

THE HAWTHORNE EFFECT

**AND ITS RELATIONSHIP
TO CHRONIC
STUTTERING**

By John C. Harrison

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In 1927 the Western Electric Company at its plant in Hawthorne, Illinois, began a series of studies on the intangible factors in the work situation that affected the morale and efficiency of shopworkers -- studies which Professor T. F. Gaultschi of Bryant College called "perhaps the most important and influential pieces of scientific research ever done in the psychology of work.

I remembered the Hawthorne Studies from Sociology 101; in fact, they were the only thing I ever remembered from that class. But it wasn't until 40 years later that I suddenly realized that the Hawthorne Studies had profound meaning in the understanding of chronic stuttering.

UNDERSTANDING THE HAWTHORNE EFFECT

A little history: The Hawthorne plant was the manufacturing arm for the telephone companies of the Bell System. It employed over 29,000 men and women in the manufacture of telephones, central office equipment, loading coils, telephone wire, lead-covered cable, toll cable, and other forms of telephone apparatus.

In the mid-1920s, the Hawthorne plant undertook a series of studies to investigate how it could improve worker output. In particular, the company was interested in discovering whether manipulating the lighting, break schedules, and other workplace conditions would lead to higher production. It was thought that even slight improvements could have significant impact on the company's bottom line because of the enormous volume of products that the plant turned out for the Bell network.

One of the earliest experiments involved a group of six women

from the coil-winding production line. These volunteers were pulled from the line and relocated into a smaller room where various elements of the environment could be manipulated.

The first experiment looked at whether changing the intensity of the lighting in the working environment would have a positive impact on production. The experimenters started out with the same lighting intensity the workers were used to on the production line. They then increased the light a few candlepower.

Production went up.

Pleased with the results, they increased the room light by another few candlepower.

Production went up again.

Now, quite confident that they were on to something, they continued to increase the room lighting a little bit more each time until the illumination in the room was several times the normal intensity. At each increment of change, the production of the six women continued to rise.

At this point, the researchers felt a need to validate their hypothesis that better lighting was responsible for the increased output, so they brought the lighting intensity back to the original starting point and dropped it by a few candlepower.

To their surprise, production continued to go up.

Was this a fluke? Simultaneously bothered and intrigued, the research team reduced the lighting by another couple of candlepower, and sure enough, production continued to rise. They continued to reduce the illumination in the room until the women were working in the dimmest of light. At each lower lighting

increment, production was still a little bit higher, and it continued to rise until the lighting was so dim that the women could barely see their work. At that point, their output began to level off.

What was going on?

It was clearly not an improvement in lighting that increased production, especially since production continued to rise in the face of less favorable lighting conditions.

After testing numerous other environmental factors, the answer emerged. Although these changes in the work environment did have some lesser effect, the reason for the higher production lay in the fact that bringing the workers together allowed them to coalesce into a cohesive group, and it was the creation of this group dynamic that had a profound effect on the mindset and output of each individual group member.

To better understand what happened, let's look more closely at the differences between the two work environments and how these differences impacted the women in the coil winding room. While they were just nameless cogs on the production line, the workers lacked any sense of importance. They had few meaningful associations with their co-workers.

Their relationship with their boss was primarily adversarial. He (and it was always a "he") was the whip cracker, exhorting them to work harder and faster. There was little personal responsibility for turning out a quality product. Someone else set the standards, and they just performed according to instructions. There was not much pride in what they did.

It was, to conjure up a familiar phrase: just a job.

But all this changed when the six women were pulled from the

production line and given their own private workspace. From the very beginning they basked in the attention paid to them by the research team. Each of the women was not just an impersonal face on the production line. She was now a "somebody."

Because the women were organized into a small group, it was easier to communicate with one another, and friendships blossomed. The women began to socialize after hours, visiting each other's homes, and often joining one another in after hours recreational activities.

The relationship with their immediate supervisor also underwent a transformation. Instead of being a feared boss, the supervisor became someone they could turn to, someone who knew them by name, and who was likely to pay them a compliment if they were doing well.

He was also someone that each woman could appeal to directly if there were a problem to be addressed. A group identification formed, and with it, a pride in what they were able to accomplish. All these factors contributed to the higher performance levels of the group.

The coil-winding room study was just one of many experiments conducted over a five year period. The results of the Hawthorne Studies were eventually recorded in detail and published in a 600-page book by a professor at the Harvard Graduate School of Business Administration and two senior management executives at Western Electric Company's Hawthorne Works.

Of the various conclusions drawn, perhaps the most significant was this -- that one could understand the positive improvements only by looking at each work group from the perspective of a social system. In short, it was not any one thing that accounted for the improved performance of the women in the coil winding room. It

wasn't the lighting or other physical changes in the working environment, although some of these changes undoubtedly helped.

The improvements that took place were primarily explained by the impact of the social system that formed and the ways in which it impacted the performance of each individual group member. In a concluding chapter of the study, the authors commented that:

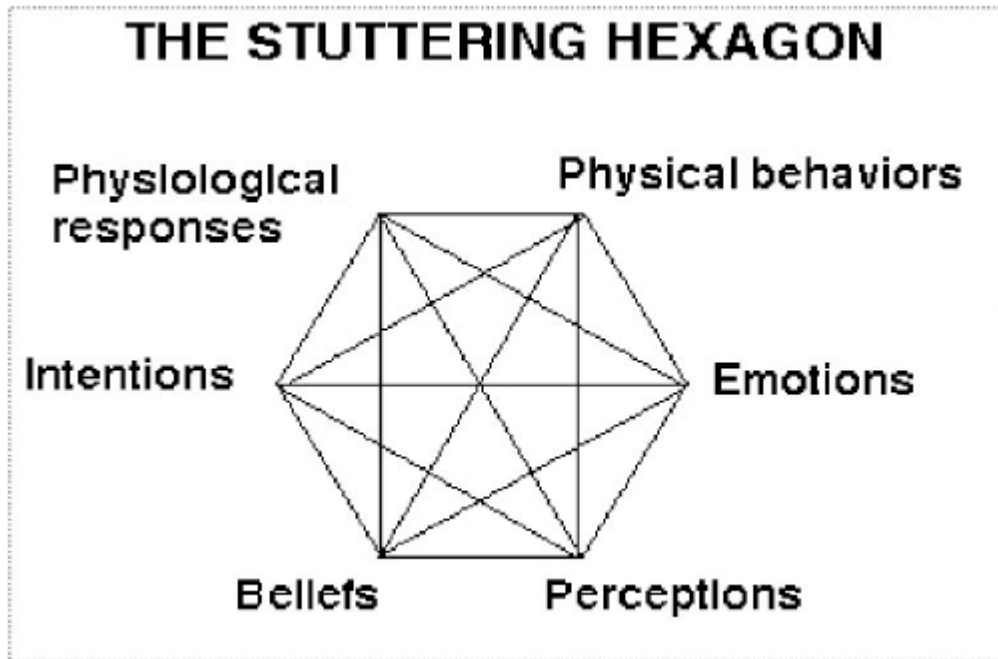
The work activities of this group, together with their satisfactions and dissatisfactions, had to be viewed as manifestations of a complex pattern of interrelations.

Over time, this phenomenon came to be known as the Hawthorne Effect.

THE HAWTHORNE EFFECT AND CHRONIC STUTTERING

I was particularly excited when I came upon the Hawthorne Effect, because the words used by the authors were almost identical to the words I had used to describe the phenomenon of stuttering. The authors described the relationships in the coil-winding room as a system *"which must be considered as a whole because each part bears a relation of interdependence to every other part."*

Similarly, in an earlier essay ("Introducing A New Paradigm for Stuttering") I wrote that stuttering can be more accurately understood as an interactive system comprising at least six essential components -- behaviors, emotions, perceptions, beliefs, intentions, and physiological responses.



