < p < .769$	-
32	Lacks conceptualization	56	31		
59	Administration	68	21	$.574 < p < .714$	-
32	Lacks conceptualization	98	37		
60	Diagnostic	26	15	$.661 < p < .791$	+
32	Lacks conceptualization	82	34		
61	Teaching	42	18	$.640 < p < .774$	-
32	Lacks conceptualization	79	27		
62	Therapeutics	45	25	$.681 < p < .809$	-
32	Lacks conceptualization	57	24		
65	Research	67	28	$.637 < p < .771$	-
32	Lacks conceptualization	33	19		
65	Hospital	91	33	$.564 < p < .706$	-
32	Lacks conceptualization	79	25		
66	University	45	27	$.70 < p < .82$	-
32	Lacks conceptualization	34	14		
67	Special clinic	90	38	$.642 < p < .776$	-
32	Lacks conceptualization	21	8		
68	Private practice	103	44	$.650 < p < .790$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE VIII

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE*
AS RELATED TO SELECTION OF SYMPTOM "SCATTERED TEST PICTURE"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
45	Scattered test picture	95	50		
54	Mental retardation	19	12	$.576 < p < .734$	-
45	Scattered test picture	89	44		
55	Deafness	25	18	$.600 < p < .738$	-
45	Scattered test picture	95	46		
56	Emotional disturbance	29	16	$.605 < p < .743$	-
45	Scattered test picture	53	34		
59	Administrative	61	28	$.537 < p < .681$	-
45	Scattered test picture	92	43		
60	Diagnostic	22	19	$.613 < p < .749$	+
45	Scattered test picture	76	40		
61	Teaching	38	22	$.576 < p < .734$	-
45	Scattered test picture	73	33		
62	Therapeutics	41	29	$.619 < p < .755$	+
45	Scattered test picture	52	29		
63	Research	62	33	$.572 < p < .712$	-
45	Scattered test picture	35	17		
65	Hospital	79	45	$.604 < p < .742$	-
45	Scattered test picture	71	33		
66	University	43	29	$.615 < p < .751$	-
45	Scattered test picture	31	16		
67	Special clinic	83	46	$.60 < p < .72$	-
45	Scattered test picture	21	8		
68	Private practice	93	54	$.650 < p < .790$	+

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE IX

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE*
AS RELATED TO SELECTION OF SYMPTOM "RESTRICTED COMPREHENSION"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
46	Restricted comprehension	87	58		
54	Mental retardation	21	10	$.33 < p < .47$	-
46	Restricted comprehension	76	57		
55	Deafness	32	11	$.499 < p < .645$	+
46	Restricted comprehension	73	58		
56	Emotional disturbances	35	10	$.455 < p < .591$	+
46	Restricted comprehension	47	40		
59	Administrative	61	28	$.47 < p < .61$	+
46	Restricted comprehension	86	49		
60	Diagnostic	22	19	$.566 < p < .709$	-
46	Restricted comprehension	69	47		
61	Teaching	39	21	$.519 < p < .671$	-
46	Restricted comprehension	67	39		
62	Therapeutics	41	29	$.561 < p < .703$	-
46	Restricted comprehension	48	33		
63	Research	60	35	$.521 < p < .665$	-
46	Restricted comprehension	27	25		
65	Hospital	81	43	$.446 < p < .592$	-
46	Restricted comprehension	66	38		
66	University	42	30	$.564 < p < .706$	-
46	Restricted comprehension	30	17		
67	Special clinic	78	51	$.558 < p < .708$	-
46	Restricted comprehension	13	16		
68	Private practice	95	52	$.375 < p < .521$	+

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value is less than 3.84, plus (+) value is greater than 3.84.

