



THE LIMITED ROLE OF CONSCIOUSNESS:

We like to think of ourselves as logical, rational beings. We like to think that the decisions we make about our lives, our responses to situations, and our reactions to the important people in our lives are made in a conscious, logical, rational way. We like to think that we are aware of the major forces that shape our lives and shape our responses to people and situations. The reality is that nothing could be further from the truth.

Each of us comes equipped with an enormously complex system that takes in information and feeds it to our brain and to many other receptors throughout the body. This system constantly takes in massive amounts of information from outside and inside of our bodies. Only a tiny fraction of this information ever makes it to conscious awareness. However, all of the information is processed by our nervous system, regardless of whether it makes it to consciousness or not. We are going to call this process **pattern recognition**.

PATTERN RECOGNITION:

In helping to facilitate your adaptation to the world around you, your brain is constantly engaged in a process called **pattern recognition**.

1. The **pattern recognition** process happens outside of your conscious awareness.

Although it is an uncomfortable thought for many of us, that vast majority of what goes on in our brains happens completely outside of conscious awareness. This idea causes less anxiety when we think about all the activities in which our brain engages to keep us alive—keeping our blood circulating, regulating body temperature, keeping us breathing, etc. etc. It often causes a lot more discomfort to realize that the forces which most strongly influence how we react to situations and to other people also happen completely outside of awareness.

2. The **pattern recognition** process consists of your brain and body constantly evaluating the massive amounts of information that we take in every second and comparing it to all of your previous experience looking for familiar patterns.

At any one point in time, each of us has conscious access only to small parts of our previous experience. However, the **pattern recognition** process has access to the entirety of your previous experience—even things you may have long ago forgotten or which are parts of your very early experience.

3. When the **pattern recognition** process finds what appears to be a familiar pattern (a situation or pattern that appears similar to something you have previously encountered), it then automatically prepares your mind and body to respond as you have previously responded to that familiar pattern in the past—i.e., it produces an emotional response.
 - a. This means that you do not have a choice about the emotions that are produced in your body—it is simply the automatic result of this **pattern recognition** process.

- b. You do have choices about the way in which you respond to different emotions, although that is a somewhat more complicated issue than one might suspect (as will become clear later in this discussion)
4. Therefore, an emotion is simply your first awareness that a familiar pattern has been recognized by this process. Even if you are not consciously in touch with your emotions, the physiological changes in your body have nonetheless taken place, and this process still operates and exerts an enormous influence on behavior.

STATE DEPENDENCY

The original research on state dependency was begun about 3 decades ago, when researchers were investigating college students who were using amphetamines to study for their exams. What the researchers found was that if students studied for exams using amphetamines, but took the exam not on amphetamines, they could not remember much of what they had studied. However, if the students studied for the exam using amphetamines, and took the exam on a similar dose of amphetamines, then they could remember what they had studied. In other words, the researchers found that our ability to remember things requires that we be in an internal state that is similar to the internal state in which we originally learned those things.

Over the years this has turned out to be an extraordinarily important finding. What has been demonstrated is that state dependency is a fundamental organizing principle in how our brains operate. In other words, all of our experience is organized in our brains according to the internal state that we were in at the time the experience happened. Stated another way, all of our experience is organized in our brains according to the emotion that we were in at the time the experience happened.

For example, when you are angry with someone you care about, then at the time the anger is present, you can easily recall everything else that person ever did that produced that same anger. It is as if the anger opens that file drawer, and then you immediately have access to everything that is in that file drawer. When the anger is present you don't have to search for this information, you don't have to work to come up with it--it is easily and automatically available to you. When the anger is not present, then you don't have the same access to that information. When you are not angry you can certainly know that this person has made you angry in the past, but you can't so easily recall the details or the circumstances.

In addition to giving you access to memories, the internal state (i.e., the emotion) also determines how you perceive things and predisposes you to respond in certain ways. For example, we all know that when we are angry we perceive things very differently than we do when we have calmed down again. We have also all done things when we are angry that we would never have done if we were calm. So the emotion that is present has a very strong influence on how we perceive things, what we remember, and how we are likely to respond.

AN ELEGANT, BUT FLAWED SYSTEM

The system in your brain that produces emotions operates in a very elegant manner. The system functions to evaluate all of the information that impinges on you from inside and outside of your body, and compares this vast array of information to all of your previous experience to search for what appear to be familiar patterns. When a pattern that appears familiar is found, this system then produces an emotional response to prepare you to respond in ways that you have responded in the past to similar situations. The

emotion that is produced is the instantaneous preparation to respond to the situation. The emotion creates a way of perceiving events, it gives you access to what appear to be relevant memories, and it predisposes you to respond in particular ways.

