

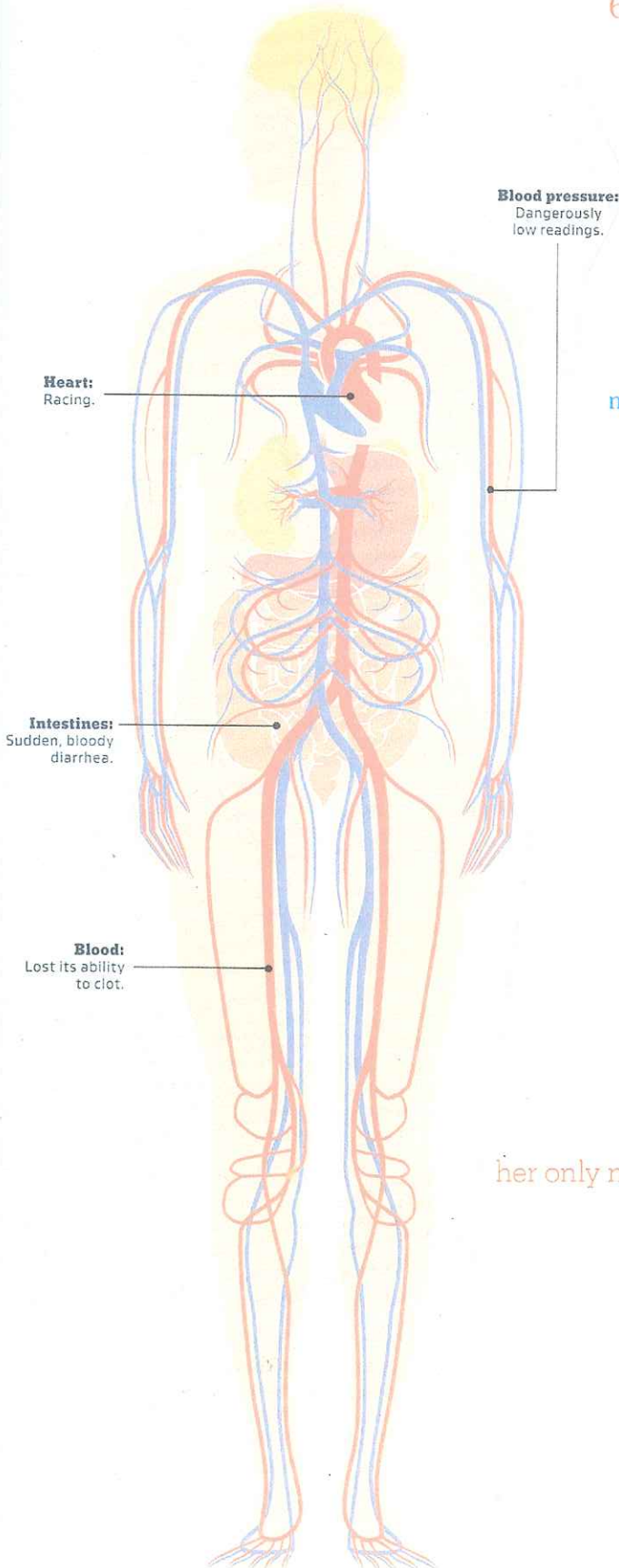
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DIAGNOSIS

Losing Consciousness

An otherwise healthy woman has two mysterious attacks that send her speeding to the emergency room.

By Lisa Sanders, M.D.



Symptoms

"Mommy, I'm afraid. Tell me what to do." The child's mother looked up at her 8-year-old daughter. "It's going to be O.K.," she said. "Just go get some help."

The woman watched as her daughter left the public bathroom, where she now lay. She and her daughter had come to this store to pick up some new towels. But once inside the mother began to feel hot and dizzy. Her heart fluttered in her chest, and she felt as if she was going to be sick. She grabbed her daughter's hand and hurried to the bathroom. Once there she suddenly felt as if she was going to pass out and laid down on the bathroom floor. That's when she sent her daughter to get help.

Finally a store clerk came into the bathroom holding the little girl's hand. The last thing the woman remembered was the look of horror on the clerk's face as she saw the middle-aged woman lying on the floor in a pool of her bloody stool.

When the E.M.T.'s arrived at the store, the woman was unconscious. Her heart was racing, and her blood pressure was terrifyingly low. She was rushed to the emergency department of Yale-New Haven Hospital.

By the time she arrived at the emergency room, her blood pressure had come up and heart rate gone down, and she was no longer bleeding from her rectum. A physical exam uncovered nothing unusual,

The patient told the E.R. doctors that her only medical problem was anxiety that caused occasional panic attacks.

and all of the testing she had was normal, with one important exception: her blood seemed to have lost its ability to clot. If that problem persisted, she would be in danger of bleeding to death after even the smallest cut or abrasion.

The patient told the E.R. doctors that her only medical problem was anxiety that caused occasional panic attacks, and she had recently started taking an antidepressant for that. She didn't smoke, rarely drank, worked in an office and was married with two children. She had been healthy her whole life until almost two years before, when the exact same thing happened to her; one day, out of nowhere, she had sudden, bloody diarrhea, her blood pressure dropped and she lost consciousness. Then, when she got to the hospital, doctors found that her blood would not clot.

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Illustration by Jan Schwochow

When there is a huge surge of histamine, the body experiences a rapid drop in blood pressure, heart palpitations, nausea and diarrhea.

2 Investigation

Dr. Susanne Lagarde, a gastroenterologist, was asked by the medical team to see the patient to help figure out why she had bled from her gut. Lagarde introduced herself and then quickly reviewed the events leading up to the incident in the store. But she also wanted to know the details of the last time this happened to the patient. Did the doctors ever figure out why her blood didn't clot? No, the patient said, they couldn't figure it out in the emergency room, and the following week when she saw a hematologist — a specialist in disorders of the blood — her blood was completely normal.

