

The Aristotelian Mode of Thought Underlying Research and Theorizing in the Field of Stuttering*

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Introduction

It is the writer's contention that the difficulties inherent in the field of speech therapy have been underestimated and misunderstood. It is a common supposition that the problematic nature and outcome of therapy are caused by insufficient factual knowledge, and that the remedy is further research in order to build up our store of basic facts. It is believed that when this is accomplished, a creative theorist will arrive to conceptualize and organize this data into a comprehensive theory indicating the significance of, and the interrelationships between the facts as known, thereby providing a scientific basis for therapy. This leads to an acceptance of all research as being valuable in that, if nothing else, it contributes to our basic store of knowledge.

For the speech therapist, both facts and theories are tools. Theoretical understanding alone is insufficient; in addition the therapist has to apply his knowledge in actual therapy. It is essential, therefore, that the theories and facts he brings into the therapy situation be of the type that allows him to take cognizance of the individuality of each patient, in order to devise an effective therapeutic programme. It is the individuality of each case that, in the writer's opinion, is the crucial problem in speech therapy.

In 1931 Kurt Lewin¹ criticized contemporary psychology for its acceptance of an Aristotelian mode of thought. Lewin considered that this acceptance precluded our understanding of the individual as an individual. This paper will discuss Lewin's criticisms in order to assess how applicable they are to the field of stuttering research and theory. By implication, a similar discussion could be held on other areas in speech therapy.

Some Characteristics of Aristotelian Thought

Aristotle considered that not all physical processes are lawful, and used the regularity or frequency of occurrence of an event as a criterion of lawfulness. Only events certified by their repetitive nature as being lawful were considered to be conceptually intelligible and

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thus of scientific interest. Individual events, i.e. those occurring only once or infrequently, were considered to be fortuitous or due to chance and therefore not lawful. It follows from this that for Aristotle the individual event, the *exception to the rule*, does not constitute disproof of the rule.

A further aspect of Aristotelian thought is to consider that having defined a particular class of events because of the frequent occurrence of those events, one has also defined the essential nature of those events. According to Aristotle, every object tends towards perfection and the realization of its own nature in so far as this tendency is not hindered or disturbed by outside forces. But, since this nature is for Aristotle that which is common to the class of objects, we find that the class is both the concept and the goal of the object, i.e. it both defines the object and explains its behaviour.

In summary, Aristotelian thought has as maxims:

- (a) Frequency implies lawfulness.
- (b) Individual events are fortuitous.
- (c) Exceptions to the rule are not counter-arguments.
- (d) Class defines essence.

Group versus individual characteristics. Lewin, in discussing the effects of Aristotelian thought on research states:-

The fact that lawfulness and individuality are considered antitheses has two sorts of effect on actual research. It signifies in the first place a limitation of research. It makes it appear hopeless to try and understand the real, unique course of an emotion or the actual structure of a particular individual's personality. It thus reduces one to a treatment of these problems in terms of mere averages . . . it implies in addition to this limitation a certain laxity of research. (Psychology) is satisfied with setting forth mere regularities. The demands of psychology on the stringency of its propositions go no further than to require a validity *in general* or *on the average* or *as a rule*.¹¹

That this attitude is widespread in the field of stuttering is demonstrated by the following statements:

West:

Does stuttering have one cause? I do not know, but its uniformity of manifestation from person to person would suggest a uniformity of etiology. The differences of stuttering phenomena from case to case may be explained as individual variations due to physical, cultural, physiological, or even pathological deviations — factors independent of the syndrome of stuttering.¹²

Bloodstein:

. . . the complex life situations out of which stuttering grows can never exactly duplicate themselves from case to case. But it is clear that we can generalize about these situations, and a true explanation is achieved only by abstracting from them certain unvarying features . . .²

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Eisenson:

In spite of considerable individual variability, general tendencies could nevertheless be observed for stutterers taken together as a group.⁶

Freund:

Our above description of the processes underlying the pathogenesis of stuttering leaves open the enormous individual differences and tries to underline only the common features.⁷

The question to be asked is whether theories of stuttering based on an exclusion of individual differences, an emphasis on group tendencies and the abstraction of regularities across individuals, can form the basis for comprehending and integrating the unique characteristics of each stutterer. Theorists appear to accept that concentrating on and selecting common features is all that is necessary for an understanding of stuttering. Therefore, there is some reason to feel that on a theoretical level workers in the field of stuttering accept Aristotle's dictum that regularity defines the sphere of scientific interest. It would, however, be incorrect to say that these same workers are insensitive to the importance of taking into account the individuality of each case. They all advocate in their therapeutic suggestions that the therapist must treat every case as an individual. In actuality it is the empathy and intuitive understanding of the therapist on which they rely for the recognition of individual differences and unique personality characteristics — these differences being considered somehow to transcend scientific analysis.