Most of the time this system functions very effectively. In emergencies which require very quick responses (e.g., when you see your child running out in front of an oncoming car), this system assesses the situation, creates the emotions that allow you to respond to the situation, and mobilizes you into action, long before conscious thought processes are able to kick in and evaluate the situation. If you had to wait on conscious thought to respond in these situations, your child would more likely be run over by the oncoming car.

In situations that are not emergencies, this system can also operate in a very elegant and sophisticated manner. When you meet people to whom you have uncomfortable emotional responses, it is because this system perceives something in these people that reminds you of other people who have been unsafe or threatening in some manner. This system is what we otherwise refer to as our intuition. It does have instantaneous access to the entirety of your previous experience.

However, this system also is flawed. The system only detects the ways in which the things that are going on around you now are similar to the patterns that have happened in the past. The system is designed for immediate assessment and immediate response to a situation. When your child is about to run in front of an oncoming car, you don't have the luxury of stopping to evaluate in consciousness whether the situation is really an emergency or not. In those situations an immediate response is required, and the system is designed to do this. This system does not thoughtfully evaluate these similarities, and the system does not detect differences—that is the role of consciousness. Conscious evaluation of situations requires precious time that may not be available in emergency situations.

For example, one young woman reported that she had a panic attack when her husband sat down next to her and touched her upper thigh. She was very confused by the panic attack, because she felt very safe and comfortable with her husband and very much enjoyed her sexual relationship with him. As she investigated the panic attack, the woman recalled that a counselor at a summer camp had sat down next to her and began touching her on her upper thigh when she was 12. She stopped the counselor from touching her any further and had largely forgotten that event. However, when her husband touched her in a similar way, the **pattern recognition** process immediately triggered the alarm response (the panic attack) to warn her that something was happening to her that appeared very similar to something that had happened in the past—this process could only assess the degree to which the situation with her husband was similar to the situation with the camp counselor. It was not until she could thoughtfully evaluate the situation in consciousness that she could discriminate that the situation with her husband was substantially different and did not constitute the same threat.

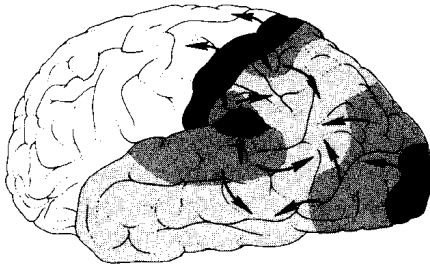
THE ROLE OF CONSCIOUSNESS:

The role of consciousness, then, is to evaluate, edit and modify this underlying system as it is needed. Consciousness allows you to determine, for example, if you are about to be sexually molested by someone (as in the example above), or if you are in a situation that is really safe and benign. Before discussing how to listen to and evaluate the emotions you are having, it is important first to discuss some fundamental issues about how your brain works.

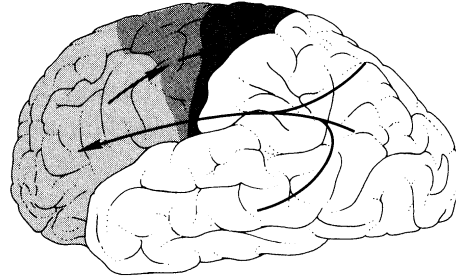
Please understand that the brain is vastly complex, with new discoveries about it being made all of the time. The following discussion requires some simplification of known information in order to allow for a discussion of practical implications.

HOW YOUR BRAIN PROCESSES INFORMATION

The drawings below illustrate the brain, viewed from the left side (i.e., the person's eyes would be on the left hand side of the drawings).



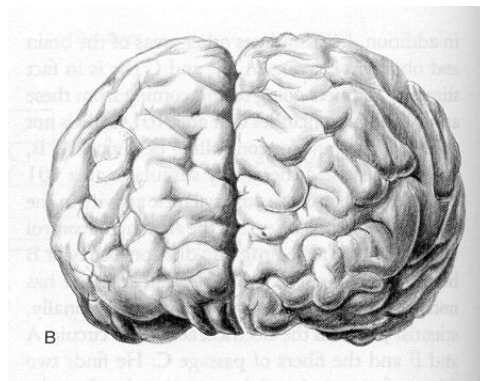
A The sensory unit



B The motor unit

These drawings illustrate that the back half of your brain (the parts that are shaded on the drawing on the left) is primarily involved with taking in and making sense out of sensory information that comes in from outside and inside of your body (i.e., the sensory unit). The front half of your brain (the part that is shaded in the drawing on the right) is involved in responding to the external world. Much of the time this response involves taking actions of some sort, either through body movement or speech (i.e., the motor unit). However, this part of your brain is also involved in thinking, reasoning, decision making, etc.