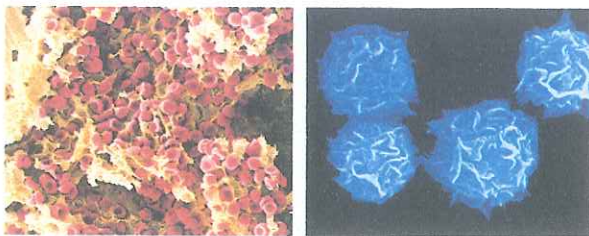
Lagarde recommended a colonoscopy, a procedure that uses a small camera to look at the tissue of the large intestine, in order to determine why the patient bled. The most common cause of bloody diarrhea is inflammation of the delicate tissue of the large intestine. This can be caused by an infection or diseases like ulcerative colitis or Crohn's, autoimmune disorders in which the white blood cells that are supposed to protect the body from invading pathogens mistakenly attack completely normal cells.

But when Lagarde looked through her scope she saw none of that. The delicate lining of the colon was damaged in several places, but it looked as if that injury was a result of oxygen-starved cells caused by the same low blood pressure that made the patient lose consciousness. So this wasn't a problem of the gastrointestinal tract. The inability to clot turned a tiny trickle of blood from the injured tissue into a torrent. So what caused that combination of hypotension and difficulty in clotting? Certain severe infections can cause both. But there was nothing to suggest that she had an infection. There is a medication — heparin — that can cause a brief period of anticoagulation. Heparin

blood pressure and a temporary loss of the ability to form blood clots. Did that bring anything to mind?

The phone was quiet for a moment. Then Duffy began to talk through his thought process. The clotting problem did sound like the kind caused by the drug heparin. But there is a type of white blood cell that makes heparin within the body. These cells, known as mast cells, also make another chemical, histamine, which, when released in high doses, can cause low blood pressure — the other mysterious symptom this patient had. Under normal circumstances these mast cells are responsible for allergic reactions like flushing, itching and hives. (We take antihistamines to block these biological chemicals when we have allergies.) When there is a huge surge of histamine, the body goes into anaphylactic shock — the most severe form of allergic response with a rapid drop in blood pressure, heart palpitations, nausea and diarrhea, which were all symptoms that this patient exhibited.

"I think it is very likely that this patient has systemic mastocytosis — I can not think of anything else that would account for this unusual presentation," Duffy offered in his elegant manner of speaking. Systemic mastocytosis is a rare disease in which the body accumulates too many mast cells. When this population of cells is exposed to certain triggers, they dump their huge stores of histamine, and in rare cases heparin, into the bloodstream, causing anaphylactic shock and blood that cannot clot. Certain drugs have been shown to stimulate this reaction in mast cells. This patient had just started taking an antidepressant before coming to the hospital. Was she taking any medications before her previous attack?



Tests in the E.R. showed the patient was unable to form blood clots (left); mast cells (right) produce heparin and histamine.

rin is an intravenous drug that is used to treat patients who develop harmful clots. Intentional misuse of the drug seemed unlikely, and Lagarde couldn't imagine any kind of accidental exposure. But one thing seemed clear: this patient needed a diagnosis before whatever it was that already happened twice happened again.

For doctors, perhaps the most powerful diagnostic tools available are a phone and a friend. Lagarde immediately thought of Dr. Thomas Duffy. Duffy was one of the smartest doctors she knew, and he was a hematologist. When Lagarde reached him, she quickly outlined the case: a middle-aged woman with two episodes of low

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3 Resolution

Lagarde hurried back to talk with the patient. Yes, the patient said, she had been started on another antidepressant before her last attack, too. Lagarde explained Duffy's theory concerning systemic mastocytosis to the patient. There is no cure for this overgrowth of cells, but patients can manage their symptoms by using antihistamines and avoiding medications that are thought to trigger an attack.

The patient followed up with Duffy, who was able to confirm the diagnosis with a blood test and a bone-marrow biopsy. Since then the patient has carefully avoided antidepressants. But she occasionally feels her heart flutter and stomach turn, symptoms that indicate that her mast cells are acting up for some reason, and she quickly takes her antihistamines, which rapidly neutralize the histamine and reverse the symptoms.

Thinking back, the patient says she has had these symptoms off and on for years. Her heart and stomach would flutter; she would become lightheaded and sometimes a little confused. Her doctors thought these incidents were an overreaction to stress — panic attacks. "I didn't believe it, but when so many people tell you the same thing you can't help but think they are right," she said. "I tried everything — yoga, meditation, exercise." None of it worked. She laughed, then added she now knows that what she really needed was a diagnosis and an antihistamine. ■

MIND | Benedict Carey

A Dream Interpretation: Tuneups for the Brain

It's snowing heavily, and everyone in the backyard is in a swimsuit, at some kind of party: Mom, Dad, the high school principal, there's even an ex-girlfriend. And is that Elvis, over by the piñata?

Uh-oh.

Dreams are so rich and have such an authentic feeling that scientists have long assumed they must have a crucial psychological purpose. To Freud, dreaming provided a playground for the unconscious mind; to Jung, it was a stage where the psyche's archetypes acted out primal themes. Newer theories hold that dreams help the brain to consolidate emotional memories or to work through current problems, like divorce and work frustrations.

Yet what if the primary purpose of dreaming isn't psychological at all?

In a paper published last month in the journal *Nature Reviews Neuroscience*, Dr. J. Allan Hobson, a psychiatrist and longtime sleep researcher at Harvard, argues that the main function of rapid-eye-movement sleep, or REM, when most dreaming occurs, is physiological. The brain is warming its circuits, anticipating the sights and sounds and emotions of waking.