In this model, each point affects, and can be affected by, every other point, so that a change anywhere will be felt at every point throughout the network, like a drop of water falling upon a spider's web.

I had arrived at that concept after hundreds of therapy sessions, personal growth programs, 48-hour marathon encounter sessions, a few LSD trips, psychodrama classes, and other confrontive activities that stripped me of many of the walls I had built up as a child. (California was awash in these personal growth activities in the mid-to-late 60s).

Through these activities, I was able to see that what I previously thought was a speech problem was actually not a single problem at all, but the by-product of the synergistic relationship of a number of factors working in concert. I discovered that this interactive model could not only explain the mindset that created chronic stuttering, *it could even explain the mechanics of the stuttering block, itself.*

This system perspective, however, is not an easy concept for many people to accept, especially those who like simple explanations.

A MULTI-FACETED PROBLEM

It is tempting to look for the single cause of stuttering, because casting it as a unitary problem makes it easier to address. There are researchers who believe that stuttering is caused by some glitch in the brain and have dedicated their lives to finding that cerebral anomaly.

There are others who believe that stuttering is an emotional problem. Or a timing problem. Or some other kind of unitary problem. Martin Schwartz in his book *Stuttering Solved* even postulated that one day people will be able to make their stuttering disappear, simply by taking a pill.

Their thinking is similar to that of the four blind men who tried to describe an elephant by each grabbing onto a different part of the beast -- the trunk, leg, ear, tail. The first portrayed the elephant as squirmy and snake-like while the second described it as round and firm as a tree. The third blind man described the elephant as broad and thin as a palm leaf, while the fourth concluded it was small and rope-like. People will shape their thinking according to the limited way they view the subject at hand. What confuses the issue is that each person is partially correct because, like the four blind men, each is able to accurately describe a piece of the puzzle.

Let's say that someone decided that the six Hawthorne workers in the coil winding room improved their performance because they developed a better emotional attitude toward their work. This presumption would have been correct. There was no way the women could feel better toward management, their work, and each other without first undergoing a shift in attitude. Yet, it was more than their positive emotions that contributed to the change.

Their *beliefs* about management and about themselves also underwent a positive shift. Management was no longer seen as indifferent or exploitive, but instead, supportive and nurturing. Similarly, the way they *perceived* their boss changed dramatically.

They no longer saw the relationship as a we/they relationship but as an "us" relationship. Efforts at improvement were seen as being in everyone's best interests, and the manager was now perceived as a good guy who was interested in and concerned about their well being.

Their *intentions* were transformed as they began to build pride in the ability of their small group to turn out more product per person than the workers on the plant floor.

They didn't get angry and gripe as much, thus reducing any *physiological stress reactions* that could interfere with their work. All of these factors played upon each other and established a different social system which, in turn, led to a different set of behaviors.

Emotions were involved, to be sure, but only as a contributing factor. The women's improved satisfaction and performance came about as by-products of the Hawthorne Effect in which their emotions, perceptions, beliefs, intentions, and physiological responses all interacted *as a system* to create a different work experience. Anyone who tried to understand what was going on by focusing on only one aspect of the system would not have a broad enough purview to make sense of things.

Let us see how the Hawthorne Effect applies to stuttering, and in particular, to the varying degrees of success that people have in speech therapy.

DYNAMICS OF THE THERAPEUTIC RELATIONSHIP

Back in the mid-60's I read a book called *Client-Centered Therapy* by psychologist Carl Rogers, a book which came along at a most favorable time. I had for two years been undergoing a three-time-a-week psychoanalysis that seemed to be having little effect. Then I read Rogers' book, and it offered me some perspective on why I was not benefiting from the therapy.

In *Client-Centered Therapy*, Rogers proposed that it wasn't because the therapist was Freudian or Jungian or some other "ian" that the client was able to make progress. Rather, it was the client's perception of the *quality* of the relationship between himself (or herself) and the therapist that worked its magic -- how much trust, support and self-esteem were created.

Rogers' therapeutic methodology was simple. The therapist would simply reflect back in a supportive, caring way what the client had just said. If the client experienced that support and care as genuine, he or she would feel accepted and safe enough to move onto the next issue that needed to be explored. And very slowly, petal-by-petal, the person would unfold like a flower as more of his or her hidden fears, feelings, and beliefs came to the surface where they could be addressed.

This was precisely what was *not* happening in my relationship with the psychoanalyst. I knew that psychoanalysts weren't supposed to react, but even so, you can usually get a feeling for whether or not a person has some emotional connection with you. I felt that my shrink would have had the same interest in me had I been a bug under a microscope.

I think what made the relationship unproductive was that we didn't really connect as people. That sense of being liked and accepted -- something that might have helped me get in touch with what I was feeling -- was missing. I eventually terminated the relationship with the psychoanalyst -- one of the better decisions I've ever made.

So what does this have to do with speech therapy?

In my opinion: Everything.

What I propose is that it's not just the various fluency techniques employed by the therapist that account for the individual's improved speech. At best, the fluency techniques will correct certain behaviors that are counterproductive to effortless speech; at worst, they will layer another level of control over an already over-controlled way of speaking. Rather, it is the speech related therapy *plus* the impact of the Hawthorne Effect (the relationship between clinician and client) that leads to progress.

AN ILLUSTRATION

Let's set up a hypothetical situation. Let's say that, as someone with a stuttering problem, you decide to work with a speech pathologist -- we'll call him Bob -- who has set up a two week intensive program for a half dozen clients and is holding it at a local conference center. You'll not only attend the program, you'll also live at the center during that time.

In addition, let us say that Bob employs a fluency shaping approach which involves hours of practice on a voice monitor during the first week that will tell you when you are tensing the muscles in your vocal folds. In that first week you will also learn a whole lot about how speech is produced so that you can visualize the process in your mind. The second week will then be spent using the technique in real-world situations, such as on the telephone and on the street.

At the end of the first week, you begin to see real progress. You have now demystified your stuttering by learning what's going on in your voice box when you speak as well as when you block. And because of the electronic feedback, you can now distinguish the

difference between tight and relaxed vocal folds, something you were not aware of before. All this is proving very helpful.

But is that all that is going on?

Not really. There's a lot more, and it relates to the Hawthorne Effect.

Because Bob is an open and accepting person, for the first time, you feel totally self-accepted, even during difficult speaking situations. Virtually every communication between you and Bob is designed, not just to pass along information, but to bolster your self-esteem.

Every piece of constructive feedback is accompanied by a positive statement that reinforces your sense of self. Bob listens attentively to all your concerns and shows infinite patience in exploring the issues with you. Nothing you say is ever devalued. Your relationship with the other students is equally supportive.

In this totally eupsychian (i.e., good for the psyche) environment, your sense of self begins to change. Not only is your speech changing, so is your self-confidence, your self-image, and your self-limiting beliefs.

You are more willing to express what you feel. All these new, positive changes begin to organize themselves into a more upbeat and empowering system that reinforces and supports your new speech behaviors. As you keep at it, the various elements of the new system continue to reinforce one another.

And lo and behold, by the end of the two-week program, the system has become self-supporting.

LIKE RIDING A BIKE

If you stop and think of it, establishing a self-supporting system is hardly a totally unique experience for any of us. Remember when you first learned to ride a bicycle? My memories of it are still vivid. My father helped me learn by running alongside me on the street, holding the bike upright as I pedaled. Back and forth we'd go. I can remember after a couple of days thinking that I'd never get it. In fact, I didn't even know what the "it" was that I was looking for. The goal seemed totally unattainable.