TABLE I

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE* AS RELATED TO SELECTION OF SYMPTOM "EXCESSIVE DISTRACTIBILITY"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
26	Excessive distractibility	82	63		
54	Mental retardation	16	15	$.493 < p < .639$	-
26	Excessive distractibility	71	62		
55	Deafness	27	16	$.461 < p < .617$	-
26	Excessive distractibility	72	59		
56	Emotional disturbances	26	19	$.48 < p < .62$	-
26	Excessive distractibility	48	39		
59	Administrative	50	39	$.479 < p < .625$	-
26	Excessive distractibility	76	59		
60	Diagnostic	22	19	$.490 < p < .636$	-
26	Excessive distractibility	64	42		
61	Teaching	34	36	$.532 < p < .676$	-
26	Excessive distractibility	64	42		
62	Therapeutics	34	36	$.532 < p < .676$	-
26	Excessive distractibility	36	45		
63	Research	62	33	$.371 < p < .517$	-
26	Excessive distractibility	27	25		
65	Hospital	71	53	$.446 < p < .592$	-
26	Excessive distractibility	53	51		
66	University	45	27	$.44 < p < .58$	-
26	Excessive distractibility	27	20		
67	Special clinic	71	58	$.501 < p < .647$	-
26	Excessive distractibility	17	12		
68	Private practice	81	66	$.514 < p < .658$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE XI

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE*
AS RELATED TO SELECTION OF SYMPTOM "PERSEVERATION"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
31	Perseveration	79	66		
54	Mental retardation	17	14	$.472 < p < .618$	-
31	Perseveration	70	63		
55	Deafness	26	17	$.453 < p < .599$	-
31	Peservation	71	60		
56	Emotional disturbances	25	20	$.469 < p < .615$	-
31	Perseveration	47	40		
59	Administrative	49	40	$.47 < p < .61$	-
31	Perseveration	73	62		
60	Diagnostic	23	18	$.468 < p < .614$	-
31	Perseveration	60	56		
61	Teaching	36	24	$.444 < p < .590$	-
31	Perseveration	61	45		
62	Therapeutics	35	35	$.402 < p < .648$	-
31	Perseveration	38	43		
63	Research	58	37	$.396 < p < .543$	-
31	Perseveration	24	28		
65	Hospital	72	52	$.389 < p < .535$	-
31	Perseveration	56	48		
66	University	40	32	$.465 < p < .611$	-
31	Perseveration	27	20		
67	Special clinic	69	60	$.501 < p < .647$	-
31	Perseveration	15	14		
68	Private practice	81	66	$.444 < p < .590$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE XII

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE* AS RELATED TO SELECTION OF SYMPTOM "VISUOMOTOR DISTURBANCES"

Question-naire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
44	Visuomotor disturbances	77	68		
54	Mental retardation	11	20	$.458 < p < .604$	-
44	Visuomotor disturbances	68	65		
55	Deafness	20	23	$.438 < p < .584$	-
44	Visuomotor disturbances	67	64		
56	Emotional disturbances	21	24	$.438 < p < .584$	-
44	Visuomotor disturbances	13	9		
59	Administrative	75	79	$.52 < p < .66$	-
44	Visuomotor disturbances	40	47		
60	Diagnostic	48	41	$.39 < p < .53$	-
44	Visuomotor disturbances	56	60		
61	Teaching	32	26	$.410 < p < .556$	-
44	Visuomotor disturbances	58	48		
62	Therapeutic	30	40	$.474 < p < .620$	-
44	Visuomotor disturbances	40	41		
63	Research	48	47	$.421 < p < .567$	-
44	Visuomotor disturbances	27	25		
65	Hospital	61	63	$.446 < p < .592$	-
44	Visuomotor disturbances	53	51		
66	University	35	37	$.437 < p < .583$	-
44	Visuomotor disturbances	23	24		
67	Special clinic	65	64	$.416 < p < .562$	-
44	Visuomotor disturbances	15	14		
68	Private practice	73	74	$.444 < p < .590$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE XIII