"It helps explain a lot of things, like why people forget so many dreams,"

Challenging old thoughts about what those images in sleep mean.

Dr. Hobson said in an interview. "It's like jogging; the body doesn't remember every step, but it knows it has exercised. It has been tuned up. It's the same idea here: dreams are tuning the mind for conscious awareness."

Drawing on work of his own and others, Dr. Hobson argues that dreaming is a parallel state of consciousness that is continually running but normally suppressed during waking. The idea is a prominent example of how neuroscience is altering assumptions about everyday (or every-night) brain functions.

"Most people who have studied dreams start out with some predetermined psychological ideas and try to make dreaming fit those," said Dr. Mark Mahowald, a neurologist who is director of the sleep disorders program at Hennepin County Medical Center, in Minneapolis. "What I like about this new paper is that he

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A Dream Interpretation: Tuneups for Brains

From First Science Page

doesn't make any assumptions about what dreaming is doing."

The paper has already stirred controversy and discussion among Freudians, therapists and other researchers, including neuroscientists. Dr. Rodolfo Llinás, a neurologist and physiologist at New York University, called Dr. Hobson's reasoning impressive but said it was not the only physiological interpretation of dreams.

"I argue that dreaming is not a parallel state but that it is consciousness itself, in the absence of input from the senses," said Dr. Llinás, who makes the case in the book "I of the Vortex: From Neurons to Self" (M.I.T., 2001). Once people are awake, he argued, their brain essentially revises its dream images to match what it sees, hears and feels — the dreams are "corrected" by the senses.

These novel ideas about dreaming are based partly on basic findings about REM sleep. In evolutionary terms, REM appears to be a recent development; it is detectable in humans and other warm-blooded mammals and birds. And studies suggest that REM makes its appearance very early in life — in the third trimester for humans, well before a developing child has experience or imagery to fill out a dream.

In studies, scientists have found evidence that REM activity helps the brain build neural connections, particularly in its visual areas. The developing fetus may be "seeing" something, in terms of brain activity, long before the eyes ever open — the developing brain drawing on innate, biological models of space and time, like an internal virtual-reality machine. Full-on dreams, in the usual sense of the word, come much later. Their content, in this view, is a kind of crude test run for what the coming day may hold.

None of this is to say that dreams are devoid of meaning. Anyone who can remember a vivid dream knows that at times the strange nighttime scenes reflect real hopes and anxieties: the young teacher who finds himself naked at the lectern; the new mother in front of an empty crib, frantic in her imagined loss.

But people can read almost anything into the dreams that they remember, and they do exactly that. In a recent study of more than 1,000 people, researchers at Carnegie Mellon University and Harvard found strong biases in the interpretations of dreams. For in-



stance, the participants tended to attach more significance to a negative dream if it was about someone they disliked, and more to a positive dream if it was about a friend.

In fact, research suggests that only about 20 percent of dreams contain people or places that the dreamer has encountered. Most images appear to be unique to a single dream.

Scientists know this because some people have the ability to watch their own dreams as observers, without waking up. This state of consciousness, called lucid dreaming, is itself something a mystery — and a staple of New Age and ancient mystics. But it is a real phenomenon, one in which Dr. Hobson finds strong support for his argument for dreams as a physiological warm-up before waking.

In dozens of studies, researchers have brought people into the laboratory and trained them to dream lucidly. They do this

with a variety of techniques, including auto-suggestion as head meets pillow ("I will be aware when I dream; I will observe") and teaching telltale signs of dreaming (the light switches don't work; levitation is possible; it is often impossible to scream).

Lucid dreaming occurs during a mixed state of consciousness, sleep researchers say — a heavy dose of REM with a sprinkling of waking awareness. "This is just one kind of mixed state, but there are whole variety of them," Dr. Mahowald said. Sleepwalking and

Ideas about a physiological, not psychological, purpose.

night terrors, he said, represent mixtures of muscle activation and non-REM sleep. Attacks of narcolepsy reflect an infringement of REM on normal daytime alertness.

In study published in September in the journal *Sleep*, Ursula Voss of J. W. Goethe-University in Frankfurt led a team that analyzed brain waves during REM sleep, waking and lucid dreaming. It found that lucid dreaming had elements of REM and of waking — most notably in the frontal areas of the brain, which are quiet during normal dreaming. Dr. Hobson was a co-author on the paper.

"You are seeing this split brain in action," he said. "This tells me that there are these two systems, and that in fact they can be running at the same time."

Researchers have a way to go before they can confirm or fill out this working hypothesis. But the payoffs could extend beyond a deeper understanding of the sleeping brain. People who struggle with schizophrenia suffer delusions of unknown origin. Dr. Hobson suggests that these flights of imagination may be related to an abnormal activation of a dreaming consciousness. "Let the dreamer awake, and you will see psychosis," Jung said.

For everyone else, the idea of dreams as a kind of sound check for the brain may bring some comfort, as well. That ominous dream of people gathered on the lawn for some strange party? Probably meaningless.

No reason to scream, even if it were possible.

The body response to stress

THE WASHINGTON POST

The effects of stress are wide-reaching. Here are ways in which some key body systems react.

Nervous system: When stressed — physically or psychologically — the body suddenly shifts its energy resources to fighting off the perceived threat. In what is known as the “fight or flight” response, the sympathetic nervous system signals the adrenal glands to release adrenaline and cortisol. These hormones make the heart beat faster, raise blood pressure, change the digestive process and boost glucose levels in the bloodstream.

Musculoskeletal system: Under stress, muscles tense up. The contraction of muscles for extended periods can trigger tension headaches, migraines and various musculoskeletal conditions.

