The Problem of Relapse in Stuttering: Some Thoughts on What Might Cause It and How to Deal with It

Alan G. Kamhi
Memphis State University

Bloodstein recently wrote that "the most vital part of science is not accurate measurement or the insistence on empiricism. It is an attitude of inquiry into the how and why of things" [Bloodstein, O. Foreword. In: Maintenance of Fluency (E. Boberg ed.). New York: Elsevier, 1981, p. vii]. In the paper below, I present some unsubstantiated and no doubt controversial thoughts on the how and why of relapse in stuttering. The overall thrust of these thoughts is that stutterers have different propensities to stutter because of the inherent variability in their speech production systems. For this reason, for therapy to have long-range success, stutterers must learn to accept and deal with the inherent variability in their speech production mechanisms.

In spite of varying theoretical orientations, many investigators view stuttering as a breakdown in the coordination of the speech production processes of respiration, articulation, and phonation (Adams, 1974; Perkins, 1979; Van Riper, 1971; Wingate, 1976). Although there are many theories about why stutterers are more likely than nonstutterers to have difficulty temporally coordinating the speech production processes, the etiology of stuttering remains scientific conjecture. For this reason, therapy for stutterers has traditionally focused on the symptomatology of stuttering rather than its etiology.

A wide range of therapeutic procedures have been relatively effective in decreasing the speech and nonspeech behaviors associated with stuttering. These procedures typically have been less effective, however, in eliminating core-stuttering behaviors on a long-term basis. Few clinicians would disagree with Perkins (1979) when he says that
maintenance of fluency is the weak link in the therapeutic chain. All clinicians who have worked with stutterers know the problem of relapse and are aware of the need to incorporate therapy procedures which deal with this problem. As Perkins (1979, p. 101) notes, some stutterers can forestall the "day of reckoning" for a relatively long period of time, but inevitably the collapse occurs. He cites one man who forestalled his day for almost three years. As creative a clinician as any, Perkins reports trying many different strategies to maintain the fluency established in therapy, including skill-maintenance groups, counseling groups, self-help groups, individual sessions, marathon sessions, refresher courses, family involvement, tape analysis, self-help contracts, prosthetic devices, and even hypnotism. Perkins concludes (1979) that "most of these techniques have been helpful to some, but none has approached our shaping and transfer procedures for universal effectiveness" (p. 119).

The purpose of this paper is to present some of my own thoughts on the problem of relapse or maintenance of fluency. These ideas derive from my experiences as a researcher, clinician, and probably most important, as a stutterer who has had to personally deal with the problem. If there is an underlying theme to these thoughts it is that clinicians who use fluency-oriented therapy programs (e.g., Webster, 1975; Shames and Florance, 1979) should cease pretending that the majority of stutterers will be able to maintain fluent or stutter-free speech on a long-term basis. Reducing our expectations and those of the stutterer will allow us to more honestly and effectively confront the relapse problem in therapy.

In Gregory's (1979) introduction to his recent book on controversies in stuttering therapy, he summarizes the general goals clinicians and stutterers have strived to attain in the maintenance phase of therapy. Although clinicians might use different terms, the general thrust of this therapy phase is to transfer the external reinforcement and monitoring of speech from the clinician to the stutterer. The stutterer must learn to self-monitor his speech, while the external reinforcement must be changed to internal reinforcement. One does not have to be familiar with the literature in learning theory to know that external reinforcement must be changed to self-reinforcement if a certain behavior (in this case, fluency) is to be maintained.

There are at least two serious shortcomings, however, in some of the recently published descriptions of maintenance phases in therapy (see,
The Problem of Relapse in Stuttering

for example, Shames and Florance, 1980, for a representative description of this therapy phase). The first one is that the stutterer is made to believe that the etiologic factors which underlie the stuttering problem have been eliminated and thus will no longer cause disruptions in speech production. But these factors have of course not been eliminated. Instead, the stutterer has been taught ways to significantly reduce the number of breakdowns in the speech production processes (e.g., by decreasing speech rate). The second shortcoming is that maintenance stages in therapy do not acknowledge the fact that the propensity for breakdowns in the speech production processes varies among stutterers as well as within individual stutterers. That is, not only do different stutterers have different propensities for speech disruptions, but an individual stutterer's propensity for speech disruptions is quite variable as well.

Some of Van Riper's conclusions to his 1971 book on the nature of stuttering are consistent with this notion of "propensity" to stutter. Towards the end of the book Van Riper asks the question of why there are relatively few stutterers. He answers that maybe stutterers represent the extreme end of the normal distribution in coordinative ability or stress vulnerability. That is, for whatever etiologic reason, stutterers are poorer than nonstutterers in coordinating the speech production processes. But despite being at the low end of the normal distribution in coordinative ability, most stutterers are not so poor in these abilities that they never will produce fluent speech. They are simply more prone (i.e., have a greater propensity) to have breakdowns in the speech production process. These breakdowns can be brought on by external or internal factors. External factors include such things as situation fears, word and sound fears, and linguistic factors. It has been shown, for example, that complex syntactic structures and multisyllabic words are associated with more disfluencies in stutterers as well as in nonstutterers (St. Louis, 1980). Internal factors include such things as mental alertness, emotional state, and speech motorics.