I remember the day it finally came together. This particular afternoon I took my bike into the driveway and parked it next to the front gate. I got on the bike, using the gate to prop myself up. Then I pushed off. My subconscious mind must have been processing the previous experiences outside of my awareness, because suddenly my body knew how to stay upright. Everything came together, just like that.

"Wow," I thought. "This is what riding a bike is all about."

This is similar to the changes that take place in a therapeutic relationship that is truly eupsychian. The skills you acquire and the personal ways in which you change during the learning process all start working together, and a different reality is created.

Not only is your speech transformed.

You are transformed.

SLIDING BACK

Then why, unlike riding a bicycle, is there a such a tendency to slip backward after speech therapy? Why do so many people find

themselves struggling with the same old speech problems in a matter of weeks or months. Once again, it has to do with the Hawthorne Effect.

Let's return to the women in the coil-winding room. One of the questions left unanswered was -- "What happened when the experiment ended and the six women were returned to their regular jobs on the production line.

Did they continue to perform at their new, higher levels?" I doubt it.

In the beginning, they might have kept up their higher production rates. The new emotions, perceptions, beliefs, and intentions would have continued to reinforce each another for a period of time. But without the continual reinforcement of a supportive environment, the women would have gradually and unconsciously readapted to the old environment -- one that did not encourage initiative and was not personal, an environment that promoted an adversarial relationship between worker and manager. In the end, the women would have become once again "just workers." And their production would have fallen.

Similarly, the client who leaves the clinician's office must now step into a world where the people he encounters are not focused on building his self-esteem and who may fail to exhibit infinite patience while he struggles with his speech-related issues. People in the outer world can be hurried, insensitive, uninformed, and inwardly focused on their own personal agenda. Even worse, the client may have to go back into a family environment where family members are non-expressive, judgmental, and insensitive to his needs.

Since the new, positive internal system he's built up in the

therapist's office is still very tentative and fragile, it is easy for it to break down due to a lack of support. Suddenly the client who has been making such excellent strides in the therapist's office is paralyzed and unable to speak when he gets back to his home or office. The speech techniques that he's worked so hard to acquire seem too difficult to use in the face of the panic that arises in particular speaking situations. The risks become overwhelming, and he (or she) retreats back into the old familiar speech patterns.

There are many speech clinicians who are fully convinced that the improved fluency of their clients is due primarily to their success with a particular fluency technique. These practitioners fall into the same trap that the Hawthorne researchers initially did in attempting to explain the improved performance of the ladies in the coil winding room.

Had the researchers never attempted to validate their findings by lowering the lights in the work room, they might have easily concluded that the improved performance was solely caused by brightening the lights. Similarly, the clinician who focuses only on fluency shaping techniques might conclude that improvements are solely the result of those techniques and overlook the impact of the relationship between herself and the client.

In both examples of the plant workers and the stutterer in therapy, the Hawthorne Effect plays a major role -- and in many cases the major role -- in any rise or decline in performance. The greater challenge, then, lies in how to make self-sustaining the new emotions, perceptions, beliefs, intentions, and behaviors, even in the face of an unfriendly environment.

UNDERSTANDING THE DEFAULT SETTINGS

Right now, I'm working on my Macintosh computer and using a popular word processor called Microsoft Word. Every time I open

a new Word file, the screen defaults to particular document settings. The margins of every new document are automatically set to 0 inches on the left and 6 inches on the right. The typeface is always Times Roman 14 point. The tabs are set every quarter inch up to one inch, and every half-inch thereafter. The text is flush left and ragged right. These are the document's default settings, and every new file that I open has those settings already preset. There's nothing I have to do.

But if I like, I can change those settings in any document I choose. Let's say I begin another new document. I can use the various pull-down menus to change the typeface to Helvetica 12 point. I can justify the type left and right and slide the margins to 1.5 inches on the left and 5 inches on the right. I can set the far left tab to half an inch. Everything I type in that file thereafter will be formatted according to those parameters.

However, when I close that document and open a third new file, it defaults to the settings of the first document.

Why is that? Why didn't the third document set up like the second one? After all, the second document contained the most recent stylistic changes.

The answer is -- I didn't change the default.

To change the default in Microsoft Word, there is something else I have to do. I have to open the menu that allows me to set up different text styles. I choose my new settings. Then I click on a box that says "Use as default." Once I do this, then not just the next document but *every new Word document I open* will have those characteristics I have just selected.

I have reset the default.

The way my word processor works is analogous to the way the

human psyche works. Let us say that you've been regularly seeing a speech-language pathologist. On this particular day, you feel like you've made great progress. There's hardly been a single block. Because of the therapist's concern, support, patience, and understanding, you find it easy to speak as you respond to her accepting presence.

Then you leave her office and step out into the street.

You have entered a new environment. (This would be analogous to opening a new file.) You walk to the bus stop and wait for the bus to take you home. The bus arrives, you pay your fare, and then it's time to ask the driver for a transfer.

Ah, the "t" word. You have a particular fear of such words. Dozens, no, *hundreds* of times, you've found yourself at the front of a line asking for a transfer with your tongue stuck to the roof of your mouth. Why, after having such an easy time of it in the therapist's office, when "t" words dripped from your mouth without effort like drops from a leaky faucet, *why* are you suddenly stuck on the word "transfer?"

It is the overwhelming tensions of the moment that have caused you to slip back. Though you've made significant progress with the therapist, the new perceptions, beliefs, and speech behaviors have not yet gathered enough strength to become the default. They have yet to organize themselves into a self-supporting system -- one that is strong enough to withstand the pressures of the outside world.

Let us look more closely at the various defaults and the way they are structured to work together. As described in a previous essay ("Introducing a New Paradigm for Stuttering"), I've observed that there are six elements to the stuttering system that must be viewed as manifestations of a complex pattern of interrelations. I call this system the Stuttering Hexagon.

Each of these points has its own default settings. And if you cannot get the defaults to change, you cannot create a new self-reinforcing system.

DEFAULT #1: EMOTIONS

There are certain negative feelings that people will go out of their way to avoid -- fear, helplessness, embarrassment, anger, and vulnerability are among the obvious that come to mind. Strong emotions can trigger the type of normal dysfluency I call "bobulating," a coined word for the breakdown in language that occurs when people are upset, confused, or discombobulated. But bobulating is not the same as the blocking behavior that characterizes chronic stuttering and does not come with the same emotional baggage.

In fact, people bobulate all the time and don't even realize they're doing it. It is only when they actually cannot speak, no matter how hard they try, that panic sets in. The default in this case has to do with how much and what kind of emotion we're willing to tolerate.

Let's take the example of a girl who has difficulty expressing what she feels in personal relationships. There are a variety of feelings -anger, hurt, fear of abandonment -- that she will not allow herself to experience. What she is willing or not willing to be in touch with is the default setting for her feelings. Let's see the various ways in which this default is likely to show up.

- Jane has mixed emotions about breaking up with her boyfriend. On one hand, she feels smothered by the relationship. On the other hand, she feels the boy is emotionally dependent on her and will be destroyed if she leaves him. It's a no-win situation for her. The evening comes when she wants to tell him she's leaving the relationship, but the thought of actually saying this to her boyfriend is so frightening that when she goes

break the bad news, she blocks on almost every word. And what she does say is said without much feeling.