Respiratory system: Stress can make you breathe harder and cause rapid breathing — or hyperventilation — which can bring on panic attacks.

Cardiovascular system: Acute stress — stress that is momentary, such as being stuck in traffic — causes an increase in heart rate and stronger contractions of the heart muscle. Blood vessels that direct blood to the large muscles and to the heart dilate, increasing the amount of blood pumped to these parts of the body. Repeated acute stress can cause inflammation in the coronary arteries, thought to lead to heart attack.

Endocrine system:

■ **Adrenal glands** — When the body is stressed, the brain sends signals from the hypothalamus, causing the adrenal cortex to produce cortisol and the adrenal medulla to produce epinephrine — sometimes called the “stress hormones.”

■ **Liver** — When cortisol and epinephrine are released, the liver produces more glucose, a blood sugar that provides energy for “fight or flight” in an emergency.

Gastrointestinal system:

■ **Esophagus** — Stress may prompt you to eat much more or much less than you usually do. If you eat more or different foods or increase your use of tobacco or alcohol, you may experience heartburn or acid reflux.

■ **Stomach** — Your stomach can react with “butterflies” or even nausea or pain. You may vomit if the stress is severe enough.

■ **Bowels** — Stress can affect digestion and which nutrients your intestines absorb. It also can affect how quickly food moves through your body. You may find that you have either diarrhea or constipation.

SOURCE: American Psychological Association



Dave Klug

Letting Out Aggression Is Called Bad Advice

By ERICA GOODE

"You know what I do when I'm angry? I hit a pillow. Try that," suggests the psychiatrist, played by Billy Crystal, to his New York gangster client (Robert De Niro) in the Warner Brothers movie "Analyze This." But it is bad advice, according to new research by social psychologists.

Though pop psychology books and articles perpetuate the notion that "getting your anger out" is cathartic and can help dissipate hostility, the researchers have found just the opposite: Venting anger on inanimate objects — punching a pillow or hitting a punching bag, for example — increases rather than decreases aggressive behavior.

Even more disturbing, the researchers found, books and articles that recommend "catharsis" as a good method of dealing with anger actually may foster aggression by giving people permission to relax their self-control.

In the studies, which appear in the March issue of *The Journal of Personality and Social Psychology*, angry subjects who hit a punching bag were later more aggressive in blasting their rivals in a competitive task with loud, unpleasant noises than subjects who did not hit a punching bag.

But aggression also increased when the subjects, who were all undergraduates enrolled in introductory psychology courses, first read a bogus article describing research purportedly showing that hitting an inanimate object was "an effective way of venting anger."

In one study, participants who read the article were more eager to hit the punching bag than subjects who read a different article debunking the benefits of catharsis. In a subsequent study, participants who read the pro-catharsis article and then hit the punching bag were more aggressive toward partners in the competitive task.

Dr. Brad J. Bushman, an associate professor of psychology at Iowa State University and the lead author of the studies, said he suspected that the subjects, led to believe catharsis worked, kept trying to relieve anger, even after it became clear that the punching bag was not doing the job. "They keep trying to get this emotional release, but it never happens," he said.

To make the subjects angry, the researchers asked them to write one-paragraph essays on abortion, and informed them that the essays would be critiqued by other study participants.

Half the subjects received negative critiques, consisting of low ratings on organization, originality, style, clarity, persuasiveness and overall quality, along with a handwritten comment saying, "This is one of the worst essays I have read!" The others received positive critiques, including the comment, "No suggestions, great essay!"

The idea that catharsis is the best way to handle anger gained wide currency as part of Sigmund Freud's hydraulic model of sexual and aggressive drives. The theory holds that when angry feelings are repressed, pressure builds up. If the pressure is not released, the logic goes, psychological or physical problems can result. Many self-help books advocate a cathartic approach to anger management. One, the researchers wrote, "recommended that angry people twist a towel, punch a pillow, wallop a punching bag, hit a couch with a plastic baseball bat, throw rocks or break glass to reduce pent-up anger."

Over the past three decades, however, psychologists have tested the catharsis theory and found virtually no evidence for it. "Catharsis has enjoyed a run of support in the popular media that far outstrips its support in the research literature," Dr. Bushman and his colleagues wrote.

Stressed Out Test

10. In the last month, how often have you been upset because of something that happened unexpectedly.
Never _____ 0 Almost never _____ 1 Some _____ 2 F.Often _____ 3 V.Often _____ 4
9. In the last ^{month}, how often have you felt that you were unable to control the important things in your life?
Never _____ 0 Almost never _____ 1 Some _____ 2 F. Often _____ 3 V.Often _____ 4
8. In the last month, how often have you felt nervous and "stressed"?
Never _____ 0 Almost never _____ 1 Some _____ 2 F.Often _____ 3 V.Often _____ 4
7. In the last month, how often have you found that you could not cope with all the things you had to do?
Never _____ 0 Almost never _____ 1 Some _____ 2 F.Often _____ 3 V.Often _____ 4
6. In the last month, how often have you been angered because of things that happened outside of your control?
Never _____ 0 Almost never _____ 1 Some _____ 2 F.Often _____ 3 V.Often _____ 4
5. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
Never _____ 0 Almost never _____ 1 Some _____ 2 F.Often _____ 3 V.often _____ 4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
Never _____ 4 Almost never _____ 3 Some _____ 2 F.Often _____ 1 V.often _____ 0
3. In the last month, how often have you felt that things were going your way?
Never _____ 4 Almost never _____ 3 Some _____ 2 F.often _____ 1 V.Often _____ 0
2. In the last month, how often have you been able to control the irritations in your life?
Never _____ 4 Almost never _____ 3 Some _____ 2 F.Often _____ 1 V.Often _____ 0
1. In the last month, how often have you felt you were on top of things?
Never _____ 4 Almost never _____ 3 Some _____ 2 F.Often _____ 1 V. Often _____ 0

SCORE _____

Positive Coping Skills

People react differently to stressful situations. Following is a list of what would be considered positive responses.