Faced with so many variations amongst stutterers, some theorists accept the eclectic view that stuttering can result from many different factors. However, this is merely a means of coping intellectually with the diversity. The therapist, faced with his individual case, is not given any indication which factors are important and to what degree. To say that all factors are important to various degrees is mere common sense. Of what use then are the theories?

Research and theorizing have a reciprocal relationship — research stemming from theoretical issues and in turn providing data which must be included into a coherent theory. As an example of this relationship and as an exemplification of an acceptance of the Aristotelian approach, we will examine the fairly acceptable proposition: *Stuttering increases as the speaker is required to formulate the linguistic content.* This statement was made by Eisenson⁸ as a result of reviewing a number of studies dealing with changes in the incidence and severity of stuttering in various speaking situations. One of the studies Eisenson quotes is by Newman, on the adaptation effect in two situations — reading and self-formulated speech. Newman⁹ reported that stutterers had been shown to adapt to both reading and

spontaneous speech. No mention was made of any discrepant findings. It is on these results that Eisenson bases his conclusions. However, some time later (nine years), Newman¹⁴ reported that of his twenty subjects, six did not adapt in the reading situation and seven did not adapt in the self-formulation situation. The fact that individual stutterers showed in some cases opposite behaviours was not considered important enough to report; nor was it considered an invalidation of his conclusion. This is a clear example of how individual differences are ignored for the sake of conceptual neatness. Yet it is theories based on this sort of evidence that form the context for decisions in therapy. The end result is that if the patient is typical and shows problems or symptoms in common with other stutterers, we feel secure in applying to him whatever theoretical understanding we have of the average stutterer. However, if he does not fit within the bounds of the average stutterer, and presents individual and unique characteristics (which is the rule rather than the exception) and if we rely for our understanding on the above type of theory, then we are forced to limit our understanding to what is not unique and individual about him. We are thus, in a sense, treating fictional stutterers.

Use of statistics. Lewin, in discussing the effects of Aristotelian thought on psychology, writes:

The statistical procedure . . . is the most striking expression of this Aristotelian mode of thinking. In order to exhibit the common features of a given group of facts, the *average* is calculated. This average acquires a representative value and is used to characterize . . . the properties of *the* . . . child.¹⁵

It is necessary to examine closely the part played by statistics in under-emphasizing individual characteristics — statistics by its very nature being concerned with properties that are descriptive of the group or aggregation itself, rather than with properties of particular members (Ferguson¹⁶). J. G. Taylor^{15,16} has severely criticized the use of experimental design as a palliative for the scientist's uneasiness concerning the logical consistency of psychological theories. It satisfies his desire for logical consistency in that he can test any hypothesis, even the most trivial, in a rigorous mathematical manner, and thereby avoid the problem of producing theories or explanations of general validity, which will enable us to understand the individual as an individual.

The use of tests of significance of the difference between means has received specific criticism by R. Bakan¹ — their misuse indicating a deep-rooted acceptance of the Aristotelian approach to psychology. Bakan's criticism revolves around the confusion between induction to the aggregate and induction to the general. General statements apply to *all* members of the population to which they refer. A general

statement is therefore critically testable, since any exception is a threat to its validity. Aggregate-type propositions refer to the class of members considered as a group, and are concerned with characteristics of the class and not any particular member of the class.

In a typical experiment setting out to test an hypothesis concerning stuttering, a group of stutterers and a group of normals are tested under similar conditions. After the tests have been scored, and statistical calculations done on the data, it might be found that the means differ significantly at the 1% level of significance. What may legitimately be inferred from this result? — only that the *mean* of all normals is different from the *mean* of all stutterers on this test (accepting that the sample is random and reflects the characteristics of the population from which it was drawn). The test of significance does not relate to the characteristics of *each* member of the population. It is thus invalid to draw any conclusions as regards the characteristics of an individual stutterer. If the original hypothesis was concerned only with the characteristics of the class, then this statistical procedure would be valid.