If you look at your brain from the front (as illustrated below), you can see that your brain is basically divided into two hemispheres. At this point in time, most people are somewhat aware of left-brain/right brain differences. However, it is important to talk about those issues a little bit in order to understand how we process emotion.



πRight Brain Left Brain θ

(remember that you are looking at it from the front, so your right would be their left, and vice versa).

For the vast majority of us (about 97% of us), the left brain (at least the portions on the front and to the side) is where we produce most speech. There is some interesting language that is produced in the right hemisphere, which we will talk about in a moment. But most everyday conversational speech is produced in the left hemisphere. The left hemisphere also is the part of your brain that deals with details. It is the part of your brain that organizes things and puts things into sequences, and it is the part of your brain that

analyzes things down into their parts. It is the part of your brain that is most involved in problem solving, decision-making, and reasoning. It is the part of your brain that understands time. The left hemisphere is the part of your brain that deals with technical or academic information, and it is the part of your brain that processes positive emotions (being happy, excited, looking forward to things, etc.). Remember, it is not the part of your brain that produces positive emotions, but it is the part of your brain that processes those emotions once they are produced.

The right hemisphere operates in some very different ways. The right hemisphere is the part of your brain that processes negative emotions. So any time you feel anger, fear, hurt, shame or sadness, those emotions are processed primarily in your right hemisphere. Remember that negative emotions are produced by the limbic system, but once they are produced, they are processed in the right hemisphere. It is the part of your brain that produces visual imagery, and the part of your brain that produces dreams. The right hemisphere also contributes heavily to the processing of music and math. It is the part of your brain that produces emotional language, such as swearing and singing. It is interesting that many people who have had left hemisphere strokes and can no longer carry on normal conversations, can still swear and they can still sing. It is also interesting to note that people who stutter (such as country music star Mel Tillis) can also sing flawlessly, because singing is produced in a very different part of their brain. Poetry also tends to be much more right hemisphere language, which is often why some people have trouble reading poetry, because they are trying to make logical sense out of it, rather than reading it as imagery, emotion, and metaphor—the language of the right hemisphere.

However, your right hemisphere operates in ways that are very different from your left hemisphere. Your right hemisphere has no understanding of time. You may notice that in dreams you can put together things from the distant past and from the present, and within the dream there is no sense that these things don't belong together. It may seem odd that you have connected those things when you wake up and think about the dream (i.e., with your left hemisphere), but these things don't appear odd within the dream (i.e., with your right hemisphere).

In addition, your right hemisphere is very holistic and global in perception—it does not attend well to details. If your right hemisphere sees a tree, it assumes that the whole forest is there also, whether that is true or not.

One reason that psychotherapy can work, is that it requires that you translate negative emotions and events into left hemisphere language. As you do this, it also pulls into play all of the other functions available to you in your left hemisphere—i.e., reasoning, decision-making, the ability to sort things out into details, the ability to understand the relevance of time, etc. When you combine the capacity of your right hemisphere to look at the overall picture and to see things globally, and the ability of your left hemisphere to attend to details, sort things out, and understand the relevance of time—when these parts are in harmony with each other—those are the times when we have a clear sense that we know what is going on around us, and we know what we need to do in a situation.

UNDERSTANDING NEGATIVE EMOTIONS:

Most people find negative emotions to be very troubling, and feel that negative emotions are there to haunt or terrorize. It is critical to understand that all negative emotions are produced in an attempt to protect, inform, and take care of you.

Let us begin this discussion in a way that is going to initially appear fairly far afield. It is helpful to understand how the physical disease of leprosy operates in people. Part of what leprosy does as an illness is to destroy nerve endings. The result is that people with leprosy lose their capacity to perceive physical pain. We tend to think of physical pain as a bad thing, and that it might be a gift if something were to

happen where we would never have to experience it again. However, physical pain is the mechanism that works the hardest to keep us physically whole.

The reason that people with leprosy often end up losing fingers or toes, or end up with wounds that become infected and may kill them, is because they can no longer perceive pain. People with leprosy are taught a technique called “visual surveillance of extremities,” by which every 15 seconds or so they scan their body parts to make sure that nothing is broken, bruised, or bleeding. In the absence of pain, extremely serious things can be wrong with your body, and it might escape your attention.

Just as physical pain works to keep us physically whole and intact, negative emotions work to keep us emotionally whole and intact. Negative emotions are there to tell you that something may be threatening, dangerous, or otherwise potentially harmful to you, or to help you repair and restore yourself after emotional injury or loss.