Response	Never	Sometimes	Often
Meditate	_____	_____	_____
Stretch	_____	_____	_____
Engage in progressive muscle Relaxation	_____	_____	_____
Listen to music	_____	_____	_____
Exercise aerobically	_____	_____	_____
Watch television	_____	_____	_____
Go to the movies	_____	_____	_____
Read	_____	_____	_____
Work on puzzles or play games	_____	_____	_____
Go for a leisurely walk	_____	_____	_____
Go to a health club/Fitness Center	_____	_____	_____
Spend time alone	_____	_____	_____
Participate in recreational activity	_____	_____	_____
Socialize with friends	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Negative Coping Skills

People react differently to stressful situations. Following is a list of what would be considered negative responses.

Response	Never	Sometimes	Often
Act Violently	_____	_____	_____
Yell at a friend	_____	_____	_____
Over Eat	_____	_____	_____
Do not eat for long periods	_____	_____	_____
Drink excessive amounts of alcohol	_____	_____	_____
Drink lots of coffee	_____	_____	_____
Smoke tobacco	_____	_____	_____
Kick something	_____	_____	_____
Throw something	_____	_____	_____
Drive fast in a car	_____	_____	_____
Pace up and down	_____	_____	_____
Bite your fingernails	_____	_____	_____
Yell at Parents	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Defense Mechanisms

To live in social groups, we cannot act out our sexual and aggressive impulses willy-nilly. We must control them. When the ego fears losing control of the inner war between the demands of the id and the superego, the result is a dark cloud of unfocused anxiety. Anxiety, said Freud, is the price we pay for civilization. Anxiety is hard to cope with, as when we feel unsettled but are unsure why. Freud proposed that the ego protects itself against anxiety with defense mechanisms, which reduce or redirect anxiety in various ways, all of them distorting reality. Some examples:

Repression banishes anxiety-arousing thoughts and feelings from consciousness. According to Freud, repression underlies the other defense mechanisms, all of which disguise threatening impulses and keep them from reaching consciousness. Freud believed that repression explains why we do not remember our childhood lust for our parent of the other sex. However, he also believed that repression is often incomplete, with the repressed urges seeping out in dream symbols and slips of the tongue.

We also cope with anxiety through regression—retreating to an earlier, more infantile stage of development. Thus, when facing the anxious first days of school, a child may regress to the oral comfort of thumb-sucking. Juvenile monkeys, when anxious, retreat to infantile clinging to their mothers or to one another (Suomi, 1987). Even homesick new college students may long for the security and comfort of home.

In reaction formation the ego unconsciously makes unacceptable impulses look like their opposites. En route to consciousness, the unacceptable proposition “I hate him” becomes “I love him.” Timidity becomes daring. Feelings of inadequacy become bravado.

“The lady doth protest too much, methinks.”

WILLIAM SHAKESPEARE
HAMLET
1600

Projection disguises threatening impulses by attributing them to others. Thus, “He doesn’t trust me” may be a projection of the actual feeling “I don’t trust him” or “I don’t trust myself.” An El Salvadoran saying captures the idea: “The thief thinks everyone else is a thief.”

The familiar mechanism of rationalization lets us unconsciously generate self-justifying explanations so we can hide from ourselves the real reasons for our actions. Thus, habitual drinkers may say they drink with their friends “just to be sociable.” Students who fail to study may rationalize, “All work and no play makes Jack [or Jill] a dull person.”

Displacement diverts one’s sexual or aggressive impulses toward an object more psychologically acceptable than the one that aroused them. Children who can’t express anger against their parents may displace their anger onto the family pet. Students upset over an exam may snap at a roommate.

Note again that all these defense mechanisms function indirectly and unconsciously, reducing anxiety by disguising our threatening impulses. We would never say, “I’m feeling anxious; I’d better project my sexual or hostile feelings onto someone else.” Defense mechanisms would not work if we recognized them. As the body unconsciously defends itself against disease, so also, believed Freud, does the ego unconsciously defend itself against anxiety.

reaction formation

defense mechanism by which the ego unconsciously switches unacceptable impulses into their opposites. Thus, people may express feelings that are the opposite of their anxiety-arousing unconscious feelings.

projection

the defense mechanism by which people disguise their own threatening impulses by attributing them to others.

rationalization

defense mechanism that offers self-justifying explanations in place of the real, more threatening, unconscious reasons for one’s actions.

displacement

defense mechanism that shifts sexual or aggressive impulses toward a more acceptable or less threatening object or person, as when redirecting anger toward a safer outlet.

identification

the process by which, according to Freud, children incorporate their parents’ values into their developing superegos.

gender identity

one’s sense of being male or female.

fixation

according to Freud, a lingering focus of pleasure-seeking energies at an earlier psychosexual stage, where conflicts were unresolved.

defense mechanisms

in psychoanalytic theory, the ego’s protective methods of reducing anxiety by unconsciously distorting reality.

repression

in psychoanalytic theory, the basic defense mechanism that banishes anxiety-arousing thoughts, feelings, and memories from consciousness.

regression

defense mechanism in which an individual retreats, when faced with anxiety, to a more infantile psychosexual stage where some psychic energy remains fixated.