One example of this confusion is contained in Johnson's well-known proposition that at the time of onset of stuttering it is not possible to differentiate between the child who stutters and the child who does not stutter by examining their speech behaviour. Johnson¹⁰ compared the nonfluencies of a group of children thought to stutter and those of a group of non-stuttering children. His statistical analysis of the scores obtained attempted to answer the following questions:

- (a) What are the distributions of the nonfluency measures for the two groups respectively?
- (b) What difference in the nonfluency measures can be demonstrated between the two groups?
- (c) To what extent do the various distributions of nonfluency measures for the two groups overlap?

Johnson concludes that *the question of whether or not a given child is or is not stuttering at any given moment cannot be answered by measuring or observing the nonfluency of his speech.*¹⁰ However, the question of whether or not a given child is or is not stuttering was not originally asked, and it is highly apparent that Johnson's statistical treatment of his data, being concerned with group tendencies, does not allow for any conclusions regarding individual stutterers. Much of the discussion centred on Johnson's conclusions has been concerned with the following inference: Johnson's attitude seems to be that because there is insufficient regularity in the characteristics of stuttering-type nonfluencies across individuals, the nonfluencies themselves

are of little scientific importance. He therefore suggests that we direct our attention away from the child's speech to the child's environment. Other workers have felt that the mere fact that we cannot *classify* the child according to his speech behaviour does not imply that a study of his individual speech pattern is not relevant to our understanding of stuttering. Johnson's argument is thus based on an invalid statistical inference and an acceptance of the Aristotelian maxim that regularity defines the sphere of scientific interest.

A further experimental procedure is to test groups of stutterers under different conditions. Again, a t-test might show significant differences in mean scores. Here the experimenter can legitimately infer that the mean of the general population of stutterers would be lower or higher under condition one than under condition two. But this applies only to the specific task done under these two conditions, and not to the general conditions themselves. (Bakan¹).

An illustration of this problem is Brown's experiment showing that stutterers stutter mainly on nouns, verbs, adjectives and adverbs (grammatical factor). From his results Brown⁴ made two inferences:

- (a) all stutterers would show this effect;
- (b) they would show this effect in all situations.

These experimental findings have been generally accepted in the field, and used in support of hypotheses concerning the learned nature of stuttering. However, Brown conducted his experiment with adult stutterers in a reading situation, and more recent experiments have shown that stuttering is not related in the same way to the grammatical function of words when measured in spontaneous speech (Hejna⁵); nor is there a similar relationship in the speech of young children who stutter (Bloodstein and Gantwerk³). Both of Brown's inferences appear, therefore, to be incorrect. It is important to note that the restricted nature of Brown's conclusions became apparent only more than two decades later when the above-mentioned two experiments were conducted. Up to this time theorists and therapists had accepted that Brown's conclusions were generally valid.

This discussion is not intended as a blanket criticism of statistics. The point being made is that statistics are of little use in arriving at an understanding of the individual person and how, for instance, the many factors characterizing stuttering are integrated in one person.

Confusion of class and essence. Johnson has frequently emphasized that we should be aware of the way we use language to convey reality. Statements are at different levels of inference or abstraction. He has specifically pointed out the error of confusing descriptive

statements such as *I repeat sounds* or *I stutter* with animistic statements such as *I am a stutterer* or *I repeat sounds because I am a stutterer*.⁹ The latter two statements imply that there is some force or entity within the person which produces the overt behaviour we describe as stuttering. This confusion, according to Johnson, results from semantic problems. It is also possible to see a deeper reason: abstracting common features of stuttering and then positing these common features as an explanation, is essentially the Aristotelian maxim of identifying class with essence, i.e. what is common between objects or events is also the true nature of these events. The idea of a force underlying the behaviour of the class of events, stems from Aristotle's identification of class and goal. Developmental psychology has been criticized essentially for this fault. Researchers dealing with norms of child behaviour or development tend to use the norms discovered through empirical investigation as explanatory devices. For instance, children are observed to be negativistic at a certain stage of development, and *negativism* is subsequently posited as the explanation for their behaviour. There are more subtle examples of this type of thinking. Stuttering has been found to develop in stages, but it is invalid to explain a child's speech behaviour by saying he is, for example, a transitional stage stutterer. Luper and Mulder advise the following procedure in planning therapy:

