

Relationships Between Stammering and Aphasia

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Although I have been a practising Speech Therapist for over 30 years, have had a wide variety of experience in treating stammerers of many ages and types, have read and studied as widely as possible in a busy professional life, I have never yet heard or read an explanation of the aetiology of stammering which is even remotely satisfying. It cannot be denied that no method of treatment has yet been found which is successful in every case, or even in more than a comparatively small percentage of cases. Nevertheless, new theories are constantly put forward and each advocate claims to have discovered the treatment par excellence for this strange malady which has been known to exist for many centuries.

The cause has been attributed to faulty breathing — the "cure," therefore, being breathing exercises, etc.

The cause has been attributed to weakness of the tongue — the cure being intensive exercises or even, in the Middle Ages, surgical operation or the use of some mechanical device for supporting the tongue during speech.

There have been psychological explanations by the dozen — emotional problems of the individual being blamed for the "conflict between the desire to speak and the desire to remain silent" (Macdonald Ladell)⁽¹⁾. The speech difficulty has been attributed to a discrepancy between the rate of thought and the rate of utterance⁽²⁾; to the lack of "complete maturation for highly-corticalized, one sided gradient for smooth verbal expression"⁽³⁾; to a difference in the speed of impulses sent out from the right and left hemisphere; and (taking a further step towards the neurological rather than the psychological explanations which have held the field for so long) to some slight undetected lesion in the Central Nervous System, probably in the region of the Corpus Striatum.

Cluttering has been defined as "a speech defect wherein excessive rapidity, slips of the tongue, iterations and indistinctness predominate" (A. Moolenaar-Bijl)⁽⁴⁾. The confusion and the distinction between cluttering and true stammering still, however, remains somewhat vague — Leopold Stein in treating of cluttering writes as follows: "The over-rapid speech and re-iteration bring to mind disturbances of speech caused by diseases of the mid-brain." He compares it to the type of speech which is "found in patients suffering from organic diseases of the striopallidar system (e.g.

encephalitis lethargica, pseudo-bulbar palsy). Occasional fits of weeping and outbursts of temper seem to support this assumption. The impairment of the co-ordination between mentation and verbalisation is the distinctive feature of some types of aphasia."⁽⁵⁾ In another chapter he makes the following statement: "Numerous investigations of the stammerer's constitution which are, however, not yet sufficiently complete, emphasize the striking frequency of signs relating to an inferiority of the lower brain centres (striopallidum, thalamus, hypothalamus) and the vegetative nervous system."⁽⁶⁾ These opinions intensify rather than reduce, the confusion which prevents a clear-cut division between cluttering and stammering. The distinctions made by Freund and quoted by Stein in his book are as in Figure I.

In the opinion of the writer, many of these statements are only valid in a limited number of cases and cannot be taken as a general guide. What does emerge is that whatever the underlying organic condition may be, the resultant disorder is intellectual in nature. It is in the formulation of thought that the fundamental imperfection is found. Consequently the most satisfactory explanation of stammering would seem to be that which was propounded by C. S. Bluemel, namely that hesitation in speech is due to a corresponding hesitation in thought. His particular method of treatment is not one which would appeal to every Speech Therapist nor be likely to succeed with every stammerer — there are too many other complications to be considered in relation to stammering. Nevertheless, as an explanation of the fundamental "predisposition" which has been postulated in vague terms for many years, it would seem to be more satisfactory and is certainly more definite than most of the explanations which have been put forward up to date.

The psychologists have held the field for many years with their assumptions that stammering as a symptom can be explained in terms of emotional trauma of every variety — ranging from interference with the patient's native handedness (causing resentment), jealousy, neglect, over-protection, etc. to marital disharmony in the adult. The "precipitating" factor is considered to range from severe illness, frights and shocks of various kinds, to such emotional trauma as are listed above. Speech being an expression of thought and emotion, why should such experiences seize particularly upon speech unless there is a fundamental weakness in the ability to formulate thought. If one wishes (unconsciously) to cease to hold communication with one's

fellow-men, why not a hysterical aphonia rather than stammering? If one merely wishes (unconsciously) to escape the hurly-burly of life or a transitory unpleasant experience, why not "nervous dyspepsia" or a hysterical paralysis? If one wishes (unconsciously) to attract attention and prominence, there are other ways of doing so than by stammering. It seems reasonable to assume that the underlying cause upon which the neurosis is able to seize, is an inherent weakness in verbal imagery. This leads us to a consideration of "specific abilities." Again there does not appear to be any satisfactory explanation of the vast differences which are found in any group of society. In regard to intelligence Woodworth says the following:—