Many people have grown up in very difficult circumstances—physical or sexual abuse, or other hardship—from which there is no real escape. At those times, negative emotions are operating as they always do—to inform you of the dangers and problems in the situation. However, since the situation is inescapable, children often believe that the emotions that are produced in those situations are also the enemy. That is easy for a child to believe since the emotions are the most immediate impact of those situations on the child. The child then tries to make the negative emotions go away, hoping that will help alleviate the situation.

However, as Thomas Moore has pointed out in *Care of the Soul*, when you try to make a negative emotion go away, all you really do is push it out of sight where you can no longer see it operate. This does not stop the negative emotion from having a powerful impact on your behavior. In fact, pushing a negative emotion away simply makes it more powerful. The emotion is there to warn you—to get your attention. If you try to get away from it, the emotion will work harder to get your attention because you are not attending to the situation that is producing the emotion in the first place. So the harder you push it away, the harder it will push back until it does get your attention. Unfortunately, by the time the volume has been turned up on the emotion so that it can get your attention, it is often so overpowering it is difficult to listen to it. Perhaps the best example of this process is how panic attacks occur. If you don’t listen to anxiety at lower levels, it will continue to build until it does get your attention. If you continue to avoid the anxiety, it will finally break through as a panic attack. Unfortunately, panic attacks feel so bad to the person who experiences them, that the person becomes even more convinced that emotions are “bad,” and will work even harder to make them go away.

It is important to understand how to listen to and understand your emotional system.

EMOTIONS VERSUS BEHAVIOR:

One of the things that often scares people about experiencing certain emotions is that they are worried about how they will behave if they really get in touch with the emotion. One of the most troubling emotions for many people is anger. Often people have seen anger expressed in ways that end up abusing others or producing physical or emotional damage of one sort or another.

It is important to understand that any emotion can result in behavior that is productive, and any emotion can result in behavior that is damaging or hurtful. To understand this, it is important to differentiate between the emotion you experience (over which you don’t have any control) and how you behave in response to that emotion (over which you do have control). When any particular emotion is triggered, it will also create with it a tendency to respond in particular ways (remember [state dependency](#)?). However,

you do have control over whether you respond in the pre-set pattern, or whether you choose to respond differently.

LISTENING TO NEGATIVE EMOTIONS:

All negative emotions exist to protect or take care of you. However, in order for them to fulfill this function, it is important to understand what those emotions are saying to you and to understand the basic conditions that produce different emotions.

ANGER: Anger is the emotion that occurs when things are different from the way you want them to be, or the way you need them to be, and that difference is in some way threatening to you. Another way of saying this is that anger occurs when your expectations are violated in a negative way. How angry you are measures how far the distance is between the way things are and the way you want them to be. Anger is very energizing, and it presents this way in order to assist you in making things become the way you want them to be. *Anger exists to produce change.* If you are unable to reconcile the difference between the way things are and the way you want them to be by producing change, then the only other choice you really have is to adjust to the fact that things are not going to be the way you want them to be—i.e., anger turns into grieving and loss.

Anger can be used productively when it is used to provide the energy to produce positive change. For example, the civil rights movement was basically run from the energy produced by anger. Anger can also be used in very unproductive ways when it is used to coerce people to conform to your expectations, or when it is used to harm or damage people who have not fulfilled your expectations.

FEAR: Fear occurs when the **pattern recognition** system perceives that something is happening that is similar to things in the past where you have been in immediate danger of some sort.

ANXIETY: Anxiety occurs when the **pattern recognition** process perceives warning signs of potential danger.

SHAME: Shame occurs when you perceive that you are trying to obtain validation and understanding from someone who is unable or unwilling to provide it to you. In other words, shame is the emotion that tells you that you really do not belong or that you are substantially different from someone with whom you want to identify. If properly understood, shame tells you that you are trying to fit in somewhere that is not a good fit for you.

SADNESS: Sadness occurs when you recognize a loss. It functions to shut down external activities and to draw your attention inwardly to assist you in reorganizing internally to accommodate the loss. Sadness and grieving are the natural healing processes for recovering from emotional loss. The difficult aspect of grieving is that the way it helps you heal is by having you struggle with the pain of the loss. People often say that time heals everything. Remember, however, that your right hemisphere has no sense of time. The mere passage of time will not heal anything. Grieving does heal emotional losses, but it requires that you set aside the time and attention to deal with the loss.

HURT: Emotional hurt occurs when it appears as though the way that you feel and believe does not appear to matter to someone who is important to you.