First of all, after reviewing available information, the examiner estimates the relative stage of development of the stuttering, for example he may decide that the child has reached Phase Two He then considers recommended treatment procedures for that phase of stuttering. For example, the Phase Two stutterer needs to change some basic evaluations about himself as a speaker.¹²

Luper and Mulder thus accept that having *classified* the child as a Phase Two stutterer on the basis of how similar he is to the average Phase Two stutterer, he therefore *is* a Phase Two stutterer and can be treated on the basis of this classification.

Lewin writes:

So long as one rewards as important and conceptually intelligible only such properties of an object as are common to a whole group of objects, the individual differences of degree remain without scientific relevance, for in the abstractly defined classes these differences more or less disappear.¹¹

Obviously it is necessary to have some conceptual framework by means of which to organize complex and diverse facts; but if one's conceptual framework is of the kind that screens out all but what is common between individuals, it must preclude a true understanding of the individual.

The Non-Aristotelian Approach

Having examined the thesis that Aristotelian thinking underlies some aspects of research and theorizing on stuttering, we can now ask what a non-Aristotelian approach implies.

Briefly, it consists of an acceptance of the following proposition: all events are lawful, independent of their frequency of occurrence. This leads to an extraordinary increase in the demands made upon proof. The exception becomes completely valid disproof of a general type proposition. As Taylor writes:

A genuine scientific law must account for the exception as well as the rule, and this implies that a successful experiment must involve a more detailed investigation of individual cases than is customary. The experimenter cannot rest content with a demonstration that the treatment produces the expected results in *some* subjects; he cannot have a true understanding of the laws of the system unless he can show that the same laws, operating on a subject who differs from the others in some particular respect, must produce different results.¹⁶

The criterion for acceptance of a theory within the non-Aristotelian frame of thinking therefore lies in the ability of the theory to predict individual differences, when within the general terms of the theory we substitute values derived from an individual. Taylor's statement has an important implication: the differences in subjects' responses in an experiment are understood by taking into account the individual characteristics of each subject. The fact that subjects respond differently can thus become proof, not disproof, of the law being investigated. Taylor's masterly and definitive work *The Behavioural Basis of Perception*¹⁷ exemplifies the type of theorizing and experimentation which is possible in the field of psychology.

An acceptance of the above proposition also implies that processes or events not occurring regularly or frequently are valid fields of scientific investigation. The unusual stutterer, who presents atypical characteristics, or the child with an unusual type of speech pattern, are of great importance since they might allow us to discern most clearly how stuttering is constituted in one individual. Therefore, in spite of the fact that it is unlikely that the experimenter would find a similar case, the detailed study of such individual cases is of scientific importance.

Taylor¹⁶ has argued that a psychological theory should not consist of a catalogue of variables in terms of their frequency of occurrence, but should explain how these variables hang together in the individual. It is this approach to the problem of stuttering that the writer considers will offer us the greatest possibility of attaining an understanding of the individual stutterer.

Summary

As a direct result of the prevalence of Aristotelian thinking in the field of speech pathology, research and theorizing has tended to ignore the individual, his unique characteristics and differences, and

to concentrate on what is common between individuals. The therapist is therefore faced with being unable to utilize effectively any particular theory, since none of them explains the unique attributes of the individual case with which he has to deal. A non-Aristotelian approach to research on stuttering seems to hold more promise of attaining an eventual understanding of the individual stutterer.

Opsomming

As gevolg van die oorheersing van die Aristoteliaanse denkwysie op die gebied van die spraakpatologie, vind ons dat die individu met sy unieke eienskappe en verskille, misken word deur navorsers en teoretici. Daar word meer gekonsentreer op wat algemeen is in verskillende individue. Die terapeut vind dit moeilik, of selfs onmoontlik om effektief gebruik te maak van enige teorie, aangesien nie een die unieke kenmerke van die individu wat sy behandel, bespreek nie. Dit blyk dat 'n nie-Aristoteliaanse benadering vir navorsing oor hikkel ons nader sal bring aan die uiteindelijke kennis van die individuele hikkelaar.

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