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE*
AS RELATED TO CLINICAL ENCOUNTER OF THE DISORDER

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
53	Clinical encounter	118	38		
4	Recognition	12	8	$.693 < p < .819$	-
53	Clinical encounter	54	102		
5	Preference	5	15	$.276 < p < .416$	-
53	Clinical encounter	89	11		
26	Excessive distractibility	67	9	$.904 < p < .912$	-
53	Clinical encounter	88	8		
31	Perseveration	68	12	$.913 < p < .915$	-
53	Clinical encounter	114	10		
32	Lacks conceptualization	42	10	$.918 < p < .920$	+
53	Clinical encounter	78	10		
44	Visuomotor disturbance	78	10	$.882 < p < .890$	-
53	Clinical encounter	103	11		
45	Scattered test picture	53	9	$.900 < p < .908$	-
53	Clinical encounter	99	9		
46	Restricted comprehension	57	11	$.911 < p < .923$	-
53	Clinical encounter	127	18		
54	Mental retardation	29	2	$.872 < p < .880$	-
53	Clinical encounter	118	15		
55	Deafness	38	5	$.883 < p < .891$	-
53	Clinical encounter	118	13		
56	Emotional disturbance	38	7	$.897 < p < .905$	-
53	Clinical encounter	79	8		
59	Administrative	77	12	$.902 < p < .914$	-
53	Clinical encounter	124	11		
60	Diagnostic	32	9	$.906 < p < .916$	+

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE XIV

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE* AS RELATED TO SELECTION OF MENTAL RETARDATION AS MOST LIKELY TO BE CONFUSED WITH CONGENITAL APHASIA

Questionnaire Item	Comparison	RAW DATA Yes	No	95% Confidence Statement	Chi-square Significance**
54	Mental retardation	75	12		
59	Administrative	70	19	$.857 < p < .867$	-
54	Mental retardation	110	25		
60	Diagnostic	35	6	$.81 < p < .82$	-
54	Mental retardation	100	16		
61	Teaching	45	15	$.857 < p < .867$	-
54	Mental retardation	85	21		
62	Therapeutics	60	10	$.797 < p < .807$	-
54	Mental retardation	68	13		
63	Research	77	18	$.79 < p < .89$	-
54	Mental retardation	43	9		
65	Hospital	102	22	$.823 < p < .831$	-
54	Mental retardation	91	13		
66	University	54	18	$.871 < p < .879$	+
54	Mental retardation	37	10		
67	Special clinic	108	21	$.781 < p < .793$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE XV

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE* AS RELATED TO SELECTION OF DEAFNESS AS MOST LIKELY TO BE CONFUSED WITH "CONGENITAL APHASIA"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
55	Deafness	71	16		
59	Administrative	62	27	$.811 < p < .821$	-
55	Deafness	102	33		
60	Diagnostic	31	10	$.693 < p < .819$	-
55	Deafness	90	26		
61	Teaching	43	17	$.770 < p < .782$	-
55	Deafness	82	24		
62	Therapeutics	51	19	$.768 < p < .780$	-
55	Deafness	65	16		
63	Research	68	27	$.797 < p < .807$	-
55	Deafness	40	12		
65	Hospital	93	31	$.707 < p < .731$	-
55	Deafness	82	22		
66	University	51	21	$.782 < p < .794$	-
55	Deafness	38	9		
67	Special clinic	95	34	$.804 < p < .814$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

TABLE XVI

POINT ESTIMATE CONFIDENCE INTERVAL AND CHI-SQUARE SIGNIFICANCE* AS RELATED TO SELECTION OF EMOTIONAL DISTURBANCES (INCLUDING SCHIZOPHRENIA) AS MOST LIKELY TO BE CONFUSED WITH "CONGENITAL APHASIA"

Questionnaire Item	Comparison	RAW DATA Yes	RAW DATA No	95% Confidence Statement	Chi-square Significance**
56-57	Emotional disorders	69	18		
59	Administrative	66	23	$.788 < p < .798$	-
56-57	Emotional disorders	102	33		
60	Diagnostics	33	8	$.693 < p < .819$	-
56-57	Emotional disorders	92	24		
61	Teaching	43	17	$.788 < p < .798$	-
56-57	Emotional disorders	85	22		
62	Therapeutics	50	19	$.789 < p < .799$	-
56-57	Emotional disorders	67	14		
63	Research	68	27	$.822 < p < .832$	-
56-57	Emotional disorders	46	7		
65	Hospital	89	34	$.863 < p < .873$	+
56-57	Emotional disorders	84	21		
66	University	51	20	$.795 < p < .805$	-
56-57	Emotional disorders	36	11		
67	Special clinic	99	30	$.704 < p < .828$	-

*Table value for $x^2_{(1)} = 3.84$ at .05 level.