- Jane's boss wants to give her a new work assignment, one that she does not feel ready for. She wants to turn the job down. She would like to say, "Can I take a pass on this?" but her fear of being a "bad" person keeps her from expressing her feelings. Yet, she has to talk. The need to assert herself brings up stress. It also brings her back in touch with all the unexpressed feelings with her boyfriend. Her default response is to push away that stress and panic so she does not have to experience it, and she ends up by holding herself back by blocking on the word "can."
- Jane stops at the local service station to fill her tank. She pulls up to the full service pump, and the attendant comes over to help her. There's something about the setting that feels like an unresolved power struggle, and this brings up uncomfortable feelings. On one hand, she's in command. It's her car. It's her purchase. As the customer, she's in charge. Yet, she does not feel as if she's in charge. There is an attendant, a man, standing there waiting for her. What are his expectations? What does he want her to do? What does he expect from her? At this moment, her relationship with the attendant is a patchwork of all the unexpressed thoughts and feelings she carries around with her. The attendant is simply a straw man onto which all her emotional baggage has been projected. When the attendant asks, "What'll it be?" she projects these issues onto the situation at hand. She goes to say, "Fill it up," but suddenly finds herself blocked on the word "fill."

In each case, Jane blocks herself from saying the feared word (which, had she said it, would have intensified her emotions) until it no longer feels that expressing her feelings would propel her

outside her safety zone.

DEFAULT #2: BELIEFS

We all have particular beliefs about who we are, who other people are, and how they expect us to act. Do we believe we are worthy? Do we believe we have the right to speak up for what we want? Do we always have to be right? Do we have to be perfect? Do we believe that if someone speaks authoritatively, that they automatically know the truth? Do we believe that every time we stand in class or ask a stranger a question or talk to a parent or teacher that we are going to be judged? Beliefs can either work for or against us. Beliefs, in and of themselves, don't create speech blocks, but they help to form the mindset in which speech blocks occur -- a mindset that can encourage us to hold back and avoid expressing what we think and feel, or one in which spontaneous self-expression is accepted and valued.

Where do these beliefs come from?

They are established two ways.

First, they are created by what happens to us and how we interpret it.

Secondly, parents, teachers, and other authorities whose word we accept as law imbue beliefs in us. Whether these "authorities" know and speak the truth is another matter. Almost always, their version of reality is a distortion, if only because it is filtered through their own set of beliefs about the ways things are. No matter. If we see them as wise and knowing adults, and if they tell us the world is this way, then as young children, we are likely to buy what they say without questioning.

When these beliefs become all encompassing and all-pervasive -when they so totally surround us that they become as invisible as

the air we breathe -- we will not be able to see them to challenge them. But sometimes, there is a crack in the system. It can be an experience, a relationship, an unexpected happening that suddenly pulls that behavior out of the background and makes it visible. Sometimes, just challenging one's basic beliefs can have a stunning and dramatic effect.

This is what happened to the young man in the following story who had spent his entire life living conforming to an image of the "good boy." The young man was a client of William Perkins, Ph.D., former director of the Stuttering Center at the University of Southern California, who says this was the only person he's ever known who started out as a severe stutterer and suddenly underwent a spontaneous recovery. Perkins recalls:

A young, handsome, successful architect who still lived with his mother, he had never had a date. He was a gentle, grateful, soft-spoken giant who women found very attractive, but who was too timid to pursue their interest.

Our sessions were on Monday and Thursday evenings. They dealt frequently with the restrictions he felt stuttering imposed upon him. For several weeks, I had been countering with the observation that he might be hiding behind stuttering. He would thank me profusely each time, as he would back out the door.

About a half year later, after what I thought had been a typical session at his one-word-per-minute rate, I remember thinking as he left how stark the contrast was between his immaculately groomed appearance when silent and his chaotic appearance when struggling to speak.

I was totally unprepared for what happened next. It was a once-in-

a-lifetime experience, literally. I hardly recognized him when he arrived for his next session. He looked as if he had been hit by a truck. He was utterly disheveled, unshaved, uncombed, distraught, with gray bags under his eyes, and wrinkled clothes looking as if they had been slept in, which they had.

Equally shocking was his agitation. He seemed calm, usually, except when speaking. But not this time. He was in a state of acute anxiety. His agitation and appearance were shocking enough. What was even more shocking was his speech; he was completely fluent.

He had gone to bed as usual after our Thursday meeting. He reported no inkling of what was about to happen. He called his office Friday morning, which was his customary technique for assessing how severe his stuttering was going to be. To his amazement, there was no stuttering. He felt that heaven had opened and granted his life-long wish. Still, he knew it wouldn't last, so he stayed home that day in order to call every friend he could think of. He wanted to enjoy his fluency while it lasted.

When he awakened Saturday, he expected to be stuttering again except that he was not. He was still fluent, so he began to experiment to see if he could stutter. He could not. By bed time, apprehension had set in. He fully expected this bonanza to end, but what if it did not? He had no idea how to cope with such uncharted territory.

Sunday picked up where Saturday left off. Now he was truly frightened at the prospect of not being able to stutter. By Sunday night, he said he felt as if he was "stark naked in Times Square." He stayed in a state of stutter-free high anxiety for a month. My only clue to the next turn of events was his dwindling gratitude for my observations.

*As anxiety subsided, a personality inversion appeared. Gone, along with stuttering, was Mister Nice Guy. Instead of gratitude, my even looking as if I was going to make an observation set off snarling responses. He took an apartment, bought a Thunderbird convertible, and set about conquering the female population of Los Angeles. About two years into this spree, one of his conquests conquered him. (From *Tongue Wars* by William H. Perkins, published by Athens Press, Inc. Reprinted with permission.)*

In this case, the startling transformation was apparently prompted by a realization, perhaps built up over time through therapy, that the young man no longer had to govern his life according to other people's expectations. He no longer had to maintain his traditional beliefs of the goody-good who kept his wild, seething, dynamic self in chains. At some point this realization reached "critical mass," and there was a perceptual shift. He no longer had to hold back who he was and what he felt.

Lo and behold, he created another default that gave him a lot more room to maneuver and to act in a way that was congruent with his authentic self.

DEFAULT #3: PERCEPTIONS

The third set of defaults that control our stuttering has to do with our perceptions. Talk to five people who have witnessed an auto accident, and you're likely to get five different versions of what happened. People's perceptions are shaped by their expectations, prejudices, predispositions, and how they felt when they got up that morning.

People often confuse perceptions and beliefs, so let's take a moment to distinguish between the two.

Beliefs are fixed expectations of the way things are or will be. For

example:

Women are poor drivers.

I will stutter whenever I have to give my name.

George is a good person.

Saturn is a car company that cares about people.

Beliefs can persist in the face of contradictory evidence. For example, as a Saturn owner, you may have an unpleasant experience at the dealership when you go to get your car serviced. Perhaps the mechanic forgets to change your oil or maybe you are charged for work that was not actually completed. Yet, you still believe that the company cares about its customers and that your unpleasant encounter with the service department was just a notable exception.

A perception, on the other hand, is something that takes place right now, in real time.

The sales clerk is laughing at me.

It's clear that person is confident by the way he talks.

She's really beautiful.

When I blocked, the person I was chatting with became embarrassed.

There is obviously a close link between beliefs and perceptions in that what you believe sets the context for how you perceive, and how you perceive influences how you react. Here are some examples:

- A girl who is anorexic looks at her gaunt frame in the mirror and to her, she appears normal. This perception is her default. Adding a pound or two will trigger fears of becoming fat and will set off a round of purging to remove the unwanted pounds.
- A woman is hypersensitive to criticism and believes that in order to be loved, she has to always be perfect. Her focus on her many "imperfections" is her default.
- A man has a soft voice, so soft that others have difficulty hearing him. Yet, to him, his volume is normal, and any rise in volume is perceived as being offensively loud. His thin voice is his default.