"Differences in intelligence are shown to depend in some slight degree, at least, on the stimulation received from the home and school environment, but most of the variation of intelligence in the population remains unaccounted for unless it be by heredity. Intellectual sex differences are slight and are largely dependent on social custom, but the most striking, like the girl's superiority in language, and the boy's in mechanical interest, may depend on heredity."⁽⁸⁾

vant to our subject if the above quotation read:—"siblings of identical heredity will select different environments," etc. In considering the stammerer, one is considering in many cases the "odd man out" — the person who hesitates and stumbles in a family of fluent speakers or maybe the one who has simply gone one step further in a rather inarticulate family. He may be a stammerer in a family of stammerers. The "specific ability" in relation to speech, may be undeveloped just as in many people artistic ability is undeveloped for reasons which probably cannot be explained any more than the manifestation of genius or special talent can be explained. It does not seem possible to account neatly and definitely for individual variations in specific ability — "Ability resides in organic structure, but as we cannot practically observe a living man's brain structure our evidence of his abilities always comes down to a matter of observed or probable performance."⁽¹⁰⁾

Miss Kingdon-Ward in her book on Stammering (1941) makes the statement that "any thorough study of stammering must include some study of aphasia." Let us then examine the usual conceptions of aphasia and try to discover any connection between these and the preceding remarks on

	<i>Stammering</i>	<i>Cluttering</i>
Awareness of the disorder	yes	no
Concentration on the disorder	yes	no
Speech in the presence of strangers	worse	better
Speech when at ease	better	worse
Brief definite answers	difficult	easy
Repetition of at first faulty sentences	often worse	better
Essay writing, spelling	normal	mostly equally faulty

Figure 1.

(7)

We start here from the premise that girls possess greater language ability than boys, and it is well-known that the incidence of stammering is far higher in boys and men than in girls and women. But while heredity and environment are considered to play equally important parts in the development of specific abilities, there is again no clear-cut explanation to account for individual differences in children who are subject to the same hereditary and environmental influences. Woodworth gives the following, which goes part of the way only:—

... "each individual selects his own environment in large measure and siblings of different heredity will select different environments. They prefer different toys, companions, radio programmes and reading matter, and so expose themselves to different influences. They are sure to be treated differently for it is practically impossible to treat two persons alike if they differ in intelligence or personality."⁽⁹⁾ It would be more rele-

stammering. Head defined aphasia as "a disorder of symbolic formulation and expression" the symbols in this case being words — words heard, words read, words uttered, words written, words used as tools in the formulation and expression of the person's thought. There have been many classifications of the different forms of aphasia — the basic one being, of course, the division into Sensory and Motor, Receptive and Expressive (or Executive). Head's further subdivision, although it is now considered too limiting and not truly descriptive of the many manifestations found in aphasic patients, still remains for the writer the most helpful as a general guide both to diagnosis of individual symptoms and to treatment. His four categories are as follows:—

Verbal aphasia — "defective power of forming words, whether for external or internal use."
 Nominal aphasia — "a disturbance in the use of words as names and a difficulty in appreciating

the nominal significance of words”

Syntactical aphasia — “lack of that perfect balance and rhythm necessary to make the sounds uttered by the speaker easily comprehensible to his auditor.”

Semantic aphasia — “characterised by want of recognition of the ultimate significance and intention of words and phrases apart from their direct meaning.”

(The writer has frequently found that patients who have made considerable recovery from one of the first three, are left with the inability to grasp the full significance of a passage — i.e. the semantic form).