NAME _____

Defense Mechanisms

Type of Defense	Example	Possible Risk Behavior	Possible benefit
Compensation Making up for weakness in one area By working hard to achieve success In another area.			
Conversion Intolerable impulses or conflicts Are converted into Physical Symptoms.			
Denial Negation or non-acceptance of Important (stressful) aspects Of reality.			
Displacement Shifting unacceptable impulses Toward a more acceptable or Less threatening object or person.			
Identification Individual assumes qualities of Someone else so they can avoid The stress of thinking about their Own shortcomings			
Projection An individual disguises their Unacceptable impulses by believing Others have those same qualities.			
Rationalization An individual offers self-justifying Explanations for behavior in place of Real more threatening explanations.			
Reaction Formation The individual behaves in the Opposite manner of their unacceptable Impulses or thoughts.			
Regression The individual retreats, when faced With anxiety, to a more immature Psychological role.			
Repression The individual banishes anxiety Arousing thoughts, feelings and Memories from conscious thought.			
Sublimation The channeling of unacceptable Impulses into socially acceptable Actions (or goals).			

Defenses (synonymous words: Words we use when describing defense mechanism behavior)
 rationalizing, justifying, projecting, blaming, accusing judging, moralizing, analyzing, explaining, generalizing, debating, arguing, questioning, switching, denying, superior, minimizing, evading, defiance, attacking, withdrawing, silence, talking, shouting, laughing, joking, staring, sighing, agreeing, grinning, complying,, sexuality, inferior, fragile, cute, crying, hostile

Why do we use Defense Mechanisms:

- reduce anxiety and enhance self esteem, protect the ego.

Denial Makes the World Go Round

By BENEDICT CAREY

For years she bid the credit card bills from her husband: The \$2,500 embroidered coat from Neiman Marcus. The \$900 beaded scarf from Blake in Chicago. A \$600 pair of Dries van Noten boots. All beautiful items, and all perfectly affordable if she had been a hedge fund manager or a Google executive.

Friends at first dropped hints to go easy or rechannel her creative instincts. Her mother grew concerned enough to ask pointed questions. But sales clerks kept calling with early tips on the coming season's fashions, and the seasons kept changing.

"It got so bad I would sit up suddenly at night and wonder if I was going to slip up and this whole thing would explode," said the secretive shopper, Katharine Farrington, 46, a freelance film writer living in Washington, who is now free of debt. "I don't know how I could have been in denial about it for so long. I guess I was optimistic I could pay, and that I wasn't hurting anyone.

"Well, of course that wasn't true."

Everyone is in denial about something; just try denying it and watch friends make a list. For Freud, denial was a defense against external realities that threaten the ego, and many psychologists today would argue that it can be a protective defense in the face of unbearable news, like a cancer diagnosis.

In the modern vernacular, to say someone is "in denial" is to deliver a savage combination punch: one shot to the belly for the cheating or drinking or bad behavior, and another slap to the head for the cowardly self-deception of pretending it's not a problem.

Yet recent studies from fields as diverse as psychology and anthropology suggest that the ability to look the other way, while potentially destructive, is also critically important to forming and

A Social Balm That Makes the World

From First Science Page

nourishing close relationships. The psychological tricks that people use to ignore a festering problem in their own households are the same ones that they need to live with everyday human dishonesty and betrayal, their own and others'. And it is these highly evolved abilities, research suggests, that provide the foundation for that most disarming of all human invitations, forgiveness.

In this emerging view, social scientists see denial on a broader spectrum — from benign inattention to passive acknowledgment to full-blown, willful blindness — on the part of couples, social groups and organizations, as well as individuals. Seeing denial in this way, some scientists argue, helps clarify when it is wise to manage a difficult person or personal situation, and when it threatens to become a kind of infectious silent trance that can make hypocrites of otherwise forthright people.

"The closer you look, the more clearly you see that denial is part of the uneasy bargain we strike to be social creatures," said Michael McCullough, a psychologist at the University of Miami and the author of the coming book "Beyond Revenge: The Evolution of the Forgiveness Instinct." "We really do want to be moral people, but the fact is that we cut corners to get individual advantage, and we rely on the room that denial gives us to get by, to wiggle out of speeding tickets, and to forgive others for doing the same."

The capacity for denial appears to have evolved in part to offset early humans' hypersensitivity to violations of trust. In small kin groups, identifying liars and two-faced cheats was a matter of survival. A few bad rumors could mean a loss of status or even expulsion from the group, a death sentence.

In a series of recent studies, a team of researchers led by Peter H. Kim of the University of Southern California and Donald L. Ferrin of the University of Buffalo, now at Singapore Management University, had groups of business students rate the trustworthiness of a job applicant after learning that the person had committed an infraction at a previous job. Participants watched a film of a job interview in which the applicant was confronted with the problem and either denied or apologized for it.

If the infraction was described as a mistake and the applicant apologized, viewers gave him the benefit of the doubt and said they would trust him with job responsibilities. But if the infraction was described as fraud and the person apologized, viewers' trust evaporated — and even having evidence that he had been cleared of misconduct did not entirely restore that trust.

"We concluded there is this skewed incentive system," Dr. Kim said. "If you are guilty of an integrity-based violation and you apologize, that hurts you more than if you are dishonest and deny it."

The system is skewed precisely because the people we rely on and value are imperfect, like everyone else, and not nearly as moral or trustworthy as they expect others to be. If evidence of

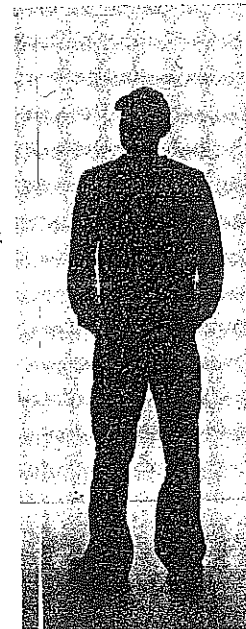
this weren't abundant enough in everyday life, it came through sharply in a recent study led by Dan Ariely, a behavioral economist at the Massachusetts Institute of Technology.