**Minus (-) value less than 3.84, Plus (+) value greater than 3.84.

A QUESTIONNAIRE SURVEY OF THE TERMINOLOGY AND SYMPTOMATOLOGY CURRENTLY EMPLOYED IN THE DESCRIPTION OF THE CLINICAL ENTITY — "CONGENITAL APHASIA"

by

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Aphasia has gained the attention of speech pathologists in recent years, particularly aphasia as it occurs in children. With the advent of World War II it was recognized that little had been advanced in the field of aphasia. Since that time studies concerning adult aphasia have been conducted. In recent years, speech pathologists have turned their attention to aphasia as it occurs in children. A survey of the literature reveals many suggestions for terminology, and yet clearly indicates the need to clarify the use of terminology designated to describe aphasia in children.

It is the purpose of this paper to investigate the terminology and symptomatology currently employed in reference to the disorder of symbolic language function. A questionnaire was designed to answer the following questions:

1. Is "congenital aphasia" recognized and preferred as a term used in the diagnosis of children with symbolic language dysfunctions?
2. Is there a preference for some terminology other than "congenital aphasia"?
3. Is there a symptom complex which is recognized as characterizing "congenital aphasia"?
4. Does the choice of symptom complex influence the choice of terminology?
5. What other disorders are most often confused with "congenital aphasia"?

6. Does clinical experience influence the choice of terminology and decrease confusion with other disorders?
7. Does occupational position (current employment) influence the choice of terminology?

Three hundred questionnaires were mailed to those persons currently employed in the field of childhood language disorders. The American Speech and Hearing Association and the American Psychological Association directories for 1962 were used as source material. Of the two hundred and twenty questionnaires returned, one hundred and seventy-six of these were used in a statistical analysis of the data. Statistical procedures included: proportions of positive responses, point estimate confidence intervals, point estimate difference intervals, and two by two contingency test of association. Statistical results indicated that of the population (176) that participated in this survey, 73.9 per cent recognized the term "congenital aphasia" and 33.5 per cent preferred the term. Preference for the term was often qualified by the statement that the use of the term should be accompanied by a description of the individual problem. The comments expressed indicated a trend away from a term that offers a negatively evaluative classificatory designation. At present there is no terminology for which the majority of individuals employed in the area can agree upon.

Six symptoms were chosen as characteristic of the aphasic-like condition in children. These symptoms were lack of conceptualization, scattered picture from the results of diagnostic tests, restricted

comprehension, excessive distractibility, perseveration, and visuomotor disturbances. Many respondents indicated that none of the symptoms presented were mutually exclusive of other disorders nor were they always characteristic of an aphasic-like condition. Statistical evidence indicated that choice of terminology and symptomatology were independent variables.

Clinical encounter of the problem of aphasia (88.6 per cent of the population) in children was found to be independent of preference for terminology and selection of like disorders. However, clinical experience does appear to effect interpretation of the overall diagnostic test picture. Results indicated that like disorders (mental retardation, deafness, and emotional disturbances) are equally likely to be confused with an aphasic-like condition in children.

Those working in administrative and university positions are significantly associated with preference for terminology. Those in diagnostic oriented positions are significantly associated with symptom selection and choice of like terminology.

A strong contribution of this study is that it reveals the need for the use of more adjectival language and less use of classificatory language. This study also emphasizes the need for follow-up surveys that will be more revealing of the diagnostic and therapeutic implications of the choice of terminology used in reference to aphasic disorders in children.