In the aphasic all the manifestations are caused by damage to the brain, to the “organic structure” mentioned above, either to the cortex itself or to associative fibres linking one area of the cerebrum with another. According to the beliefs of some neurologists, knowledge of the site of the lesion will indicate the type of language impairment which may be expected. How then, does all this link up with our hypothetical view of the basis of stammering? Is it not permissible to assume that in the person who stammers certain cells have failed to develop to the normal extent, there is incomplete maturation of the central nervous system — a weakness which deviates so slightly from the normal that it may not even be revealed until the person is subjected to some particular

stress or strain or great fatigue. Supposing the child who stumbles and stammers in his eagerness to tell his mother: “I saw a b-b-bunny rabbit” has really some weakness in verbal imagery which makes him akin to the aphasic suffering from an inability to remember names — nominal aphasia. The usual explanations of stammering, of becoming conscious of the sound “b”, speech-conscious, worried about speech, etc., would still hold good, but what of the hundreds of children who are subjected to similar influences and “wrong handling” by parents and still come through the experience unscathed. One might, in the same way, compare the aphasic suffering from syntactical aphasia to the stammerer who (quite apart from the actual stammer) has great difficulty in expressing himself in words. The stammerer who is incapable of clear thinking, of giving definitions, who is amnesic and loses the thread of his discourse — has a kinship with the semantic aphasic. Finally the extra-ordinary contortions of the speech organs performed by many stammerers in their attempts to utter are akin to the apraxia of the mouth which is seen in so many patients suffering from “verbal” aphasia. Has apraxia been clearly explained except in terms of the outward form?

One can find other correspondences — for example, there is the stammerer who expresses himself fluently in writing where the act of uttering is difficult; there is the aphasic in whom the power to

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write is relatively unimpaired where the power to utter is grossly impaired; there is the stammerer whose speech is more fluent in reading aloud than in conversation; there is the aphasic to whom the printed word conveys considerably more meaning than the spoken word.

Finally let us consider the type of stammer which is often manifested in aphasics who have made a considerable degree of recovery. This is generally labelled a pseudo-stammer and attributed to a lack of co-ordination between brain and muscle. It may be likened to the attempts of an unskilled carpenter to hit a very small nail on the head with a very small hammer — he is unlikely to aim perfectly the first time he tries. The same applies to any skill — to the golfer or tennis player learning to hit the ball, to the sculptor chiselling a block of stone. Woodworth draws a distinction between a man's ability and his capacity. May not the skill i.e. the "capacity," which is destroyed in the aphasic, be innately lacking in the stammerer, just as the ability of a Henry Cotton or a "Little Mo" or an Epstein to develop a special skill is innately lacking in me.

In conclusion I should like to describe one patient whose symptoms stimulated me to think on these particular lines.

She is a woman aged 48, happily married with three healthy children. The stammer is reputed to date from the age of 3, but became noticeably worse about the age of nine when it was attributed by a psychiatrist to unconscious jealousy of a more brilliant and attractive sister. When she was referred to me for treatment, the stammer was of the clono-tonic variety. It does not affect any particular consonants and is non-variable. She is an artist by profession, in a very unusual individual medium, and her visual sense is highly developed. She is also intensely musical. Her auditory sense is, therefore, developed in one direction but upon investigation it was found that her sense of words is exceptionally poor. She has no real interest in them acoustically as musical sounds, and her vocabulary is poor in relation to her cultural background. Her memory span for words is abnormally short. It was found that she had great difficulty in remembering more than three nonsense syllables spoken in sequence. We gradually trained her to repeat five with effort. She also complained that she could not remember telephone numbers for even a few seconds. We trained her first of all to repeat telephone numbers, then car index numbers. After that we proceeded to poetry, first of all selecting poems with very short lines. She had difficulty in repeating even one short line, but after some weeks of practice became able to repeat a verse of four lines. Gradually, we introduced poems with longer lines. The next step was to read short stories asking her to re-tell them

in her own words. She had great difficulty in doing this, but improved with practice. We also set her to define various objects or words and to paraphrase proverbs and the like, but she invariably described such activities as "torture."

During this time we were constantly building up her confidence and helping her with the emotional difficulties which had grown up around her speech. She reported that when she was nervous on social occasions she "reversed her sentences." She is undoubtedly one of the relatively few patients I have known whose speech is infinitely better when she is paying particular attention to it.

These are random thoughts upon a controversial subject and it may be that my conclusions are nonsensical. On the other hand it may be that they will stimulate others to further investigation on these lines or provide a missing link in investigations which have already begun. It is certainly upon these lines that the writer intends to carry out research. If these conclusions are true, the treatment of stammering will be to some extent revolutionised and undoubtedly simplified. The psychiatrist, the neurologist and the speech therapist would work in close co-operation, each making a contribution, for, whatever may be the ultimate origin of stammering, the influence of emotional trauma will always play an important part.

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