Of these external and internal factors, one of the most important is the stutterer's speech motorics. In a recent series of articles Zimmermann (1980a,b,c) has found that stutterers seem to have more variable motorics than nonstutterers. Zimmermann notes that a speaker produces fluent speech by moving his articulators within specific ranges of velocity, displacement, position, and timing. When these ranges are exceeded,
repetitive or tonic behaviors develop. According to Zimmermann, nonstutterers rarely exceed these ranges, whereas stutterers do. Variability in stutterers’ speech motorics is clearly responsible for at least some of the breakdowns which occur in the speech production processes. It seems likely that this variability plays a crucial role in precipitating stuttering in young children and might explain the frequent periods of remission that often occur in children. It is my belief that this variability in stutterers’ speech motorics also precipitates many of the relapses experienced by adolescent and adult stutterers.

The notion of variability in speech motorics is best understood by comparing speech to other activities that also require precise coordinative abilities, such as playing tennis, basketball, or the piano. Excluding professionals in these skills, there is a great deal of variability in most people’s performance of these activities. In fact, probably the major difference between professionals and nonprofessionals is that the professional, through practice and some degree of “innate” skill, has managed to reduce much of the variability in his or her performance. An inverse causal relationship seems to exist between the degree of variability in performance and skill level. Those with the most variability have the poorest skill. Applying the analogy to speech, those individuals with the most variable speech motorics should be poorest in accurately coordinating the speech production processes. I would hypothesize that individuals with the most variable speech motorics are often stutterers.

Two caveats are necessary at this point. First, I do not wish to imply by the previous analogy that speech and nonspeech skills are completely similar. The variability permissible in speech is significantly less than the variability permissible in motor skills which are not species-specific. Biological forces limit the amount of variability in speech motorics, making the speech skills of humans more comparable than would otherwise be the case. Second, although I have argued that variable motorics is causally linked to stuttering, I am not suggesting that variable motorics is the underlying cause of stuttering. That is, what causes some individuals to have more variable motorics than others has not been explained. Possibilities include abnormal dominance, structural abnormalities, and vulnerability to stress.

The most important implication of the contention that stutterers have more variable speech motorics than nonstutterers is that this inherent variability in their ability to accurately program the speech production
processes must be dealt with in therapy. The stutterer must be informed that variability is the norm, not the exception, and that some days he or she will speak worse than other days for no other reason than the speech production system is not "working" well that day (i.e., speech motorics are more variable than normal). Just as people expect their tennis games to vary, stutterers must learn to expect that their speech will vary. It is no coincidence that most stutterers report such variability in their speech. Unfortunately, clinicians typically attribute the variability in stutterers' speech to external factors such as stressful speaking situations and word fears and fail to consider the influence of internal factors such as variations in speech motorics. Acknowledging the importance of internal factors on stutterers' speech seems necessary for therapy to be successful.

Stutterers thus should be believed when they report that what they fear most is not knowing when they will stutter, or, in other words, when the system will unexpectedly break down. This is not to say that many stutterers also do not fear situations in which they "know" they will stutter. They certainly do; but if my clinical and personal experiences are representative of the stuttering population, stutterers detest the variability and surprise factor in their speech as much if not more than the anticipated and predicted difficulties.

As I suggested earlier, the variability in speech motorics of stutterers probably precipitates many of the periods of relapse experienced by mature stutterers. Since the therapy approaches now available to us can only teach the stutterer ways to reduce the variability in speech motorics and not eliminate the underlying cause of this variability, the stutterer must be taught to expect and deal with the periods of relapse that will inevitably occur. The claim is not that fluency-inducing procedures, such as easy onset of phonation and slowed rate of speech, are not effective. They are in fact quite effective in reducing the inherent variability in stutterers' speech motorics. Unfortunately, it is a rare stutterer who will never deviate from the therapeutically trained speech pattern and deviations inevitably lead to breakdowns in the system. Moreover, it is even a rarer stutterer who will never have a bad day, "motorically" speaking. For many stutterers, recurrences of stuttering following periods of remission reawaken previously suppressed but not forgotten fears and negative emotions associated with stuttering. Without intervention, the stutterer is often soon back to his or her "old self."

Some stutterers necessarily have a greater propensity for break-
downs in the speech production system than others because of a greater amount of variability in speech motorics. A greater amount of variability is presumably caused by a stronger etiological component. For example, stutterers at the low end of the scale in cerebral dominance or stress vulnerability would be expected to have more variable speech motorics than stutterers with "weaker" etiological histories at the other end of the scale.