Wherever our perceptions automatically migrate to -- whether it's to other people's strengths or our own weaknesses -- this is our default.

DEFAULT #4: INTENTIONS

Intentions play a key role in the creation of a speech block. To better understand this, let's create a non-speech-related situation in which a person finds himself blocked.

George has a favorite horse named Dancer whom he's owned for fifteen years. George loves the horse; in fact, George has raised it from a colt. One day he saddles up the horse and goes for a ride in the country. While riding across a rocky area where the footing is tenuous, the horse is suddenly startled by a rattlesnake. Dancer bolts, trips, and to George's horror, breaks his leg. It is a severe break and cannot be repaired. The horse is in pain. And regrettably, there is no question about the most humane course of action.

In George's saddle bag he has a pistol that he's taken along for protection against snakes and other wildlife. The horse is lying on

the ground in obvious agony. George stands in front of the horse, pistol in hand, and points the gun at a spot between his eyes. George goes to pull the trigger, but his finger freezes. He cannot get it to move. He cannot get himself to kill one of his best friends.

At this moment, George's intentions are divided. He has his gun pointed at Dancer's head. He knows he has to pull the trigger, yet his finger freezes because once he pulls it, a beautiful 15-year relationship will be ended -- forever! For a period of time, the compulsion to pull the trigger and not to pull the trigger are equally balanced.

George is blocked.

As you can see, a block is comprised of two forces of equal strength that pull in opposite directions. George can't move one way. He can't move the other.

How can he get past the block? There are two options, and either will allow him to break out of his bind.

- George can choose not to shoot the horse and therefore spare himself the pain of terminating the relationship. Of course, then he'll have to deal with other issues.
- George can choose to feel whatever painful emotions come up, and having made that conscious and deliberate commitment, pull the trigger and put the horse to sleep.

Any block, speech or otherwise, can be defined in this way: two forces of equal strength that pull in opposite directions. There's nothing mysterious about it.

Now let's make it mysterious by adding a twist. Let's say, for the sake of argument, that George *doesn't know* he has deep feelings for the horse. The feelings are there, all right, but for whatever

reason, he's pushed them away, so far away that the emotions are no longer accessible to his conscious awareness. Once again, George raises the pistol and takes aim at the horse's head. He goes to pull the trigger.

His finger won't move. He tries again.

It seems frozen.

How can this be? Is there some mysterious anomaly in his brain that is causing this. It seems so, because his frozen finger cannot be explained.

The real reason, of course, is that George doesn't *want* to pull the trigger at this instant. He's not ready to experience the pain. But he doesn't know this, and this is why his finger seems mysteriously blocked.

The same kind of situation can arise in speech. You want to talk at the same time that you have feelings that threaten to push you beyond the threshold of what you are willing to experience. So you hold back, and for a period of time, the forces are equally balanced. If this becomes your *modus operandi*, then this method of self-expression will be your default, and you will find yourself routinely slipping into stuttering behavior that seems unexplainable.

DEFAULT #5: PHYSIOLOGICAL RESPONSES

Your body has been genetically programmed to initiate a fight-or-flight reaction whenever your physical survival is threatened. This programming is part of your "old" brain that evolved millions of years ago. Designed to give you added strength in any situation where your physical safety was at stake, the flight-or-flight response could be triggered by any number of things, such as an ominous rumbling in the tall grass, an indication that a predator was lurking close by, ready to pounce.

The lightning-like changes that took place in your body would have given you additional strength to fight the beast or fuel your escape. Adrenaline would have poured your blood stream. Your blood pressure would have risen, and blood would have rushed from your stomach into your limbs to give you added strength to fight or flee. But as you stand at the head of the bus line trying to say the word "transfer," running or fighting are not appropriate options. Your physical survival is not at stake. After all, you're simply asking for a transfer. Yet, your whole body is still preparing you for a life-or-death struggle.

Well, surprise. Your survival is at stake.

What is threatened? Your self-image and your self-esteem. ("I'm so humiliated, I'm going to die.")

The reason such an extreme physical reaction is initiated is that your genetic programming has not kept pace with the changes wrought by civilization. Consequently, it cannot distinguish between surviving an attack of a saber-toothed tiger and surviving the stares of the other impatient people in line when you cannot say the word "transfer." In both instance, it feels like you're going to die, and your body reacts accordingly.

This fight-or-flight reaction goes a long way to answering the question of whether there is a genetic component to stuttering. There are those who believe that there's a place in the brain that causes stuttering, and that if we could only find a way to correct it, we wouldn't stutter.

I have difficulty with that. If the speech block that lies at the heart of chronic stuttering existed as a unitary element, I suppose we could eventually find that part of the brain in which it resides. But in my opinion, this is chasing moon dust, considering that the Hawthorne Effect can explain even the most bazaar stuttering

behavior. What part of stuttering is genetic? Is it my fear of letting go? I don't think so. Is it my strategy to outwait the block or push through it? That seems unlikely, too.

Then how do you explain the anomalies that show up in the brain scans of people who stutter? To me, it seems just common sense that if there are subliminal rises in feeling and other changes associated with a sudden and severe stress reaction, that these changes will be recorded in various areas of the brain.

However, I think genetics does play a part. Let me mention one area where I'm sure this is so.

In the April 1998 issue of the National Stuttering Project's monthly newsletter *Letting GO*, there was an article by Mary Elizabeth Oyler, Ph.D. entitled "Sensitivity and Vulnerability: Are They a Blessing?" The article was based on Dr. Oyler's doctoral thesis which looked at the relationships between sensitivity, vulnerability, and stuttering. To quote Dr. Oyler:

My research compared 25 stuttering to 25 non-stuttering school-aged children matched on gender and age. The group of stuttering children revealed significantly greater sensitivity and vulnerability than the group of non-stuttering children. There was also a close relationship between sensitivity and vulnerability.

Those who were vulnerable seemed to be more sensitive and responsive to all stimuli, especially to being bombarded by negative stimuli. This may suggest a certain neurogenic and developmental fragility....

Because stuttering individuals with a hypersensitive temperament require less stimuli for responsiveness and reaction, they may be oversensitive to the negative reactions of other people and be more sensitive to stress, time-pressure, and noise. This hypersensitivity

may also cause them to react more strongly to their own stuttering. This was what I identified in my own personal experience.

This makes perfect sense to me. It is also compatible with what I know to be true about the Hawthorne Effect and its impact on stuttering. If the speech block lies at the heart of the problem, and if one of the key elements of the Stuttering Hexagon is the individual's physiological responses, then it stands to reason that with our increased sensitivity, we will be more disposed to creating a stressful environment where struggled speech is likely to occur.

DEFAULT #6: PHYSICAL BEHAVIORS

Earlier in this essay, I proposed that the Hawthorne Effect could not only explain the mindset that underlies chronic stuttering, but that it can also describe the creation of the speech block, itself. Now I'd like to attempt to pay that off.

What I have observed is that stuttering (the kind of stuttering where people lock up and cannot speak) is comprised of two components: the speech block and the strategy to break through or avoid the block.

The *speech block* is characterized by a clamping of one or more parts of the mechanisms required for speech (tongue, lips, vocal folds, chest) in a way that leaves the speaker unable to continue talking. The speech block is distinguished from bobulating and developmental disfluency by an accompanying feeling of helplessness.