Dr. Ariely and two colleagues, Nina Mazar and Ori Amir, had 326 students take a multiple-choice general knowledge test, promising them payment for every correct answer. The students were instructed to transfer their answers, for the official tally, onto a form with color-in bubbles for each numbered question. But some of the students had the opportunity to cheat: they received bubble sheets with the correct answers seemingly inadvertently shaded in gray. Compared with the others, they changed about 20 percent of their answers, and a follow-up study demonstrated that they were unaware of the magnitude of their dishonesty.

"What we concluded is that good people can be dishonest up to the level

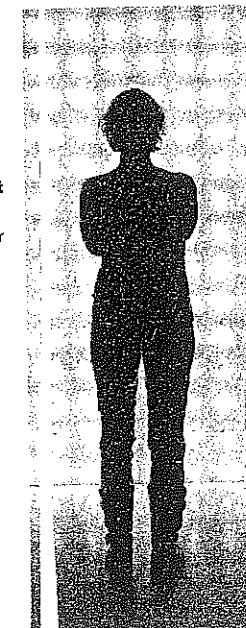
Go Round

Varieties of Denial



"I really don't even remember taking the money. It was just for bus fare and snacks and little things."

Inattention
An often benign form of denial; the activity passes under the radar.



Passive acknowledgment

The behavior is noticed, but little or no action is taken.

"It's not real bullying; he's just a big, stubborn boy who plays rough. No big deal."

where conscience kicks in," said Dr. Ariely, author of the book "Predictably Irrational: The Hidden Forces that Shape Our Decisions," due out next year. "That essentially you can fool the conscience a little bit and make small transgressions without waking it up. It all goes under the radar because you are not paying that much attention."

It is a mistake to underestimate the power of simple attention. People can be acutely aware of what they pay attention to and remarkably blind to what they do not, psychologists have found. In real life, to be sure, casual denials of bad behavior require more than simple mental gymnastics, but inattention is a basic first ingredient.

The second ingredient, or second level, is passive acknowledgment, when infractions are too persistent to go unnoticed. People have adapted a multitude of ways to handle such problems indirectly. A raised eyebrow, a half smile or a nod can signal both "I saw that" and "I'll let this one pass."

The acknowledgment is passive for good reasons: an open confrontation,

s the World Go Round

with a loved one or oneself, risks a major rupture or life change that could be more dire than the offense. And more often than is assumed, a subtle gesture can be enough of a warning to trigger a change in behavior, even one's own.

In an effort to calculate exactly how often people overlook or punish infractions within their peer groups, a team of anthropologists from New Mexico and Vancouver ran a simulation of a game to measure levels of cooperation. In this one-on-one game, players decide whether to contribute to a shared investment pool, and they can cut off their partner if they believe that player's contributions are too meager. The researchers found that once players had an established relationship of trust based on many interactions — once, in effect, the two joined the same clique — they were willing to overlook four or five selfish violations in a row without cutting a friend off. They cut strangers off after a single violation.

Using a computer program, the an-



"At the time I didn't even notice what I was doing, or when I did I thought it was no big deal, it would take care of itself. Looking back I see I was pretty deeply in denial about it."



FRIEDRIK BRODEN

thropologists ran out the simulation over many generations, in effect speeding up the tape of evolution for this society of players. And the rate of overlooking trust violations held up; that is, this pattern of forgiving behavior defined stable groups that maximized the survival and evolutionary fitness of the individuals.

"There are lots of way to think about this," said the lead author, Daniel J. Hruschka of the Santa Fe Institute, a research group that focuses on complex systems. "One is that you're moving and you really need help, but your friend doesn't return your call. Well, maybe he's out of town, and it's not a defection at all. The ability to overlook or forgive is a way to overcome these vicissitudes of everyday life."

Nowhere do people use denial skills to greater effect than with a spouse or partner. In a series of studies, Sandra Murray of the University of Buffalo and John Holmes of the University of Waterloo in Ontario have shown that people often idealize their partners, overestimating their strengths and playing

down their flaws.

This typically involves a blend of denial and touch-up work — seeing jealousy as passion, for instance, or stubbornness as a strong sense of right and wrong. But the studies have found that partners who idealize each other in this way are more likely to stay together and to report being satisfied in the relationship than those who do not.

"The evidence suggests that if you see the other person in this idealized way, and treat them accordingly, they begin to see themselves that way, too," Dr. Murray said. "It draws out these more positive behaviors."

Faced with the high odor of real perfidy, people unwilling to risk a break skew their perception of reality much more purposefully. One common way to do this is to recast clear moral breaches as foul-ups, stumbles or lapses in competence — because those are more tolerable, said Dr. Kim, of U.S.C. In effect, Dr. Kim said, people "reframe the ethical violation as a competence violation."

She wasn't cheating on him — she strayed. He didn't hide the losses in the subprime mortgage unit for years — he miscalculated.

This active recasting of events, built on the same smaller-bore psychological tools of inattention and passive acknowledgment, is the point at which relationship repair can begin to shade into willful self-deception of the kind that takes on a life of its own. Everyone knows what this looks like: You can't talk about the affair, and you can't talk about not talking about it. Soon, you can't talk about any subject that's remotely related to it.

And the unstated social expectations out in the world often reinforce the conspiracy, no matter its source, said Eviatar Zerubavel, a sociologist at Rutgers and the author of "The Elephant in the Room: Silence and Denial in Everyday Life."