Is there any way to break the vicious cycle of remission and relapse of stuttering? It is my belief that there is no way to entirely eliminate the good and bad periods of speech or speech motorics, but it is possible to make the cycle an innocuous one rather than a vicious one. To do this several things must be accomplished. At some point in the therapy process the stutterer must become desensitized to his stuttering. The association between stuttering and negative emotion must be broken. Also, anticipatory avoidance behaviors and fear reactions must be eliminated. Stuttering must be reduced to its core, i.e., repetitive and tonic disruptions of speech. Achieving these two goals should result in a "happy" stutterer who is no longer controlled by his stuttering. For many years the creation of a happy stutterer was in fact the primary goal of therapy (e.g., Sheehan, 1970). For mild stutterers whose propensity for speech disruptions are relatively low, such a goal is often the most appropriate one. For more severe stutterers, however, another approach is needed. To be the most effective, this approach should in some way combine the fluency establishment procedures of the more recent therapy programs with procedures that reduce the negative emotion associated with stuttering and eliminate anticipatory avoidance behaviors.

Regardless of the severity of the stutterer, one of the most important components of an effective therapy program is teaching the stutterer about the capabilities and limitations of his speech production system. Stutterers must learn to use their stuttering as a way to evaluate how well they are functioning motorically. They must learn to differentiate between breakdowns caused by external factors and those caused by internal factors. Presumably, by the end of therapy, breakdowns brought on by external factors (i.e., anticipatory avoidance reactions) will be eliminated, so only those precipitated by internal factors will remain.

How should the stutterer deal with breakdowns brought on by internal factors, such as variability in speech motorics? Before attempting
to answer this question, it is important to remember that these breakdowns are often not caused by lapses in speech monitoring or failure to use speech controls; rather, they are precipitated by the inherent variability in the speech production system. For this reason, implementing speech controls and previously taught fluency-enhancing techniques is not always effective in eliminating these breakdowns.

An increased number of breakdowns in speech or particularly severe breakdowns can lead to a relapse in stuttering. Confronted with a relapse in their speech, many stutterers will telephone their clinicians and/or schedule a visit to the Speech Center. But when do these confidence- or fluency-booster visits end? They usually end with the stutterer realizing that the cycle is endless or when funds are depleted. The frequency of these confidence-booster visits can be reduced only by teaching stutterers how to deal with the periods of relapse so that they can in fact become their own therapist.

Two objectives seem to underlie effective efforts to deal with the inevitable periods of relapse. First, stutterers must not allow the old stuttering fears and avoidance behaviors to resurface. Second, stutterers must try to reduce the duration of the relapse period. The best way to ensure that the old stuttering fears and avoidance behaviors do not resurface is to keep the relapse period short.

The question that remains, then, is how to minimize the duration of the relapse period. The worst thing a stutterer can do during this period is to stop talking or to talk only when the situation demands it. Stutterers need to remind themselves during these times that the way fluency was increased during therapy was through talking. But talking is only part of the remedy; stutterers must also talk well, using the fluency-enhancing techniques they were taught in therapy. In order to effectively implement these techniques, stutterers must talk in situations in which it is relatively easy to implement these techniques. Just as in therapy where a hierarchy was used to lead a stutterer from easy to more difficult situations, the posttherapy stutterer also must use some type of hierarchy to reestablish his or her more fluent way of talking. For example, it is generally easier to use fluency-enhancing techniques in speech situations that offer the opportunity for relatively long periods of talking without frequent interruptions. Such situations allow the stutterer to reacquire the "feel" of normal prosody. Therapy of course provides a good opportunity for long
monologues to occur, as do lecturing and story telling. Unfortunately, most of the speaking situations that stutterers (nonstutterers, too) typically encounter during the day do not. Normal conversation and the telephone are often too interactive, while inquiries and responses to inquiries are generally too short. The stutterer, therefore, must create speaking situations in which he or she will have the opportunity to speak without interruption for an extended period of time (e.g., five consecutive minutes). With some practice stutterers soon will learn which speaking situations are the most effective for them in reducing the duration of the relapse period.

Stutterers who are aware of the physiological limitations of their speech production system will also know that their speech motorics will be more variable in certain situations, for certain articulatory movements, and for certain speech acts (e.g., questions). Such knowledge should help further reduce or perhaps eliminate whatever fears and avoidance reactions that still might be associated with some situations and linguistic variables. This knowledge also should reduce the likelihood of any particular breakdown in speech resulting in a total relapse to old stuttering behaviors.

In conclusion, clinicians and stutterers must learn to accept and deal with the inherent variability in stutterers' speech motorics. Only by learning about the physiological limitations of their speech production system and ways to compensate for these limitations will stutterers be able to change the vicious cycle of stuttering remission and relapse to an innocuous one in which variable motorics and breakdowns in speech are expected rather than feared.

REFERENCES


The Problem of Relapse in Stuttering