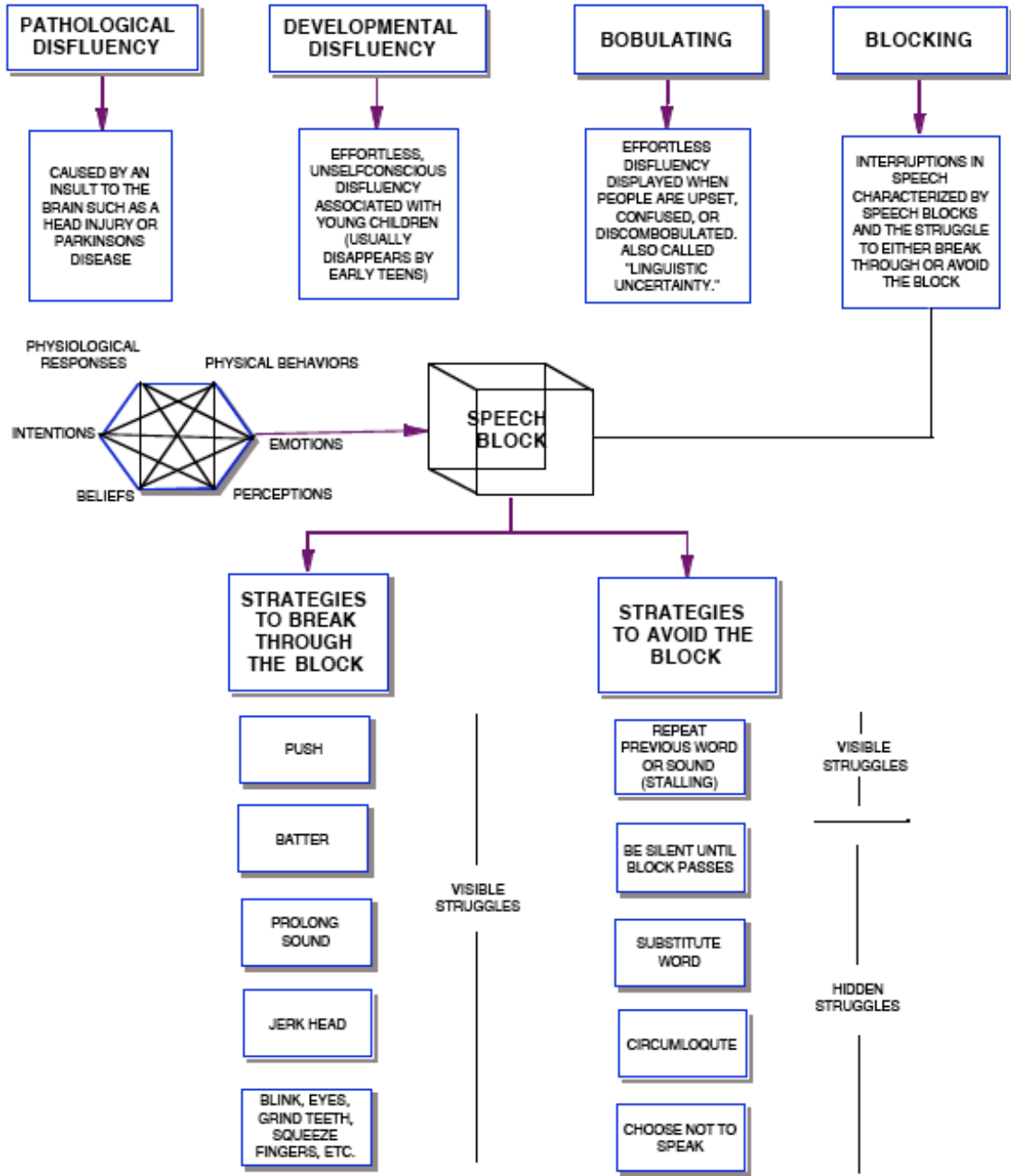
The block is created by an individual's emotions, perceptions, beliefs, intentions, physiological responses, and speech behaviors that have all been woven together by the Hawthorne Effect into a patterned response. None of these elements in and of themselves creates stuttering; rather, the block is created by the way these

elements interact and reinforce one another.

The different varieties of stuttering are really strategies that the individual adopts in order to break through or avoid the block. Note that these strategies are not necessary when someone is simply bobulating, since the person does not feel blocked and is unlikely to even be aware of his or her disfluencies.

It is important to make this distinction between bobulating and blocking, because many speech therapists are unaware of what is going on inside their client and may be quick to lump the two kinds of dysfluency together, when in actuality, they could not be more different.

THE VARIOUS KINDS OF STUTTERING



In the "schematic" you can more clearly see the differences between the various types of disfluency and the particular strategies that people develop for handling their speech blocks.

THE HAWTHORNE EFFECT IN ACTION

Now I'd like to illustrate how the various ways that the Hawthorne Effect operates in a situation that should be familiar to anyone who stutters. We'll create a vignette of a young woman who walks to the local meat market to buy some salmon.

Sally is an executive in her late 20s who works as a marketing manager with a high tech company. She is always well dressed and stylishly coifed and places a high priority on presenting a professional image. Sally also stutters, and she has a particularly hard time with words beginning with "s." Because she is so image-conscious, she refuses to resort to overt struggle behavior. Whenever she feels herself about to block, she simply pretends that she's trying to remember what she wants to say until she feels confident she'll be able to say the feared word.

From the moment she puts on her coat and leaves home, Sally starts worrying about whether or not she'll be able to say "salmon." Unlike the professional golfer who takes a few moments to visualize a successful drive before walking up to address the ball, Sally is caught up in doing just the opposite -- visualizing how she *doesn't want* to speak. Not surprisingly, by the time she enters the market, the original concern has escalated into a major fear.

Focusing on her fear would be good logic if she were walking alone in the downtown district after midnight. Considering the recent reports of late night street crime, it would make sense to stay alert to the potential danger so she could be ready to run at a moment's notice.

But picturing what she's afraid of is precisely the wrong strategy to adopt in overcoming a performance fear. What Sally doesn't realize is that whatever she pictures in her conscious mind, her subconscious mind will attempt to execute. (For a more complete discussion of the nature of performance fears and especially, how our emotions and behaviors are programmed by the way we think, I would refer to you the classic book *Psycho-Cybernetics* by Maxwell Maltz and to the many interesting publications on neurolinguistic programming (NLP).

To counter the fear, she has to fill her mind with positive images and experiences. But why is this so hard? Why is it so difficult not to focus on the fear when she has to ask for salmon?

It has to do with genetic programming.

Whenever we are faced with a threat, nature has programmed us to feel fearful and vulnerable. This is to make sure that we will stay alert and deal with the threat. If you don't believe this, try and not notice the nasty looking centipede walking across the floor towards you. Dispatching the centipede may be scary, but it's even more scary to ignore it and focus your attention elsewhere. In Sally's case, all she can do is obsess on the fear of blocking, because not to do so would give her the feeling that "Something is going to get me if I don't pay attention to it." It's a feeling she is unwilling to tolerate.

Thus, there are two *beliefs* at work: (1) she is going to block, and (2) she has to keep focusing on the threat.

As Sally walks into the store, her body begins to initiate a *fight-or-flight reaction* to prepare her for the crisis. It starts in little ways -a slight elevation in heartbeat, a subtle tightening in her throat or chest, a shallowness in her breathing. Sally is not consciously aware that these things are happening. All she knows is that she

has an unspecified *feeling* that she's going to block.

As Sally waits her turn in line, she starts *believing* that she will make a total fool of herself by not being able to say the word "salmon." This belief, in turn, begins to shape her *perceptions*. The frown on the clerk behind the meat counter says that he's not having a good day, that he's rushed, that he's intolerant of anyone who would cause a delay. The two girls chatting in line behind her seem superficial and judgmental. They will probably laugh or snicker when they discover she can't speak. She desperately looks for friendly faces around her but does not find any.