"Tact, decorum, politeness, taboo — they all limit what can be said in social domains," he said. "I have never seen tact and taboo discussed in the same context, but one is just a hard version of the other, and it's not clear where people draw the line between their private concerns and these social limits."

In short, social mores often work to shrink the space in which a conspiracy of silence can be broken: not at work, not out here in public, not around the dinner table, not here. It takes an outside crisis to break the denial, and no one needs a psychological study to know how that ends.

In Ms. Farrington's case, the event was a move out of the country for her husband's job. Unable to earn much money from her own work, she kept buying but had no way to cover the credit card payments.

"Basically," she said, "I had to fess up. It was terrible, but I fessed up to my husband, I fessed up to my mother and to another friend who was getting the bills while I was away. This whole web of intrigue, and in the end it just had to crash." She now hunts for better bargains on eBay.



"He was a work friend, and I have a lot of those. But I was under a lot of pressure, I just let my guard down, and it got out of control."

Reframing

Exploitation or betrayal of trust is recast as a kind of mistake, a foul-up.



Willful blindness

The person keeps the topic off limits, perhaps even to himself.

"That question reminds me, have you had dinner yet? There's a Giants game on."

The pros and cons of denial



Marvin Lipman, M.D., clinical professor of medicine emeritus at New York Medical College, is Consumers Union's chief medical adviser.

IT TOOK almost two days to air out the examining room from its most recent occupant, the 78-year-old mother of a colleague who came to see me at the urging of her grandchildren. They had been refusing to visit her for the past month because of a terrible odor in her apartment. It wasn't long before they realized that the source was Grandma herself.

I recognized the odor as soon as I entered the examining room. It had the distinct smell of skin infected with the bacterium *Pseudomonas*, common in people with cancerous growths that have pushed through the skin. When I examined her I discovered a large, open wound on her left breast, beneath which was a rock-hard, golf-ball-sized mass.

She had known about the lump for about three months. The skin breakthrough and infection had been present for a month. It had crossed her mind that it might be cancer—but she had also hoped it would go away on its own. And when the infection developed, she said, she began to feel guilty about not seeking help in the first place; she tried her best to cover it up with various creams and the lavish use of perfume. Grandma was practicing denial,

an innate, adaptive trick of the human mind that often erupts in an attempt to diffuse the punishing effects of bad news.

Why we do it

Sigmund Freud defined the state of being “in denial” as a strong basic mechanism, often unconscious, for coping with unpleasant news in an attempt to protect one's ego. In real life, denial can range from that subconscious refusal to see the truth to any behavior that seeks to avoid blame for an antisocial act. It explains, for example, how the 6-year-old, caught in the act of stealing from the cookie jar, can say, straight-faced, “I didn't do it.”

In the medical world, denial can serve a useful function in some circumstances. A 2010 study from the Netherlands of almost 200 patients with recently diagnosed lung cancer found that those who displayed only low to moderate awareness of the seriousness of their condition reported feeling and functioning better physically compared with those who acknowledged how dire things were. And in an article published in 2006, University of Vermont researchers found that indulging in a “denial phase” helped people newly diagnosed with cancer to cope with each stage of the illness at a manageable rate. In neither of those cases did denial improve the course of a potentially fatal disease. But it probably made life more tolerable for the patients.



Of course, denial by either the patient or the physician is never useful if it interferes with the diagnosis and treatment of serious disease. For example, it's almost universally accepted among physicians that alcoholism is a major cause of sickness and death, but due to the stigma attached to being labeled an alcoholic—and the secrecy and evasion that often accompany alcoholism—it remains woefully underdiagnosed. And a diagnosis of diabetes, especially in teenagers and middle-agers, often evokes a “Why me?” response and an overly casual approach to a serious disorder that can have dire complications.

Fortunately, few cases of denial are as flagrant as that of my colleague's mother. After receiving a diagnosis of widespread metastatic breast cancer, she declined chemotherapy and died eight months later.

ADOLESCENT LIFE-CHANGE EVENT SCALE

LIFE-CHANGE UNITS

LIFE EVENT

To get a sense of how much your life may have changed in the last year and how these changes might have affected your level of stress, add up the "life-change units" for the changes you've faced during the past year.

If your score is less than 150, your life hasn't changed very much. A score between 150 and 300 means moderate change. A score of over 300 indicates you have experienced a great deal of change and may have to pay special attention to how you handle the stress that can come with it.



101	Getting married
92	Being pregnant and single
87	Having a parent die
81	Getting a visible deformity
77	Having parents divorce
77	Becoming a single father
76	Getting involved with drugs or alcohol
75	Having a parent jailed for a year or more
69	Going through a parent's separation
68	Having a brother or sister die
67	Experiencing a change in peers' acceptance
64	Having a single pregnant teenage sister
64	Discovering that you are adopted
63	Having a parent get married again
62	Experiencing a close friend's death
62	Having a visible deformity since birth
58	Being seriously ill and requiring hospitalization
56	Moving to a new school district
56	Failing a grade in school
55	Not making a team or other extracurricular activity
55	Having a parent become seriously ill
53	Breaking up with a boyfriend or girlfriend
53	Having a parent go to jail for 30 days or less
51	Beginning to date
50	Being suspended from school
50	Getting a newborn sister or brother
47	Getting in more arguments with parents
46	Having an outstanding personal achievement
46	Seeing more arguments between parents
46	Having a parent lose his or her job
45	Having a change in parents' financial status
43	Being accepted at a college of your choice
41	Having a brother or sister become seriously ill
38	Having a parent be more absent from home due to a change in occupation
37	Having a brother or sister leave home
36	Experiencing the death of a grandparent
34	Having a third adult added to the family
31	Becoming a fully committed member of a religion
27	Experiencing a decrease in parents' arguments
26	Having a mother begin to work outside the home