Notice how the various parts of the Stuttering Hexagon are being activated, and the way the Hawthorne Effect is weaving them together to create a situation in which speech blocks are likely to occur. She *believes* that she will stutter and make a fool of herself.

She also has many other beliefs that are playing a contributing role -- beliefs relating to how she should act, the way she could express herself, what other people want and expect of her, and so forth. Her *perceptions* are that she is dealing with people who will not be sympathetic or understanding.

Her *physiological system* is ramping up a full-fledged flight-or-fight reaction. Her emotions are rooted in fear and terror. Then it is her turn to order, and that's when her *divided intention* comes into play.

"Yes, ma'am. Can I help you?"

"Yes, I...I...I would like two p...."

Damn. She's stuck on the word "pounds."

"Um...."

Sally closes her eyes as if she's thinking. Her body is pouring tons of adrenaline into her blood stream. Her blood pressure is rising. Her breathing is shallow. Blood is rushing from her stomach into her limbs to give her added strength. Her body is preparing her to fight for her life...just because she wants to say the word "pounds."

The few moments she cannot talk seem like eons. Then her *emotions* subside a bit, and suddenly the word "pounds" escapes her lips.

"Of..."

She has set her tongue to say "salmon," but there is no air escaping from her lungs. Sally is pulled by two opposing forces -- the poles of a *divided intention* . She wants to say "salmon" -- in fact, the situation demands it. People are waiting, and the clerk behind the counter is anxious to complete the sale. Yet, to let go and speak means that who-knows-what may come out of her mouth. Sally later on will tell you that she was afraid she was going to stutter. But perhaps it is more than that. Perhaps it is that her body is in a full fledged fight-or-flight response. Her emotions are rocketing off the scale; yet, Sally is trying to keep her composure. Anyone looking at her would simply see an apparently calm young woman, inappropriately lost in thought.

Inside, it's another story. There is a build-up of panic that she's pushing out of her awareness. To let go and say the word "salmon," means that those feelings would be engaged. What would come out? Fear? Anger? Sadness? Vulnerability? Would she go out of control? Would the word erupt as a shout? Would she sound too aggressive? For Sally, it is a vast unknown, and so she remains caught in the thrall of a speak/don't speak conflict. One thing is certain. It is not yet safe to say the word "salmon."

"Of s "

When the word "salmon" doesn't come out, Sally cuts off the air flow and resumes her pensive look. The silence is awkward. She has cut off all communication with the world around her. The panic state has enveloped her totally. The silence is deafening.

But feelings cannot remain at that peak for long, and after a few moments the intensity of the fear drops to a safe level.

"...salmon."

Phew. The crisis is over. The counter man finally knows what she wants and goes about slicing off two pounds of salmon and wraps it up in white butcher paper. The sounds of the store once again surround her. She is aware that her face is flushed.

The whole scenario consumed only ten seconds. To Sally, it seemed like a millennium.

Feeling embarrassed but relieved, Sally returns to her apartment and starts preparing the evening meal. Tonight, Karen, another young professional and an old friend, is joining her for dinner. In due course, the salmon is in the oven, and the vegetables are sautéing on the stove. Promptly at seven o'clock, the doorbell rings. It's Karen.

The two women work to finish preparing the meal, and after it's served, Sally opens a bottle of chardonnay. Because they are old friends with lots to tell each other, dinner lasts several hours. The conversation is lively and intimate, and during this time, Sally does not block once. She also never mentions her difficult moment at the meat market.

What you're seeing once again is the same kind of dynamic that unfolded at the Hawthorne plant. There is nothing organically wrong with Sally's speech, but there are significant differences in Sally's emotions, perceptions, beliefs, intentions, physiological

responses, and speech-related strategies from one environment to another. It is these differences that make her speech either difficult or easy.

At the market Sally feels she has to perform, and that her self-esteem and self-image are on the line. When she goes to ask for salmon, all these forces bring to bear, and she freezes and cannot say the word.

At home with Karen, her acceptance is taken for granted. She doesn't have to do or be anything in order to enjoy the love and affection of a friend. There is enormous trust between the two women. All the elements -- the negative emotions, perceptions, beliefs, intentions, and physiological responses -- that characterized the encounter in the meat market have been transformed into positive forces. There are no power struggles.

There is no need to look good. It's not necessary to perform to earn Karen's high regard. There is only freedom. These positive forces reinforce each other to create a benign hexagon where the need to hold back is no longer an issue. Thus, Sally finds it easy to say the word "salmon" and anything else she wants to express, and her speech blocks do not appear during the entire evening.

You have witnessed the Hawthorne Effect in action.

This scenario with Sally is not meant to represent *all* stuttering situations but simply to show you how the Hawthorne Effect can create an immediate environment that triggers a person to either hold back or let go. It is not any one part of the Stuttering Hexagon that creates the stuttering block; it is all the elements and the way they come together and interact.

CHANGING THE DEFAULTS

A permanent change in your speech will happen only when you

alter the various default settings around the Stuttering Hexagon.

The original defaults are established over time. As children, we practice bad speech habits, and after months or years these behaviors become automatic reflexes and ultimately, are pushed out of our conscious awareness. Similarly, habitual ways of thinking, feeling, and reacting also turn into default responses. Ultimately, these defaults coalesce into a self-supporting system that creates the Stuttering Hexagon.

For the changes to be permanent, you need to initiate a similar process by creating changes in your habitual ways of thinking, feeling, and reacting and practicing them long enough so they become your new defaults. At some point they will coalesce into a more productive self-supporting system. I would like to share some brief observations about doing this.

Emotions. You can change how you emotionally respond by putting yourself in situations that appear risky, but that are safe enough so you're still willing to take chances and try out new behaviors. It's important to identify a comfortable starting point. If a Toastmasters club meeting seems too risky, don't start there. Start at a lower risk level, such as an NSP meeting. If that's too risky, find a personal growth group of some sort. Or a speech therapy group. Or an individual therapist.

Then, as you become comfortable at one level, slowly move up the ladder, one rung at a time, each level consisting of an activity that offers a slightly higher level of risk.

One highly effective program that simultaneously addresses the Stuttering Hexagon on many levels is called the Speaking Circle. The program has already been adopted by many NSP chapters. On the National Stuttering Project's web site at (www.nspstutter.org)

and on the Stuttering Home Page at

(www.mnsu.edu/comdis/kuster/stutter.html) you can find information on how to set up your own Speaking Circle.

Remember that nothing will happen unless you're involved with people. Stuttering is a social issue, which is why very few people stutter when they're alone. Unless you keep yourself socially involved, nothing is likely to change. And unless you find an opportunity to provide regular and *frequent* positive experiences that combine both risk and safety, you are not likely to change the default. Once a month experiences will have some effect, but unless they take place more frequently, change is likely to be slow.

Beliefs. Challenge and question everything that you believe about yourself, others, and "the way things are." What keeps people stuck is that they find it difficult to "think outside the box." To change your beliefs, you have to read. You have to question. You have to experiment, even though you have no way of knowing beforehand how things will work out.

Perceptions. Learn to be an objective observer, and be constantly willing to question your perceptions. "Is that person really laughing at me?" "Do people really want me to be perfect?" "Would asking that person to move his car forward so I can have room to park really be aggressive and presumptuous, or is it entirely within the bounds of propriety?" Keep a journal of what you observe, and after a while, you are likely to see patterns to your behavior. There are also excellent books and programs available on such topics as general semantics and neurolinguistic programming (NLP) that describe the ways people perceive and how they can change their habits of thought and reshape their perceptions.

Intentions. Question your intentions. It took me years to realize that my psyche had a built-in "Trojan horse." I would sign myself up for one self-improvement seminar after another, but secretly I'd

be dragging my heels and wouldn't incorporate what I was learning into my daily life. Through a series of circumstances, I came to discover that I had a hidden agenda.

As a child I had a large investment in being good. "Good" was synonymous with being loved. I also had a mother who always knew what was right for me. But if she was right, then I couldn't be, so if there was a choice between her way and my way, I would follow her way and secretly hope it wouldn't work out. If her way was wrong, then my way could be right.

Once I became an adult, the "mother" in me would drag the "child" in me to various self-improvement programs. I would be doing what my internalized mother wanted me to do, but my internalized child would rebel and drag his heels. Eventually, this game came to light, and I reduced (but not completely eradicated!) that behavior.

Physiological responses. Sorry. There's not much you can do here. You're stuck with the physiological system you were born with. However, by exercising some control over your perceptions, beliefs, and intentions, you can reduce the frequency with which you find yourself in fight-or-flight responses.

Speech behaviors. Speech clinicians can help a lot, just like a good tennis coach can significantly help your tennis game. If your tennis swing is faulty, even the most confident attitude will only carry your game so far. You have to change your swing in order to attain improved results, and that's where a second pair of eyes can be invaluable.

Similarly, if you're unaware of what you're doing when you stutter, it becomes important to bring those speech producing muscles into awareness so you can keep them loose and relaxed, rather than tight, whenever you find yourself under stress. You can learn to do

this on your own, but a competent clinician can facilitate the process.

This is an all-too-brief overview of how to change your defaults. But hopefully, it will give you some initial ideas on where to start and how to proceed.

SOME PARTING THOUGHTS

Back in 1993 I entered into a brief Internet correspondence with a well-known speech pathologist and behaviorist in Australia. In the course of the conversation, I mentioned to him that stuttering had been in my life for about 30 years, but that for last 20-plus years it had been totally gone. I no longer struggled with speech blocks, nor did I find myself dealing with the thoughts, fears, and impulses to block that I had experienced in my earlier days. They had totally disappeared. He did not believe me, and sent the following response:

“Anyone can see that people who have stuttering have muscles that don't work properly. I submit that there is ample scientific reason to believe that stuttering's essence is...a motor aberration. A tiny one measured in milliseconds, but a physiological aberration nonetheless.

All you people who stutter out there have subjective feelings about the disorder, which to me seem so different. But I bet you all have residing in your motor systems some tiny aberration, which causes the speech problem.

Why I say stuttering is a physiological problem in essence is because the state of the field of scientific research and scholarship holds that view at present.... The view that stuttering is some other sort of disorder has had its day. The prevailing view is that it is a genetically transmitted motor speech disorder.”

He was sure that I had simply found a way to control my stuttering and override my genetic heritage. I told him that I was not controlling or overriding anything because there was no longer anything to control.

He must have been unconvinced, because he abruptly ended the dialogue and never responded. Apparently, the fact that I had totally disappeared stuttering from my life made no sense to him whatsoever. He was sure that science had identified the seat of the problem, and he was clear that "once a stutterer, always a stutterer."

However, the fact some people have been able to make the problem totally go away is a commentary on the true nature of stuttering. (For an interesting dialogue between two people who fully disappeared their stuttering, see the article, "An Interview with a Person Who Recovered" on the Stuttering Home Page at Minnesota State. These and other essays also appear in the book *"Redefining Stuttering, What the Struggle to Speak is Really All About."*)

Yet, "once a stutterer, always a stutterer" does hold for a large proportion of people who struggle with the problem. There is usually so much that has to be addressed that at some point, people reach a level of fluency they can live with and then choose to redirect their energies elsewhere. As far as reaching that desired level of fluency, the degree of success one has will have to do with his or her circumstances, experiences, motivation, and personality. Here's what I've deduced are some of the key factors that made the process easier for me:

- I never developed secondary struggle behaviors. My stuttering consisted of a simple block, so I had less to unlearn.
- Since my blocks were not very "interesting," I was never taunted because of my speech.
- Since I only had a simple block, and since I never underwent speech therapy where there is often a heavy emphasis on control, I was not imbued with the belief that I had to *control* my speech. Therefore, I never ended up imposing yet another layer of controls atop my already over controlled speech.
- I always knew that I wanted to speak in front of people, so the motivation to work through the problem was constant.
- I moved to San Francisco in the early 60s where I had many opportunities to participate in the personal growth movement that first sunk its roots in the California culture.
- I'm inclined to be counter phobic, meaning that I have a tendency to move toward what frightens me instead of away from it.
- I have an innate curiosity about why people are the way they are, plus I'm a good observer, so I've noticed and thought deeply about virtually everything that's happened to me.
- I'm good at seeing relationships between things that normally are not related.

Everything listed above was of obvious help to me, whereas someone with a severe stuttering problem, a non-supportive environment, and fewer advantages working for them would have had a much tougher time of it.

Still, there is much progress that anyone can make if the person is willing to broaden his or her viewpoint. Today, there are more and more programs that approach stuttering from a holistic perspective. Some that come to mind include those run by Eastern Washington University, the American Institute for Stuttering in New York City, and the McGuire Programme in the U.K., Ireland, Norway, and Australia.

The McGuire Programme is particularly interesting. The organization recognizes that changing the personal defaults in a number of areas is important and that it takes time for those changes to happen. Consequently, it offers its graduates a variety of ways to stay actively involved after the initial training. For example, graduates can go through the program as many times as they like at no charge.

They can also take on the responsibility of becoming coaches. Coaches not only run the trainings, they are also responsible for keeping in touch with graduates by phone and offering continued advice and encouragement. (The best way to learn something is to teach it to others!) This level of participation creates empowerment by involving the coach proactively in many activities, which assists not just the student's personal growth, but the coach's own growth as well.

CONCLUSION

We've come a long way since researchers in Hawthorne, Illinois first set out to investigate ways to heighten worker motivation. In this time we've pulled off an impressive number of scientific and medical miracles. We've transplanted hearts, developed artificial joints, pioneered exotic techniques for repairing brains, and grown powerful antibiotics to defeat the most stubborn viruses. We've even unscrambled big chunks of the genetic code. Yet, after a century of investigation, there are still significant proportions of the public and professional community who are running around saying, "Nobody really knows what causes stuttering."

How can that be?

Perhaps our lack of definitive answers is due to the fact that for all these years, when it's come to stuttering, we've been trying to solve the wrong problem.

What the researchers at Western Electric's Hawthorne plant learned is that answers sometimes lie, not in the exotic, but in the ordinary. Sometimes the answer has been lying under our noses all along, not in a new component, but in understanding a new relationship that ties together elements so common that we never bothered to notice them.

This essay has argued that stuttering is not the product of some exotic genetic glitch but a relationship of common components, in short, *a stuttering system*.

And that it is not just the parts, themselves, but the synergistic relationship between the parts that brings stuttering to life. The system is called the Stuttering Hexagon, and it is composed of your emotions, perceptions, beliefs, intentions, physiological responses, and physical behaviors.

The force that binds these components together is called "The Hawthorne Effect." What results is a living system that operates according to predictable laws and rules; a system that involves not just your speech, but your entire self.

To understand this system and to know how it works is to recognize that stuttering can be changed, reduced, and in some cases, even defeated. Once you understand the parts that make up the system, it becomes easier to map out viable strategies that have a better chance of providing the long-lasting improvements we have all been looking for.

